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ChatGPT’s Capabilities in Spotting and Analyzing Writing Errors Experienced by EFL Learners

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Abstract:
The recent Large Language Models (LLMs) use advanced algorithms to identify areas where sentence structure and word choice can be improved and to detect grammar, syntax, and spelling mistakes in sentences. This study aimed to investigate the effectiveness of the Chat Generative Pre-trained Transformer (ChatGPT) in detecting English as a foreign language (EFL) learners' writing errors compared to human instructors. This study examines the ChatGPT as a recent and advanced LLM in analyzing and processing EFL learners' writing issues. This paper provides valuable insights into the potential benefits and challenges of integrating Artificial Intelligence (AI) into EFL writing education. Our results revealed that ChatGPT successfully identified most surface-level errors but could not detect writing errors related to deep structure and pragmatics. Conversely, human teachers could spot most of these issues. These findings suggest that while ChatGPT can be a valuable tool in identifying surface-level errors, it cannot replace human instructors’ expertise and nuanced understanding in detecting errors related to the more complex aspects of writing. The writing error types (data) are statistically analyzed. The descriptive analysis displays valuable insights into the reliability of the data and its potential implications, where the F-score, which measures the statistical model accuracy, is found to be 1.5. In the meantime, the p-value score, which shows the probability of obtaining results as extreme as the detected data, is calculated to be 0.23. The results suggest that the collected data is statistically significant, and further analysis may yield valuable insights.

Keywords: Artificial Intelligence, ChatGPT, EFL writing, EFL learners, LLMs, error analysis

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Introduction

Language Learning Machines (LLMs) are powerful tools for analyzing and spotting errors in EFL writing (Perkins, 2023). With advanced algorithms, machine learning capabilities, and linguistic skills, LLMs can quickly and accurately identify grammatical, lexical, spelling, and other issues that can impact the clarity and effectiveness of written communication (Tate et al., 2023; LU, 2019). LLMs can help a student, a teacher, or a professional writer improve their writing skills and produce more polished, error-free work (Huawei & Vahid, 2023). ChatGPT is a powerful tool for analyzing and spotting errors in EFL writing. Its vast and impressive capabilities make it an essential resource to improve writing skills for EFL learners. With ChatGPT, users can quickly identify grammatical errors, spelling mistakes, and other common writing issues. The platform also offers suggestions for improving sentence structure, word choice, and clarity (Chawla et al., 2022).

Error analysis is essential for understanding the learning process in the EFL context. It involves analyzing language learners' errors when using language, aiming to identify the sources of these errors and develop strategies to help the learners address and avoid them (Gayed, 2022). Karim et al. (2018) emphasize the significance of error analysis as a valuable tool for identifying incorrect forms produced by foreign language students and systematically analyzing them to gain insights into their nature and patterns.

There are many significant strategies to examine and identify the learners' errors in the context of second language learning (Zhai & Ma, 2022). These strategies can assist teachers in gaining insights into the type of errors and how to employ them in developing and improving learners' language skills. If the teachers could identify the underlying reasons for the learners' mistakes, it would be easy for them to apply the appropriate methods of teaching to guide the learners to overcome these errors. There are various reasons for the errors committed by foreign language learners. These reasons are mother tongue linguistic inference, lack of meta-linguistics, overgeneralization, simplification, copying the same first language structure, and many other reasons. Developing Large Language Models (LLMs) will be able, to some extent, to identify the second language (L2) learners' errors. ChatGPT is a recent tool capable of identifying grammatical learners' errors. However, the tool cannot identify and understand linguistic errors in the learners' produced sentences (Park, 2019).

Learning a foreign language is challenging. It depends on the teacher's ability to address the foreign language's main components and the source of the errors (Stevenson & Phakiti, 2019). The errors will be either the result of the mother tongue presence in teaching strategies or the learners' attempts to transfer the mother tongue competence to new language acquisition. It is essential to analyze learners' errors in EFL learning to improve their language skills (Al-Garaady & Mahyoob, 2021; Mahyoob, 2021). The authors use ChatGPT to detect errors, identify common mistakes and provide targeted feedback on the generated responses. By analyzing errors, teachers can tailor their instruction to meet the specific needs of each learner. This process is essential for creating a supportive and effective learning environment.
Questions of the study

1. Can the ChatGPT tool identify all the writing errors of the EFL learners and the underlying causes of these errors?
2. What are the capabilities of ChatGPT in analyzing EFL errors compared to instructors of English as a foreign language?
3. What are the discrepancies of the tool in accounting for the errors?

The significance of the study

Recently many Large Language Models (LMMs) have been developed to process human language and produce human-like language (Hong, 2023; Wu et al., 2023). This study aims to investigate the capabilities of the emerging technology of LLMs ChatGPT to explore EFL learners' writing errors. The study focuses on analyzing and spotting various errors of EFL learners using ChatGPT. The study investigates the abilities of ChatGPT in processing the different writing error types like grammatical, linguistic, semantics, and cohesion. The paper evaluates the output analysis and its effectiveness in applying the tool as a good resource in guiding the teachers to provide appropriate feedback.

Methods and data collection

This study employed a mixed-methods approach, combining quantitative and qualitative methods. The quantitative method was used to control the frequency of errors, while the qualitative method aimed to improve a profound understanding of the sources of errors. This mixed-methods approach provides robust evidence and more confidence in the findings (Algaraady & Alrahaili, 2022). In this study, we employed two strategies. Firstly, we undertook the role of human instructors and analyzed written texts to identify errors. Secondly, we used the ChatGPT tool to analyze the same written texts by asking several questions regarding writing style and mistakes. The details of this analysis will be further discussed in the subsequent sections of the paper.

This study follows a corpus-based research design, collecting and analyzing written tasks. Our dataset consisted of English written texts from students, including male students (n=54) studying in the English Department and female students (n=34) studying in the Computer Science Department. The English Department course focused on "Writing Short Essay," while the Computer Science Department course focused on "Technical Writing," explicitly targeting topics in online writing classes, as depicted in Figure one.
The collected texts underwent a series of steps in error analysis, including error identification, classification, analysis, and explanation, following Ellis's (2002) theory, as depicted in Figure 2. This analysis sought to assess the AI model's ability to classify and describe the errors made by second or foreign-language learners. The study also aimed to compare human instructors' performance with ChatGPT's in detecting errors. The following sections of the paper will present the findings derived from the data analysis, offering a comprehensive overview of the research outcomes.

Figure 2. Methodology Framework

Analysis

All the previous theories and frameworks developed for error analysis concerned human beings with the existing errors. In contrast, this study focused on investigating the capabilities of LLMs models to analyze the errors. ChatGPT is one of these models. The results of the tool analysis for the errors are simply straightforward, and, in many cases, the tool can analyze the simple structure or the grammar of the sentences. However, the device cannot discover the profound interpretation of the committed errors.

In Figure three below, an academic query was provided to the tool to analyze the errors in one paragraph, and the tool generated three responses focused on simple analysis. First, the agency identified the subject as missing mistakenly, despite its occurrence, and this can be referred to as the tool confusion in identifying the subject. Secondly, the tool highlighted the usage redundancy of the adverb of the sequence "then" multiple times in the sequence. Furthermore, it pointed out the incorrect ordering of events, reflecting its confusion in telling the learner's daily activities. Although, the tool eventually generated a grammatically and semantically correct, concise, and coherent version of the student's paragraph.
ChatGPT's Capabilities in Spotting and Analyzing Writing Errors

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**Figure 3. ChatGPT's Error Analysis Sample**

In Figure 4, a different analysis was observed when the query pertained to error analysis. The obtained response focused on several aspects, including sentence structure, redundancy, tense consistency, lack of prepositions, and lack of articles. The tool correctly detected errors in the structure because the learner had written the paragraph as one long sentence. However, regarding redundancy, the tool did not understand the learner's intention when narrating their daily routine chronologically. For the tense analysis, the learner consistently used the past tense throughout his paragraph, but the tool missed identifying tense inconsistency by mixing past and present tense. This identification indicates that the tool failed to detect tenses in writing accurately. That suggests the tool relied on surface analysis and struggled to comprehend the situations appropriately.

For article analysis, the tool shows a limitation in identifying the articles in the sentences. The tool mistakenly suggests a missed article in the sentence "then sat on the laptop," though the article is mentioned in the sentence. Furthermore, the tool erroneously supposes that the preposition was omitted when the learner combined two verbs without using the object 'home'. At the end of the analysis, the tool provides an appropriate and coherent revised version of the paragraph. However, it struggles to analyze the errors accurately. It tends to make wrong assumptions instead of correctly identifying writing issues.
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As depicted in Figure 5, we asked the ChatGPT tool to provide an analysis for the learner's paragraph, and it effectively identified various areas that could be improved. Distinctively, the tool offered proofreading suggestions and proposed alternative sentence structures to enhance the overall clarity and coherence of the paragraph. It spotted and corrected grammatical errors and recommended rephrasing sentences to improve transparency and persuasiveness. Also, it advised breaking down lengthy sentences into shorter ones to enhance readability. However, it is essential to acknowledge that the tool did not address all the issues discussed, indicating the need for more comprehensive analyses of learners' language production.

Figure 4. GPT's Error Analysis Sample

The passage discusses the importance of computer science in our daily lives. However, the writing could be improved in several ways.

Firstly, the sentence “Almost everything in our life we use the computer to make it” is grammatically incorrect and could be better phrased as “We use computers for almost everything in our daily lives.”

Secondly, the passage could benefit from more specific examples of how computers are used in daily life, besides just studying at home. This would help to make the argument more persuasive and engaging for the reader.

Additionally, the sentence “It’s fast and more accurate than using papers, and of course save is time” could be improved by breaking it up into two separate sentences. It could read, “Computers are faster and more accurate than paper, and of course they save time.”

Finally, the author could benefit from proofreading the writing for grammatical errors and typos, as there are several instances of missing or misused punctuation and grammar errors throughout the passage.

Overall, while the passage conveys the importance of computer science, there is room for improvement in terms of clarity, specificity, and writing mechanics. The generated analysis primarily concentrated on surface-level errors encompassing capitalization,

Figure 5. Writing Analysis Sample

There are a few errors in this paragraph that I can identify. Here’s an error analysis:

1. Sentence structure: The paragraph contains a long sentence that could be broken up into shorter, more manageable sentences. It would make the paragraph easier to read and understand.
2. Tense inconsistency: The paragraph contains a mix of past and present tense verbs. For example, “First I woke up” is in the past tense, but “then went to the mosque” is in the present tense. It would be better to stick to one tense throughout the paragraph.
3. Redundancy: The paragraph contains some repetitive information. For example, “then went to the mosque, then went back” and “then returned home, then went to the mosque”. These phrases could be combined or rephrased to make the paragraph more concise.
4. Lack of article: The sentence “then sat on the laptop” is missing an article. It should be “then sat on the laptop” or “then sat on a laptop”.
5. Lack of preposition: The sentence “then went back and ate dinner” is missing a preposition. It should be “then went back to the house and ate dinner”.

Based on these errors, here’s a revised version of the paragraph that addresses them:

“I woke up and prayed before heading to the clinic for an injection. After that, I went to the market before returning home. Later, I went to the mosque and then had dinner. I spent some time on my laptop before going back to the mosque. Finally, I returned home and went to sleep.”

The generated analysis primarily concentrated on surface-level errors encompassing capitalization,
grammar, punctuation, and clarity. Despite this constraint, the tool's capacity to accurately identify and rectify language errors represents a promising advancement in automated writing analysis.

**Figure 6. Error Analysis Sample**

As shown in Figure 7, the ChatGPT language model was asked to analyze the writing style aspects. It accurately identified and explored various aspects of writing style, including sentence structure, word choice, tone, and voice. The language model focused on the formality of language, colloquial expression, and sentence structure. The tool accurately identified the language type as informal and conversational and recognized the sentence type as straightforward. Moreover, the analysis accentuated the writing's ability to convey the message's importance to the intended audience effectively.

**Figure 7. Style Analysis Sample**
Figure 8 below demonstrates that the ChatGPT tool has the potential to address common errors, including grammar, vocabulary, spelling, punctuation, and sentence structure. It accurately determined the occurrence of these errors, analyzed them, and provided the possible correction of each error.

**Figure 8. Error Analysis Sample**

Identifying common errors EFL learners make in language education is crucial to improving their language proficiency. This information can be utilized to develop targeted teaching materials and instructional strategies that address those errors. This process allows teachers and researchers to design better assessment tools and produce more accurate language proficiency measures. The ultimate goal is to improve learners' outcomes and advance language education. Using a data-driven approach, we can ensure that our teaching strategies are practical and efficient, leading to better teacher and learner results.

In analyzing the targeted data, the AI tool and the researchers identified several errors, as illustrated in Figures 9 and 10. These errors include missing articles, punctuation, sentence structure, tense inconsistency, capitalization, word choice, style, spelling, and grammatical errors. Figures 9 and 10 comprehensively overview the significant errors detected during our analysis.
Conducting practical error analysis helps teachers to understand the areas where students need improvement and ultimately enhances the quality of student writing. Moreover, this analysis allows teachers to deliver more targeted and impactful instruction and to develop effective strategies to address these areas. Factors causing these errors may include lack of knowledge, lack of practice, and interference from the student's first language.

In our study, we conducted a comparison between LLMs and human instructors in detecting the writing errors of EFL learners. Our findings indicate that while LLMs models effectively identify most surface errors, human teachers can identify all errors related to deep structure and pragmatics in writing. By conducting a writing style analysis using ChatGPT, researchers and educators can better understand the stylistic features of a particular piece of writing, which can be helpful in various contexts. Our research, as demonstrated in Figure three, shows that the percentage of errors detected by teachers is higher than those detected by LLMs. These results suggest that while LLMs can help identify specific errors, human instructors remain essential in providing comprehensive and accurate feedback on EFL learners' writing.

Our study compared LLMs and human instructors in detecting writing errors among EFL learners. Our findings reveal that LLM models are effective in identifying most surface-level
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errors. In contrast, human teachers can identify all mistakes related to deep structure and pragmatics in writing. By utilizing ChatGPT for a writing style analysis, researchers and educators can better understand the stylistic elements present in a specific piece of writing, which can be beneficial in various contexts.

As shown in Figure 11, our analysis demonstrates that the percentage of errors detected by teachers surpasses those caught by LLMs. These results indicate that while LLMs can assist in identifying specific types of errors, human instructors play a crucial role in providing comprehensive and accurate feedback on EFL learners' writing.

![Figure 11. Number of Errors Spotted by EFL Teachers and ChatGPT](image)

Table 1. Descriptive analysis of writing error types

<table>
<thead>
<tr>
<th>Error Type</th>
<th>MEAN</th>
<th>Standard Deviation</th>
<th>Sample Variance</th>
<th>Confidence Level (95.0%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammatical errors</td>
<td>0.08</td>
<td>0.042426</td>
<td>0.0018</td>
<td>0.381186</td>
</tr>
<tr>
<td>Missing Articles</td>
<td>0.215</td>
<td>0.106066</td>
<td>0.01125</td>
<td>0.952965</td>
</tr>
<tr>
<td>Spelling errors</td>
<td>0.075</td>
<td>0.021213</td>
<td>0.00045</td>
<td>0.190593</td>
</tr>
<tr>
<td>Word Choice</td>
<td>0.08</td>
<td>0.056569</td>
<td>0.0032</td>
<td>0.508248</td>
</tr>
<tr>
<td>Punctuation</td>
<td>0.195</td>
<td>0.091924</td>
<td>0.00845</td>
<td>0.825903</td>
</tr>
</tbody>
</table>
Our investigation checked the data's statistical significance through the F-score and p-value scores. The F-score measures the statistical model accuracy, and its score is 1.500. The p-value score indicated the probability of obtaining results as extreme as the observed data and scored 0.23. These scores provide a robust understanding of the data's reliability and potential implications. The results suggest that the obtained data is statistically significant, and further analysis may yield valuable insights.

### Table 2. Statistical analysis of variance

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P-value</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>0.073775</td>
<td>13</td>
<td>0.005675</td>
<td>1.500472</td>
<td>0.230426</td>
<td>2.507263</td>
</tr>
<tr>
<td>Within Groups</td>
<td>0.05295</td>
<td>14</td>
<td>0.003782</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>0.126725</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

### Discussion

In this research, we aim to explore the effectiveness of ChatGPT, an advanced Large Language Model (LLM), in analyzing and processing errors in EFL writing. Recent advancements in LLMs have empowered them to identify grammar, syntax, and spelling errors and provide suggestions for improving sentence structure and word choice. Our study specifically focuses on evaluating the capabilities of ChatGPT in error detection and analysis within the context of EFL writing while also comparing its performance with that of EFL instructors' research. While previous studies have demonstrated the potential of LLMs in detecting and addressing grammar, syntax, and spelling
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errors, as well as enhancing sentence structure and word choice (Su et al., 2023; Baskara, 2023, 2021), there is still a research gap when it comes to investigating the use of ChatGPT for EFL writing analysis.

The findings of our study align with previous research, highlighting the effectiveness of LLMs in error detection and analysis. For example, Han et al. (2023) successfully identified errors in the writing of native English speakers using a similar LLM, while Su et al., 2023; Baskara, (2023), found that LLMs outperformed traditional grammar-checking tools in detecting errors in second-language writing. Consistent with these studies, our research demonstrates that ChatGPT is a highly effective tool for analyzing and detecting errors in EFL writing. However, it does have some limitations compared to human analysis. These findings align with the studies conducted by Park (2019) & Yan (2023), which indicated that while LLMs perform well in identifying errors, human instructors provide more nuanced and accurate error analysis.

The statistical analysis conducted supports the validity and reliability of our findings. The F-score, which measures the accuracy of the statistical model, indicates a reasonably high level of precision with a calculated value of 1.500. Furthermore, the p-value score of 0.23 suggests that the collected data is statistically significant, aligning with a study by Chen et al. (2018) where statistical analysis played a crucial role in error detection and analysis, providing valuable insights.

The implications of our research are significant for both educators and students. By incorporating ChatGPT, educators can benefit from a more efficient and accurate analysis method, improving language proficiency and writing skills. This finding is consistent with the studies by Chen (2016). & Yan (2023), which emphasized the role of LLMs in providing personalized and immediate feedback to learners. Additionally, students can receive timely feedback and guidance in their writing, as highlighted by the findings of Lin et al. (2022), who emphasized the positive impact of LLM-based feedback on the development of EFL learners' writing skills.

This study contributes to the existing literature by showcasing the effectiveness of ChatGPT, a recent Large Language Model (LLM), in analyzing and identifying errors in EFL writing. While ChatGPT shows promise as a tool for error analysis, it is essential to acknowledge its limitations compared to human study. Future research endeavours should explore ways to combine the strengths of LLMs and human instructors, aiming to create a comprehensive and accurate error analysis approach in language learning settings. The findings of this study underscore the potential of ChatGPT as a valuable tool in EFL writing analysis while emphasizing the continued importance of human expertise in the process.

Conclusion

This study aimed to objectively evaluate the effectiveness of Artificial Intelligence in analyzing errors in EFL learners' writing. The findings underscore the potential of ChatGPT as a valuable tool in EFL writing instruction and assessment. Using language models like ChatGPT in language learning environments can enhance error analysis, improving writing skills and language proficiency. However, it is crucial to acknowledge that human instructors are vital in providing
comprehensive and accurate feedback on EFL learners' writing. While ChatGPT is a helpful assistant, it should not be the sole benchmark for error analysis. The study's most significant finding highlights the benefits and limitations of using ChatGPT in language learning, particularly in EFL writing. Further research in this area can significantly assist students, teachers, and professional writers enhance their writing skills and producing polished, error-free work. We hope this research contributes to developing effective language learning strategies, benefiting EFL learners and teachers worldwide.

Conflict of Interest

The authors declare that they have no conflict of interest.

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Using Literary Texts in Developing Intercultural Competence of Foreign English Language Learners in Virtual Space

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Abstract
The current study provides a broad overview of intercultural interaction in virtual reality (VR) settings made feasible by technology innovations, cultural components, and the usage of literary texts. The extensive usage of technology and social media by Generation Z molds their individuality and creates a new cultural realm. This study intends to analyze intercultural communication and language use in virtual spaces. It examines how the literary-based-cyber-culture influences, especially Generation Z. Additionally, the study delineates social media and literary texts usage to develop intercultural communication and how the students' engagement in VR or digital space shapes their perceptions, attitudes, behavior, identities, and culture. A qualitative descriptive technique as a methodological instrument is used to collect information to compare it to other approaches and conceptualize it from the standpoints of different EFL learners. The pedagogical potential of using literary texts in the digital world offers to develop intercultural discourse, foreign language acquisition, and instruction in the context of technology-integrated educational practices in foreign language education. Finally, the study suggests educational institutions and think tanks adopt an innovative and constructive view to improve global acceptance, tolerance, and communication.

Keywords: communication, English as a foreign language, Generation Z, literature, motivation, intercultural competence, technology-literary-EFL learning, texts, virtual or augmented reality.

DOI: https://dx.doi.org/10.24093/awej/call9.2
Introduction

Most people concur that learning quality was only marginal or average during the COVID-19 outbreak. The lack of student involvement in online activities, content preparation, and a few technical issues contributed to it. Nevertheless, there is a hidden part to it that is utilizing literary texts and technology in digital space or virtual reality (VR) space supported with the application of the techno-supported learning methods required in the future. The proposed and suggested strategies often develop student interest, curiosity to learn, engage and evolve new skills, and technology mastery through literary-technology-supported learning and independent learning experiences.

The mushrooming of new technology globally is changing cultural norms and how people act; those who spend a lot of time on social media or using electronic gadgets develop unique personalities and contribute to new artistic subcultures. Therefore, we look into multicultural communication and language use in virtual environments to comprehend how the literary-based cyberculture influences individuals in general, but notably young learners. Besides, we must identify 21st-century learners from 20th-century learners to harness their abilities to learn about other languages and cultures. Modern students, also known as Generation Z, are digital learners who learn better through learner-centered approaches, acquire knowledge and information through flexible and pragmatic approaches, and adhere to various modern and technology-based instructional and learning methods where teachers act as facilitators or guides. Since the young learners are technologically proficient, they favor working together on projects with their peers where they can use their creativity, inventiveness, critical thinking, and problem-solving skills. Foreign language learners today frequently have diverse perspectives on communication, literature, language, and society due to their constant social media usage. In addition, social media site usage is the best and quickest means to communicate with others, which the researcher feels may be utilized to promote intercultural communication. Social media has established itself as a virtual space where students across institutions engage consistently with their friends, teachers, and families and deliberate on personal and social issues. Moreover, learners unaware of multicultural environments may miss opportunities; nevertheless, attaining transcultural knowledge may help in adapting to new people and environments, developing their knowledge and information, and understanding the beliefs, values, and variety of visions of other cultures. Besides, it consolidates the learner’s native cultural details.

Significance of the Study

The study is significant since it exemplifies cutting-edge literary-based teaching and learning approaches that may be used to capitalize on students’ digital knowledge and skills. Applications of literary technology-supported learning encourage student involvement and interest and the development of their linguistic skills in virtual environments. Additionally, the knowledge gained via literary texts promotes learning and allows students to have a different perspective on EFL education.

Research Objectives

The main objective of the study is to use literary texts to foster EFL students’ intercultural competence in a virtual environment. It aims to give a comprehensive overview of intercultural engagement in virtual reality (VR) settings made possible by technological advancements, cultural elements, and the use of literary texts. In addition, the study looks at how languages are used in
virtual environments and how academic cyberculture influences people, particularly Gen Z. The study also outlines how literary texts and social media are used to promote intercultural communication and how students' participation in virtual reality (VR) or other digital environments influences their opinions, attitudes, behavior, identities, and culture.

**Research Questions**
The study attempts to address the following questions
1. How does utilizing literary texts develop intercultural competence?
2. What are the influences of the literary-based-cyber-culture on Generation Z?
3. How does the usage of social media and literary texts develop intercultural communication?
4. What are the pedagogical prospects for using the literary text in VR/AR Space?

The researcher contends that literary texts and lexical usage in virtual spaces contribute to learning and allow students to change their uniqueness and societal ideals as they seem acceptable. Therefore, the article intends to shed light on the previous studies before it undertakes analysis to adopt an innovative literary texts-based tech-savvy approach and social media usage in EFL teaching to develop intercultural communication. The ensuing discussion will achieve the research above, objectives by addressing the research questions. The researcher concludes by urging educators and policymakers to adopt a creative and constructive perspective on this strategy to support EFL students using their digital talents to advance their language proficiency and intercultural competency.

**Previous Studies**
Intercultural is a currently prominent phenomenon, but not a completely new one. Cultures have long since been intercultural, and it is only the extent of interculturality due to globalization that has increased in the twentieth century. Students learning any language at any institution across the world find and learn cultures connections with other cultures resulting in perceiving all cultures, which are composite and hybrid. Likewise, learning a foreign language through literature termed intercultural in the last few decades, which had been well-established and proved in writings by Montaigne, Goethe, Zuckmayer, and contemporary and modern writers. The inclusion of literary texts for foreign language learners emphasizes the present interculturality, which provides the frame of all our cultural activities today. Fareh et al. (2022) support an integrative approach to language teaching where language arts can be taught while teaching literary works, including short stories, novels, poetry, and drama. Baldau & Dumitrascu (2019) opined that cultural differences shouldn’t hinder communication but rather an opportunity for participants to learn because they can encourage creativity and invention, deepen their knowledge, and increase their intercultural competence. Also, the result of appreciating other cultures is a much greater intercultural understanding (Shuang, Volcic, & Gallois, 2015). In addition, Akyel and Yalcin (1990) favor the use of literature in the classroom, and Ur (1996) mentioned that literary texts foster reading skills, enrich vocabulary, and different styles of writing, stimulate discussion in the school, encourage critical and creative thinking, enhance knowledge and personal development. Students aspiring to get excellent employment opportunities have prospects to develop intercultural communicative competence that will help to recognize fair chances and to cope with real-life problems. “Cross-cultural contact is vital for educational goals,” claim Lisnychenko et al. (2022). As an innovative approach to English teacher preparation in Ukraine, they explain and
evaluate the experience of cross-cultural interchange via Facebook movie-based chats. The goal is to better equip English language teachers with intercultural knowledge, beliefs, and skills so they may serve in multicultural settings and potentially collaborate online in the future.

The business world has seen sea changes due to the impact of innovative technology on business and society that made business tycoons, entrepreneurs, and academia evolve and adopt novel approaches to pragmatic practices in management. Utilizing the strengths of youth's maximum online engagement on social applications made it easy for educators to implement literary-based activities in VR/AR space. Language blesses us with unique features for daily and professional users to interact and transact in routine and professional affairs. However, one needs excellent intercultural communicative competence to survive, sustain and excel in modern volatile businesses and upheavals. According to Cagiltay, Bichelmeyer, and Kaplan (2015), team members should specify who should initiate remarks or inquiries, who should mediate arguments or discussions, and what level of formality is considered suitable before engaging in communication and engagement. People increasing interaction on social media sites has brought unprecedented changes in their behavior, temperament, identity, and cognitive ability. Sharma (2019) opined, “Facebook, WhatsApp, Telegram, and Snapchat are some of the most widely used social networking sites today.” Gen Z is the most common and active social media user today who keeps their acquaintances familiar with their updates through blogs, statuses, sharing videos, informal and social connections, inquiries, online chats, conference calls, and surfing. The immense usage of technology opens up many prospects to utilize youth strength to learn a foreign language and transform their personality and intercultural communication. Many scholars found Facebook as an effective learning environment in language education (Aydın, 2012; Kabilan, Ahmad, & Abidin, 2010; Sykes, Oskoz, & Thorne, 2008). Nevertheless, academia has the challenge to introduce a few literary texts using global usage vocabulary in the curriculum that facilitates developing students’ intercultural competence. Studies on Facebook superseded all other social applications and found a handy tool for creating intercultural communicative effectiveness. Students have accomplished the intended outcomes effectively in language learning, which include- learners becoming more enthusiastic and optimistic about studying the target language (Tananuraksakul, 2015); improving all communication skills, and providing several opportunities for interaction (Razak, Saeed, & Ahmad, 2013; Sharma, 2021a); increase learners motivation (Aydın, 2012); an opportunity to converse with target language speakers (Kabilan et al., 2010); establish a good relationship and develops socio-pragmatic skills (Blattner & Fiori, 2009).

The researcher finds a few studies focused on developing intercultural communication; therefore, the article undertakes an issue that foreign language learners need to get suitable employment and face real-life and business challenges with great confidence. The following section focuses on methodology, results, and discussion of the research questions with the objective to develop and enhance intercultural communication in EFL classrooms and beyond utilizing literary texts and lexicon in virtual or augmented reality settings.

**Methodology**
A descriptive study design with a qualitative analysis element is used in this investigation. The qualitative research offers a thorough analysis of how literary works and social media are used to foster intercultural competency. Here, we use a qualitative descriptive technique as a methodological instrument to collect information to compare it to other approaches and conceptualize it from the standpoints of different EFL learners. Besides, the qualitative research
methodology provides a phenomenological presentation of the various cultural components and the usage of literary texts. This study focuses on the content, quotes, and findings of the previous studies to analyze intercultural communication and language use in virtual spaces and examine how literary based-cyber-culture influences, especially Generation Z. Further, the research is based on the systematic investigation of the new and valuable information that can be used to testify the new proposed approach. The researcher sorted, analyzed, and compared content from the study’s perspective by reading edited books, past research, theoretical viewpoints, and resources on the related works. The researcher, however, also looked into other studies on several issues that the research questions raise about the usage of literary texts and social media to develop intercultural competence in virtual settings to present the results that are carefully discussed further.

Results and Discussion
The given discussion considers some prominent points that answer the research questions to attain the objectives mentioned above before making a few suggestions.

Utilizing Literary Texts Develops Intercultural Competence
Foreign language learners do not get adequate exposure to literary texts, especially non-literature courses learners, which makes them unaware of other cultures’ norms. Neuliep (2018) stated, “Edward T. Hall is known to be the first to use the term ‘intercultural communication’ in his work.” The use of literature and literary texts is vitally indispensable and essential to any language teaching, especially to English as a foreign language learner. It would be sufficient even if it provided much more than just authentic texts. Literary texts, which serve as the best example of language use, provide learners with realistic models of topics, characters, and activities to see how language structures are used to accomplish various tasks that are hardly covered in English for Specific Purposes (ESP) curriculum. The learners are interested in reading literary texts and correlating the situations with their real-life experiences. The learners eventually consciously gain knowledge of cultures expressed in the literary texts, which expands their horizons of thinking. Duff and Maley (2007) resoundingly affirm in their “Foreword” to Literature that carefully selected literary texts offer ample content and materials for language acquisition because they advance students’ ethnic and societal knowledge and understanding, make emotional appeals as much as the reason, encourage personal growth, and, most importantly, inspire and stimulate learning.

The transfer of similar literary texts and activities based on fiction, or non-fiction, short stories, novels, poetry, plays, etc., in infographics, video, audio, and dramatic forms facilitate teachers’ and learners’ exercise on virtual platforms. The literary texts may be selected from Shakespeare, Whitman, Hawthorne, Keats, Wordsworth, Ruskin Bond, or other inspiring writers. The teacher creates opportunities for learners to review, analyze situations, and discourse on selected literary texts in VR/AR space, which unconsciously develops their intercultural awareness and knowledge of language skills. The teacher eventually may remix, rearrange and improvise the selected activities around the text, and these usages encourage the students to involve and engage in thinking about the given problems critically and creatively, and provide them ample exposure to other cultures, a plurality of individuals, and affect their attitude, perceptions, and behaviors. Adapting literary excerpts on newly created VR space coincides with learners’ interests who already have electronic gadgets and devices using online applications. Learners' consistent involvement in genuinely selected activities brings multiple changes that shape their curiosities,
innovative instincts, and identities to create a new virtual cultural space. The learners soon feel comfortable interacting with people across cultures and state VR/AR space, which genuinely needs more attention and investigation to provide directions to stakeholders further to use authentic literary texts to foster multicultural discourse and target language use in virtual environments and how this influences everyone, especially, language learners. Gen Z English as a foreign language (EFL) learners are tech and social media lovers; however, the notions of interaction, literature, language, and culture are often perceived differently. Although Gen Z English as a foreign language students adore technology and social media, they frequently have distinct perspectives on discourse, literary studies, language, and societal values. Virtual Reality/Augmented Reality and social media space usage consume the maximum time students across institutions spend daily interacting with their friends, teachers, and families and revealing parts of their identities. The researcher argues that literary texts and lexical usage in virtual worlds can transform learners' societal awareness and individuality, depending on their needs. The given explanation answers the first research question.

The study further sheds light on the second research question of how literary texts influence Generation Z’s long engagements on electronic gadgets and social media and how the literary-based-texts-cyber-culture develops intercultural communication. The following section also discusses the pedagogical possibilities literary texts used in the digital world offer to develop intercultural communication, foreign language learning, and teaching before suggesting academia adopt an innovative and constructive view to incorporate literary text usage in VR/AR space.

Influences of the literary based-cyber-culture on Generation Z

The extended engagement of youth on social media and electronic devices often worries parents and teachers; however, harnessing their potential and this engagement may benefit youth maximum by incorporating literary texts adding to their linguistic competence and cultural intelligence. The continuous VR/AR space usage has contracted the world to a common platform where young language learners have ample opportunities to voice their perceptions and concerns and form opinions on specific topics to young people in English. The online discourse may be through short fiction or non-fiction texts, storytelling, plotting, role play, characterization, and drama. Koran & Sarnoure (2022) affirm that online learning allows students to encounter life-changing events and hone their intercultural communication abilities. Today, internet connectivity created multiple virtual online spaces extending their reach to people, learners, scholars, and teachers worldwide. Linking students internationally online without visiting other countries is seen as key to learners’ intercultural development. The learners have the freedom to form their opinion, write memes, write short stories and poems and drama or play script after reading, deliberating, and using new vocabulary in other words. Online interaction promotes active participation, collaboration, and negotiation in online discourse without time, place, or space constraints to enhance intercultural knowledge and language skills in their natural contexts. Learners express themselves freely and learn new ideas, behaviors, and culture, prompting them to differentiate it from their native culture and societal norms. Moreover, it provides them with a sense of freedom, autonomy, and a sense of belonging to their native language and culture. Integrating technology engagement and experience with literary activities increase their creativity of expression, values, work ethics, teamwork spirit, cognitive ability, and cultural awareness. Additionally, this novel and innovative constructivist theory-based literary based-cyber-culture method influence all, especially Gen Z. This approach replaces the traditional system of teaching intercultural
communication courses separately to EFL learners, what Hall (1976) argues, tends to focus on ways to avoid miscommunication or putting your foot in it culturally and invoke the analogy of culture as an iceberg. The following heading looks at the third research question.

**Social Media and Literary Texts Usage Develop Intercultural Communication**

The mushrooming of new net-based applications have revolutionized the living standard and habits of people. The tremendous transformation has brought multiple changes in their thinking, behavior, attitude, and perception toward other societies and cultures. Sharma (2019) found excessive use of social media applications by young EFL learners and their positive impacts on their language skills. The novel proposed a literary-based-cyber-culture approach that may help all stakeholders achieve the learning objectives and outcomes. Learners' social media application usage habits and online engagements in other virtual spaces may engage them through prudently planned literary activities that facilitate them to think and foresee beyond the texts, place, and time to discover more facts, perceptions, views, and knowledge about other people and their cultures and vice versa. According to Liaw (2019), VE technologies created real-world and virtual environments that facilitated the practice and improvement of various intercultural communication skills. Scaffolding of literature-based activities makes students active and share their views with peers, teachers, and friends and communicate effectively. Collie and Slater (1987) argue for introducing authentic texts like the short story form from literature in the language classroom since it develops racial, societal, and foreign language awareness and individual participation with the foreign language content. Furthermore, Carter and Long (1991) propound cultural, language, and personal growth models for using literature to study a language.

The learners in VR/AR space know how people across cultures and space greet, interact, behave and perceive and accept their views on different situations to unlearn, learn, and build new perspectives and develop their conceptualizing, reasoning, and brainstorming skills. The latest insights, freedom of expression, openness, acceptance, and openness to other cultures, analysis, and introspection bring new perspectives to their forte. Consequently, these perspectives break down cultural barriers, build robust connections, and create a strong bonding with multicultural people worldwide.

**Pedagogical Prospects of literary text usage in VR/AR Space**

To answer the final research question, we believe that learners have immense potential and tremendous talent integrated with the latest technical knowledge of electronic gadgets and applications, which make them unique and assist them in dealing with literary texts to discover themselves before they embark on a voyage of employment to sustain, survive and excel in their career. Uzun (2014) supports this view about the literary texts used in the digital environment for EFL acquisition, especially in the context of educational approaches and methods. The consistent engagement for long durations enables them to learn, explore and analyze different texts related to the novel, short stories, poems, speeches, drama, and discussions making reading fascinating, encouraging, and emotionally challenging. The curriculum designers and teachers may judiciously select the literary texts that invite learners’ attention by graceful, informal style, inserting illuminating and real-life illustrations and activities. The novel, pragmatic and literary-cum-cyber approach to foreign language education brings tangible changes in learners’ thoughts, attitudes, behavior, communication, personality dynamics, speaking and writing abilities, and perceptions towards other cultures and develops inter or transcultural knowledge and communication. The
consistent reading, discussion, review, and analysis of literary and transcultural texts build learners’ confidence, self-understanding, and working concepts. Careful selection and inclusion of multicultural texts suggest several interpretations that may be described and discussed in their contexts, which help learners make decisive ad problem-solver. It expands learners’ thinking world and enables them to know about the concept of societies and transculturality. Atay, et al. (2009) believe that significant modifications to language instruction in recent years are the significance and approval of socialization. Besides, scholars opined that foreign language teaching primary purpose is to develop the intercultural communicative competence of learners (Atay, et al., 2009; Byram, Gribkova, & Starkey, 2002; Rissanen, Kuusisto, & Kuu-Sisto, 2016; Sharma, 2021). Many institutions don’t provide literary texts or very few texts which keep learners unaware of the different cultures. Additionally, they aren't given enough opportunities to engage with individuals from other cultures, which the novel and innovative approach using VR/AR space suggested herein will provide to gain intercultural competence skills.

**Suggesting Academia Adopt an Innovative and Constructive View**

Academic think tanks in the past often considered texts from the native culture or modified them to English for Specific Purposes courses, totally ignoring the international cultural community that surrounds them. However, twenty-first-century innovations, unprecedented changes in global business, and technical advancements compelled academia to think beyond the box (Sharma, 2022) and include literary texts from other cultures. The revolutionary change in the mindset and perceptions of curriculum designers and scholars made learners’ thinking wide and helped them embark on a challenging voyage in a multicultural environment and beyond their native culture, to learn and gain various perspectives of life. The literary activities act as a mirror and render learners know about other cultures they never know. The adequately selected texts, designed related activities, and their usage in VR/AR space become an excellent first guide for students in the new domain of cultural perception and expression. Besides, it provides learners with knowledge about a foreign culture which facilitates them to make easy comparison-and-contrast with their native culture by correlating to everyday experiences. The expanding transcultural awareness makes learners feel a sense of identification that transcends their perceptions about other people and the world. The expertise gained interacting and deliberating on literary situations using digital space entices the learner to share his perceptions of different cultures and humanity. The easy access, flexible approach, and experiential learning conditions enable EFL learners to explore their identities, discover new people, and become true explorers between different languages, ethnicities, countries, and cultures and nearly transform into figures of transculturality. The technology-literary-EFL learning approach represents the transition of learners’ communicative competence from monocultural to multicultural or transcultural. However, we should ensure that prudent selection of literary activities and exercises develop intercultural awareness, knowledge, and competence by no means affecting or altering learners’ core beliefs, perceptions, and respect for their native culture.

We understand that for some, adopting this approach during feedback may mean modifying a few activities, changing the role and style of teaching, and, in turn, embracing the way the learners gain the maximum in altering their thoughts, behavior, cognitive skills, creativity, and critical thinking and smooth sailing in challenging global business scenarios. However, as detailed above, adopting such an approach can foster novice teachers’ reflective skills and enable EFL
learners to gain transcultural knowledge and competence to become an opportunity in which transcultural understanding is co-constructed through collective, supportive, and purposeful talk.

**Conclusion**

The above explanation and suggestions for adopting an innovative literary text integrated-cyber approach result from an investigation of our practice. The study has explained through previous studies the usage of academic contexts in virtual/augmented reality (VR/AR) space communication and its role in developing intercultural communication in virtual environments facilitated by technological artifacts. Utilizing Gen Z technical knowledge integrated with literary-based concepts and ideas may prove worth transforming their perceptions, behavior, and language skills to create a new cultural space. Additionally, the study emphasizes and foresees learners to use literary knowledge in social media usage to develop intercultural communication. Language teachers who wish to adopt a novel approach in virtual and real classroom settings may adopt the new curriculum. The study shows that while some views encourage teachers to reflect on and objectify their current understandings of good teaching practice, others enable teachers to scaffold literary texts based on virtual and digital space learning and thus bridging the long-standing gap between the theory and practice in gaining intercultural knowledge that teachers and learners have long grappled with. The study concludes that in light of cutting-edge educational philosophies and approaches for teaching foreign languages, the pedagogical opportunities in the utilization of literary texts in the digital environment allow for encouraging cross-cultural discourse. To promote more international communication, tolerance, and acceptance, the study suggests academia embrace an innovative and advantageous perspective.

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Padlet Mobile Training Model for Novice Omani EFL In-service Teachers

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Abstract
In Oman, novice in-service primary English teachers struggle with the theoretical content of professional training programs, which impedes knowledge acquisition and transfer into teaching practices. This research stems from the benefits of continuous professional development, communities of practice, and practical and reflective learning on teachers’ exposure to teaching methods resulting in improved teaching skills and techniques. Considering the affordances of mobile learning, Padlet training was designed as an alternative to face-to-face programs during the Covid-19 pandemic to support in-service primary teachers with online synchronous teaching. The objectives were to improve participation, content acquisition, and knowledge transfer into teaching practices. Six novice Omani in-service English primary teachers participated in training for seven months. The data from semi-structured interviews, observations, interactions, peer feedback, and teaching e-portfolios were analysed with a systematic grounded theory three-step coding, which were performed until model emergence and saturation. The findings confirmed the contributions of the Padlet training to the enhancement of content acquisition and transfer due to ubiquitous access, simplified multimedia content, hands-on practice, instructor-peer feedback, and digital self-reflective e-portfolios. The teachers were enthusiastic about the program, which led to a virtual circle. Participants viewed Padlet as an engaging platform to host a community, access, create, and share content. Ubiquitous access and support within a peer community resulted in regular attendance, engaged participation, and increased confidence, which led to improved content acquisition and content transfer. The resulting Padlet training model presented in this article could be replicated to design mobile professional development training programs in similar contexts.

Keywords: Communities of practice, educational technology, English teacher education, Novice Omani EFL in-service teachers, Padlet mobile training model, Professional development, reflective practices, Teaching English to Speakers of Other Languages

Introduction

The goal of Professional Development (PD) programs is to enhance teachers’ knowledge and skills to enhance their teaching practices. However, in Oman, supervisors, and senior teachers noticed that novice English as a Foreign Language (EFL) in-service teachers were still struggling in their daily practices to transfer PD content into their teaching practices. In the context of the present study, the teachers perceived the training programs as incompatible with their schedule, as too theoretical and unrelated to their immediate classroom needs. They suffered from information overload, became lost, and progressively disengaged from the training. Moreover, teachers regretted the limited opportunities for hands-on training among peers during the workshops. This is congruent with Al Shabibi (2013) and Al-Bulushi (2016), who mentioned insufficient opportunities to apply training content to real situations with novice EFL teachers’ professional development in Oman. According to these authors, practical sessions guided the acquisition of training content and the development of teaching skills under instructor guidance and peer feedback. A comprehensive study from the World Bank (2012), in which 150 teachers participated from five regions of Oman, pointed to insufficient practical classroom applications as the main issue. Other challenges were classroom management, class time management, and work pressure. Continuous and comprehensive opportunities to build expertise need to go beyond the conventional training methods that are frequently used in the educational sector (DiPaola & Hoy, 2014). Walsh and Mann (2015) stated that “one of the challenges facing both teacher educators and practitioners is to identify, formulate, and share tools that promote dialogic, engaged, and evidence-based practice” (p. 360). In the present study, the researchers identified the following characteristics in developing the Padlet PD training. These were the need for focused content, opportunities for active learning, and access to continuous professional assistance.

In response to this problem, the researchers developed a Padlet mobile PD training for novice EFL teachers as an alternative to conventional PD training programs (See Figure one). The researchers designed the Padlet PD training as mobile based on the noted benefits of online PD training for teachers regarding enhanced language teachers’ content knowledge and instructional skills, and improved methods. Therefore, the Padlet mobile PD training program comprises multimedia training content delivery, scaffolded knowledge transfer through hands-on practices, a CoP, and the construction of reflective e-portfolios.

Figure 1. Dimensions of the Padlet Mobile PD designed for novice EFL teachers
The significance of this research lies in developing the PD training model suitable to enhance transferring training content into effective teaching practices. The model’s novelty is the combination of the four dimensions described in Figure 1, targeting just-in-time access to content and community support, peer and instructor-guided practical transfer into real situations. All the dimensions can facilitate community building, knowledge acquisition, and content transfer and thus help enhance teaching practices. The flexibility of the Padlet training model can contribute to reducing teachers’ resistance towards PD programs and provide continuous professional development opportunities for EFL teachers with peer feedback and reflective practices. Moreover, this research highlighted mobile PD training potentials as economically viable. To the best of the researcher’s knowledge, this research is the first qualitative grounded action research that explored Mobile PD Model for novice EFL in-service primary school teachers as an alternative to face-to-face PD training programs in the Arab world.

The aim was to evaluate the potential of the Padlet PD training in enhancing transferring training content into novice EFL teachers’ classroom practices. Three research objectives (ROs) were derived from the purpose.

RO1: Identification of the benefits of Padlet as a training delivery environment.
RO2: Investigation of the contributions of the Padlet CoP to enhancing novice EFL in-service teachers’ engagement in the PD training program.
RO3: Exploration of the contribution of self-reflective e-portfolios to teachers’ transfer of training content to their teaching practices.

As a result, this research mainly focused on answering three essential research questions (RQs):

RQ1: What are the benefits of using Padlet as a training delivery environment?
RQ2: How does integrating the Padlet CoP contribute to enhancing novice EFL in-service teachers’ engagement in a PD training program?
RQ3: How do self-reflective e-portfolios contribute to enhancing teachers’ transfer of training content to their teaching practices?

Literature Review

The advancement of technology has significantly impacted instruction, particularly in foreign language classes, and the expanding practice of using educational technology to support instructors’ instruction and learning points has contributed to the technology's rising power in academic settings (Zhang, 2022). As a result of incorporating technology into daily life, it is time to reevaluate the idea of incorporating it into educational programs and concentrate on how it may support learning (Boonmoh, Jumpakate, & Karpklon, 2021). In addition, technology has become a vital part of the learning experience and a significant challenge for instructors from the beginning of the learning experience to the instruction process (Altun & Khurshid, 2021).

Few studies have emphasized the significance of using Padlet in EFL teaching contexts. However, there is a shortage of research investigating community mobile training programs for EFL primary school teachers in the Arab world and Oman. Padlet provides a ubiquitous, attractive, and rich environment. Furthermore, Suryani and Daulay (2022) and Baidoo, Ameyaw, and Annan (2022), stated that Padlet’s virtual wall was used as a discussion board to lead teachers to engage in self-reflection and peer review. Additionally, Zhi and Su (2015) concluded that using the Padlet platform facilitates and encourages communication and cooperation between teachers, colleagues, and coordinators, and allows peer feedback and coordinators’ feedback on instructional practice.

Moreover, teachers’ PD has a considerable impact on raising teaching standards,
particularly regarding the quality of instructional activities conducted in class. Online training can increase teachers’ chances for PD (Pan & Gan, 2020). In addition, mobile PD training increases coping processes due to greater flexibility and availability (AITameemy, 2017). Padlet is a mobile device-friendly platform (Fisher, 2017) whose multimedia content uploading features and embedded forums could help facilitate the delivery of training sessions, facilitate the interactions within a community of practice, and host teaching professional e-portfolios. Han (2019) stated that combining multimedia and mobile learning improved participants’ engagement in the learning process, resulting in knowledge sharing between peers and enhanced training content acquisition and transfer into teaching practices. For this purpose, in the current study, Padlet was selected as the mobile training platform to deliver training content and to host a CoP.

Notably, online Communities of Practice (CoP) can provide ubiquitous support to novice teachers (Germain, 2015). Additionally, these communities can promote shared reflection on performance, which can be stimulated by constructing teaching e-portfolios and using multimedia. Xerri and Campbell (2016) defined e-portfolios as a “collection of documents that charts professional development,” which “provides a means by which an individual can reflect on beliefs and practices and seek further development” (p. 392) with the “potential to be a meaningful and supportive tool that fosters the creation of teachers who can bridge theoretical learning and actual classroom practices” (p. 394). E-portfolios might aid teachers’ acquisition and transfer of PD content in manners that involve, among others, technological competence and cooperative learning, improving teachers’ knowledge of pedagogy and enhancing their abilities. Walsh and Man stressed the importance of a “more collaborative, dialogic approach to reflection” through “stimulated recall procedures, video interaction and guidance, and peer observation of teaching” (p.153).

**Method**

A grounded action research was conducted to attain the research objectives (Butterfield, 2009). The action research design aimed to cyclically monitor and enhance Padlet Mobile PD training for novice EFL teachers and enhance the subsequent knowledge transfer into their teaching practices (Leat, Reid, & Lofthouse, 2015). To quote Lewin (1890–1947), who is one of the most influential psychologists, there is “no action without research; no research without action” (Marrow, 1969, p. 163). Consequently, the research purpose of seeking to improve a situation with a cyclical intervention, and the researchers’ active involvement, supports the choice of action research as a method. A grounded theory approach to data collection and analysis was used to monitor and assess the investigation. The researchers adapted a three-stage coding scheme from Corbin and Strauss’s (2008) systematic grounded theory for the cyclical data collection and analytical phases. Additionally, the grounded action research design was used to gain a rich understanding of the examined issue for improving Padlet Mobile PD training for novice teachers. A three-step coding procedure was applied, from open to axial coding until selective coding.

**Participants**

Purposeful sampling was conducted, seeking the truth from participants experiencing Padlet Mobile training in their professional lives (Corbin & Strauss, 2008; Gabarre, C & Gabarre, S, 2020). All participants were novice EFL teachers willing to participate in the study. This study was approved by the institutional ethical review board (HREC/06/2020). This research was conducted during the academic year of 2020-2021.
The first author was involved as an active participant in her quality as a senior teacher in the primary school where the Padlet PD training was implemented. Her involvement was as a senior teacher, researcher, and PD instructor. Therefore, throughout the implementation and data collection, some steps were done to minimize the distance and power relations that might exist with participants due to the instructor’s position in the school as a senior teacher and subsequent supervisor role. The instructor established partnership and trust with the member participants and referred to her position as an English coordinator throughout the training (Cannella, 2015; Karnieli-Miller, Strier, & Pessach, 2009).

The participants were six novice female EFL in-service teachers from a basic education school in the Al Sharqyia North Governorate of the Sultanate of Oman. Including only women teachers as participants was because all basic education primary teachers in Oman are women. They were teaching in a primary school starting from grade one to grade four at the elementary level, and their students' ages were between seven and ten years old. The teachers were aged between thirty and thirty-four years old, and their experience in teaching ranged from one to two years. All six teachers graduated from colleges and universities in Oman, except one from a university in the United Arab Emirates (UAE). All held bachelor’s degree in teaching EFL, and their teaching load was nine hours per week in distance e-learning. None of these teachers had ever joined an online training program, none had used the Padlet platform and e-portfolio before the current research, and almost none had experienced engaging in self-reflection. Only novice teachers were chosen as participants because they needed more guidance and support due to their lack of experience in teaching (Smith & Ingersoll, 2004). For novice teachers, their first years of education are crucial since the process will shape their classroom practices and attitudes for the remainder of their professional lives. Notably, the researchers noted that many novices Omani EFL in-service teachers in Cycle One schools in AL Sharqyia North Governorate struggled to transform the theoretical aspects of their training programs into practical knowledge in their classes. This problem was noticed during regular class visits, communication with regional supervisors, weekly meetings, and discussions.

The direct benefits from their participation in the PD training were clearly stated regarding the PD training content, acquisition, and transferrable objectives in the research information sheet distributed. In addition, the researchers mentioned the expected contributions to the field of TESOL and the Omani EFL teachers’ community. A certificate of participation and appreciation as professional recognition was issued. The research received approval from the Institutional Review Board, and from the school director. A consent form was completed and signed by the teachers. The participants were guaranteed that their privacy would be protected and that the data collected would be confidential. Participants’ names were replaced with aliases to protect their anonymity. CoP netiquette was built upon acceptance of mutual responsibility, values, and respect.

**Research Instruments**

The data consisted of transcripts from one-one semi-structured interviews, structured observation reports from Padlet posts and interactions, and teaching e-portfolios content analysis. Before the research, all participants were informed about the research, and of their rights as participants. All six participants signed the consent form. The data collection was conducted until the saturation of categories and relationships in the selective coding stage.

Rounds of one-one semi-structured interviews provide a rare opportunity to explore an individual’s rich and complicated knowledge, and they are valuable instruments for collecting data (Ahmad, 2017). Furthermore, interviews allow flexibility to adapt interview protocols based on the
participants’ answers, allowing the researchers to delve in-depth into emerging aspects. Follow-up interviews provide opportunities to clarify answers and gather (Creswell, 2013).

Artifacts from the training were analysed to assess teachers’ transfer of training content into their practices. Artifacts consisted of teachers’ self-reflection, peer feedback, synchronous lesson materials and recordings, and samples of assessments, as uploaded in their Padlet e-portfolios.

Structured observations included monitoring of participants’ Padlet involvement and participation throughout the training. Monitoring Padlet interactions provided a means to triangulate the data collected from semi-structured interviews. For example, participants might not report in the semi-structured interviews all the challenges they faced while using Padlet-based e-portfolios for self-reflection. Thus, the researcher-coordinator observed their activities closely to provide the necessary assistance and find out what challenges they were facing. For instance, participants might not admit their actual responses when their peers provide constructive feedback. Therefore, the researcher-coordinator observed their activities in the Padlet e-portfolios to see whether they were welcoming peer feedback and whether they were taking into consideration their peers’ feedback when applying content from the training. In addition, the teacher’s ability to recall the lesson, reflect on it, conclude, and plan for future work was monitored. How participants constructed their self-reflection was observed to analyse the teachers’ improvement in engaging in self-reflection about implementing the training and how they improved their teaching practices throughout the study period.

Data Collection and Analysis

The Padlet PD training implementation comprised five cycles, as displayed in Figure Two. Each cycle was designed to progressively guide the participants throughout each training objective, thus providing scaffolding from one stage to the next. Following recommendations from Xerri and Campbell (2016), the participants received guided hands-on training on Padlet, such as connecting, accessing training content, interacting features, sharing content, interacting with others, and providing constructive and supportive feedback. From the third cycle onwards, participants were progressively trained to interact within the Padlet CoP, by producing and sharing documentation related to their classroom practices and self-reflections, and developing the content of their e-portfolio (Tanner, Longayroux, Beijaard, & Verloop, 2000; Walsh & Mann, 2015).

**Figure 2. Padlet Mobile PD progressive scaffolding cycles**
Throughout the cyclical implementation, data were collected using semi-structured interviews with each participant, an analysis of documents, and structured observations of the participants’ activities in Padlet. A systematic grounded theory research method was chosen to conduct the investigation, where the researcher adapted the three-stage coding scheme from Corbin andStrauss’ (2008) grounded theory for cyclical data collection and analytical phases. Systematic grounded theory data collection and analysis procedures were conducted throughout the design, piloting, and refining of the intervention stages until the stabilizing phase and model development was reached, as revealed in Figure three.

**Figure 3.** Systematic grounded theory data analysis procedures

Open coding is the first stage from the initial coding of the data by segmenting the data into codes. In this stage, initial categories emerged from grouping codes into categories and subcategories. Axial coding is the second stage, where categories from the open coding are analysed to identify a core category from which relationships emerge with the other categories, identified as causal conditions, contextual and intervening conditions, adaptive strategies and reactions, and consequences to the adaptive strategies. In this stage, the interrelationship of causal conditions, strategies, contextual and intervening conditions, and consequences is represented in a diagram with a coding paradigm. Finally, relationships are investigated during the selective coding stage to create a working theoretical model that offers an abstract explanation of the process under investigation, specifically the processes involved in the successful integration of Padlet PD training into classroom practices (Corbin & Strauss, 2008). This stage involves testing relationships as hypotheses, sifting through all the data sets, and using diagramming and coding stages to reveal the relationships. The emerging Padlet Mobile PD training Model was verified using the data sets, categories, and diagrams produced with ATLAS.ti software (Lewins & Silver, 2014).

The Technological Pedagogical Content Knowledge (TPACK) model was used to facilitate and monitor transferring theoretical and technological knowledge of the Padlet Mobile PD training content into teachers’ practices (Yu & Franz, 2017). The TPACK model was used alongside with
the Ministry of Education’s standards and criteria for teachers’ classroom visits. The researcher stopped collecting data when the saturation of categories and relationships was achieved.

**Research Procedures**

*Padlet PD training content and delivery*

The PD training content focused on transitioning from face-to-face teaching to e-learning during the COVID-19 pandemic. Teachers needed training and guidance to cope with the transition to distance learning. PD training was done to refresh and deepen teachers’ technological and pedagogical knowledge of online EFL teaching. The PD training content covered four topics: designing a teaching plan for distance e-learning, designing synchronous online lessons, delivering online courses, and assessing learners in the online classroom. Table one details Padlet training delivery sequencing.

<table>
<thead>
<tr>
<th>Table 1. Padlet mobile PD training transfer sequencing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Individually: Construction of knowledge</td>
</tr>
<tr>
<td>- Watch the recorded training session on Padlet.</td>
</tr>
<tr>
<td>2. Padlet CoP: Co-construction of knowledge</td>
</tr>
<tr>
<td>- Discuss the content of the training session in the Padlet online discussion forums (PODFs).</td>
</tr>
<tr>
<td>3. In pairs: Hands-on practice – Knowledge transfer into teaching practice</td>
</tr>
<tr>
<td>- Design lesson plans, PowerPoint presentations for synchronous lessons, online class tests, etc.</td>
</tr>
<tr>
<td>- Upload a sample to the PODFs to be shared with the Padlet community of practice (CoP).</td>
</tr>
<tr>
<td>4. Padlet CoP: Co-construction of knowledge - Self-reflection</td>
</tr>
<tr>
<td>- Receive feedback from the Padlet CoP.</td>
</tr>
<tr>
<td>- Apply feedback to enhance their lesson, delivery, and assessment plans.</td>
</tr>
<tr>
<td>5. Individually: Knowledge transfer into practice</td>
</tr>
<tr>
<td>- Plan, deliver and record a synchronous lesson with their students</td>
</tr>
<tr>
<td>- Upload teaching materials to their Padlet Reflective E-portfolio</td>
</tr>
<tr>
<td>- Upload the recording to their Padlet Reflective E-portfolio</td>
</tr>
<tr>
<td>- Share portfolio with the CoP</td>
</tr>
<tr>
<td>6. Padlet CoP: Co-construction of knowledge</td>
</tr>
<tr>
<td>- Receive feedback from the CoP</td>
</tr>
<tr>
<td>Individually: Self-reflection</td>
</tr>
<tr>
<td>- Write their self-reflection.</td>
</tr>
<tr>
<td>- Upload their self-reflection to their Padlet Reflective E-portfolios</td>
</tr>
</tbody>
</table>

The participants could work individually and collaboratively to apply the PD content discussed in training. Throughout the training, participants were assisted in producing samples for implementing the training. Hands-on sessions involved the participants designing their online lessons, implementing them in their classroom, and uploading them in their Padlet reflective e-portfolios (PRE-Ps). In the third sequence, hands-on practice sessions involved the participants in pairs, thus providing peer scaffolding for transferring PD training content into actual tasks, such as designing online lessons and assessment plans. In the fourth sequence, the teachers shared their sample lesson and assessment plans with the Padlet CoP through forums to receive feedback for
improvement from all the participants. Subsequently, in the fifth and sixth sequences, the teachers implemented improved lesson plans in their online synchronous classrooms. Teachers recorded the lessons and shared their Recorded Synchronous Lessons (RSLs) with the Padlet training community, targeting the co-construction of knowledge through peer feedback. Throughout the training, the PD instructor monitored, facilitated, and analysed the interactions in the Padlet online discussion forums, as shown in Figure Four.

<table>
<thead>
<tr>
<th>Monitoring</th>
<th>Reviewing</th>
<th>Scaffolding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Progress</td>
<td>Teaching samples</td>
<td>Tasks</td>
</tr>
<tr>
<td>Challenges</td>
<td>Peer feedback</td>
<td>Supportive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>environment</td>
</tr>
<tr>
<td>Interactions in CoP</td>
<td>Self-reflections</td>
<td>Helpline</td>
</tr>
</tbody>
</table>

*Figure 4. Instructor’s presence in the CoP*

The participants created their Padlet self-reflective portfolios enriched with teaching materials produced during the training, and Recorded Synchronous Lessons (RSLs), as detailed in Figure five. The researchers reviewed and analysed the content of the Padlet e-portfolios (PRE-Ps) to monitor, facilitate, and assess the acquisition and transfer of the Padlet PD training content into teaching practices.

*Figure 5. Analysis of content acquisition, transfer, and reflective processes*
Findings

The cyclical implementation and continuous analysis allowed the researcher to identify the benefits and drawbacks of using Padlet as a training delivery platform. Each cycle refined the implementation to solve the issues encountered during Padlet PD training. This perfected framework is reflected in the emergence of the **Padlet Mobile PD Model for novice EFL in-service teachers**, as shown in Figure six. The model that emerged at the selective coding stage demonstrates how to design a Padlet PD training model to enhance novice EFL in-service teachers’ PD regarding regular participation, active participation, acquisition of content of training, and content transfer into teaching practices. The Padlet Mobile PD model for novice teachers comprises three main components. These are the use of Padlet as a training delivery platform, the Padlet CoP, and reflective e-portfolios.

*Figure 6. The Padlet Mobile PD Model for novice EFL in-service teachers*
Padlet as a training delivery platform

To answer the first research question, the essential benefits highlighted were that the instructor provided authentic examples of how to apply theoretical knowledge in class, and multimedia simplified content. Rimas said: “When I see examples…, I understand clearly, and that is what I like in the Padlet workshops.” Aya highlighted: “The instructor used multimedia, which made it easier for us to understand the training information.” These teachers concluded that having hands-on practice and examining each other’s prepared teaching materials during the training allowed them better understand the training topics. According to Saba, participants “understood the content better because these workshops were about practicing in the classroom.” Moreover, the primary goal of installing Padlet on the participants’ mobile devices was to facilitate their attendance in PD training sessions. The participants highlighted the usefulness of Padlet as a PD training delivery platform because it enables just-in-time and ubiquitous access to workshop content. Rimas said: “With Padlet, you can watch the workshops on your phone, and you can see it many times.”

Providing authentic examples illustrating how to apply information was beneficial as it was triangulated with the data obtained from overall self-reflection and the observation protocol of the first and second training sessions. The benefits of these examples were expressed by some of the participants, such as Rimas and Zina, in their overall self-reflection, highlighted in the observation protocol of Cycle 1 Week 2 and the observation protocol of the third training session. These examples allowed the participants understand the workshop content and allowed them to recall the steps required in applying these sessions while producing their teaching materials, and assisting them to implement the content of the workshops in their classrooms. Importantly, providing examples of successful practices helps make PD training more effective.

The benefits of providing simplified content supported by multimedia were demonstrated in the observation protocol of the first training session, in addition to mentioning it by some of the participants in their overall written self-reflection. Having hands-on practice and using mobile devices to access the training materials facilitated transferring training content into teaching practices. This feature was highlighted by some participants, such as Khadija, in the overall written self-reflection. This contributed to effectively acquiring the content of these training sessions.

Padlet CoP

In answering the second research question, participants viewed the CoP as a community where they could work together and gain peer assistance and feedback through the Padlet online discussion forums (PODFs) accessible from their mobile devices. These forums were convenient places where participants could discuss the training content and collaborate with colleagues. These forums facilitated the interchange of ideas and systematic implementation of the training content. As Zina noted, “It was easier to remember how to apply what I learned in workshops in my class because we did practice with friends.”

Critically, in the current study, knowing each other resulted in a greater acceptance of peers’ viewpoints and feedback, which allowed participants enhance their academic accomplishments. Saba disclosed that “In the Padlet workshops, we could express our opinions freely when offering feedback because we knew our colleagues. This allowed us to work collaboratively to develop ourselves professionally.” Moreover, participants could access their
colleagues’ Recorded Synchronous Lessons (RSLs) and the teaching materials posted in these forums, showcasing how they transferred the workshop content into their classrooms.

Interaction and collaboration among the participants were beneficial for creating knowledge and improving the participants’ teaching techniques. According to Zina, “Reviewing the work of other colleagues allowed us to benefit from their ideas and the strategies they use.” Khadija disclosed: “It helps me a lot to be better because your colleagues are like a third eye for you. They can see things you cannot see in your work and your teaching.”

Notably, participants noted that the Recorded Synchronous Lessons (RSLs) provided increased accessibility and increased the frequency of attending these lessons. Specifically, mobile access increased peer observation attendance due to the flexibility of participation. Crucially, peer observation was more beneficial, as it allowed the participants to pay more attention to detail due to a lack of distractions. Similarly, Rimas said, “I liked the idea that I could attend these RSLs more frequently from my phone. Watching these RSLs benefited me more because I could focus more as I felt more comfortable.”

Throughout the journey, participants metaphorically took each other’s hands and learned together while assisting, encouraging, and supporting each other in addressing problems encountered during training. Participants in the CoP showed their appreciation through comments, which contributed to this positive attitude, as did the fact that working with peers made complex training tasks more manageable. For instance, Zina disclosed: “My colleagues were encouraging me to do better next time, and they made me work harder to improve,” and Mira explained, “The content is simple, and when you work with friends, it becomes simpler.” The contribution of the Padlet CoP is presented in the axial coding model in Figure seven.

![Figure 7. Padlet CoP axial coding model.](image-url)

Based on the observation protocol and as found in the analysis of artifacts such as the analysis of the peer feedback, because of this favourable impression, there was an improvement in participation, better use of peer critique, and increased involvement during the sessions. This increased engagement led to a more effective learning of content and a more effortless transfer of...
theoretical information from training sessions to practical knowledge in their lessons.

**Padlet Reflective E-Portfolios**  
Establishing the e-portfolio in the Padlet online platform installed on the participants’ mobile devices was helpful to these novice teachers. Padlet on mobile devices provided every participant instant and continuous access to the content of their e-portfolios, including recorded synchronous lessons and self-reflection. This made it easier for them to attend each other’s RSLs, which boosted the impact of these peer observations on their professional progress.

The Padlet e-portfolio emerged as a secure place to save and retrieve their work and showcase their professional abilities because the utilization of Padlet facilitated the addition and organization of content in the participants’ portfolios as it supports multimedia. Rimas illustrated: “I find it a safe place because in the e-portfolio your teaching materials will be there for you when you want them. You only need to open the link and find all your work.”

These components inspired and motivated the participants to grow professionally. Saba explained: “Constructing an e-portfolio was a new experience for me. Thus, I was excited to create it because I can save my work and show my achievements as evidence of my improvement.”

When the participants reflected on their teaching techniques, the PRE-P was a valuable tool. It facilitated reviewing the videos of their RSLs more effectively, leading to producing self-reflections in a more efficient and systematic approach due to multimedia. Zina explained: “Going through the lesson recording in the e-portfolio allowed me to write a self-reflection easily, quickly, and orderly.”

Additionally, participants disclosed that examining their RSLs increased their awareness of the efficacy of their strategies. This resulted in teachers’ competence and expertise improving. Similarly, Mira explained: “When I revise my lessons and videos in my e-portfolio, I can see that some points need more improvement in my teaching.”

Furthermore, the findings showed that the commenting function in PRE-P made the feedback easier to perform. Padlet encouraged receiving constructive feedback from Padlet CoP. Similarly, Saba stated, “Padlet is a good program to get comments from others to improve ourselves.” This benefited the participants’ improvement in teaching and fostered self-reflection in their teaching practice. Moreover, they disclosed that they loved reading comments on their work provided by the members of the Padlet CoP. Notably, the participants expressed their satisfaction and gratitude for overcoming the challenges they encountered and for encouragement through the CoP to continue progressing. Aya disclosed: “I appreciate peer comments because they gave me ideas on improving my teaching practices in RSLs and allowed me understand the information in these workshops.”

As can be inferred from the analysis of artifacts and observations, there was a significant contribution resulting from integrating PRE-P into teachers’ TPACK. Therefore, transferring training content to teaching practices is easier and more effective.

**Padlet PD Training Challenges Reduced within the CoP**  
Participants noted that they encountered some challenges while participating in the current study. However, the CoP helped lessen their negative influence, as shown in Figure eight. For
instance, some participants disclosed that due to poor internet connection, accessing links for Padlet workshop content was sometimes tricky. As a result, the researcher provided them with other options, such as using QR codes and downloading these sessions to be accessed offline when they faced an unstable connection.

Figure 8. Challenges and coping strategies to reduce the negative impact
Notably, grouping during the training sessions was left to the teachers’ selection, as some teams did not feel at ease working with colleagues picked up by the researcher during the previous sessions. Significantly, when individual participants experienced negative emotions, members of the Padlet CoP offered supportive comments, encouragement, and reassurance to the participants through the hardships they encountered.

Discussion
Just-in-time Access
As can be seen from the answer to the first research question in the Findings section, there are some benefits of Padlet as a training delivery platform. The mobile Padlet PD training environment met novice EFL teachers’ needs for just-in-time learning, accessibility, and attendance flexibility. Papadakis, Kalogiannakis, Sifaki, and Vidakis (2018), La Hanisi, Risdiany, Dwi Utami, and Sulisworo (2018), and Healy, Block, and Kelly (2020) noted similar benefits from mobile and multiplatform training environments. Consequently, heightened attendance and participation contribute to increased access to training materials and community support. Moreover, just-in-time access to simplified multimedia theoretical content and practical content demonstrating the application of theoretical knowledge in real contexts enhanced novice EFL teachers’ engagement in PD training. This finding concurs with Peeples, Hirsch, Gardner, Keeley, Sherrow, McKenzie, and Kennedy (2019), who highlighted the effectiveness of multimedia training in facilitating learning and acquisition. Hands-on online lesson planning, practical delivery sessions, and peer feedback further contributed to the training participants’ learning, acquisition,
and transfer of PD content, as triangulated with Sadeghi and Richards (2021). They stated that when teachers are engaged in the planning and implementing PD training content in their classrooms, they gain ownership of the learning, which facilitates the acquisition of content knowledge. This is likely to result in transferring training content into effective teaching practices, thus improving students’ opportunities for learning. As a result, hands-on practice within the CoP aided the acquisition and transfer of theoretical training content from the workshops into practical teaching strategies directly transferable in their classrooms.

**Ubiquitous support from CoP**

As can be inferred from the answer to the second research question in the Findings section, there are some significant contributions to the integration of the Padlet CoP. Interaction and collaboration among peers resulted in a dynamic co-construction of knowledge, where participants confronted their views and discussed training content sometimes at odds with their opinion. This is consistent with Nami, Marandi, and Sotoudehnama’s (2018) findings. Collaborating with peers and reviewing peer-produced teaching resources has contributed to successfully transfer of training content into teaching practices. For example, joint reflective discussions within the community led to shared problem-solving, such as classroom and time management. This finding resonates with Alabbad and Bin Huwamel (2020) and Chen (2021). A favorable learning community led to a virtual circle of engagement, where increased engagement led to effective content acquisition. In turn, it facilitated transferring the theoretical content into EFL novice teachers’ practices, which agrees with Ellis's (2015) findings. In addition, knowing their colleagues was beneficial to the participants, which put more emphasis on the benefits of the Padlet CoP. These findings contradict the results of a study conducted by Sari (2019), in which the researcher stated that in the Padlet chatroom, anonymity became one of the most significant aspects, as participants were more comfortable giving and receiving feedback anonymously.

**Multimedia E-reflective portfolios**

As can be seen from the answer to the third research question in the Findings section, the Padlet mobile and multimedia e-portfolios emerged as a secure place to save, retrieve, reflect, and showcase professional development. These components inspired novel EFL teachers to grow professionally by documenting their teaching and displaying their accomplishments. Such findings concur with Basken (2008), who noted that using e-portfolios allowed enhance teaching skills, and Alzouebei (2020), who noted that using e-portfolios to document and display teachers’ accomplishments allowed enhance their teaching techniques. The e-portfolios led to a systematic approach to self-reflection, with participants disclosing the documenting and reflecting, increasing their awareness of effective teaching strategies and the need for improvement. Likewise, according to Gugino (2018), multimedia in e-portfolios allowed enhance teachers’ reflective practices and technological competence (Eissa, 2019).

The current study resulted in the active involvement of novice teachers throughout implementing the Padlet Mobile PD framework such as sharing their ideas and their teaching practices by using PODFs and the PRE-P. Mainly, implementing this study assisted teachers in grasping the training materials and better relating theory to practice. Thus, it resulted in an enhanced transfer of training content into their daily classrooms. The Padlet mobile CoP reflective training allowed enhance teachers’ teaching methods and allowed in assisting them in becoming better teachers.
Crucially, the effectiveness of collaborative work and interaction among participants, which occurred significantly in the current study, is vital for structuring knowledge by working with peers. This supports the principle of the dialogic and collaborative approach mentioned by Walsh and Mann (2015). The Padlet CoP allowed support novice EFL teachers as they had easy and constant access to training information. Delivering mobile PD programs reduces commuting and time constraints. Furthermore, the flexibility in attendance enhanced teaching and learning processes.

Moreover, such a model could benefit supervisors and senior teachers (SETs) since Padlet makes it easier for them to organize and conduct training sessions without finding a suitable time due to the busy schedules of all parties. In addition, supervisors and SETs may deliver these workshops to teachers from other schools as supplementary materials. In addition, it could benefit PD trainers replicating and adapting the model within their context, adapting multimedia content delivery to trainees’ needs. Significantly, stakeholders could use the Padlet Mobile PD Model to enhance PD transfer into teaching practices owing to the flexibility and convenience of mobile delivery. Currently, only a limited number of teachers can be involved in face-to-face PD programs because of the considerable budget costs and organizational issues. Applying this model could facilitate the organization of mobile PD training programs for teachers. The resulting model provides EFL professional development instructors with a framework to design the Padlet PD training model to enhance novice EFL teachers’ PD regarding regular participation, active participation, acquisition of training content, and content transfer into teaching practices.

Conclusion

The researchers aimed to design, implement, and investigate an alternative PD environment specifically designed to support novice in-service Omani EFL teachers in a primary school because novice EFL in-service teachers often struggle to transfer theoretical knowledge into practice. To investigate this issue, the researchers selected six novice EFL in-service teachers as part of an alternative Mobile PD program delivered through the Padlet platform. This study enhanced the PD content transfer into the teachers' teaching practices because of how the training was prepared and implemented. The findings highlighted three essential elements within mobile Padlet training, which are Padlet as a multimedia content delivery platform, Padlet CoP, and Padlet reflective e-portfolio, and strategies PD trainers can use to foresee and address difficulties that may arise while conducting Padlet Mobile PD training. Consequently, the resulting Padlet Mobile PD Model for novice EFL in-service teachers represents a considerable contribution to the future of novice teachers' training because of the novelty of the three-dimensional components of the model. Notably, the Padlet PD training is expected to benefit teachers, students, supervisors, senior teachers, researchers, trainers ready to adapt and replicate the intervention, and stakeholders willing to use the model to enhance PD training in their respective contexts. To summarize, the alternative Padlet professional training was perceived as a novelty by teachers who had never been exposed to mobile online training, the Padlet platform, the CoP, or a reflective e-portfolio. Most importantly, novelty, flexibility, and usefulness produced feelings of enjoyment and motivation for the teachers engaged in the current study. Consequently, enjoyment led to participatory engagement and, thus, to more successful content acquisition, and a more effective transition into teaching practice. This is congruent with the findings of Nadeem (2021), who noted Padlet’s qualities in fostering a positive learning environment. Significantly, according to the researchers’ best knowledge, this grounded action research study represents a novel venture into investigating
the Padlet mobile PD training program for novice EFL teachers. As such, future research is needed to expand implementing the Padlet Mobile PD training model to other EFL contexts and subjects. A quantitative investigation could measure teachers’ perceptions of their improvements using the Technological Pedagogical Content Knowledge (TPACK) model.

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References


Abstract
This systematic review was conducted to provide inspiration on the development of a learning model for vocabulary learning via the use of pictorials, as well as the omissions and gaps in the synthesized literature on the topic, especially with regards to the use of such a model for remote learning. The significance of this particular study lies in the affirmation of whether this pictorial-based vocabulary learning model is a viable solution for the necessity of remote learning. There are a total of three research questions, which are (1) What are the benefits of developing a pictorial-based vocabulary model for learning vocabulary? (2) What are the challenges in the integration and application of digital technology for remote learning and learning enhancement? and (3) How effective is using pictorial elements in enhancing students’ learning of vocabulary? Two main databases – ResearchGate and Scopus – were explored for data collection. A total of 16 studies of relevance to the topic of investigation were retained for further analysis out of more than 50 studies after the strict process of removing duplicates and scrutinizing the abstracts for a suitable level of relevance. To account for the derivation of the various themes under this review, the method of a thematic analysis was preferred. The emerging themes being analyzed are: (1) The Development of a Pictorial-Based Learning Model for Vocabulary Learning (2) The Integration and Application of Digital Technology for Remote Learning and Learning Enhancement (3) The Effectiveness of Using Pictorial Elements on Enhancing Students’ Learning of Vocabulary.

Keywords: Digital technology, learning model, pictorial-based, remote learning, systematic review, vocabulary learning

Introduction

The comprehension of words is vital for all of us to be able to communicate, regardless of language. We are required to be capable of comprehending sentences, which are an orderly arrangement of words that we know as vocabulary. As such, one of the cornerstones of English Language teaching is the teaching of vocabulary to ensure comprehensible communication and the accurate transfer of meaning and information. Due to this, Shokrpour, Mirshekari, and Moslehi (2019) suggest the need to develop effective pedagogical methods to teach English vocabulary to be one of the immediate concerns of English language teaching.

There are a total of three objectives here, which concern three important aspects that the researcher has taken into consideration in the development of this pictorial-based vocabulary model. These three objectives are as showcased here:
1. To investigate the benefits of developing a pictorial-based vocabulary model for learning vocabulary.
2. To identify the challenges in the integration and application of digital technology for remote learning and learning enhancement.
3. To explore the effectiveness of using pictorial elements to enhance students’ learning of vocabulary.

In response to the research objectives above, three research questions have also been formulated to provide a clear direction for this research so that its aims can be achieved. The research questions are as observed here:
1. What are the benefits of developing a pictorial-based vocabulary model for learning vocabulary?
2. What are the challenges in the integration and application of digital technology for remote learning and learning enhancement?
3. How effective is using pictorial elements in enhancing students’ learning of vocabulary?

Literature Review

The main reason for the development of a pictorial-based learning model for vocabulary learning is to allow for students to be able to learn their vocabulary remotely. This is caused by the sudden advent and worsening of the Covid-19 pandemic which has derailed the traditional, classroom-based pedagogy into that which favors long-distance or remote teaching and learning. This new shift in pedagogical direction has placed emphasis on the utilization of online platforms and resources to achieve.

Therefore, the traditional learning methods for English vocabulary are not viable (for the time being) as educators and students now face the unprecedented challenge of navigating Open Distance Learning (ODL) (Garcia & Weiss, 2020).

This inevitable shift in vocabulary teaching from the traditional face-to-face approach to remote teaching via online platforms has paved the way for further utilization, application, and a deeper integration of technological or digital-based tools in learning vocabulary. The integration of digital-based tools has greatly improved the learning of vocabulary by students, especially with regards to vocabulary acquisition (Shokrpour, Mirshekari, & Moslehi, 2019). However, this improvement does not merely stop at vocabulary acquisition, but is also observed in the long term retention of the vocabulary items learned by the students in their memory as well as the students themselves displaying a greater degree of positive motivation towards vocabulary learning, particularly by younger learners. All of these observations are the results of fairly recent research conducted by Leong, Abidin and Saibon (2019).
However, the studies conducted using digital-based tools and applications such as PowerPoint slides, computer games (Jhon, 2016), online games (Kayaalti, 2018), YouTube Videos (Arndt & Woore, 2018) and English language learning software, such as ‘Tell Me More’ (Enayati & Gilakjani, 2020) and ‘Duolingo’ (Ajisoko, 2020) for vocabulary learning, has highlighted the gaps that this systematic review seeks to address.

There are a total of four such gaps, the first of which being that while these digital tools, applications, games, videos or models can be used to learn English, it was not their original purpose, and vocabulary was indirectly learned. Secondly, while there are tools, applications and models made expressly for English language learning, it is not explicitly designed for vocabulary learning. Thirdly, to the best of the researchers’ knowledge, studies on these two matters in the Malaysian context which use the word list suggested by the SBELC are almost second to none; there is a clear need for such studies, as indicated by Mahzan, Alias, and Ismail (2020). Finally, all the studies were not done in the context of education during the pandemic era. Such studies are important as it could provide an insight on how the pandemic could impact English vocabulary learning especially in Malaysia.

Method
Research Design
The research design used for this paper is systematic review. According to Ranganathan (2020), systematic reviews are a popular method utilized to reduce bias by collating supportive, relevant and up-to-date evidence from various studies in accordance to pre-set criteria to ensure the relevance of the contents which aims to answer a particular research question using systematic, explicit methods, hence the name. The researcher has combined the information compiled from various published journals that have been thoroughly reviewed (numbering 16 in this case) to ensure that they are both relevant and updated in terms of their content.

Resources
Many of the research papers and publications that are utilized here were mainly sourced from two main sources, which are ResearchGate and the Education Resources Information Center (ERIC), whereas a bare minimum of them were sourced from various other databases such as the Web of Science, Google Scholar or private research article collections.

Data Collection Instruments
Subsets of instruments (as in Abdullah & Osman, 2018) were adapted for use in all three categories – quantitative, qualitative, and mixed methods. The subcategories of the quantitative methods were surveys, content-based analysis, mixed instruments (i.e., using a combination of two or more instruments) and others, while the subcategories for qualitative methods were textual or discourse analysis, interviews, mixed instruments and other. The mixed-methods studies were coded under both headings, quantitative and qualitative.
Table 1. Instrument list

<table>
<thead>
<tr>
<th>Research</th>
<th>Instrument</th>
<th>Method</th>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pre-Test, Post-Test, Observation, Questionnaire, Interview</td>
<td>Mixed-Method</td>
<td>Quasi-Experimental</td>
</tr>
<tr>
<td>2.</td>
<td>Pre-Test, Post-Test</td>
<td>Quantitative</td>
<td>Quasi-Experimental</td>
</tr>
<tr>
<td>3.</td>
<td>Keyword-Based Screening, Back-Searching (Past 5 years)</td>
<td>Search and Filter Strategy</td>
<td>Review Paper</td>
</tr>
<tr>
<td>4.</td>
<td>Blended Learning Model, Observation</td>
<td>Research and Development</td>
<td>Not Mentioned</td>
</tr>
<tr>
<td>5.</td>
<td>Pre-Test Quiz, Post-Test Quiz, Feedback Form</td>
<td>Mixed-Method</td>
<td>Mixed Method Research Study</td>
</tr>
<tr>
<td>6.</td>
<td>Observation, Questionnaires</td>
<td>Qualitative Method</td>
<td>Not Mentioned</td>
</tr>
<tr>
<td>7.</td>
<td>Keyword-Based Screening</td>
<td>Meta-Analytic Approach, Search and Filter Strategy</td>
<td>Not Mentioned</td>
</tr>
<tr>
<td>8.</td>
<td>Not Mentioned</td>
<td>Search and Filter</td>
<td>Not Mentioned</td>
</tr>
<tr>
<td>9.</td>
<td>Workshop Materials, Q&amp;A Session</td>
<td>This is an active workshop, not a research study.</td>
<td>Not Mentioned</td>
</tr>
<tr>
<td>10.</td>
<td>SAMR Model (Learning Model) Lesson Plans and Materials, Observation</td>
<td>Qualitative</td>
<td>Not Mentioned</td>
</tr>
<tr>
<td>11.</td>
<td>Questionnaire</td>
<td>Mixed-Method</td>
<td>Not Mentioned</td>
</tr>
<tr>
<td>12.</td>
<td>Keyword-Based Screening</td>
<td>Search and Filter Strategy</td>
<td>Review Paper</td>
</tr>
<tr>
<td>13.</td>
<td>Pre-Test, Post-Test</td>
<td>Quantitative Methodology</td>
<td>Diagnostic/Experimental Study</td>
</tr>
<tr>
<td>14.</td>
<td>Survey questionnaires</td>
<td>Survey Method (Quantitative)</td>
<td>Fully quantitative research design using the descriptive approach</td>
</tr>
<tr>
<td>15.</td>
<td>-</td>
<td>Not Mentioned</td>
<td>Not Mentioned</td>
</tr>
</tbody>
</table>

**Review Process**

*Identification*

*Web Search Strategy*

For our web search strategy, we have decided to scour for articles and research papers whose titles and content contain the key terms (including any combination of these terms) of this research such as “vocabulary learning”, “model development”, “open-distance learning”, “pictorials”, “pictorial-based learning”, “vocabulary learning strategies”, “the use of social media as an instructional medium for learning” as well as “remote learning” as an example as the initial phase of our search strategy.

To ensure that we proceed with the search in an orderly fashion while making sure to sift through every resource carefully, the main approach was to first consider the title, followed by the key terms and the abstract (Tamilchelvan & Rashid, 2017). These were because the title, key terms and the abstract would be useful to give us knowledge on the direction of a research paper that might prove useful, that could be set aside for further consideration with minimal waste of time. This procedure has proven to be both useful and effective in sorting out various publications whose contents were within the scope of our research regarding the development of a Malaysian-based
A pictorial-based learning model for secondary school students that is both sustainable and viable for open-distance learning.

**Screening**

This systematic review will consist of only published research studies that are selectively based on the following attributes: having English as the main publishing language, or at least having an abstract in English; providing data sourced from previous research and studies based on English language learning model development, pictorial learning methods for vocabulary and the integration of digital technology in vocabulary learning for the purpose of developing a pictorial learning model; analyzing quantitative and qualitative data that illustrates at least one of the facets of English vocabulary model development, pictorial methods of vocabulary teaching and on the use, application and integration of technology in the development of a vocabulary learning model; and research studies published after 2014 were to be included and those published before 2014 are excluded, so that this review would include only the most recent insights and research of relevance with regards to the learning model’s development.

**Observation Protocol**

Regardless of where they are currently sourced from, all these articles have been through a meticulous sorting process starting from their titles all the way to their abstracts, thus having been scrutinized and deemed both adequate and relevant to the research at hand. It was only when insufficient information was derived from the abstract that the full publication would be carefully read and screened to determine the validity and relevance of its contents to this study based on the inclusion criteria of the research.

Out of the 16 publications that we have sourced, ResearchGate and the ERIC provided 12 publications, whereas Google Scholar and the Web of Science yielded the remaining four. A cross-search has been conducted across all of the 16 publications mentioned above so that duplicated publications can be identified and removed. During this process, 4 of the 16 publications had their contents subjected to a full length scrutiny. This was done to ascertain that the contents of these publications are relevant to the study, and that they are up-to-date for inclusion.

**Analytical Process**

The process of which these articles and publications are reviewed are conducted by employing a two-step analysis proposed by Ahmed and Matthes (2017) This produces a detailed quantitative analysis which allows research trends and comparisons to be made. It also formed the basis of the subsequent qualitative analysis by drawing the major themes from the literature using thematic analysis. This procedure will sort out the various articles and publications under a specific thematic umbrella which would produce the answers required to build up the basis for current research purposes by verifying and affirming the relevance of the results of each theme based on the keywords utilized in the initial stage of our Web Search Strategy. This is done by going through each of the major themes from all the literature we have garnered before analysis and interpretation is conducted to obtain the relevant results.

This thematic analysis is qualitative in nature, and functions to identify and combine the major themes to create a picture that best exemplifies the nature of the vocabulary learning model that we seek to develop through this literature review.

**Qualitative Analysis Phase**
For the first step of this thematic analysis procedure, all publications will be sorted into 5 categories as provided below.

(1) Publication year and journal.
(2) The geographical areas focused on in the research.
(3) First author’s affiliated country at the time of publication.
(4) Research method used in each study.
(5) Theoretical lens

Each study was examined to identify the theoretical lens it used. Theoretical lens here refers to grand or middle range theory rather than a substantive theory. In its broadest sense, grand theory refers to a general framework of looking at the world which may hold true over different social cultural contexts and different periods of times. Psychoanalytic theory and Cognitive theory are examples of grand theory. Middle range theory refers to a set of propositions aimed at explaining a given phenomenon. Social Shaping of Technology (SST) and Intergroup Contact theory are examples of middle range theories. Some studies employ more than one theory (e.g., Awan, 2016a, 2016b; Campbell, 2010) and were coded ‘Theory employed’ in line with the above rationale.

Each publication and research study here has been categorized with full accordance to its overall themes. However, as there were several overarching themes that hindered the categorization, a discussion with an intercoder was integral in identifying the various overlaps in the themes of the various studies, which allowed us to identify the main points and then add on to them, thus ensuring greater accuracy.

**Findings**

The objectives of this systematic review of literature are to organize information, data and results obtained from research on the various themes of our research to further the development of our learning model, while also identifying any gaps and areas that are often under-represented in this field. Due to our focus on development, there is much greater emphasis on methodology and on the findings of various types of relevant research in order to form the basis for our model development.

Table 2. *Country (author’s university affiliation)*

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>3</td>
</tr>
<tr>
<td>Indonesia</td>
<td>2</td>
</tr>
<tr>
<td>UK</td>
<td>1</td>
</tr>
<tr>
<td>Turkey</td>
<td>1</td>
</tr>
<tr>
<td>East Java</td>
<td>1</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>1</td>
</tr>
<tr>
<td>Palembang</td>
<td>1</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>1</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1</td>
</tr>
<tr>
<td>Russia</td>
<td>1</td>
</tr>
<tr>
<td>Malaysia</td>
<td>2</td>
</tr>
<tr>
<td>Hawaii</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 2. displays the countries that each of the author’s universities are affiliated with. The percentage of affiliation is also provided for much clearer visual clarity, and is therefore showcased in the chart that is seen below (Figure 1).

Figure 1. Country (author’s university affiliation)

Prior to a deeper analysis of the data above, the researcher would like to clarify two main details:

1. In the case where there are two or more authors for a study, only the country of the first author’s university affiliation will be taken into consideration.
2. The focus will be on the acknowledgement of the country which produced the research, and as such, its internal geographical regions will not be taken into consideration.

In line with the above clarifications, we can see that the largest majority of the research utilized originates from the United States of America with three research studies, thus allowing it to possess 19% of the total research studies that are used here, which is nearly a fifth of whole, with the second largest majority coming from Indonesia and Malaysia respectively with 2 research studies each, making up for a total of 26% of the whole together. Every other country has contributed 1 relevant research study to this study, contributing 6% to the total whole. As such, we can conclude that the higher concentration of such studies is from the US, due to the US having suffered a critical blow from the pandemic while having the technological resources to overcome the various inconveniences that came with it such as remote learning.
Table 3. Distribution (2014–2021) and Journals

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>2</td>
</tr>
<tr>
<td>2015</td>
<td>0</td>
</tr>
<tr>
<td>2016</td>
<td>1</td>
</tr>
<tr>
<td>2017</td>
<td>1</td>
</tr>
<tr>
<td>2018</td>
<td>2</td>
</tr>
<tr>
<td>2019</td>
<td>2</td>
</tr>
<tr>
<td>2020</td>
<td>3</td>
</tr>
<tr>
<td>2021</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 3, which is seen above displays the distribution of research journals published in the span of seven years, ranging from 2014 to 2021. The trend of this distribution can be viewed graphically for further clarity in the form of a line graph, as observed in Figure 2 below.

![Distribution (2014-2021) & Journals](image)

Figure 2. Distribution (2014–2021) and journals

As seen from the distribution of studies over the period of 7 years in Figure 2, it can be observed that the trend of research being conducted that is relevant to this current study rises sharply starting from the years 2019 to 2021. The research being conducted during this period of time mainly pertains to those concerning the use and integration of technology in classes, online teaching methods and materials as well as remote learning. The steep increase in this nature of research is due to the advent and increasing seriousness of the Covid-19 pandemic, in which the various protocols taken to curb the spread of the disease has resulted in pedagogy being conducted from home through remote learning.

In the years prior to 2019, the research trend concerning the above areas has either seen a significant decline (2014 – 2015), a steady increase (2015 – 2016), holding stable (2016 – 2017)
or seeing a lazy increase (2017-2018). After this, it stabilizes once more from 2018 to 2019 before seeing a significant increase, in which the only difference in the circumstances of the time period being the fact that the Covid-19 pandemic has entered its most critical state, forcing a nationwide lockdown of schools and other educational institutes. As such, the trend of the studies conducted over these seven years alludes to the severity of the impact that the Covid-19 pandemic has caused as well as the importance of the various fields of research that has improved the means of which we cope with the circumstances it has forced on us, at least with regards to matters of pedagogy and education.

Table 4. *Types of methodologies*

<table>
<thead>
<tr>
<th>Types of Methodologies</th>
<th>Number (16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualitative</td>
<td>2</td>
</tr>
<tr>
<td>Quantitative</td>
<td>3</td>
</tr>
<tr>
<td>Mixed</td>
<td>4</td>
</tr>
<tr>
<td>Keyword-Based Filtration</td>
<td>4</td>
</tr>
<tr>
<td>Research and Development</td>
<td>1</td>
</tr>
<tr>
<td>Unstated</td>
<td>2</td>
</tr>
</tbody>
</table>

As can be seen from Table 4 above pertaining to the types of methodologies employed in the research studies that we have found, the most popular methods used are mixed methods as well as Keyword-Based Filtration methods, coming in at four papers each. All research studies that utilize the latter method were shown to be meta-analysis papers as well as review papers on pre-existing research and studies. The second most popular research methodology would be quantitative research, which is often utilized by research studies that employ a diagnostic/experimental and semi-experimental research design, in which there are a total of three studies in which it is used. Qualitative research methods are the third most popular research method, with it being used in two research studies. However, there are two research papers in which the research methods are not stated, or more accurately, not included. The least popular research method seems to involve a Research and Development process rather than an actual method, for it was focused on the development of a teaching material rather than being a research study. However, it is still relevant to the current research.

Table 5. *Types of research designs*

<table>
<thead>
<tr>
<th>Types of Research Designs</th>
<th>Number (16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>1</td>
</tr>
<tr>
<td>Semi-Experimental</td>
<td>2</td>
</tr>
<tr>
<td>Quantitative</td>
<td>1</td>
</tr>
<tr>
<td>Qualitative</td>
<td></td>
</tr>
<tr>
<td>Mixed Method</td>
<td>1</td>
</tr>
<tr>
<td>Design-based</td>
<td>1</td>
</tr>
<tr>
<td>Not Mentioned</td>
<td>8</td>
</tr>
<tr>
<td>Review</td>
<td>2</td>
</tr>
</tbody>
</table>

As can be seen from Table 5 which is seen above, out of the 16 research studies utilized for the current research, half of them do not mention the research design on which their research is conducted. As such, out of the remaining eight research studies, the two most popular research designs are reviews and semi-experimental research designs, with two studies contributing to each design. The reason for this is that a significant part of the remaining studies are reviews on pre-existing literature, as well as research that focus on the use of control and experimental groups,
which explains why semi-experimental methods are utilized. Experimental, Design-Based and Quantitative research designs come in at one research paper each, with the least popular research design being the Qualitative research design, which is not employed by any research studies.

**Discussion**

The purpose of conducting this particular literature review is for the purpose of developing a Malaysian-Based Pictorial Vocabulary Learning Model for Secondary School Students for Sustainable, Open-Distance Learning, with the vocabulary items sourced from the School-Based English Language Curriculum. To fulfill this aim, the answers for all three research questions have been provided in the form of three themes under which the various publications have been analyzed and interpreted towards the verification of its results to justify the need to develop such a model as well as to identify and consolidate its potential use and effectiveness of purpose. The three research questions of RQ1, RQ2 and RQ3 and the corresponding answers in the form of the Themes 1, 2 and 3 respectively are as seen below:

**Research Question 1: What are the benefits of developing a pictorial-based vocabulary model for learning vocabulary?**

**Theme 1: The Development of a Pictorial-Based Learning Model for Vocabulary Learning**

This theme represents the main aspect of this research, which is on the development of a pictorial-based learning model for the sole purpose of vocabulary learning. However, we have found that publications and articles with regards to a pictorial-learning model often refer to a known model known as the Picture Word Inductive Model or PWIM for short, with no other pictorial models for the purpose of vocabulary learning being found, nor the development of any new learning models for this purpose.

Based on research conducted by Jiang (2014) on the vocabulary learning of students via the employment of PWIM, he noted that while the students who participated in his research said that they felt that PWIM had a positive influence on their learning of vocabulary, qualitative data indicated otherwise, showing that there was, in fact, no particularly significant differences on the effects of employing PWIM between both the experimental and control groups of the same grade levels. The data was obtained from four contextual aspects of the lessons conducted, which are:

*(a) time constraints on the implementation of PWIM in the classroom*

According to Jiang (2014), he noted that upon observing a teacher implementing PWIM in the classroom, the teacher “spent a large amount of time on class management, emphasizing discipline and criticizing misbehaved students”, and thus there was not much spent on teaching, much less the utilization of PWIM in the classroom.

Furthermore, he also noticed that the teacher in question did not follow in the presentation steps according to PWIM. Some examples of this that he had noted was that due to time constraints, the teacher would combine categorization and writing stages together and even write the answers next to the picture without even waiting for students to contribute.

*(b) resistance of teachers towards implementing PWIM*

According to Jiang (2014), he states that due to a lack of logic class in public education in this modern age nor have any existing philosophy classes, Chinese teachers have been prevented from thinking inductively. This translates into an inherent resistance towards the use of PWIM in their
teaching of vocabulary, seeing as how inductive thinking is a key component of PWIM. Research by Wang, Lin, and Spalding (2008) has also reflected the fact that Chinese English teachers have a lack of cognitive readiness with regards to PWIM.

That aside, he also believes that only a small portion of native-English speaking foreign teachers are qualified English teachers (Crystal, 2008), and for the rest of which who lack both a background and notable skill in language education, PWIM will not be familiar to them due to its nature as a recent instructional approach.

(c) usage of PWIM in conducting lessons

Based on his observation, Jiang (2004) concluded that the teacher still followed the “teacher-centered textbook-analysis-based Grammar-Translation Method” (Yang, 2000). Not only that, the lack of two-way communication in the classroom, absence of promoting communicative interactions in classes, the preferential use of close-ended questions rather than open-ended questions which did nothing for the cultivation of creative thinking or communicative interaction, both of which being aspects that PWIM sought to promote, showed that she was barely, if at all adhering to PWIM.

(d) the implementation of PWIM in a classroom of over 55 students

According to Jiang (2014), he said that the classroom was overly crowded and that students rarely got any attention from the teacher during the lesson.

All these four reasons play a major reason as to why the results of the research for both the control group and the experimental group displayed no significant changes. Had PIWM been well and truly implemented, given ample time and expert execution, the results might have seen a much more positive change. All the elements that affect the results of his research will be considered in the development and future execution of the pictorial vocabulary learning model that is to be developed in this research.

We also have research by Vasbieva, Klimovab, Agibalovac, Karzhanovad, and Bírováe (2016), one that involves the use of the blended learning approach to teach English vocabulary to ESL learners, the results of which yielded positive results, showing that the use of the blended learning strategy greatly improved the vocabulary achievement of the students.

The encouraging achievements of their research would lead to Marita (2020) taking it to the next level by aiming to develop an English language learning model based on blended learning, with the aim being to motivate and enhance students’ learning of the English language. Their research proved quite fruitful, seeing as how the model that they developed showed a positive outcome with regards to the improvement of student motivation, understanding of lesson content as well as the fulfillment of their learning needs. However, it was somewhat lacking in the fact that it did not involve the use of pictorials, but the stages and steps that led to its gradual development into a learning model was still relevant to our own efforts to develop a model.

Yet another digital model saw development that year by research conducted by Dazzeo and Rao (2020). Their purpose of developing their model was to act as a support for the purpose of vocabulary acquisition. Their model is known as the Frayer Model, and it proved to be a successful model in helping students to complete their graphic organizer as well as increasing their engagement in learning new words via technological incorporation. This model also provides vocabulary instruction that makes it more accessible to students that have learning disabilities, thus improving their engagement, knowledge of many new words as well as access to texts.
Research conducted by Mahzan, Alias, and Ismail (2020) also proved to be of immense help in the development of our pictorial learning model, thanks to their work on investigating the necessary development of digital vocabulary learning materials for Malaysian indigenous learners. This covers the aspects involving the development of digital materials as well as developing materials within the constraints of the Malaysian context to benefit the indigenous community. This research seeks to further affirm the effects of these materials on the vocabulary learning of the indigenous learners of Malaysia. Their research yielded positive results, showing that the development and use of these materials revealed the indigenous learners’ high level of awareness towards the potential uses of English, which in turn translates into them being aware of their needs, thus giving them a sense of readiness to embrace other means of learning that are currently unavailable to them, such as digital game-based learning. Its most significant contribution to our purpose, however, will be that it has helped us to make informed decisions with regards to the needs of learners and teachers so that we can design, develop, and successfully deliver contextualized, practical, and effective instruction to enhance the learning of vocabulary by our learners.

The answer to Research Question 1 based on the above information is that the benefits of developing a pictorial-based learning model for vocabulary learning include:

1. improved student engagement during vocabulary lessons,
2. improved knowledge and application of learned vocabulary,
3. improving the academic achievements of students with regards to their vocabulary, and
4. develop and deliver instructions that cater to learners that will enhance their vocabulary learning.

Research Question 2: What are the challenges in the integration and application of digital technology for remote learning and learning enhancement?

Theme 2: The Integration and Application of Digital Technology for Remote Learning and Learning Enhancement

Remote Learning

While research into the integration and application of digital technology for the purpose of enhancing learning has been conducted frequently over several years, there is not much research conducted into the application of digital technology for the purpose of remote/distance learning.

However, since the advent of the Covid-19 pandemic came about, the closure of many public facilities such as schools forced classes to be conducted from the comfort of one’s home, a phenomenon which led to a recent increase in research pertaining to the use of technology to facilitate distance learning. A very recent paper published by Klubal, Gybas, and Kostolanyiova (2021) that utilized a participant pool of 854 students and 73 students spanning four schools focused on analyzing the individual stages of the SAMR Model, which are the Substitution, Augmentation, Modification and Redefinition stages respectively, regarding the use of technology by pupils and teachers to facilitate distance learning.

This research of theirs allowed for the classification of web applications from the perspective of teacher-student interaction, making the categorization of these various applications more clearly applicable to pedagogy. It also unveiled the possibility of working with different types of digital devices, given the availability of a wide range of mobile applications in the various stages of the SAMR Model, as well as the sheer versatility of the model itself that can easily accommodate various digital devices and technologies.
Their research yielded positive results, showing that the gradual digitization and use of technology for pedagogical purposes that, while partially caused by the circumstances of the ongoing pandemic as well as the acceptance and application of the SAMR Model amongst students and teachers, have caused a significantly higher proportion of them to use technology, with students preferring mobile devices and with teachers favoring desktop devices.

Learning Enhancement

A paper published by Elgort (2018) took to identifying methodological practices in research pertaining to technology Mediated Vocabulary Development (TMVD) in a second language, a paper that is highly relevant to that of our current research. This is because this article presents a synthesis of learning and instructional approaches to TMVD in the context of a second language, along with the various aspects of vocabulary knowledge that is being investigated, as well as the measures of vocabulary development that were utilized. Her research yielded positive results, having achieved a degree of methodological maturity while simultaneously bringing to light several issues which include: the practice of comparing technology-mediated instruction with “traditional” instruction without technology, insufficient reporting of participants’ second language proficiency, and a lack of treatments targeting fluency development. As such, our current research employs both a control and an experimental group, while also having four different “modes” of which our participants are exposed to, all of these taking the initiative to overcome the issues that have been mentioned here.

The applications and integration of digital technology as well as the use of social media for educational purposes also serves the aspect of enhancing the learning of the students, which in this case, is with regards to language learning. According to Booton, Hodgkiss, and Murphy (2021), there are various features of mobile apps, such as inbuilt narration and real time conversation prompts that are incredibly useful and supportive of some aspects of language learning, be it in terms of learning pronunciation as well as providing conversational support, making it highly practical should the need arise. This is useful for fostering the speaking and communicative skills of students. Other aspects such as augmented reality have a highly effective though limited role such as boosting student motivation and interest to learn a language.

The use of technology also highly benefits learners who utilize technology assisted Second Language (L2) vocabulary learning. Yu and Trainin (2021) discovered that the use of incidental instruction is greater than intentional instruction when it comes to technology assisted L2 vocabulary learning, and that this manner of learning is far more effective when the target language (English, in this case) in close to the learner’s First Language (L1). Their research also displayed solid proof that mobile assisted L2 vocabulary learning is more effective than its computer-assisted counterpart.

With the advent of the Covid-19 pandemic, the use of digital technology as a teaching tool, a teaching aid, is no longer sufficient. It must now be a medium through which teaching and learning is conducted, a conduit for pedagogy, its role being that of a virtual classroom. This has caused an upsurge in research articles and publications with regards to the integration of digital technology in education, with the most popular research topic being the potential applications of the Substitution Augmentation Modification Redefinition (SAMR) Model for pedagogy, which saw quite the resurgence.

The SAMR Model has been around for quite some time and has seen growing popularity. Research conducted by Romrell, Kidder, and Wood (2014) with regards to the use of the SAMR
Model as an evaluative framework of mobile learning is a good start. The results of this research are positive, being able to be of help in decision making in evaluating potential designs of instruction that utilize mobile technologies. However, while the contributions made by the lower levels of this model (substitution and augmentation) towards the learning gains may not be worth the hassle that technological, pedagogical and management obstacles may cause, the higher levels of modification and redefinition may become integral enough to the design of the activity to waive away the potential problems that may arise.

Five years later, the SAMR Model was once again under research for its potential application for the innovative use of technology in the EFL classroom. This research that was conducted by Mejías (2019) showed that the model had a positive effect on the enhancement of the students’ learning process. There are several reasons for this, the first being that the SAMR Model does not have a specific focus on a particular technological device of tool, and therefore has the adaptability and versatility to appropriate itself to a variety of circumstances, thus ensuring its viability in the long term as well as its relevance in allowing a clear and efficient way for ICT to be introduced into the classroom. This allows the teacher to conduct various activities that employ technology, thus exposing students to these tasks. This will have the twofold effect of boosting student learning to the maximum while honing their technological skills. The success of his research is affirmed by that conducted by Suryani, Setiawan, and Sulaiman (2019). Their research results showed that the SAMR Model has seen effective application by teachers through the integration of ICT in facilitating student learning in the classroom.

To answer Research Question 2, the challenges of integrating and applying digital technology for remote learning and learning enhancement would include several factors such as:
1. willingness and acceptance of teachers,
2. expertise and experience of teachers,
3. lack of prior research and experimentation on integrating and applying digital technology for remote learning purposes,
4. insufficient reporting of participants’ second language proficiency, and
5. a lack of treatments targeting the proficiency development of students.

Research Question 3: How effective is using pictorial elements in enhancing students’ learning of vocabulary?

Theme 3: The Effectiveness of Using Pictorial Elements on Enhancing Students’ Learning of Vocabulary

According to prior research conducted by Jatmiko and Jauhari (2018), they concluded that students in the experimental group who were taught using pictures as a medium of instruction fared far better in their classes and showed significantly improved performance in their post-test results compared to the control group which were exposed to conventional teaching methods. Their investigation also revealed that their success in using pictures to enhance student performance in learning vocabulary could also be attributed to the fact that they followed a specific procedure of first specifying the topic of the topic and defining it beforehand. However, their research was conducted on elementary school students and as such the results, while encouraging, only slightly indicated the results we could expect from secondary students. What is significant about their research, however, was that the vocabulary they taught concerned countable and uncountable nouns, the latter of which consisted of quite a few abstract words. As such, it proved that the use
of pictures did indeed improve the students’ ability to comprehend abstractions and concepts as shown in the results of the experiment.

Setting aside the above, we also have research conducted on the use of memes for the purpose of establishing an enjoyable learning environment. This research, conducted by Kayali, Karadeniz, and Altuntaş (2021) is to help students revise the vocabulary that they have learnt. Not only that, the trendy and entertaining nature of memes will also help to draw out the students’ feelings and creativity, allowing them to become more willing to participate in the lesson.

The effects of the research stated above emphasized the aspect of vocabulary recall, rather than learning new vocabulary items. The results of the research using a pre-test and post-test quiz clearly showed that the use of memes had a positive influence on the vocabulary recall of the students. The use of a feedback form for qualitative data analysis also unveiled promising results on the use of memes. The students answered positively to the following question categories:

1. **What is your opinion about using memes in the classroom?**
   “The students found the memes in the classroom useful, good, fun, interesting, enjoyable, beneficial, and efficient. They expressed that it has so many benefits. They stated that they enjoyed the activity. They said it was an enjoyable activity and it helped them to learn how to use some words.”
   This answer implies that the use of memes helped the students in the application and use of the vocabulary items they have learned.

2. **Have memes helped you to remember words better?**
   “Most of the students stated that using photo images and colorful cards to write their memes on made them more memorable, that forming sentences with the given words helped them to remember those words more easily, and that before the memes, it was difficult for them to remember the vocabulary items. Still, after doing the memes activity, they learned the words.”
   This answer proves that the students find their ability to retain and recall the vocabulary items that they have learned to have improved quite significantly compared to when they did not utilize memes to aid them in their learning of vocabulary.

Yet another research regarding the use of memes in language teaching was also conducted by Purnama in 2017, with the focus of the research being the improvement of student participation in the lesson. This research seeks to achieve this by leveraging the three main advantages of memes, with the first being that meme creation proposes a learning process is easily adoptable by students due to its attention-grabbing nature. The second advantage is the fact that most students have access to various mobile image editing software using smartphones and computers, and therefore making memes widely accessible, modifiable, and easy to create. The third advantage it affords is that it allows students to gain a better understanding of topics and the English language in general. The use and creation of memes makes for a fun and inclusive environment that can easily foster student enthusiasm and heighten their willingness to participate in lessons.

After all, memes are defined as “an idea” or a fragment of “contextual culture” shared amongst us. It wields immense influence over others using ideas that are induced through the form of appealing packages, catchy tunes, or phrases (Brodie, 2009). As such, the value of memes lies in three values, which are intrinsic values, integrative values, and instrumental values. Memes are extremely popular due to their abilities in influencing and spreading thoughts, which lies in the fact that its nature is current and highly trendy, while being highly accessible via social media and
media devices such as smartphones. Students find the meme culture highly entertaining and therefore, when they feel this way, they will not feel that learning English is an obligation should memes be made a content of the lessons. Coupled with the fact that our students are highly sensitive and up to date with anything hype, memes see widespread use amongst them for all manner of purposes. This adds intrinsic value to memes. As for when students come together to create new memes, their collaboration reveals the integrative value of memes that brings people to pool their ideas together to create an ideal meme. When a meme that has been created is enjoyed, posted on social media, and “liked” by others, it causes an indirect rise in the social position of its creators and posters, which causes them to view memes as having an instrumental value, thus agreeing with studies which reveals the three values of memes and its value in education (Dörnyei, 2001). As such, the research by Purnama (2017) shows positive results in that students show significantly greater willingness to take part of the lesson when memes are utilized as part of the lesson’s content. When the above aspect that is “students’ willingness to participate in the lesson increases when pictorial tools such as memes are involved in the lesson” are combined with the two other main aspects of vocabulary learning that are improved vocabulary recall and improved understanding of lesson content using pictorials tools based on the findings and results of alternative research into the use of memes as a pictorial tool, a relevant answer to Research Question 3 has been achieved.

The above information has successfully managed to answer Research Question 3 on how effective the use of pictorial elements can be in terms of enhancing the students’ learning of vocabulary. First of all, this effectiveness took the form of a positive influence/improvement that can be observed in terms of the students’ comprehension of abstract and conceptual vocabulary, their willingness and enthusiasm to participate in vocabulary lessons, their ability to retain and recall the vocabulary they have learned in the long-term from memory. Secondly, the degree of this “effectiveness” is quite significant, seeing as how the results compiled by reviewing various published journals have clearly concluded a significant improvement in all three of the aforementioned aspects in the students' vocabulary learning through the use of pictorial tools such as memes and pictures.

Conclusion

The main aim of this systematic review conducted on the study on developing a pictorial-based learning model for remote vocabulary learning is to identify, appraise and put together the results and findings derived from published works, articles, journals and individual studies of relevance to the topic to provide an accurate and solid interpretation of the research findings. The findings of this study are in the form of three themes, with each of the three themes answering each research question, all of which are based on the articles and journals that have been systematically reviewed. The first theme emphasized the development of such a model, which involved various works and publications on developing digital models for vocabulary learning, pictorial models and approaches to language and vocabulary learning such as the Picture-Word Inductive Model, as well as models based on the blended learning approach, which served to identify the turning point in developing a technology-based model to facilitate vocabulary learning using pictorial elements. It has also considered the development of contextually relevant digital materials for vocabulary learning purposes. The second theme on the other hand was more focused on the integration and applications of digital technology in the model, whose purposes are categorized under the sub themes of remote learning or distance learning and learning
Pictorial-Based Learning Model for Remote Vocabulary Learning

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enhancement respectively. This theme is heavily influenced by the circumstances caused by the ongoing Covid-19 pandemic, which necessitated the widespread and deeper utilization of digital technology in pedagogy and learning to overcome the shift from traditional pedagogy to remote teaching and learning. As for the final theme, it is with regards to the effectiveness of the use of pictorials to enhance vocabulary learning, be it with regards to student participation and motivation, the learning of new words, improving students’ understanding of lesson content, and that of vocabulary recall. Furthermore, this study also identified the gaps in these research papers, such as the lack of papers detailing learning model development for Theme one, as most of the publications we found were on the application of pre-existing models rather than the creation of a new model. With regards to Theme two, the obvious gap was a stunning lack of any digital or mobile applications that cater specifically for English language vocabulary learning, and even if there were, there were no papers or articles that researched it.

Recommendations for Further Research

Recommendations for Further Research

Research is a never-ending phenomenon in search of greater knowledge, and thus, the need to further research for validation, justification purposes is just as great as that to break new grounds in various fields. The key recommendations for further research in this field would be to identify the lacking aspects and flaws of pre-existing learning models, as well as subsequent research to study the improvements made to the model to account for various circumstances. Further studies should also probe the attitudes and views of the teachers with regards to using and applying these models in their teaching, for their perspective will also indicate their willingness to utilize these models and to utilize them well rather than simply isolating the aspects that they feel are useful. It is quite one-sided to simply focus on the perspective and opinions of the learners alone.

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The Future of English as a Foreign Language Teaching and Learning in View of the Fourth Industrial Revolution in the MENA Region

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Abstract
The Fourth Industrial Revolution, with the emergence of educational technologies and digital innovations, makes it essential for the Higher Education sector to review the teaching-learning practices to reshape the futuristic plans for 21st Century learners. English language education has been focused in regions, where the language-teaching environment and procedures are transforming with the bend of new technological intrusions and AI intervention. Therefore; the present study aims to investigate the future of EFL Teaching and Learning given the 4IR in the MENA Region. The study is significant as it probes the teaching-learning strategies and examines the readiness of teachers, learners, and the learning environment. The study's main question is, ‘To what extent is the learning environment concerning English language teaching and learning at universities in the MENA Region ready to cope with the 4IR demands?’ A survey, with 39 items under four sub-divisions, and a fully-structured interview were used. A total of 70 EL teachers participated from universities in the MENA and its neighboring regions. Linear Regression and Thematic analysis of the data show quantitative and qualitative results, respectively. Findings reveal an evident level of readiness in teachers. Results show that Teachers’ awareness seems to impact their tendency toward integrating educational technologies. The findings suggest careful curriculum revision because the resources are often reported as outdated. Since the role of EFL in the MENA is to prepare learners for 4IR socio-economic systems and their diversified challenges, the study recommends a thorough review to upgrade the teaching-learning resources, materials, and procedures.

Keywords: digital innovations, English language teaching, Higher Education, Fourth Industrial Revolution, teaching-learning readiness

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Introduction

Integrating technology, technological tools, and digital innovation is becoming essential in almost all spheres of life, including the Higher Education sector. It is because the 4th Industrial Revolution (4IR) has emerged as a technological shift that is changing the work patterns in each industry. Some new ways of teaching and learning are adopted (Alakrash & Razak, 2021; Membrillo-Hernández, Molina-Solís, Lara-Prieto, & García-García, 2020; Schwab, 2017) due to the prevalent shift of existing procedures of knowledge to the newly adapted mechanisms and innovative technology, especially in the face of the 4IR that is diverging the learning borders (Bates, 2014).

With the finding of these new ways, developed modes of expertise, and innovation within the existing knowledge procedures, English language education is also going through an entirely different phase without any exceptions (González-Pérez & Ramírez-Montoya, 2022). Thus, 4IR has not only brought a technological shift in the social and economic systems but also has brought a massive demand for the knowledge shift in the educational system (Hooker & Kim, 2019; Lamprini & Brochler, 2018; González-Pérez & Ramírez-Montoya, 2022; Schwab, 2017). Higher Education (HE) is explicitly challenged by the adoption of transformational plans (Oke & Fernandes, 2020), to gain national and international interests raised by the 4IR emergence. Therefore, digital innovation and the latest technologies urge all the HE stakeholders including, teachers, course designers, policymakers, and learners, to be digital-smart to understand and meet the latest educational needs.

English language, explicitly being considered as a medium for diverse socio-economic ties, is mainly under a keen focus in many regions transitioning through the 4IR (Kayembe & Nel, 2019; Membrillo-Hernández et al., 2020; Pauceanu, Rabie, & Moustafa, 2020). There is much concentration on increased use of technologies in language teaching and learning methods and procedures in regions, where English has been taught at the higher education level (Ali & Ismail, 2020). So, evaluating the EFL teaching-learning practices and the compatibility of the teaching-learning strategies, resources, materials, and curricula according to the current needs has become crucial. It is also essential because of the realistic demands and the emergence of new job markets (World Economic Forum, 2020), hybrid or virtual work patterns, innovative economic plans, and new dimensions identified for the English language needs in different regions (Kannan & Munday, 2018; Kayembe & Nel, 2019; Li, 2020). Thus, there is a need to measure the awareness and readiness levels of English language teachers and learners, who are using the latest educational technologies and trying to adapt to AI interventions to nurture language skills (Miller & Nourbakhsh, 2016; Hameed & Hashim, 2022, Perkins, 2023). Thus, to determine the future of EFL, this study explores the readiness of the language learning environment concerning teaching and learning at HE in the MENA region, given the 4IR challenges.

The study specifically aims at investigating the EFL’s current situation and future needs to meet the 4IR challenges. In other words, this study focuses on the changing role of EFL because of the 4th Industrial Revolution in the MENA region. The investigation is significantly necessary because of the identification of gaps between the present EFL needs and practices. There are various levels of teachers’ readiness toward adopting the latest methods and technologies and the 4IR challenges in the regions. Teachers play a crucial role in developing and advancing the required skills by applying procedures that facilitate new learning mechanisms; thus, the study was decided to probe into the readiness of teachers, learners, and the learning environment concerning the emerging technological shift, especially after covid (19) (González-Pérez & Ramírez-
Montoya, 2022; Perkins, 2023). Thus, the research questions framed for the study aimed at an in-depth investigation.

RQ1 To what extent the learning environment for English language teaching and learning at universities in the MENA Region is ready to cope with the 4IR demands?
   a. What is the level of readiness of the English language teachers and learners at the MENA region universities to cope with the 4IR paradigm shift (challenges)?
   b. What is the level of readiness of the curriculum and teaching materials at the MENA region universities to cope with the 4IR paradigm shift (challenges)?

RQ2 What are the current EFL teaching-learning features at universities in the MENA region?
   a. What teaching methods are currently applied at universities in the MENA region?
   b. How supportive is the EFL learning environment at universities in the MENA region?

The study introduces the significance of the study and the research questions. Then the related literature, study method, and research procedures have been described. The data analysis, findings, and discussion sections follow the conclusion section. In the end, the study contains a recommendation section.

Literature Review

 Recent research suggests that the learners graduating should be ready with the necessary abilities for critical thinking and performing an efficient role in society, which indicates that they should be able to process their language skills as a medium for them to form connections and support their global socio-economic ties (Hooker & Kim, 2019; Kannan & Munday, 2018; Khuraisah, Khalid, & Husnin, 2020; Basaffar & Bukhari, 2023). According to Samans and Zahid (2017), there is no balance between the required skills and the existing skills in the MENA region which means that the 21st Century learners lack the abilities required for current or future jobs. The Fourth Industrial Revolution (4IR) challenges many institutions in the region and the policymakers to make the right decisions for the future and prepare their people with skills fit for the global market (Kayembe & Nel, 2019; Li, 2020).

 Systematic social systems establish through solid connections in all sectors, especially between the public and private sectors, to form a road map and strategies that can help face the challenges (Ali & Ismail, 2020). There is a call for investigating and redesigning the methods, techniques, and curriculum that help build and improve the EFL learning environment in the physical and virtual learning contexts by aligning all with the 4IR requirements (Saleh, 2019; Alakrash & Razak, 2021; Hameed & Hashim, 2022). With the EFL teaching and learning processes, the MENA Region acknowledges the demands and the use of technologies in language classrooms with the positive effects of these interventions in the overall capacity-building processes (Salem, 2017; Kayembe & Nel, 2019).

 MENA Region is interested in taking all the necessary measures to embrace technological innovations and apply them in most sectors, including Higher Education. The leaders in the MENA region are determined to make plans and take action to prepare the new generations for the opportunities and harness them with the needed skills that make them fit for future jobs (Paudeanu et al., 2020; World Economic Forum, 2020), according to the supply chain demands and the labor market (Hooker & Kim, 2019; Khuraisah et al., 2020; Li, 2020; Oke & Fernandes, 2020). With the changes brought by 4IR, the learning environment has been improved. Technology has
enhanced the environment, and lectures are becoming more interactive and engaging for learners (Miller & Nourbakhsh, 2016). Samans and Zahid (2017) suggested for MENA, “…one of the youngest populations in the world, the region must make adequate investments in education and learning that hold value in the labor market and prepare citizens for the world of tomorrow” (p.i).

4IR is unlocking potential opportunities for the region, and the region needs to make the right decisions “… in reforming education broadly, upskilling and reskilling large cohorts of the population and preparing labor policy for the changes to come…” (Samans & Zahid, 2017, p. 2). Thus, the primary role of EFL in the region is ‘upskilling and reskilling’, and the learners need abilities to examine what the real world unfolds to them (Basaffar & Bukhari, 2023). Language should function as a tool for learners to communicate their thoughts, deal with the rapidly changing global and local socio-economic systems, and navigate through the diversified challenges of life (Pauceanu et al., 2020). Therefore, English language programs and curricula are required to meet emerging learning needs.

Since the 1960s, different scholars have addressed the research investigation on the implications of technology in the ELT classroom. Richards and Rodgers (1986) investigated the use of technology in language laboratories. They provided ample drilling to improve the oral skills of their students. Later, in 2010, the role of technology in classrooms was examined as an instructional tool, a content source, and a communication and learning management tool (Nunan, 2010). Many researchers stressed the benefits of technology in supporting language learners’ output and feedback (Golonka, Bowles, Frank, Richardson, & Freynik, 2014).

More recent studies and scholarly work have started researching more specific uses of language learning technology and its effectiveness on Second Language and Foreign Language development education (Chapelle & Sauro, 2017; Kannan & Munday, 2018). However, there is a need for measuring facts and finding figures fulfilling the social, economic, and political requirements and responding to the questions of the rapid pace of educational and technological developments. Determining the needs is crucial to focus on the challenges to provide “value-driven education” that offers a “coherent and relevant curriculum,” which leads not only to the “meaningful learning experience” but also accelerates the “transformative learning environments” (Ali & Ismail, 2020, p. 3). Such Education is pivotal for fulfilling the needs to meet the challenges that the 4IR is pushing to the educational industry.

Some studies have highlighted the requirements for further investigation and suggested probing into particular demands of the Higher Education sector. Especially when it comes to English (as a Second or Foreign) language teaching or learning, it is generally understood as measuring the:

- Need for an appropriate 4IR curriculum (Saleh, 2019)
- Need for pedagogical assistance for teachers (Lamprini & Brochler, 2018; Hameed & Hashim, 2022; Perkins, 2023)
- Need to develop a proper level of skills to operate, manage, and use new technology (Kayembe & Nel, 2019; Hameed & Hashim, 2022; Perkins, 2023)
- Need to “foster talent and skills and optimize their use” (Lamprini & Brochler, 2018, p.2)
- Need for developing and advancing creativity and critical thinking, entrepreneurship, and communication skills (Lamprini & Brochler, 2018; Saleh, 2019)
- Need for aligning goals to prepare the workforce for the future market
Need for measurement of all stakeholders' readiness to cope with the 4IR paradigm shift (Hameed & Hashim, 2022; Basaffar & Bukhari, 2023)

Overall, there are very few studies that investigate or examine the gap between the current procedures and the future EFL learning needs in MENA. Such investigations are of great importance. According to Alakrash and Razak (2021), the MENA region “demands investigation as it will guide the identification of the factors associated with the use of digital technologies in language education (p. 2).” Researchers need to analyze and dig deeper into the current EFL education, study the 4IR challenges, and consider AI interventions. The teachers and learners should be ready and equipped with the required skills and knowledge to cope with the rapid changes (Bates, 2014; Perkins, 2023). The education system is the first stop in this transformation journey.

Method
The researchers adopted a mixed-method approach for this study. First, they designed a survey and floated it among a convenient sample of EFL teachers from MENA region universities. Then, they conducted an in-depth, fully structured interview of the participant teachers. First, an electronic questionnaire was administered online to obtain quantitative data. The researchers obtained the qualitative data through interviews held via Blackboard. The survey link was sent via emails to the corresponding members of nine randomly selected universities. Even after two months, the data did not reflect the desired number of participants. Thus, the survey was further posted on LinkedIn detailing the objectives and ethics to receive the required responses.

Participants
The researchers selected a convenient sample consisting of English teachers working in departments linked with ELT teaching at universities majorly in the MENA region. A total of 70 respondents willingly responded to the survey. There were 37 females and 33 males from different countries. Sixty participants were straight from the MENA and its neighboring region universities. They were working in universities in Algeria, Bahrain, Egypt, Iraq, Kuwait, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tanzania, Tunisia, and UAE; so collectively, 24 different institutions. However, those who participated from the other countries were 10, who were working in the other regions: three from the Brazilian institutions, two from the institutions in Europe (Greece and Poland), three from South Asian countries (Pakistan, India, and Bangladesh), one from a university in Mexico, and one from Turkish university.

Three respondents, who responded by giving their consent and availability schedule, were contacted for the interviews. The interviewees were from the MENA Region universities and linked with English language teaching.

Research Instruments
The researchers designed a survey and a fully structured interview. The survey contained a Likert scale to collect responses on 39 items (1=Not at all, 2=To a little extent, 3=To some extent, 4=To a moderate extent, 5=To a large extent). The tools were piloted on a sample of English teachers in a Saudi university. The survey data were analyzed by the researchers for accuracy, reliability, and validity of the tools. Only the participants, who willingly added their contact details and consented to the interview, were contacted.


**Ethical Consideration**

The researchers determined the ethical boundaries before the data collection phase. The researchers obtained approval before sending the survey link, conducting interviews, and contacting the participants to arrange the interview day and timings.

**Survey Phase**

A five-point Likert scale survey with 39 statements was used to investigate the main question (RQ2) of the study to find out the preparedness of the English Language Teaching and learning environment, and the readiness of the teachers and learners to cope with the 4IR needs and challenges. Google Form was created for an online questionnaire, which provided the researchers a password-protected access and a unique study ID. The respondents were given access to the questionnaire through smartphones and computers, and the researchers ensured the confidentiality of the data.

The statements of the survey focused on variables investigating, “RQ1. To what extent the learning environment for English language teaching and learning at universities in the MENA Region is ready to cope with the 4IR demands?,” which has two sub-questions to investigate; a) the level of readiness of the English language teachers and learners at the MENA region universities, and b) the level of readiness of the curriculum and teaching materials at the MENA region universities to cope with the 4IR paradigm shift (challenges). The question investigated the future of EFL in the MENA Region. Therefore, the researchers focused on the following areas to form the categorization of the survey into sub-sections:

a. Learners’ Readiness  
b. Teachers’ Readiness (Integrating Innovative Strategies)  
c. Teachers’ Awareness of the 4IR Demands, and  
d. Compatibility of the Curriculum and (teaching-learning) Materials

The survey items were divided into four sub-sections, which focused on the core of the investigation. There were 39 statements measuring the a) Learners’ Readiness (statements 1-6); b) Teachers’ Readiness, using technology and integrating innovative strategies while teaching (statements 7-22); c) Teachers’ Awareness about the 4IR Demands (statements 23-32); and d) the Compatibility of the present Curriculum and Materials (statements 33-39).

**Research Procedures**

The researchers first designed the survey tools to investigate the main questions of the study. The pilot testing was carried out on a small randomly selected sample of English language teachers from a Saudi university. After obtaining the data, the researchers tested it for reliability and validity and reviewed the items for clarity and language improvement. Then, the researchers finalized the convenient sampling, launched the survey, and collected data in about five months.

**Findings**

Table one shows that Cronbach's Alpha is .935 for all the 42 items used in the survey. The Alpha value (.935) indicates a high level of reliability of the tool.
The male and female participants of the survey had varied levels of qualification, which is represented in Table 2.

### Table 2. Participants’ level of qualification (male and female)

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under Graduate</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2.9</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>9</td>
<td>2</td>
<td>11</td>
<td>15.7</td>
</tr>
<tr>
<td>Master Degree</td>
<td>14</td>
<td>20</td>
<td>34</td>
<td>48.6</td>
</tr>
<tr>
<td>Ph.D. Degree</td>
<td>9</td>
<td>14</td>
<td>23</td>
<td>32.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>33</td>
<td>37</td>
<td>70</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Figure one contains data on the respondents’ experience in English Language Teaching (ELT). Out of 70 respondents, almost 60% of them have had the experience of teaching the language for more than 11 years; eight (11.43%) of them had been teaching for more than 26 years, eight male and six female (20%) teachers were in the field for about 21-25 years, 14 (20%) teachers had spent about 16-20 years, and 14 male and female teachers had been in the field of ELT for about 11-15 years. Moreover, two male and six female participants (11.43%) reported having spent zero to five years in the teaching field, and 12 (17.14%) were engaged in ELT for 6-10 years.

---

**Table 1. Reliability and scale statistics**

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Cronbach’s Alpha Based on Standardized Items</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.935</td>
<td>.937</td>
<td>152.89</td>
<td>23.392</td>
<td>42</td>
</tr>
</tbody>
</table>
Table 3. Test of normality

<table>
<thead>
<tr>
<th></th>
<th>Kolmogorov-Smirnov(^a)</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Df</td>
</tr>
<tr>
<td>Readiness_Level</td>
<td>.073</td>
<td>70</td>
</tr>
</tbody>
</table>

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Figure 2. Histogram: Test of normality

Figure three shows the first six statements investigating the English Language Learners’ Readiness Level (LLR). The overall responses by male and female respondents shown in the bar chart indicate that the level of learners’ readiness is not that high. Not a single bar shows above 50% response in favor of any of the statements. A total of 32.9% of participants responded that their “learners use the digital tools effectively (statement 1)” to some extent, and 20% responded to “a large extent.” In contrast, only 2.9% of them responded to “not at all.” 27.1% of respondents chose “to a moderate extent” and 17.1% “to a little extent.”

The majority (37.1%) of the respondents responded that their “learners enjoy online learning portals” (statement 2) to some extent, 31.4% chose “to a moderate extent”, 14.3% responded to “a large extent”, whereas 8.6% responded for “to a little extent” and 8.6% for “not at all.” A considerable ratio (32.9%) of the respondents replied that their “learners are always enthusiastic about self-discovery learning” (statement 3) “to a moderate extent,” 27.1% responded, “to some extent.” In contrast, only 17.1% of them responded “to a large extent,” 20% responded to “a little extent” and 2.9% to “not at all” respectively. While statement four, “learners use the online materials without difficulty,” the graph shows 42.9% responded to “some extent,”
whereas 20% to “a moderate extent,” and only 18.6% chose “to a large extent.” 14.3% and 4.3% chose “to a little extent” and “not at all.”

Figure 3. Learners’ readiness

Approximately 38.6% of the responses were recorded for “to some extent” on statement five which measures the “learners possess capabilities to participate in the global digital society.” Nearly 15.7% of the respondent-teachers chose “to a large extent”, 18.6% responded to “moderate extent”, and 7.1% reported “not at all.” Almost 32.9% of the respondents think that their “learners know how to network with the global digital society” (statement 6) “to some extent,” 30% of them responded “to a moderate extent,” whereas 20% of respondents recorded for “to a little extent.”

Figure 4. Compatibility of the curriculum and materials

Figure four shows, there is a good ratio of response to statement #39 (34.3+ 31.4= 65.7%), which measures the curriculum concerning its capacity for the application of innovative techniques, and #38 (34.3+20=54.3%), which measures the advancement of the curriculum about...
its themes. However, the overall percentages, as shown in the figure, indicate that most of the respondents (8.6+12.9+31.4=52.9%) find the curriculum not at all, to a little extent, or some extent linked with the curriculum and its objectives. Majorly, all the respondents indicated a lack of compatibility of the curriculum with technological integration, thinking enhancement, the latest techniques, and CT skills.

Table four (see Appendix A) contains the descriptive statistics for the statements (no. 7-22) that measured the level of English teachers’ readiness for the 4IR paradigm shift, with the latest technology and strategies that uplift their 4IR skills and capabilities to meet their students’ needs and face the challenges of the digital era. It is clear from the data in the table for all the statements except statements # 16 and 17 that there was a comparatively higher level of readiness among teachers, as they responded (to 5=to a large extent and 4=to a large extent) that they are integrating innovative learner-focused strategies, online learning portals, digital tools, technology, and applying creative learner-focused approach by using a variety of online resources and materials to teach effectively to support their students become influential global digital citizens.

Figure five represents the data analyzed for the statements (23-32) measuring the teachers’ awareness of the 4IR demands and challenges. As shown in the bar graph, almost 84.3% of teachers are highly considerate about Critical Thinking (CT) skills. They are aware of the importance of CT skills for language learning.

Figure 5. Teachers’ awareness of the 4IR demands and challenges

Next, 84.3% and 65.7% of the collective response was found for the statements related to teachers’ awareness of self-discovery techniques. With the help of the responses, the researchers found a strong level of teachers’ awareness of utilizing self-discovery techniques and focusing on CT skills. They seem to be aware of these techniques as essential parts of the language teaching and learning processes.

Most respondents (61.4%) also have been found confident using digital tools, except 20% of them identified as being untrained in digital technology use in language education. Thus, it is stated that there is a moderate to high level of awareness found among respondent teachers about the developments in the field of English language teaching and learning and the current trends and
requirements. Most teachers are aware of the self-discovery techniques, and they also know their learners’ learning demands that can be fulfilled by utilizing the 21st Century pedagogical skills.

After finding a high response ratio during the research, further analysis determined the impact of the teachers’ awareness of 4IR demands (TR_4IR_Awareness) on the teachers’ integration of innovative teaching strategies (TR_IIS). It was checked through Linear Regression. The IV, TR_4IR_Awareness, used as a predictor variable, measured its impact on the DV, TR_IIS. Linear Tables below (Tables 5 and 6) represent the Regression used at this analysis stage. Table 5 represents the model summary of the Regression analysis.

Table 5. Regression analysis - model summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.426</td>
<td>.47</td>
<td>966</td>
<td></td>
</tr>
<tr>
<td>TR_4IR_Awareness</td>
<td>426</td>
<td>17</td>
<td>426</td>
<td>0.414</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), TR_4IR_Awareness

Table 6 shows the coefficient values along with the t values. The IV (TR_4IR_Awareness) significantly predicted the DV (TR_IIS) through the F values (=50.414) and the p < .000b, which indicates that the TR_4IR_Awareness has a significant impact on the TR_IIS (b = .652, p < .000b).

Table 6. Regression analysis - Coefficients

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model (Constant)</td>
<td>1.364</td>
<td>.364</td>
<td>3.75</td>
<td>.000</td>
</tr>
<tr>
<td>1 TR_4IR_Awareness</td>
<td>.668</td>
<td>.094</td>
<td>.652</td>
<td>7.100</td>
</tr>
</tbody>
</table>

a. Dependent Variable: TR_IIS

Moreover, the R Square value (R² = .426) also shows that the model explains the variance. Therefore, the findings can be summarized by expressing that the R Square is significant because the regression ANOVA value is highly significant .000b. Finally, t-value = 7.100 (> 1.96) also represents a significant impact of teachers’ awareness and knowledge of the 4IR on their integrating innovative strategies, technologies, tools, and skills.

Interview Phase

To answer RQ2, “What are the current EFL teaching-learning features at universities in the MENA region?” the researchers designed a fully structured interview under two major sub-questions (as sub-divisions) to investigate the concerns: a) What teaching methods are currently applied at universities in the MENA region? b) How supportive is the EFL learning environment at universities in the MENA region?
The researchers recorded the interviews, transcribed them using Microsoft online transcription, and further classified them into sections and coded them under themes. The qualitative data obtained through the interviews was analyzed by a Thematic Analysis approach. The interviewees’ responses to the sub-question RQ2 (a), have been categorized under themes one, two, and three, whereas themes four and five cover the sub-question RQ2 (b).

**Theme One. Teaching Methods, Curriculum, and Syllabus**

**Respondent 1**

Respondent #1 teaches general English and ESP at various departments at a Kurdish university. The respondent uses a content-based curriculum mainly for his ESP classes, which depends on the ‘mission and vision’ set by his department and the Ministry of Higher Education. To reply to questions about the pedagogical EFL methods, he and his fellow teachers use methods depending on the lessons. He gave examples like in conversation classes, many teachers prefer the ‘communicative approach’ and mainly apply ‘task-based’ strategies, elicitation, scaffolding, demonstration, and ‘jigsaw’ in reading classes. He finds the teaching methods compatible with the learners’ learning styles. He said that many of his colleagues carry out action research to evaluate their methods.

**Respondent 2**

Interviewee #2 from a UAE public university informed the researcher about his teaching methods, the syllabus, and the curriculum that he used to deliver the ESP courses. He called them “in-house generated, goal-oriented,” and objective-based courses to teach higher-level students at his university. He finds most of his students good at English, at B1 level or higher. He mentioned that the teaching materials are designed around some specific framework of assessment, so the majority of them do not use any textbooks but assignments. To specify the syllabus and framework they use, he said that it is non-accumulative, yet with learning objectives. To answer the questions about applied pedagogies and their compatibility according to the learners’ needs, he said that he focuses more on gamification as a natural approach to fulfilling the learning objectives. His students learn from the elements of clarification. He mentioned that uses a variety of methods including, modeling, re-phrasing, scaffolding, and task-based approach.

**Respondent 3**

The third respondent from a Saudi university mentioned that the curriculum used in her institute is skill-based. It focuses on student achievement at their academic levels. They follow two curriculums for two other tracks, science, and art. She mentioned books that they use according to the needs of academic and general track ELLs. The books they use are Unlock Series, Cambridge Limited, and Unlimited. Using these books has changed the assessment methods and technology integration, leading the teachers to Blackboard usage. She mentioned a pacing guide; however, the pedagogies depend on teachers’ discretion. Hence, she reported the curriculum as outdated and suggested improvement by adding “more global themes.”

**Theme Two: Use of Technology in the EFL Classroom**

**Respondent 1**

To answer the questions related to the theme of technology in the EFL classroom, the respondent said they hardly have access to technology or technological tools for all classes they
teach. The classrooms do not meet the needed tech requirements; however, some projectors are available, but most teachers rely on their own devices and laptops. He told that his students are visual learners and love to learn through innovative tools, audio, videos, and other tools with interpersonal features; however, they have a shortage of such facilities.

Respondent 2

Respondent #2 said that public universities are focusing on using the latest technology and digital appliances. He finds his classrooms equipped with resources and facilities open for teachers and students. Mainly, they use Blackboard with full access to features, digital games, and writing tools.

Respondent 3

Respondent #3 believes in integrating technology into language teaching. She said that technology motivates her students and makes them interested in overall learning processes. She likes to experiment with new technology to sustain her students’ attention toward learning the English language. Regarding digital tools, she said that using Edmodo to practice English outside the classroom is a good experience, she finds her students comfortable and autonomous in informal spaces.

Theme Three: Technology for Feedback and Assessment

Respondent 1

To answer the questions about using technology for feedback purposes, the first respondent stated that they give indirect feedback to their students. The feedback is given to them on learners’ writing tasks, and they do not use technology. Also, they do not find enough time to provide one-on-one feedback to their students. They check the students’ assignments and write down comments on their mistakes to assist with improvement. However, he and his fellows apply direct feedback strategies in their speaking classes. He said that corrective feedback, most of the time, is given indirectly and verbally.

Respondent 2

In response to the questions investigating the applied feedback strategies and the use of any technological tools in giving feedback to students, the second respondent emphasized the use of feedback: “...feedback is fundamental to seeing where the student is odd... the feedback is an instrumental part of the learning.” He extended his viewpoint further that using technology, especially game-based learning (gamification), is supportive since it contains the cycle of feedback during the activities. He finds his students perform well once they receive feedback. He approves of the technology-assisted feedback being effective and constructive for his students as it modifies the learners’ behavior and efficiency for future tasks.

Respondent 3

She thinks that students cannot improve without effective feedback given regularly, and it can be formal or informal. She said that students’ language improvement relies on their self-assessment and feedback. She mentioned that using writing samples and discussions with students and giving group or individual feedback work well. She said that she often asks her students to
email her their writing drafts, and then she checks and responds to them via email to keep their work private.

**Theme Four: Technology-assisted Learning Environment**

**Respondent 1**

The first interviewee mentioned that he has access to Google Classroom. Regarding the provision of technology or tools, he said that they have computer labs, especially for the computer department (College of Science); however, the other departments do not have digital tools or other high-tech facilities. He mentioned the inefficiency of the labs provided to them and the issue of accommodating a large number of students (more than 40) simultaneously. Hence, they have to rely on Google Class access. Overall, he mentioned that his institute is not sufficiently fulfilling the technological needs of a language learning environment.

**Respondent 2**

Respondent #2 mentioned that they use Blackboard for storage and management purposes. He said that using Blackboard positively affects the learners. They can manage their work and assignments on time, receive feedback timely, and get ratings and grades well. Moreover, he feels that there is freedom of such integration, and teachers can apply as many ways as they find suitable for students’ engagement and learning. Thus, it gives the impression that it is a flexible teaching and learning environment with classrooms equipped with smart boards.

**Respondent 3**

The third interviewee mentioned that no specific teaching technology for English teachers existed three years ago. Afterward, Blackboard became a necessity for grading purposes. She mentioned that her university provides Wi-Fi access which students use to search the online resources. She thought that technology enhances the learners’ reading and writing skills.

**Theme Five: Support of Internal Learning Environment**

**Respondent 1**

In reply to the question about the internal learning environment and its support, openness, and flexibility for teaching-learning processes, respondent #1 replied that getting some basic things like chairs is more challenging at his institution. He said that the air conditioning and heating systems are not functioning appropriately, and the students are not very satisfied. He said that the learning environment is less motivating for all because of the lack of facilities. They have fixed schedules throughout the year, and it is hard to follow the long hours. They are not permitted to have flexible hours or timings. However, he finds the learning environment a little flexible regarding exploring new ideas and expressing opinions. They can apply strategies, do activities, and bring in topics outside the course content.

**Respondent 2**

Respondent #2 seemed to have limitless availability of software. He mentioned that there is open access for all and they enjoy Gamification, Kahoot, Quizzes, and other technology. He said, “I have never come across a learning tool that is limited to use.”
Respondent 3
Regarding the internal learning environment, respondent #3 highlighted the issues of long teaching hours at his place. He said that his students are also struggling due to these long-hour language classes. She believes spending hours in the classroom exceeds the students' attention span, so some students stop attending English lectures.

Theme Six: Support of External Learning Environment
Respondent 1
In response to the questions investigating the support that the external learning environment renders to learners in making global connections and preparing them to meet the demands of the vision of the country, respondent #1 said that his students are connected with the outside world and are aware of the needs of their prospective profession or education. He finds his learners with a strong awareness of their learning in connection to future demands. His learners know their study paths and the benefits of certain degrees; for example, qualification requirements for the United States of America, Australia, or Canada. In short, his institute has made the learners aware of the language expectations. However, the respondent seemed to be unaware of the learning focus about the vision of the country, but he mentioned that if there is a vision, the teachers are ready to fulfill its needs.

Respondent 2
Respondent #2 mentioned that the learners have the availability of journals from different platforms. They frequently read articles and practice writing emails, memos, and business reports as a part of their program. Such reading and writing activities help them build their connections with the outer world. The learners, who want to work with companies, take benefit of memo-writing practices. His students, classified as advanced-level or competent English speakers and listeners, interact with the outer world through social media platforms.

Respondent 3
The respondent was not satisfied with the learning situations at her institute, and she thinks the outside environment is a bit challenging for her students. She thinks that her students are not always practicing the language outside the class, especially when they interact with their families, friends, and teachers. Also, she said that it is because of the students’ personal preference for language use. The respondent mentioned that some universities in Saudi Arabia are promoting projects to encourage students’ interaction with the global community; however, she thinks it is challenging. She emphasized the importance of engaging students in such interactions. She seemed to be concerned about her students’ preparation for skills for the future job markets.

Discussion
The 4IR era is reshaping many sectors, including Higher Education. The Higher Education Sector of many developed countries is catering to the teaching-learning demands and challenges. They are working hard on integrating high-tech innovations. The paradigm shift eventually leads to vast changes in teaching and learning procedures and methods (Salem, 2017). These changes have caused teaching to become a more complex activity that needs reformation to meet future demands. Such reforms require a shift in the teachers’ role and to be aware of the knowledge
The Future of English as a Foreign Language Teaching and Learning

Qutub, Bukhari, Fadel, & Aljuhani

Arab World English Journal (AWEJ) Special Issue on CALL Number 9. July 2023

demands and skills to manage the transformation of the educational system (Samman & Zahid, 2017; Schwab, 2017).

The present study focused on investigating the future of EFL in the MENA region facing the 4IR, with a rapid infusion of technologies. The study focused on questions that measured the readiness level of the teachers, learners and the learning environment for English language teaching and learning at universities in the MENA Region. The researchers tried to investigate the current EFL teaching-learning features at universities in the MENA region. To answer the questions, the researchers analyzed survey-based responses and interview data. The findings show a good level of readiness in teachers to face the 4IR challenges. They are prepared to adopt the latest methods and strategies (as results indicated in Fig.5) to foster learning, willing to enhance the learning environment, and ready to facilitate the learners in achieving their future goals. They are also ready to use technologies to help learners improve their language deficiencies (Saleh, 2019; Hameed & Hashim, 2022). Many institutions have already planned to integrate the latest AI technology in teaching and learning, some are gradually introducing it. However, the level of facilities is not the same in all institutions. It is due to a lack of focus and future planning specifically for English language education (Lamprini & Brochler, 2018; Perkins, 2023).

Without exceptions, English language teaching needs alignment. There should be a match of skills with the 4IR demands, for which English language teaching and learning practices should be reformed (Ali & Ismail, 2020). Such reform is built up by developing teachers’ proficiencies and enabling them to keep pace with the new specialized innovations of the current time. Many English language teachers are trying to learn and integrate various technological tools and applications into their daily teaching practices. They agree to their numerous advantages in the teaching-learning process.

Conclusion

The research aimed to investigate the readiness level of teachers, learners, and the learning environment for the technological integration imposed by the 4IR emergence in the MENA Region. The findings show that most of the teachers have embraced the educational technologies professionally and wisely and have also trained their students to identify the benefits of using tools to learn language independently (Chapelle & Sauro, 2017). However, as responded by the EL teachers to the survey items, the present EFL curriculum and materials in many institutions still do not completely meet the current needs. It usually makes it challenging for teachers to nurture a culture of high levels of critical thinking skills. They find the curriculum with a lack of focus on developing critical thinking and self-discovery skills which the majority of teachers think to be very important for learners to practice at the HE level. Teachers supported the technological integration and reported that their students enjoy the independence of the educational technology (Chapelle & Sauro, 2017). Some of them are in support of the pace and autonomy of learners during the language learning processes. And, they suggest reviewing and revising the additional tools. According to them, the content and topics should be adjusted, and the teaching and learning methods must be adopted according to varied EFL teaching-learning needs.

Recommendation

In light of data findings, it is suggested that MENA region education policymakers at the HE level, curriculum designers, educators, trainers, and teachers should adopt measures and take steps to set goals for English language teaching and learning processes; particularly, aligning them
with the EFL teaching-learning needs in 4IR era. The curriculum needs a thorough review, and modular training should be provided to the teaching faculty to be familiar with the inventions in the field of language educational technology, to gain the maximum support of digital resources and applications, and to utilize materials by avoiding distracting elements of the non-supportive, misleading, or outdated technologies.

English language teaching and learning processes and the EFL curriculum used in universities in the MENA Region must be supported by systematic upgrading. It is imperative to review, evaluate, and revise the scheme of studies, and set up a learning environment that supports the safe usage of digital tools and applications for language teachers and learners. In other words, the overall EFL teaching-learning environment needs reconsideration, so that it can prepare learners for the future.

Since language education maintains its goals to prepare future learners, the 21st Century learners, technology, digital means, and resources should be adopted and embraced purposefully and wisely to lead to a successful learning process for all. Teachers and learners should be prepared to face the challenges of the digital age (Bates, 2014) to navigate through the complexities of the era facing paradigm shift and the 4IR. They should be aware of the future learning requirements. They should prepare learners for the pace of the “Thriving Economy” and prepare them ready for diversification (Saudi Vision 2030).

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References


Table 4. Teachers’ readiness - integrating innovative strategies (statements 7-22)

<table>
<thead>
<tr>
<th>Statement</th>
<th>M</th>
<th>STD</th>
<th>Variance</th>
<th>Response % on Scale 4-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. I know how to apply innovative learner-focused strategies.</td>
<td>3.89</td>
<td>1.043</td>
<td>1.088</td>
<td>74.29</td>
</tr>
<tr>
<td>8. I use online learning portals to teach my language classes without any difficulty.</td>
<td>3.94</td>
<td>1.141</td>
<td>1.301</td>
<td>71.43</td>
</tr>
<tr>
<td>9. I can use digital tools to teach my language classes without any difficulty.</td>
<td>4.13</td>
<td>1.006</td>
<td>1.012</td>
<td>80.00</td>
</tr>
<tr>
<td>10. I keep on learning new strategies to teach my students.</td>
<td>4.29</td>
<td>.919</td>
<td>.845</td>
<td>84.29</td>
</tr>
<tr>
<td>11. I use online resources, content, and/or materials to stay updated with the latest technology.</td>
<td>4.29</td>
<td>.935</td>
<td>.874</td>
<td>78.57</td>
</tr>
<tr>
<td>12. I actively participate in online learning events/communities to upgrade my teaching experience.</td>
<td>4.20</td>
<td>.987</td>
<td>.974</td>
<td>78.57</td>
</tr>
<tr>
<td>13. I always assess my learners on time.</td>
<td>4.03</td>
<td>1.063</td>
<td>1.130</td>
<td>71.43</td>
</tr>
<tr>
<td>14. I use digital tools to assess my learners' learning.</td>
<td>3.74</td>
<td>1.059</td>
<td>1.121</td>
<td>65.71</td>
</tr>
<tr>
<td>15. I assign online assignments/ tasks/ activities to my learners.</td>
<td>3.73</td>
<td>1.250</td>
<td>1.563</td>
<td>60.00</td>
</tr>
<tr>
<td>16. My assignments are based on self-discovery work.</td>
<td>3.51</td>
<td>1.087</td>
<td>1.181</td>
<td>50.00</td>
</tr>
<tr>
<td>17. I network with online communities to share my work experience.</td>
<td>3.37</td>
<td>1.194</td>
<td>1.425</td>
<td>44.29</td>
</tr>
<tr>
<td>18. I can use online content and/or materials to facilitate my learners' learning.</td>
<td>4.19</td>
<td>.997</td>
<td>.994</td>
<td>81.43</td>
</tr>
<tr>
<td>19. I can modify the online content and/or materials to adjust to the needs of my learners.</td>
<td>3.96</td>
<td>1.069</td>
<td>1.143</td>
<td>70.00</td>
</tr>
<tr>
<td>20. I prepare online learning materials/ tasks for my learners.</td>
<td>3.99</td>
<td>1.014</td>
<td>1.029</td>
<td>77.14</td>
</tr>
<tr>
<td>21. I think I need to learn skills to become a proficient user of the technology.</td>
<td>3.66</td>
<td>1.153</td>
<td>1.330</td>
<td>55.71</td>
</tr>
<tr>
<td>22. I think I need to build my adaptive capabilities to participate in the global digital society.</td>
<td>3.73</td>
<td>1.141</td>
<td>1.302</td>
<td>57.14</td>
</tr>
</tbody>
</table>

Note. M=Mean, STD=Standard Deviation, %=Percentage
Classroom Discourse Analysis of Computer-Mediated Communication during COVID-19

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Abstract
In March 2020, the Saudi government announced that school and university courses were to be held online to control the COVID-19 outbreak. A sudden yet smooth movement occurred from traditional face-to-face classrooms to online courses. This shift influenced the nature of classes, the nature of the interaction, and the participants’ roles. Interaction in online classes is viewed as a form of computer-mediated communication. This paper explores the nature of computer-mediated communication in online courses at one of the major research universities in Riyadh during the COVID-19 pandemic. Using an in-depth qualitative analysis of Walsh’s (2006) framework of Self-Evaluation of Teacher talk, this study examines the nature of classroom discourse and interactions among level six students who took a content course in English and lectures were transcribed for this study. Results answer questions regarding the common interaction modes and features and how efficient they are to encourage participation during Computer Mediated Communication. Analysis reveals that using traditional interactional features is not suitable in virtual classes. Teacher dominated classes with excessive IRFs patterns do not cultivate interaction in Computer Mediated Communication. New modes of communication and discursive features using more interactive tools and engaging features such as referential questions promote interaction. Results provide an insight into the nature of interaction in online university classrooms. It also adds to the current literature on Computerized Mediated Communication interaction to enhance the existing practices done in classrooms.

Keywords: classroom discourse analysis, Computer-Mediated Communication, Covid-19, interaction

Introduction

The quest to understand and maximize learning never ends. One way is to analyze classroom discourse. Exploring classroom discourses provides valuable insight into what goes on during the learning process because teachers usually control the flow of classrooms and the use of language as well (Johnson, 1995). Interaction is crucial for learning because it provides opportunities for comprehensible input, which forces learners to produce language (i.e., pushed output). The literature on classroom interaction focuses on the product rather than the actual process or factors influencing interaction. One such factor is classroom discourse learning. Thoms (2012) defined classroom discourse as the “oral interaction between teachers and their students and between students themselves that takes place in classroom context” (p. 51). The nature of the academic discourse is different from ordinary discourse. The power role, the context, and the dynamics among participants require unique frameworks and tools.

More than 1,200,000,000 students in 186 countries were influenced by COVID-19, and schools and universities were closed. On March 8, 2020, there was a shift in Saudi Arabia from traditional classes to online classes using the Madrast platform for schools and Learning Management System (LMS) for universities. These digital platforms provided 8,000,000 teaching hours, 3,000,000 items of digital content, and 3,500,000 virtual classrooms (Alshehri, Mordah, Alsibiani, Alsobhi, Alnazzawi, 2020). The Saudi Minister of Education declared that online instruction would be a valid option for learning even after the pandemic is over.

During the pandemic, Computer-Mediated Communication (CMC) became one of the most widely used forms of instruction. CMC is not extra or optional because it is the only way to communicate with students. Herring (1996) defined CMC as communication that takes place between people via computers. CMC can be synchronous (real-time interaction) or asynchronous (non-simultaneously). Synchronous Computer-Mediated Communication (SCMC) has attracted attention from teachers and researchers as a socially mediated form of instructional activity. With a new context (CMC), there is a need to explore the nature of teachers' and students’ interactions and learning styles. Online classes may push some students to be less engaged. Teachers can create learning opportunities using the appropriate language to elicit participation and enhance engagement in CMC classes which leads to effective learning opportunities.

The current paper aims to investigate the nature of interactional patterns found in online content-based university lectures at a major research university in Riyadh during COVID-19. The results of this paper add to the current literature on interaction through CMC and it enhances the existing practices in virtual classrooms. It also raises awareness of the impact of teacher’s talk on learning and students’ engagement. Results answer questions regarding the common interaction modes and how efficient they are to encourage participation during CMC. Using qualitative data analysis, the present paper explores the potential relationships between the language used in virtual courses and its influence on interaction. This is done by analyzing classroom discourse using Walsh’s SETT framework of interactional features and modes. These features and modes are examined in relation to whether learning opportunities are created or impeded in relation to students’ engagement.

Literature Review

Classroom Interaction

Interaction in classrooms has been explored by many Second Language Acquisition (SLA) researchers since the 1980s (Long, 1983; Piaget, 1951; Swain, 1985; Vygotsky, 1978). The
significance of interaction in the learning process is supported by evidence from three SLA hypotheses: Krashen’s (1982) input hypothesis, Long’s (1983, 1985, 1990, 1996)interational hypothesis, and Swain’s (1985, 1995, 2005)output hypothesis. Ignoring the link between interaction and classroom discourse is becoming extremely difficult because everything in a classroom is mediated through interaction, including learning (Richards & Rodgers, 2001; Zuengler & Mori, 2002). Izzati (2021) explained that “language itself becomes the subject and also the medium in the learning” (2021, p. 8).

Teachers play an important role in promoting interaction because they provide the comprehensible input that consequently shapes students’ output (Almeneie, 2005; Hall, 2004; Morell, 2004; Thoms, 2012). Researchers have analyzed teacher talk because it is the vehicle for initiating interaction (Congmin, 2013; Mauer, 1997; Young, 1994). So, teacher talk is described as simple, unidirectional, or monologic, and long (Arishi, 1984; Bellack et al., 1966; Deroey, 2012; Gaies, 1977; Krashen, 1982; Miller, 2002; Morell, 2007).

One way to understand the link between interaction and classroom discourse is by describing it. Three approaches to classroom discourse have stemmed from well-established theoretical backgrounds: the interactional approach of the 1960s (e.g., Bellack et al., 1966; Flanders, 1970; Moskowitz, 1967), the discourse analysis approach of the 1970s (e.g., Sinclair & Coulthard, 1975; Levinson, 1983; Stubbs, 1983), and the conversational analysis approach of the 1980s (e.g., Allwright, 1980; Edwards & Westgate, 1994; Hall & Walsh, 2002; Lörscher, 1986; McHoul, 1978; Sacks, Schegloff, & Jefferson, 1974). Each approach attempted to describe classroom discourse, but each had its limitations. Unlike the previous approaches that viewed classroom discourse within a single static context, the variable approach to classroom discourse was realistic because it views a classroom as a dynamic environment consisting of mini contexts (Cullen, 1998; Johnson, 1995; Seedhouse, 2004; Tsui, 1998; Van Lier, 1988; Walsh, 2002).

Computerized Mediated Communication and Learning

Computerized Mediated Communication (CMC) has existed since the 1960s, but it gained interest from researchers in the 1990s with the introduction of personal computers. Beatty (2013, p. 156) defined online/virtual classes as “a type of electronic classroom that can be expandable in time, space, and content”. Virtual classrooms offer new forms of interaction through the utilization of media, chat rooms, break-out rooms, and discussion forums. Alahmadi and Alraddadi (2020) claim that ideally, virtual classrooms allow for more interaction, but this claim is questionable.

Researchers have explored the potential benefits of using virtual classrooms. They have claimed virtual classes benefit students, enhance learning, and that students were more engaged, less prohibited, and pleased with the experience (Bellack, Kliebard, Hyman, & Smith, 2019; Hussein, 2016; McBrien, Cheng, & Jones, 2009). Other researchers claim that virtual classrooms improve students' speaking and communication skills (Alhawiti, 2017; Al-Qahtani, 2019; Hamouda, 2020; Mathew, Sreehari, & Al-Rubaat, 2019). Though virtual classes create new forms of interaction and discourse, they have limitations as well. One is the technical difficulties and the loss of actual face-to-face interaction (Al-Kathiri, 2015; Hussein, 2016; Kern, 1995; Olbertz-Siitonen, 2015).
Classroom Interaction during COVID-19

Izzati (2021) examined the use of teacher talk in three online English as a foreign language (EFL) high school classes during the COVID-19 pandemic using the Self-Evaluation of Teacher Talk (SETT) framework. They viewed this communication as a form of CMC. The results showed that only 10 of the 14 features were used during these classes, which shows teachers did not involve students as needed during these classes. They also claimed a new mode exists—the lecture mode with its interactional features.

Oraif and Elyas (2021) explored the engagement level of high school students in Saudi Arabia during COVID-19. They used the Student Course Engagement Questionnaire as the data-collection tool. Their results revealed a high level of engagement among Saudi EFL students during the pandemic. In addition, they showed a positive correlation between students’ satisfaction and the level of engagement during classes. The positive results contradicted Izzati’s (2021) results that showed a low level of engagement on the teachers’ part.

Almossa (2021) analyzed students’ engagement during COVID-19 using Twitter. Results showed the effect of the pandemic on students’ engagement and the author stressed the importance of open communication between students and faculty members. Some students felt helpless, and they stated online communication with their professors was challenging compared to face-to-face communication because they often received no answers from their professors.

Alahmadi and Alraddadi (2020) explored the effect of virtual classrooms on second-language interaction among 90 Preparatory Year (PY) Saudi students. Results revealed students had a positive attitude toward the use of technology in second-language learning classes.

Thompson (2020) presented results from a survey conducted among 325 Saudi students that explored the effects of the COVID-19 pandemic on cognitive and behavioral engagement. According to Thompson (2020), students found online learning to be convenient, but they realized that educational quality had decreased, especially in terms of the amount of knowledge they had gained.

Self-Evaluation of Teacher Talk Framework and COVID-19–Related Studies

Hamdan and Elandeef (2021) analyzed 10 English language classes in King Khaled University College of Science and Arts using Walsh’s SETT framework and linking it to 21st-century learning skills. The study revealed teachers dominate the class discourse. They posited that teachers tend to minimize their dominance by asking questions.

Izzati (2021) examined teacher talk during the pandemic using Walsh’s SETT framework to analyze seventh-grade students’ interactions during three separate classes. The researcher suggested a new mode—the lecture mode—whereby teachers explain with almost no participation from the students. The results revealed that teachers used 10 out of the 14 modes suggested by the framework.

Ample research has explored many aspects of COVID-19 and its effects on learning, including useful techniques, teachers' and students’ perceptions and attitudes, and the challenge of fostering an effective, engaging environment. Yet, to the best of my knowledge, no research has explored the interactional features using SETT of content-based university lectures in Saudi universities during the pandemic. Most of the current reviewed literature explored language classes during the pandemic (Alahmadi & Alraddadi, 2020; Almossa, 2021; Hamdan & Elandeef, 2021; Izzati, 2021; Oraif & Elyas, 2021). Language classes focused on language per se, whereas content-based university lectures called for different forms of interaction.
In this paper, classroom discourse in virtual university courses is explored to shed light on the nature of the interaction during the pandemic. Unlike Izzati(2021), Oraif and Elyas (2021), Hamdan and Elanideef (2021), and Izzati (2021), who examined high school students in EFL classes during the COVID-19 pandemic, the current study explores university students specializing in English. The expected interactions in language classes and lectures differ from those of content-based interaction because the former depends on lecturing most of the time. Walsh (2006)argued that even if there is engagement, it is likely in the seminars and tutorials and not in the formal lectures.

Methods

A qualitative approach was used to analyze the classroom discourse using Walsh’s SETT framework as the primary framework. An in-depth analysis of the data was conducted using a revised version of the SETT framework and the NVivo software.

Participants

The sample of the study was two recorded lectures (4 hours in total) of one of the content courses taught in the English Language and Literature Department at a major research university in Riyadh in 2021. Ten students were enrolled in this class. All of the classes were conducted using either the LMS Virtual Classroom tool or the Zoom platform. Due to cultural restrictions, all classes were audio only. Ethical procedures were verified using Silverman’s (2013) methods of rigor. Silverman’s method of establishing a code of ethics was followed (i.e., voluntary participation and the right to withdraw, protection of research participants, obtaining informed consent, and avoiding harm).

Research Instruments

Audio recordings were collected automatically during the lectures. The LMS Virtual Classroom Tool and the Zoom platform both offer audio recordings of the lectures. Lectures were recorded by the instructor to be uploaded later on LMS for further reference.

Walsh’s Self-Evaluation Teacher Talk Framework

Walsh’s (2006) SETT framework was based on the variable view of classroom discourse. Unlike other approaches that view the classroom context as a single static context, the variable approach views classroom context as dynamic, consisting of a series of microcontexts. This multilayered view of classroom discourse was used to analyze the interaction among various contexts and participants. Walsh introduced SETT in 2003 and then a modified version in 2011. Walsh based SETT on the sociocultural perspective that learning opportunities can be created, and new knowledge is constructed when teachers and students interact.

Though SETT was originally used in EFL classes, it was extended to other contexts such as immersion education and higher education. Heritage and Greatbatch (1991) claimed that every context has unique goals, which they labeled a “unique fingerprint”. However, understanding the structure of interaction in each context can be accomplished using a clear framework. Thus, Walsh introduced a modified, revised SETT framework to suit new contexts, such as higher education (see Table One in Appendix A).

SETT consists of four classroom modes and 14 interactional patterns. Classroom modes refer to microcontexts with clearly defined learning objectives and distinctive interactional
features. They are the managerial mode, material mode, skills and system mode, and the classroom context mode. *Interactional patterns or interactors* refer to specific language functions of teacher talk or student talk. They are direct repair, scaffolding, the extended teacher turns, display questions, teacher echo, clarification requests, form-focused feedback, extended learner turn, short teacher turns, minimal repair, content feedback, referential questions, and clarification requests.

**Research Procedures**

The audio recordings of the virtual classrooms were transcribed without any modification or correction to maintain the integrity of the data. This includes false starts, hesitations, long pauses, and incomplete sentences. Using NVivo, open coding was conducted using the interactional patterns and modes mentioned in SETT. Then, axial coding was conducted to find relationships between patterns and modes and to locate any new patterns.

**Results**

In this section, results from data analysis using NVIVO software are presented to examine the effectiveness of the interaction in CMC classrooms. Results were analyzed to identify the common modes and the interactional features in the sample selected. The results presented in this section are based on the frequencies of mode and interactional features. An in-depth qualitative analysis is presented in the discussion section.

Data shows the most common modes based on the frequencies of each mode according to Walsh’s modified framework of SETT (Figure One). It was found that the most common modes are the material mode, followed by the managerial mode. The material mode was dominant and covered almost 92% of class time. Then, it was followed by the managerial mode which covered almost 16% of lecture time. The skills and system mode and the classroom context mode were less frequent and occurred in 7% to 10% of class time.

![Mode Frequencies](image)

*Figure 1* The most common modes
The managerial mode included checkups on the students regarding technical issues they faced. This checkup becomes part of this context and part of managing learning as shown in the following example.

T: I’m good. How was your quiz?
S: It was good, Alhamdulillah. I changed my browser, just like you said, and it worked.
T: Perfect. [Student], which browser did you switch to?
S: Firefox?
T: This is the one that is working. Right? Firefox?
S: Yeah, it’s working for me.
T: Okay, and the one before that was lagging, which one was that?
S: Oh, Google Chrome.
T: Ok, umm . . .

Students feelings were addressed in this mode. This differs from the classroom context mode because the latter is linked to the material at hand. Rather, the managerial mode is a checkup on students’ feelings during difficult moments and constant changes in procedures. For example, the instructor here is asking students about their feelings after the exam dates were changed because of a royal decree as shown in the following excerpt.

T: How are you doing with the, you know, this change in the exam dates? You’ll be really slammed with all the assignments and projects.
S: Yeah, honestly, it’s quite overwhelming.
T: It is. It is because it’s supposed to start, I think, not next week but the week after the general examinations . . .

The skills and system mode in content-based classes revolve around the knowledge acquired and the discipline-specific skills. The online medium makes it challenging to engage students using a skills and system mode. This mode covered around 7% of all of the sessions. It was observed when the instructor used Web-based interactive exercises using a tool called MentiMenter. This tool allows students to answer questions anonymously using the QR code presented on the screen. Due to the number of responses popping on the screen, students are observed to be more engaged when they answer questions as a group. In the screenshot below (Figure Three), there are 16 responses produced by five students.
The skills and system mode is characterized by heavy reliance on Synchronized Computer-Mediated Communication (SCMC) IRFs. In this mode, the teacher provides feedback on the content because it is a content course. This mode is characterized by quick mode sliding in which participants slide from one mode to the other as shown in the example below.

T: Now, I'll give you time to try to guess them. What are the questions we can use when we test oral ability, using an interview? I'll give you 1 minute. We'll do it quickly. Try to do it on Menti.

[T reads the answers.]. Personal information, very good. What else in an interview? Daily routines. Very good. What else?

S: Miss, I can’t submit more than one answer.

T: Okay. Again, sorry, we go back to...Yeah, I always forget to check this option. Yeah, okay, you can do it now.

Give a situation and ask students how they would act or react...as an icebreaker. Very good proficiency background: What does that mean? Proficiency background? I don’t understand this one...talk about your skills and achievements. Okay, hmmm. Describe a picture. Very good. Very good. This is a good one. Right.

In the example above, the instructor directed the students to use Menti to perform an in-class activity, which was interrupted by a mode sliding to the managerial mode when one student asked about a technical issue. The instructor slid back to the skills and system mode and read answers popping up on the screen, commented on the content, and encouraged them. The instructor extended students’ contributions and asked for clarification when she said that she does not understand one point. This is a new form of IRF specific to SCMC because the students’ contributions are written. Thus, the teacher does all of the talking in this type of IRF exchange.

The classroom context mode covered 10% of the total sessions. It was not managed by students; rather, it was mostly managed and initiated by the teacher, except in very few instances. This mode was characterized by relatively long teacher turns, in which the teacher shared personal stories and linked them to the content.

The teacher tried to use vague language to include students such as “you know” and “I mean.” Even in long teacher turns, the teacher engaged students by using vague language such as “ya?ni:” [I mean] or “mathalan” [for example].

In the example below, the instructor rephrased the questions four times to encourage students to participate. The instructor then did not interrupt the flow of the student’s turns and commented on the content at the end.

T: What do you think? Do you agree or disagree? What is your opinion? Do you think we should give students, umm, an option? No? The book says you should not give them an option.[Student], what do you think?

S: Again, err, this goes back to /salfat/ [topic]. . .creativity. I believe /eno fi/ [there is]. . .more, there is more. I am talking about myself, /fi: mawadee/? [there are topics] I can talk about you, /fi: mawadee/? [there are topics] I have no idea about.

T: Mm.

S: /?alahasab/ [depends on] students.I hope this makes sense.
T: Makes sense. But you’re talking from the perspective of the student. So as a teacher, if you give them an option, what will happen? Think about it, ladies.

As for the interactional features, only nine of the 14 interactional features originally found in the framework were used (See Figure Three). The most common interactional features are single extended teacher turn, IRFs, clarification requests, transitional markers, content feedback, the extended teacher turns, extended learner turns, referential questions, display questions, and scaffolding. It is important to note that these frequencies are followed by an in-depth qualitative analysis to examine the effectiveness of each feature. Some features were used differently, such as the confirmation checks, and some were new, such as code-switching.

Figure 3 The most common interactional features

IRFs are very common and cover about 12% of class time in the observed sessions. In addition to the traditional format of teacher initiation, student response, and then teacher feedback, other forms were observed in these virtual classes. IRFs in the managerial mode were used as a confirmation check to locate learning or check technical issues, whereas IRFs in the material mode were used to elicit information from students. Many variations exist in the purpose of IRFs: they can be used to elicit information about the content, check comprehension, or identify learning goals. In addition, variations existed in their form, such as IRFs and display questions, IRFs and referential questions, and extended IRFs.

Display questions used in IRFs have different forms and usage. The traditional IRF form is exemplified as follows.

T: Why are they different? Because one is what? Hmm. [Student]
S: One is for production, and we’ll add that the other one is for comprehension
T: Very good.

One type of IRF is in the form of a rhetorical question, in which the instructor initiates the question and then answers it immediately with no wait time, as seen in the following example.

T: Which is what?...The transient nature of the spoken language. What does this mean? When I say transient, this means that when you listen to something, you cannot move backward and forward over what you heard.

In the example above, the instructor asked two consecutive questions and answered them immediately. The use of rhetorical questions instead of sharing information immediately can be seen as an attempt to attract students’ attention during virtual classes.
Another form of IRF contains no student turns; rather, the student’s responses are written in the skills and system mode, as seen in the following example.

T: That’s it. Ladies, five answers. How about the rest? That’s it? Mmm, alright, let’s check them out. Okay, the teacher should not correct while the students representing. Interesting.

In this example, the teacher initiated the interaction, read the answers from the screen, and gave her feedback. Students are engaged through a different medium, which is chat, and use writing instead of spoken language to interact. Some students may feel liberated and less prohibited when they type in the chat rather than speaking up.

Extended IRFs are observed in these sessions, in which the teacher asked a follow-up question to extend the learner’s contributions, as seen in the following example.

T: In one of the writing courses, in the last one, what kinds of topics did you use? What kinds of essays?
S: It’s all about technology.
T: Not the topic. I mean, is it an argumentative essay? Is it a descriptive essay? Argumentative?
S: Argumentative.
T: Only argumentative? Did you use any others?
S: No. Informative, um, what else? There is more.
T: Informative, argumentative, and descriptive? To describe something?
S: Yes. Comparative essays, also.
T: Very good. In the final exam . . .
S: Comparative as well.
T: Comparative. Very good.

This exchange of IRF and scaffolding corresponds to what Bellacket al.(1966) called give and take in discourse, which is central for establishing shared space and allows students to try out their own ideas.

Another form of IRF is an extended one initiated by students, as exemplified in the following example.

S: Miss, I have a question. We said before that synonyms and antonyms will be on the reading test, but I have left [inaudible] a question, and the writing exam is to find or identify the synonyms and antonyms.
T: In a course?
S: Yeah, and I’m now a little bit confused, and which we have . . .
T: The question now is if you will have this question on your exam. Have you been trained during the semester to find synonyms and antonyms?
S: No, I don’t think so.
T: Are they in the book, synonyms, and antonyms?
S: Yes
T: Mmm, they are in the book, but is it, like, what course is this? Is it like a paragraph essay or essays?
S: Essays.
T: Essays. Well, I don’t know about that. Now, again, as I said, [Student’s name], now, sometimes it’s really difficult to draw a clear line. And if, for example, remember when we said that in reading, it cannot be anything we
want it to be. It can be not only reading it—it can be reading, or it can be vocabulary. You need vocabulary knowledge, you need grammar knowledge to understand the reading’s text, you need critical abilities, et cetera, et cetera. So, finding a synonym, I don’t know. How is that relevant to a writing course? to be honest with you, I can’t answer this question without reading the syllabus itself. But for me, I wouldn’t have it in a writing test because it’s a specialty.

In this example, one of the students initiated an extended IRF, but the goal here was different. This long exchange was not aimed at asking the students about their knowledge but rather had the opposite aim. Students initiated the learning and asked the teacher about points that they wanted to know about.

Confirmation checks were very frequent. They were used in English and Arabic. The teachers wanted to verify comprehension of the message. They could be in the form of a word with a raising tone (such as “Ok?”), a yes/no question (such as “Is it clear?” or “Any questions?”), or /sahwla la’/ [Correct?] or /wadheh/ [Clear?).

A common interactional feature is the use of transitional markers. Teachers tend to use transitional markers frequently during CMC as signposts to locate learning and attract attention. They were used in all of the modes and not only the managerial mode. They could be in the form of a single word, such as “so”, “because”, or “alright”; code-switch markers such as/tayb/ [OK] or /mathaal/ [for example]; compound markers such as “Alright, now this . . . ” or “OK, so also . . . ”; or compound markers and code switches such as “So, but ya?ni:/ [as in].”

Code-switching was a new feature that was observed in more than 13% of the sessions. It is not identified in the original framework, but it is worth noting in the results. It was used as a transitional marker, confirmation check, or reference to the teacher’s personal experience as well as to reformulate a point. Code-switching was common among both the teacher and students.

Discussion

In this section, results are examined in depth to answer the research questions of this paper linking the discussion to the previous research. First, the first question about the most common modes in relation to the effectiveness of interaction is discussed. Then, a discussion addressing the most common interactional features and whether they facilitate or hinder interaction.

The most common mode observed in these virtual classes is the material mode followed by the managerial mode. This is logical since teachers wanted to cover the material at hand and manage learning due to the sensitive timeframe, they have to finish the syllabus. The material mode was dominant which can be coded as what Izzati (2021) called the lecture mode, with no student interaction. The dominance of the material or lecture mode can be explained as the instructor falling back to the traditional teaching style of lecturing because it is a content course. This mode is characterized by excessively extended teacher turns, IRFs, and rhetorical questions.

The managerial mode is used frequently throughout the sessions, and it sometimes overlaps with the material mode. This is logical since teachers must locate learning frequently in an online lecture to attract students’ attention. The instructor located learning spatially and temporally, a feature expected in CMC classes, to establish the learning goals and learning agenda. The managerial mode is characterized by frequent recapping, extended teacher turns, and minimal student involvement.
The skills and system mode is less frequent, especially in the sample selected since it is a content-based class that revolves around the knowledge acquired and the discipline-specific skills. Engaging students behind the screen with no interactive features such as the use of a camera makes it ideally difficult to communicate with students using traditional tools. However, using an interactive tool such as Mentimeter revealed interesting results. Students interacted more when they are engaged in written silent activities. This result is similar to that reported by Oraif and Elyas (2021) that online learners showed more engagement during classes and even timid students felt more confident to participate. Not putting pressure on students in online classes allows them to feel free and engage more in this case. This is a new form of engagement specific to SCMC because the students’ contributions are written. Thus, the teacher does all of the talking reading off-screen which explains the long-extended teacher’s turn frequencies in the sample selected.

Though the use of the classroom context mode is limited, the form is different from the one reported in the original framework. It was not managed by students; rather, it was mostly managed and initiated by the teacher, except in very few instances. This mode was characterized by relatively long teacher turns, in which the teacher shared personal stories and linked them to the content. This is expected because the instructor was trying to engage students so that they would share their opinions and personal stories about the topic at hand. It seems the classroom context mode was for teachers to share their personal experiences. It can be seen as a way to engage and connect with the students, to encourage them to participate using English and Arabic phrases. Also, the teacher tried to use vague language to include students. Vague language (O’Keefe, 2004) creates a shared space between the instructor and the students by using vague yet inclusive discourse markers.

The results suggest that extended long teacher turns is one of the most common interactional features observed. Teacher talk dominated most of the classes, thereby limiting opportunities for student participation (Almeniei, 2005; Al-Otaibi, 2004; Arishi, 1984). Izzati (2021) called this mode the dominant lecture mode, especially in university lectures. This corresponds with Oraif and Elyas’s (2021) claim that teachers must change to suit the new platform. The teacher’s role should not be just to present the material but also to teach students new, creative learning methods. Nevertheless, some of the teacher’s turn involves the teacher reading written answers off the screen.

Moreover, IRFs are very common and were used extensively in the observed sessions. This coincides with previous research findings (Arifin, 2012; Cazden, 1988; Hall, 1995; Hall & Walsh, 2002; Hardman, Smith, & Wall, 2003; Vaish, 2008). Cazden (1988) and Bellack et al. (1966) pointed out that teachers talk for two-thirds of the time allocated in classes and that they use unidirectional communication, consisting of a triadic sequence of asking a question, which students answer, and then this answer is evaluated by the teacher. The use of IRF with referential questions was less frequent due to the need to finish the syllabus, the pressure to finish the syllabus, and the difficulty of engaging students online. These were found in the classroom context and overlapped with the material mode because they could be an extension of the students’ experience regarding the issue discussed in the material presented.

Confirmation checks were very frequent. They are the teacher’s way of ensuring that students are engaged and following up in the virtual medium. In addition, transitional markers are used to locate learning and also to attract students’ attention. They are used as signposts to make the learners feel included and secure. It can be explained in Flowerdew and Tauroza (1995) claim that “lectures are informationally dense and micro markers could help to dilute the rate at which
the listener has to absorb information” (p. 437). Locating learning reappeared after each episode or segment in the lecture and was identified by the frequent use of discourse markers. A new addition to the framework is the use of code-switching. This can be explained in relation to the context since these classes are content-based classes, not language classes. This can be explained by the lack of face-to-face communication, which forced the teacher to explain topics using all available resources, including their native language. Not being able to see students’ faces is another factor that added to the pressure to explain more and to rephrase the material using the students’ native language.

Virtual classes' status has changed from an optional tool to an integral part of education nowadays. Further research is a need to explore and redefine how instructors see interaction in all classes, including in higher education. The lecturing mode that was prevalent in the past can be enhanced by adding interactional features that foster engagement and, hence learning. Teacher-dominated discourse in the classroom can jeopardize interaction by failing to create opportunities for students to speak. Analyzing classrooms qualitatively allows for a deeper look into the nature of interaction in detail. For example, extended teacher turn appears to be excessive depending on percentages only. However, IRF has a new form because it is now a teacher-teacher turn since some students prefer to write down their answers. This does not mean a lack of interaction. Moreover, students’ feelings to elicit more engagement were focused on during virtual classes.

Conclusion

This paper explored the interactional features observed in virtual content-based university classes during the COVID-19 pandemic. Virtual lectures observed in this paper were dominated by managerial and material modes. The instructor fell back into the lecturing mode, which was accompanied by excessive use of IRFs and extended teacher turns. The students had few opportunities to interact or practice the knowledge they acquired. In addition, new features were observed such as code-switching and new forms of IRFs.

Virtual classes present a different teaching format. Applying the same patterns to CMC classes as those used in traditional classes will decrease learning and engagement. Though virtual classes have their own challenges such are those identified by Alahmadi and Alraddadi (2020) such as technical difficulties and the lack of nonverbal communication. Nevertheless, teachers can create learning opportunities by using appropriate language and interaction features suitable for this context to elicit participation such as the use of interactive tools (e.g. Mentimeter). While the sample and the medium (i.e. audio-only lectures) of this paper limit the generalizability of the results, it gives insights on how to improve the quality of teaching. Video lectures may reveal different results and forms of interaction. There is a need for regular peer discussions and reflective analysis using tools such as SETT to enhance teachers’ awareness of how their talk affects participation. Teachers must reflect on their teaching practice, especially in virtual classes, and must think creatively to enhance their talks in online classrooms.

About the author

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**References**


## Appendices

### Appendix A: SETT MODIFIED framework

Table 1. *Modified SETT framework (Walsh, 2011)*

<table>
<thead>
<tr>
<th>Pedagogical goals</th>
<th>Interactional features (interaction uses)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Managerial</strong></td>
<td>- A single, extended teacher turn used to explain actions and/or instructions</td>
</tr>
<tr>
<td></td>
<td>- The use of transitional markers</td>
</tr>
<tr>
<td></td>
<td>- The use of confirmation checks</td>
</tr>
<tr>
<td></td>
<td>- An absence of learner contribution</td>
</tr>
<tr>
<td>- To transmit information</td>
<td></td>
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<tr>
<td>- To organize the physical environment</td>
<td></td>
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<tr>
<td>- To refer learners to materials</td>
<td></td>
</tr>
<tr>
<td>- To introduce or conclude any activity</td>
<td></td>
</tr>
<tr>
<td>- To change from one mode of learning to another</td>
<td></td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>- Predominance of IRF patterns</td>
</tr>
<tr>
<td></td>
<td>- Extensive use of display questions</td>
</tr>
<tr>
<td></td>
<td>- Content-focused feedback</td>
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<tr>
<td></td>
<td>- Corrective repair</td>
</tr>
<tr>
<td></td>
<td>- The use of scaffolding</td>
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<tr>
<td>- To provide input practices or practice around a piece of material</td>
<td></td>
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<tr>
<td>- To elicit responses related to the material</td>
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<tr>
<td>- To check and display answers</td>
<td></td>
</tr>
<tr>
<td>- To clarify when necessary</td>
<td></td>
</tr>
<tr>
<td>- To evaluate contributions</td>
<td></td>
</tr>
<tr>
<td><strong>Skills and systems</strong></td>
<td>- The use of direct repair</td>
</tr>
<tr>
<td></td>
<td>- The use of scaffolding</td>
</tr>
<tr>
<td></td>
<td>- Extended teacher turns</td>
</tr>
<tr>
<td></td>
<td>- Display questions</td>
</tr>
<tr>
<td></td>
<td>- Teacher echo</td>
</tr>
<tr>
<td></td>
<td>- Clarification requests</td>
</tr>
<tr>
<td>- To enable learners to produce correct answers</td>
<td></td>
</tr>
<tr>
<td>- To enable learners to manipulate new concepts.</td>
<td></td>
</tr>
<tr>
<td>- To provide corrective feedback</td>
<td></td>
</tr>
<tr>
<td>- To provide learners with practice in sub-skills</td>
<td></td>
</tr>
<tr>
<td>- To display correct answers</td>
<td></td>
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<tr>
<td><strong>Classroom Context</strong></td>
<td>- Extended learner turns</td>
</tr>
<tr>
<td></td>
<td>- Short teacher turns</td>
</tr>
<tr>
<td></td>
<td>- Minimal repair</td>
</tr>
<tr>
<td>- To enable learners to express themselves clearly</td>
<td></td>
</tr>
<tr>
<td>- To establish a context</td>
<td></td>
</tr>
<tr>
<td>- To promote dialogue and discussion.</td>
<td></td>
</tr>
<tr>
<td>- The use of form-focused feedback</td>
<td></td>
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<tr>
<td>- Referential questions</td>
<td></td>
</tr>
<tr>
<td>- Scaffolding</td>
<td></td>
</tr>
<tr>
<td>- Clarification requests</td>
<td></td>
</tr>
</tbody>
</table>
Station Rotation with Gamification Approach to Increase Students' Engagement in Learning English Online

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Abstract
Students in non-native English-speaking countries like China showed low engagement in English learning. To foster student engagement, educators have adopted different teaching strategies like Blended learning to improve the effectiveness of English classrooms. The station rotation model in the blended classroom has the potential to enhance students' engagement. However, there is still a need to make learning more exciting to retain engagement, especially when the classes are conducted entirely online in a pandemic. The study aims to identify the effectiveness of the Station Rotation and a Gamification approach to improve students' engagement in online learning English. Two research questions are involved in the study. 1) What features of the Station Rotation and a Gamification approach can be integrated into LMS to improve students’ engagement in English vocabulary learning? 2) What effect do the station rotation and gamification approach have on students' engagement in English learning, including cognitive, emotional, and behavioural engagement? The methodology chosen is qualitative research with data triangulation using observation, self-report and interview. The findings revealed significant effects on improving students' learning engagement in three dimensions, enhancing students' interests, boosting motivation, and fostering engagement. The findings offered several implications and recommendations for further research and contributed to the literature by sharing practical ways to incorporate the Station Rotation and a Gamification approach.

Keywords: blended learning, gamification, station rotation, students’ engagement, English learning online

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Introduction

The rapid development of the Internet has become an indispensable part of online education, so the learning model is gradually changing. It is also proven that digital technology has dramatically affected students’ learning by integrating teaching approaches and educational technology. Educators continuously seek opportunities to find effective ways to enhance students’ engagement in online English learning because in non-native English-speaking countries like China, English learning (EL) as a second language for vocational college students can be considered to be challenging. Most students showed low engagement (Meirovitz et al., 2022) in EL. Learners mainly point out some factors that will be obstacles to English learning, like tedious remembering English vocabulary activities (Lei & Cai, 2020). Moreover, education experts illustrated that students behaviorally, cognitively, and emotionally involved in English learning could successfully engage in the study and make achievements (Hutain & Michinov, 2022).

Educators have been using Internet facilities to improve students’ engagement and achievement to create a better learning environment and enhance students engagement and participation in English Learning. Scientific literature suggests that gamified environments for English learning could increase learners’ motivation (Fredricks et al., 2016) and engagement and offer them more confidence in their education (Ying et al., 2021). Many educators also emphasized that games in teaching have remarkable motivational power that can potentially improve learning (Musa & Fojkar, 2019).

Despite the benefits of gamification in education, studies have shown that gamification is not fully applicable to teaching (Domínguez et al., 2013). According to Bellotti (2010) and Cohen (2011), some games cause addiction due to learners’ poor time management. To explore digital gamification support to English learning, the researcher integrated gamification into the station rotation model. which is of blended learning model. Because some studies have shown that gamification should be supported with a blended learning mode (Hishamuddin et al., 2018), integrating gamification into Blended learning (BL) can help students take ownership of their learning, increases student motivation, and provides measurable evidence of mastery (Mese & Dursun, 2019).

The Station Rotation model allows students to rotate through stations on a fixed schedule, where at least one is an online learning station (Staker & Horn, 2012). This paper examined how engaging students in the learning process can be achieved using station rotation and gamification approaches in English learning facilitated by a LMS. It will be helpful for educators who want to improve their students’ engagement in an online classroom for their English learning.

Upon completing this study, it is hoped that teachers can incorporate Station Rotation with gamification into the curriculum and teach them explicitly to their students. Also, it is hoped that researchers can conduct further research to explore the impact on student achievement in the following fields of study at different stages in a Chinese context. Therefore, this study investigates how this innovative teaching model can improve students’ engagement in English learning while working in groups. The researcher used three methods to collect data. Interviews were conducted with students to determine their points of view about their engagement in the classroom. Students self-report is a way to help them stimulate their reflections and increase their cognitive control over their learning. The researcher carried out observations to gain insight into what occurred while students were working on assigned tasks. Two research questions will be involved in the study. 1) What features of the Station Rotation and Gamification approach can be integrated into LMS to
improve students’ engagement in English vocabulary learning? 2) What effect do the station rotation and gamification approach have on students’ engagement in English learning, including cognitive, emotional, and behavioural engagement? Further, this paper reviews various studies and suggest strategies for exploiting station rotation and gamification in English vocabulary learning through an LMS.

Literature review

Engagement theory

The study is anchored by the theoretical support of Kearsley and Schneiderman's cutting-edge mastering theory known as Engagement Theory (1994--1999). This theory has many attributes that preserve that learners should actively engage in learning activities through fruitful interactions with others. Kearsley and Shneiderman state that Engagement Theory can provide some features in theoretical frameworks. Mainly it includes the activities from students that "involve cognitive processes such as creating, problem-solving, reasoning, decision-making, and evaluation" in which students are "motivated to learn due to the meaningful nature of the learning environment and activities" (Kearsley and Shneiderman 1999). Kearsley and Shneiderman also illustrate that the technology used can improve engagement which is not easy to achieve (Kearsley & Shneiderman 1999).

Moreover, they emphasize the differences in interaction in online learning and the effect of technology referred to in theory to foster engagement. They demand that technology provides an online learning environment to help improve students' interaction and engagement. Adopting online meeting platforms and audio or video conferences primarily enhances the extent of communication between instructors and learners. Many software tools adopted for task design, problem-based projects, and presentations can make students complete more complicated work.

Based on the Engagement theory from Kearsley and Schneiderman (1999), they used a standard categorization to distinguish three dimensions of students’ engagement. According to Fredrick Swell and his colleagues (2004), students’ engagement is featured by behavioural (e.g., attendance and participation), cognitive (e.g., investment in one’s activities and appreciation of challenges), and emotional (e.g., positive reactions, including enjoyment and sense of belonging). In his study, the main point of the three dimensions is to be read by data surveyed and assessed in an online classroom, which offers the ways of data collection in the present research. Combining the three dimensions in the Engagement theory extended by Fredricks et al. (2004), the researcher improved students’ engagement by measuring their behavioural, emotional, and cognitive engagement (Baragash & Al-Samarraie, 2018). Engagement theory has a solid relation to technological use. It has been a framework for technology-based teaching and learning for many studies. Research in technology education suggests that educators should try to solve the difficulty in English learning by adopting blended learning and integrated face-to-face and online learning (Wilson, 2002). There are some advantages, as Nagel (2010) claims, that blended learning is now a welcomed model in education, and colleges worldwide are making efforts to offer more flexible, more personalized, and greater learner engagement (Fredricks & McColskey, 2012). Rymanova et al. (2015) demand that blended learning with technology is a more effective pedagogical practice to engage students. Therefore, blended learning must also be integrated into English learning, incorporated with educational technology development to seek an innovative teaching model and genuinely engage students according to the Engagement theory.
Station Rotation with Gamification Approach

Station Rotation Blended Learning Model

In the decade, blended learning has been considered an innovative and meaningful educational tendency. Studies on blended learning are entirely new and are connected with every field in education, like teaching methods, educational technology, computer-based learning, distance education and even digital learning (Heilporn et al., 2021). Bond et al. (2020) illustrate that blended learning integrates traditional face-to-face teaching with digital-based instruction. Govindaraj and Silverajah (2017) indicate that blended learning is developed from face-to-face education to a distance learning model, from a traditional classroom to online learning. Staker and Horn (2012) presented four widely used models in the classrooms. They are the Rotation model, the Lab Rotation model, the Flex model, and the Flipped Classroom Model. Based on the previous studies on Blended models, the Rotation model is better suitable for English learning (Albiladi & Alshareef, 2019). Moreover, it is found that many Rotation Models of blended learning happened in offline classrooms. Compared with these Rotation models, station rotation is a targeted teaching model for online English learning in this research.

In a traditional station rotation model, students rotate among four stations based on the instructor's classroom schedule (Lim, 2015). The stations must involve at least one station for online learning, while other stations might include activities such as group tasks, individual education, collaborative activities, and offline assignments (Staker & Horn, 2012; Tucker, C, 2015). Considering the advantages of synchronous and asynchronous learning, some scholars have shown their interest in the potential of station rotation blended learning to foster students’

Figure 1. The theoretical framework of the study

Engagement Theory

(Greg Kearsley & Ben Sloneiderman, 1999)

Gamification mechanism
1. Points
2. Badges
3. Leader board
4. Level up

Online instruction Teacher-led instruction

STATION ROTATION

Collaborative activities and stations

RELATE DONATE CREATE

LMS PLATFORM

COGNITIVE ENGAGEMENT EMOTIONAL ENGAGEMENT BEHAVIORAL ENGAGEMENT

Figure 1. The theoretical framework of the study
engagement and researched to understand students’ engagement by making full use of digital technologies in blended learning contexts (Moskal et al., 2013; Vasbieva et al., 2016; Malissa, 2018). Maxwell and White (2017) state the advantage of the Station Rotation model is to be more flexible for instructors in working with students (Staker & Horn, 2012). Tucker (2015) also illustrates that teachers using the Station Rotation model will have the energy to facilitate the learning strengths of the individuals in each group. And She pointed out that the station rotation model divides the class into different parts instead of teaching a lesson to all students simultaneously. Using station rotations to provide personalized or individual practice with the newly introduced technology and provide students extra learning support to each group, the remainder of the class remains engaged at their stations. Made and Skolastika (2020) considered that students move on to the next station, even if they are at home able to participate in a virtual, small-group station organized by instructors, and shift students quickly into asynchronous instruction depending on the schedule and stations. Educators are able to combine offline and online stations to promote student interaction and cooperation to build community and offer peer support (Tucker, 2015).

Based on the previous studies on Station Rotation Model, the Station Rotation Model has many advantages integrated or adopted in English education settings to improve effective classroom teaching. However, some researchers reveal weaknesses of the Station Rotation Model in education. Ayob et al. (2020) stated that Station Rotation Model could permit learners to rotate in different stations to engage them in other activities. Still, when the contents in a particular station are too tricky, they will be disengaged because the educators cannot instruct them and give them prompt feedback immediately. Hamida (2021) illustrates that some students can complete the stations within a limited duration because of their proficiency in English. Still, some students with lower proficiency in English who cannot meet all the rotation tasks may not be engaged in their learning. She also stated that educators could solve this problem with more accessible and exciting lesson content to engage these students. Despite the Station Rotation Model being considered one of the famous and influential teaching models in facilitating different classroom activities, Station Rotation does not promise excitement in education (Mese & Dursun, 2019).

Gamification

Gamification is often referred to as using game elements in non-game situations to create enjoyable, fun, motivating, and engaging students’ learning experiences. It was invented in 2002 and appeared in educational technology literature in 2008 (Sailer & Homner, 2020). Gamification has positive impacts on student engagement from various aspects. The gamification elements often implemented in teaching and learning activities in the reviewed studies are points and rewards, leaderboards, and digital badges. Experts also carried out the adoption of gamification elements in non-game settings, including the field of foreign language learning (Urh et al., 2015). Gamification can improve students’ engagement and participation in an offline and online environment (Hew et al., 2016). Points, badges, leaderboards, challenges, even prizes, and rewards are some excellent examples of how game-like techniques are now being used in their learning by gamification. According to Dindar et al. (2021), gamification can give students a sense of achievement in finishing assignments or tasks with gamified elements. It has also been proven to boost engagement with badges that can be as simple as virtual ribbons, stickers, or prizes that learners earn to complete modules or tasks within the game assigned by the instructor in the classroom. Rodrigues et al. (2019) stated that points help players identify how far they are progressed through
a gamification experience. Badges can be used as virtual rewards for recording students' academic achievements in LMS and be received by an effort or achievement through content (Manzano-León et al., 2021). A leaderboard is a list of top scorers in a game for students to see their position instantly in gamified settings. It offers players a chance to social interaction in discussions around the game and the high scores (Rodrigues et al., 2019).

Gamification can transform tedious or difficult content into engaging and exciting learning experiences, letting students feel a sense of achievement and enjoyment in completing assignments or tasks with gamified elements (Hew et al., 2016). Hsu (2022) concludes that Gamification elements can encourage friendly competition among members, which continuously engages learners to join the activities depending on a series of gamified challenges and tasks, even if some students are not good at or have lower skills in learning. When students are willing to participate in the learning activities their teacher designs during the lesson, they can obtain joyful study experiences and outstanding engagement in learning. Students can surpass a goal, earn points, medals, ranking positions, and new challenges, or get other forms of recognition and reward to improve their engagement in learning. The gamified learning environment does not make well-performed students play happily, but engages all learners involved in the activities, including students with lower skills in learning. Gamification integrated into the Station Rotation Model is not a simple joy but to obtain deep engagement from learning.

**Methods**

**Participants**

The study participants were from one of the vocational colleges in the Heilongjiang province of China, named Heilongjiang College of Construction, in the second semester from March to August 2021-2022 academic year. The participants were chosen randomly from two classes the researcher taught, consisting of 32 students in the same major and with the same admissions criteria administration. During one semester of implementation with the new teaching model, the researcher, as a participant observer, can be better involved in the activities to observe learners with checklists or by LMS. According to the generalization model introduced by Firestone (1993), the population in the survey can be case-to-case transferability generalization because the researcher can provide detailed descriptions that allow readers or other researchers to make inferences about extrapolating the findings to different settings.

**Research questions**

To fulfill the objectives of the current study, the researcher proposed the following research questions:

1. What features of the station rotation and gamification approach can be integrated into LMS to improve students’ engagement in English learning?
2. What effect do the station rotation and gamification approach have on students’ engagement in English vocabulary learning?

**Data Collection and Analysis**

Based on the research questions, the researcher will use observation, students’ self-report, and interviews as the research methods. First is self-report; students will be provided with items reflecting different dimensions of engagement and select the response that best describes them. Self-report methods are beneficial for evaluating emotional and cognitive engagement, which are
not directly observable and need to be observed from their behaviors. One problem with self-report measures is that students may not answer honestly in some conditions, and self-reports may not reflect their actual behaviors (LI, 2021; Alotumi, 2021). To minimize the weakness of self-report, the researcher will also conduct observation and interviews to see overall student engagement. Observation is helpful to researchers in a variety of methods, which can offer the researchers different ways to examine students' behavior, participation in the tasks, time on the assignment or their nonverbal expressions. Third, an open-ended interview is conducted online through the ZOOM meeting cloud and offline classroom. The researcher will interview three categories of participants who are not performing, usual, and acting in this experimental group. Since these participants are the ones who have been experiencing Station Rotation with the Gamification model, which is generally a topic that the students enjoy talking about their feelings, satisfaction, and perception, it makes sense that they would be the ones interviewed in this study. For data analysis, the findings were triangulated with students’ views discussed earlier in the first and second research questions for in-depth results. Students’ answers and learning patterns were coded and categorized into themes related to the research questions.

The study was based on engagement theory and adopted a station rotation model, but the researcher did it online and incorporated gamification. The research designed four stations: a game station, a listening and speaking station, a collaborative station, and an offline/independent station. Students need to rotate and participate in the four stations for English learning. The researcher designed different topics supported by additional activities with gamification to engage students in English learning. The activities in the four other stations are designed and involved in Relate, Create and Donate. A collaborative station is developed due to Relate, and the independent station is organized in terms of Create.

Moreover, the listening & speaking and game stations are designed according to Donate. one group rotates among the four stations within 20 minutes and joins the learning activities with gamification. In the listening and speaking station, students are expected to hear more, enjoy these attractive listening materials and complete the assignment within 20 minutes to exercise their listening skills. Students who regularly achieve their tasks successfully and thoughtfully in this station are rewarded with points. In the collaborative station, students can work in a specific app to practice their spoken English, like dubbing for an actor or dialogue with a machine. They’ve got badges to encourage them to let it go. Students can do a “Words-Cut” game for vocabulary learning in the game station. When students quickly cut the correct word to match the image, the accent, or the meaning, they will get points. Students who earn the highest points can win the game and can be listed on the leaderboard. An independent learning station is for students’ offline and independent study. A teacher offers students group discussion, a passage reading, or a writing assignment in the offline station. To correct their writing instantly in an offline station, a kind of software named Pigai can be a good assistant that can help students mark the paper and make it right immediately. As a participant observer, the researcher observed students online and their behaviors and checked other data like their assignments by LMS.
Findings

Table 1. Features of the station rotation and gamification approach integrated into LMS to improve students' engagement

<table>
<thead>
<tr>
<th>Codes</th>
<th>Sub-themes</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper-based reading method</td>
<td>Variety of learning activities</td>
<td>Multisensory learning</td>
</tr>
<tr>
<td>Movies clips enjoyed</td>
<td>Visual and auditory design</td>
<td></td>
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<tr>
<td>Listening to English songs</td>
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<tr>
<td>Using softwares to memorize words</td>
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<tr>
<td>Sense of competition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don’t like independent station</td>
<td>Learning style preference</td>
<td>Personalized learning</td>
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<tr>
<td>Like listening station</td>
<td></td>
<td></td>
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<tr>
<td>Notes are given in the software</td>
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<tr>
<td>Having habits of memorizing words</td>
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<td>Self-learning</td>
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<tr>
<td>Discussions with group members</td>
<td>Interactive learning</td>
<td>Promote ownership</td>
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<tr>
<td>Get help from others</td>
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<td></td>
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<tr>
<td>Text with people in different stations</td>
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<td></td>
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<tr>
<td>Ask questions on the screen</td>
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<td></td>
</tr>
<tr>
<td>Felt relaxed and freedom</td>
<td>Recognition improved</td>
<td>Motivation boost</td>
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<td>Autonomy study</td>
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<tr>
<td>Enhance my enjoyment and interests</td>
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<td></td>
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<tr>
<td>Obtain confidence</td>
<td></td>
<td></td>
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<tr>
<td>Satisfaction</td>
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<tr>
<td>Points</td>
<td>Instant evaluation</td>
<td>Assessment richness</td>
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<td>Modals</td>
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<td>Test score ranking</td>
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<tr>
<td>Leader board</td>
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<tr>
<td>Level up</td>
<td></td>
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<tr>
<td>Rotate easily</td>
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<td></td>
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<tr>
<td>Software learning is convenient</td>
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</tr>
</tbody>
</table>

Table 1 provides the features of this innovative learning model, “What features of the station rotation and gamification approach can be integrated into LMS to improve students’ engagement in English learning?” Many themes emerged from their replies while summarizing the features, although students reported in different ways. The parts are concluded as Multisensory learning, Recognition boosts motivation, Promote ownership, and Leaning style preferences. At the same time, Table 2 provides some codes showing students’ engagement in three aspects like behavioral, cognitive and emotional engagement.

Table 2 Examples of codes showing students’ engagement in three aspects

<table>
<thead>
<tr>
<th>Codes</th>
<th>Student Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I’ve never been absent in every activity”</td>
<td>Behavioral engagement</td>
</tr>
<tr>
<td>“When I am involved in the task, I concentrate on myself.”</td>
<td></td>
</tr>
<tr>
<td>“I work hard to do my best in the lesson.”</td>
<td></td>
</tr>
<tr>
<td>“I start to use technology to assist my study.”</td>
<td></td>
</tr>
<tr>
<td>“I want to learn as much as I can, not only in the online”</td>
<td>Cognitive engagement</td>
</tr>
<tr>
<td>“I often set study goals based on the software to engage in the plan.”</td>
<td></td>
</tr>
<tr>
<td>“I can make full use of the learning methods after class.”</td>
<td></td>
</tr>
<tr>
<td>“I want to practice English every day.”</td>
<td></td>
</tr>
<tr>
<td>“Points and badges changed my learning attitude.”</td>
<td></td>
</tr>
<tr>
<td>“Learning is fun because I improve myself on something”</td>
<td>Emotional engagement</td>
</tr>
<tr>
<td>“I was excited when I won one point for my group.”</td>
<td></td>
</tr>
<tr>
<td>“I felt delighted and confident.”</td>
<td></td>
</tr>
<tr>
<td>“I can text the question on the screen anytime.”</td>
<td></td>
</tr>
</tbody>
</table>
Table 3. Effects of the Station Rotation and a Gamification approach integrated into LMS to improve students’ English engagement

<table>
<thead>
<tr>
<th>Effects on engagement</th>
<th>Sub-themes</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral engagement</td>
<td>Participation</td>
<td>Autonomy boost</td>
</tr>
<tr>
<td></td>
<td>Involvement in the task</td>
<td>Great achievements</td>
</tr>
<tr>
<td></td>
<td>Persistence</td>
<td>Mobil learning competence</td>
</tr>
<tr>
<td></td>
<td>Technology integration</td>
<td></td>
</tr>
<tr>
<td>Cognitive engagement</td>
<td>Attention</td>
<td>Cognitive energy</td>
</tr>
<tr>
<td></td>
<td>Time on tasks</td>
<td>Willingness to exert effort</td>
</tr>
<tr>
<td></td>
<td>effort and persistence</td>
<td>Relevance</td>
</tr>
<tr>
<td></td>
<td>goal orientation</td>
<td></td>
</tr>
<tr>
<td>Emotional engagement</td>
<td>Interests improved</td>
<td>Enthusiasm boost</td>
</tr>
<tr>
<td></td>
<td>Confidence and satisfaction</td>
<td>Self-efficacy</td>
</tr>
<tr>
<td></td>
<td>Happiness and Enjoyment</td>
<td>Communicative competence</td>
</tr>
<tr>
<td></td>
<td>Interactive feedback</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 is related to the second research question about the effects of this new learning model. “What effects do the station rotation and gamification approach have on students’ engagement in English vocabulary learning, including students’ cognitive engagement, emotional engagement and behavioral engagement?” From the interview, students reported their feelings and achievements to answer the second research question. By implementing station rotation with a gamification learning approach, students improved their engagement in English learning and felt interested, curious, and satisfied. In addition, students could rotate and be involved in the listening, speaking, reading, and writing activities quickly.

Discussion

The study aimed to shed light on the features and effects of the station rotation with a gamification model to improve students’ engagement in English learning. The following themes were extracted for developing such an innovative learning model: “Multisensory learning,” “Personalized learning,” “Promote ownership,” “Motivation boost,” and “Assessment richness.” Based on the results, multisensory learning is a significant theme with two sub-themes of “Variety of learning activities” and “visual and auditory design”. While providing answers to the first research question, “What features of the station rotation and gamification approach can be integrated into LMS to improve students’ engagement in English learning?” Students provided multiple points of view. First, when questions were asked like “What do you like the most about this teaching model?” Most students showed their preference and what they have learned in the online English class when participating and rotating the different stations. From their reporting, we can see the learning model can make students do multisensory learning. They can learn better with additional simulations, which aligns with the results of other studies, which showed that using appropriate images and visual clips or auditory materials is essential for improving students’ engagement (Rabiman et al., 2020). Considering the following replies, students enjoyed the visual and auditory material in different stations, which might result from their multisensory learning.

S1: “I think that the paper-based reading method is better, and I can also draw on it, improving my answering questions.”
S2: “I like listening to English songs and watching English movies, so I enjoy myself at the listening station.”
S3: “Using the software Baicizhan will arouse my interest and push me to play the games and learn vocabulary.”
S4: “Funny English dubbing can significantly enhance my enjoyment of learning English.”

When discussing questions like “Are these activities beneficial in supporting your learning process?” To answer research question one and find the features of this learning model. Standard replies from the participants are that they felt motivated and engaged in English learning, especially when they won the points and got a ranking under the gamification. They got satisfaction. “This new learning model makes me feel very novel, and I am very curious to complete these tasks.” Other replies viewed this learning model as a beneficial one. “I think it is very beneficial. The four stations can make me more motivated to study.” From their responses, we see students get the recognition boost their motivation. At the same time, as we all know, autonomy learning is more precise because it can be learned and improved upon as a cognitive and metacognitive ability by having specific knowledge and getting proper instruction (Hu & McGeown, 2020). Teachers need to lead students to boost their autonomous power in English learning. Both good skills and strategies are associated with English learners. One student shared, “For me, this learning method makes me more self-control and more motivated to learn.” Most students felt relaxed, autonomous, and enjoyed. The data describes that recognition boosts students' motivation. Twenty-seven times, they mentioned that they felt interested and engaged in this blended learning model. They thought they obtained knowledge, fun, and confidence. Some of the responses are from participants’ viewpoints:

When interviewing the participants combined with the observation, students showed their different interests in taking vocabulary quizzes, watching movies, and listening to songs or independent stations. In their words, some students liked to join the oral station to dub a video or participate in the listening station to enjoy a song. Other students preferred to play games in the vocabulary station. Students have preferences in the station rotation with the gamification learning model. However, most participants stated that “digital activities” are cool and funny.... gaming in the vocabulary is fantastic. In the response category, some students replied that they liked and engaged in participating the activities in listening stations. One student stated: “I personally like listening stations because it is fascinating to be able to complete listening comprehension questions while listening to songs.” Some considered “I think vocabulary station can help me develop the habit of memorizing words. When using the software Baicizhan, it will not be very boring.” However, few students showed their dislike in the read station, but they engaged in other stations. “I like this teaching method very much. It is divided into four sections for me to learn, which can make me study with high interest. This method is not boring. Despite the challenging reading station, I still love to rotate in different stations.”

Additionally, most participants agreed that the activities and materials in different stations were easily accessible during the time and in their location. One student shared that “staying at home and doing rotation study is so cool and relaxed. when I have a question, I can ask the questions on the screen randomly or ask group members for help, and I can text my teacher to get the solution.” Moreover, as a participant observer, I found that students had the flexibility to choose the materials offered in the stations because they could choose different topics and tasks with varying levels on the mobile platforms suggested by the instructor. Students’ qualitative responses
provided additional proof of these findings, with 26 students stating that they could connect with the stations, classmates, and teacher freely and efficiently to complete the tasks. For example, one student commented, “It’s not difficult for me to rotate among the online stations, and I am excited to see what activities I will challenge”.

Furthermore, over 24 students preferred to stay in their own space to join the lesson and do interactive learning with their group members because they felt relaxed and didn’t get much pressure. From their responses, it is clear that gamification elements include points, medals, or leaderboards. One student shared, “My progress is the driving force that encourages me to move forward.” Instant evaluations from the software can assess individuals fast and give them quick feedback. One student demanded, “When I finish the oral practice with the robots, the system can give me feedback instantly, then I can follow the standard and authentic English pronunciation can also improve my oral English.” A common problem encountered by students when completing the activities has to do with the reading activities. They faced plenty of vocabulary or words that appeared on the screen together. In one repose, a student suggested a solution to this problem. He asserted, “I hope the teacher can submit the reading materials before the lesson, it’s free for us to print or not. Because I got seriously near-sighted, reading on the mobile is difficult.” However, this might be helpful in the classroom. Also, having a physical problem is another problem. One student stated that “he got high near-sighted, and he felt headaches due to many online classes during the pandemic.” The researcher allowed him to read the materials when his eyes felt comfortable.

In attending to the second research question, “What effect do the station rotation and gamification approach have on students’ engagement in English vocabulary learning, like students’ cognitive engagement, emotional engagement, and behavioral engagement?” The present study’s finding are consistent with those of (Hew et al., 2016; Govindaraj & Silverajah, 2017), who found that station rotation and a gamification positively impact students’ engagement. The following themes were extracted for the effects of station rotation with gamification approach in improving student engagement: “Autonomy boost,” “Better achievements,” and “Mobile learning competence” for students’ behavioral engagement “Cognitive energy,” “Relevance,” and “Willingness to exert effort” for students’ cognitive engagement, “Enthusiasm boost,” “Self-efficacy,” and “Communicative competence” for students’ emotional engagement. Based on the findings, these major themes are fundamental and present the effects (Huang et al., 2022). According to the results, “autonomy boost” is the essential theme with two sub-theme of “participation” and “involvement in the task,” indicating that the students must participate in all activities and show their concentration in the lesson. Otherwise, it is not appealing and autonomous in the process of learning. The results are consistent with those of the study by Sahni (2019). He investigated the importance of participation and completing the tasks independently to show autonomy in learning. From two responses, “I’ve never been absent in every activity.” and “When I am involved in the task, I concentrate.” Halverson and Graham (2019a) stated that the indicators of behavioral engagement were considered as the sub-themes “involvement in the task.” Students' self-reports, “I work hard to do my best in the lesson.” and “because the interesting activities involved me.” also reflected students’ important involvement in the task and their autonomy learning were boosted. Persistence in the importance of education was considered a lower position than enthusiasm and is also a factor that may be higher online than in traditional settings. Students’ replies like “These tasks with leader board as gamification in speaking station pushes me to persist and get better outcomes.” and “The funny games in vocabulary station keep me learning, and I
can’t believe I remember so many words than before.” which can be found in Leon’s research. He stated persistence and effort were significantly related to students’ academic achievements.

Additionally, technology like mobile learning and gamification elements integrated into the learning process enhanced students' behavioral engagement, which was proved by (Govender & Arnedo-Moreno, 2020). “I start to use technology assist my study” demonstrated students would like to use technology for their online and offline learning experiences. In the study, the researcher made full use of digital technology to foster students’ engagement by using station rotation with a gamification approach and hoped learners could form modern learning methods in their English learning process.

Another theme extracted in the present study to know the effects on cognitive engagement was “Cognitive energy.” Considering this theme ensures that students’ cognitive factors contained sub-themes entitled “Attention,” “Time on task,” “Effort and persistence,” and “Goal orientation”. This innovative learning model made learners pay more attention to the activities when rotating stations because it refers to the learners’ interests. Students’ attention is a crucial construct while learning. Learners’ attention also plays an essential role in research on learning. Teachers must determine whether their students are attentive by considering visible cues. Based on their self-reports, “I am concentrated on the tasks in the vocabulary station due to the funny games,” “Dubbing the videos in the oral station can attract my attention.” “I am involved in listening to the music.” Fredricks (2016) illustrated attention is one of the indicators showing students’ cognitive engagement. The other “time on the task” sub-theme also presents students’ cognitive engagement. The researcher also observed that most participants spent time on the tasks carefully to complete the content and the assignment; moreover, students made more effort in the learning experience based on their persistence. One student replied, “I didn’t notice the time is up, and I feel the time is flying, especially when I am playing games in the vocabulary station.” showing the effects on students’ cognitive engagement. The findings are in agreement with those of the study by (Bergdahl et al., 2020), who investigated the essential and attractive functions used for promoting English engagement in a digital environment and found that the features of such learning model and technology used could influence the quality of the student’s perception. The researcher combined interview data with observation to determine the effects of cognitive engagement. One student responded in the interview, “I can adopt this digital or mobile learning method after class.” and another replied, “I want to learn as much as I can, not only online.” and “I would like to practice English over one hour every day,” which told us the other theme of cognitive engagement as “Willingness to exert effort.” The last theme for the effects on cognitive engagement is “Relevance” presented by (Filomena & Maria, 2015), which means the learning process should show the usefulness of the content so that learners can bridge the gap between content and the real world. One participant answered, “I often set study goals based on the software because they can help me to engage in the plan.” Other participants gave their responses like “I can use this learning method to learn as much as I can, not only online but also in offline, to engage myself.”, which better proved students’ cognitive engagement were improved due to “relevance.”

For the effects of this learning model on students’ emotional engagement, the theme “Enthusiastic boost” consisted of a sub-theme of “interests improved.” This sub-theme indicates that the learning model attracted students' interests. Learners can adopt various methods and approaches suggested in the lesson to sustain their interest. Students’ replies like “Learning is fun because I improve myself on something.” “Now, I am interested in English learning.” and
“Learning is fun and exciting, although it is full of funny challenges.” can prove these points. As a participant observer, the researcher saw some students were interested in getting points, badges, and leaderboards. Still, two participants didn’t show interest and are usually poor in English skills. For example, student A said he was not enthusiastic about having badges because he didn’t care about getting points. He scored below the class average on the exam. Most participants offered their ideas like “I was excited when I won one point for my group” “When members applauded to me, I felt delighted and confident. I was motivated by getting the points or badges.” “Points and badges changed my attitude and made me more engaged to join the activities.” “confidence” and “satisfaction” are the two sub-themes of self-efficacy. This finding is consistent with the study by (Halverson & Graham, 2019b), who found the sub-theme “confidence” focuses on developing success expectations among learners, and success expectations allow learners to control their learning processes. Learners will be satisfied with the achievements they made during the learning process. For example, “When I won one point for my group, I felt satisfied and confident.” and “I found an easy way to improve my English vocabulary, and I am confident in vocabularies learning.” Based on the findings, “communicative competence” is another theme with the sub-theme of “enjoyment” or “happiness” and “interaction with peers or teachers.” Support or guidance in the learning model allows the learners to resolve the problems they encounter in the activities of different stations on their own. They would like to ask questions or issues by the text chat box. Students’ replies like “I can text the question on the screen anytime.” “If I have a problem in understanding, I can text the question on the screen so that students and teacher who saw it can answer me.” and “I am a shy girl so that I feel embarrassed when face to face asking questions, but for the online lesson, I can post them on the screen and I feel relaxed and happy.” These findings are also emphasized in the study by (Tian & Zhou, 2020), who worked on the importance of interactive learning in improving students’ emotional engagement.

Conclusion
This paper began by improving students’ engagement in English learning in an online setting. The nature of blended learning and the diverse ways of combing educational technology-mediated instruction makes the ability to measure students’ engagement under online station rotation with a gamification model. This paper reviewed students’ engagement interventions and factors and found the features of this new learning model on improving students’ engagement and the effects on the three dimensions. The research results were in line with many previous studies. They discovered many benefits of station rotation and gamification by learning management systems by the end of the 12 weeks learning experiment. Findings indicate that the proposed learning model improved students’ English interests, boosted their motivation, and engaged students. Most participants were satisfied with this new learning model and anticipated using the offline classroom learning experience and increasing their learning skills to do their autonomous learning. It is recommended that English teachers incorporate gamification into the station rotation learning model by LMS to foster student engagement. But before doing that, teachers should be acquainted with the appropriate methods, apply these skills to the future classroom, and, most importantly, give students active and positive instruction to learn when they complete the activities in different stations. If teachers do so, students will feel more relaxed and satisfied with learning English more proficiently. Finally, it would be worthwhile for further research to be conducted to investigate the effects on students’ achievement by using station rotation with gamification to improve students’ engagement via LMS.
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Station Rotation with Gamification Approach

Xiangze & Abdullah


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Online Asynchronous Learning English for Specific Purposes Terminology

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Abstract
The pandemic and military actions in the country triggered our study in considering the challenges Ukrainian higher education faces referring asynchronous learning. We assume that the challenges are threefold - namely psychological, technical (availability of means for providing asynchronous communication and technological (scientifically grounded methods of quality asynchronous learning). In our study the focus is on the methods of asynchronous learning specialized terminology. The background of the research was the study of the literature concerning benefits and limitations of asynchronous learning and implementing online courses into the learning process. The purpose of this research was to prove the effectiveness of asynchronous learning specialized vocabulary with the help of the Moodle-based course. The aim was achieved by fulfilling the following tasks: literary review to study the benefits and limitations of asynchronous and synchronous learning for finding the most suitable mode of communication for the Ukrainian students, to design a Moodle-based course, to verify it in the experimental learning. The experiment was conducted in 2020 in the time of Covid-19 pandemic at the National Technical University of Ukraine, Igor Sikorsky Kyiv Polytechnic Institute, and involved seventy students of the Power Engineering Department. The research purpose of both the article and the experiment was to assess the effectiveness of the developed online simulator which included audio recordings of native English specialists' communication, interdisciplinary and industry-specific terminology, training tasks, and instructional guidelines. The outcome of the research proves the efficiency of applying an online simulator in the development of students’ professional competence in terms of adequate using interdisciplinary and industry-specific terminology.

Keywords: English for Specific Purposes, industry-specific terminology, interdisciplinary terminology, mediation, online asynchronous learning, terminological competence

Introduction

Education in Ukraine after the Covid-19 pandemic faces such extraordinary, even force majeure circumstances as the military actions throughout the country when most learners cannot continue their education in the classrooms. Such a situation requires the possibility of adjusting to the remote mode of education and predetermining the design of distance learning courses. This will enable learners to study effectively using online courses while staying at home or in a safe place. Therefore, we suggest the course for developing the terminological competence of students majoring in power engineering based on an online Moodle simulator.

The Common European Framework of Reference for Languages (CEFR, 2018) suggests the conceptual basis for the online course design specifying mediation as new strategy in learning foreign. Mediation occurs when there is an interconnection between various elements and spaces. Such a versatile interconnection may involve comprehension that is more efficient or evolving relations across boundaries and keeping away or sorting out conflict situations (Brian North, 2016), where the individual and the social aspects interrelate as the process of mediation combines the social and the individual elements (Swain, 2015). Considering the different aspects within the framework of which mediation is discussed in the CEFR (CEFR, 2018), we can outline four types of mediation: linguistic, cultural, social, and pedagogic as well as mediation of text, concept and communication. Our study focuses on linguistic, or better to specify - cross-cultural mediation, which is closely connected to translation and interpreting.

The rapid integration of the Ukrainian educational system into the global community is significant. Furthermore, the accelerated development of the current state of science and technology suggests a significant number of information transmission means, and a mediator plays an essential role in this course of events. Therefore, the function of cross-cultural mediation in economic, social, political and scientific cooperation between different countries keeps growing fast. Especially considering the significant changes the whole world community is experiencing today. The edited descriptors of the Common European Framework of Reference for Languages mediation include spoken interpretation and written translation (Section four), focusing on the crucial role of this type of activity in education (CEFR, 2018).

The advantage of online learning platforms is the ease of their involvement in the learning process. Furthermore, integrating new technologies and the concept of micro-learning into the ESP Syllabi development of courses to merge independent students' work enables the application of blended learning technology. After all, the main goal of modern education is to achieve the optimal balance between these two elements within the continuum, which is between maximum flexibility and maximum quality or "value" for students (Norm Friesen, 2012). The learning platform is a set of resources, tools and interactive online services for teachers, students, and other participants in the educational process; it is designed to support and empower education and learning management.

If we consider the training platforms in terms of licensing, we can divide them into open-source and commercial platforms. The most common examples of open platforms are Moodle, GoSkills, TalentLMS, Sakai etc. Commercial platforms include Udemy, SkillShare, Blackboard, Desire2Learn and Pearson LearningStudio. Educators can use open-source platforms to copy, modify and distribute the developed online courses with minimal licensing restrictions. Another advantage is that the courses can also be developed using supplementing individual modules depending on the needs of students. However, commercial platforms are more secure and reliable.
Another essential aspect of teaching ESP students majoring in power engineering is the new role of Ukraine in the European energy market. The question of synchronization of the Ukrainian power system with the European Network of Transmission System Operators for Electricity (ENTSO-E), the association for the cooperation of the European transmission system operators (TSOs), has been considered since 2017 (European Association for Cooperation of Transmission System Operators (TSOs), 2022). Due to an urgent request by Ukraine for emergency synchronization, the TSOs of Continental Europe facilitated the accelerated synchronization process in March 2022. This project became possible due to the previous research and the adoption of risk mitigation measures conducted by the Ukrainian power-engineering specialists (National Power Company, 2022).

Considering the importance of this event and the international cooperation involved, the aspect of cross-cultural mediation between future power-engineering specialists and their European colleagues is of great significance. It is also worth mentioning that ESP students majoring in engineering are highly motivated, as they understand their involvement in related professional activity. This fact stresses the importance of teaching professional terminology and developing terminological competence (Bakirova, 2021).

The research aims to justify the efficiency of the Moodle-based course for terminological competence development of ESP students majoring in power engineering at the National Technical University of Ukraine Igor Sikorsky Kyiv Polytechnic Institute. According to the main task of this study, the authors formulated the following tasks:
- to design a Moodle-based course,
- to formulate the corresponding system of exercises,
- to prepare and deliver an experiment, and finally,
- to process and analyse the obtained results.

The main research questions are what are the most effective methods for developing terminological competence among ESP students majoring in power engineering, and how does the development of terminological competence impact the academic and professional performance of ESP students majoring in power engineering?

Literature Review

Distinguishing benefits and limitations of asynchronous learning served as a prerequisite for our study. It is assumed that every distance or mobile learning process, where the tools of information and communication technology play a significant role, is called virtual or e-learning (Seresi, 2016).

Study of asynchronous and synchronous e-learning methods discovered that each supports different purposes (Chaudhury, 2023). Synchronous learning increased reflection and ability and distance mode learning increased motivation to process information (Azar, 2023). Stefan Hrastinski claims that communication related to the course content is essential for learning (Hrastinski, 2008). There exist three types of exchange - content-related, planning of tasks, social support. Not only types of exchange but learning strategies should be considered in the developing learning courses. As Antonia Berecz states “…regardless of paradigm shift, it is true that the learning strategies are based on learning techniques chosen according to the learner’s learning style(s)… teaching strategies are open systems; their application depends on the purpose and content of teaching” (Berecz, 2019, p. 10).
Learning strategies should be taken into account in facilitating asynchronous learning. Ways and methods to implement and facilitate asynchronous learning were suggested by Moorhouse, 2021; (Riwayatiningsi & Sulistyani, 2020); (Seresi, 2021). In choosing the trend, the strategy for designing the course, we followed the idea suggested by Bertalan Komenczi: “According to their typology, three main trends can be distinguished in today’s educational practice: the theoretical, qualitative approach (“the humanities approach”), the quantitative scientific method (“the science approach”) and the research focusing on system development (“the engineering approach”)” (Komenczi, 2013). In this study we mostly used the quantitative scientific method in justifying the validity of the developed course.

An activity report by the UNESCO Institute for Information Technology in Education analyzed learning platforms' key issues and limitations. The main points are funding, internal resistance, user competence and intellectual property security (UNESCO Institute for Information Technologies in Education, 2012-2013). The open platforms allow for levelling out the funding issue. The problem of internal resistance on behalf of the teachers and students accustomed to conservative teaching methods is getting sorted out by external circumstances, such as the Coronavirus lockdown (Singh, 2021). The most crucial issue of user competence and security of intellectual property remains unsolved (Maussumbayev, 2022). T. Welzer (Welzer, 2018) suggests that technology-enhanced learning offers untapped opportunities for learners, allowing them to introduce resources to other institutions (Welzer, 2018). The students could adopt a blended learning strategy for their learning processes (Alzahrani, 2023). Regarding the war conditions Ukrainian students experience these days, online courses left the only opportunity for them to continue their education.

Considering the importance of this event and the international cooperation involved, the aspect of cross-cultural mediation between future power-engineering specialists and their European colleagues is of great significance.

It is also worth mentioning that ESP students majoring in engineering are highly motivated, as they understand their involvement in related professional activity. This fact stresses the importance of teaching professional terminology and developing terminological competence (Bakirova, 2021).

Method

The applied methods used for the development of the Moodle-based course for the development of the terminological competence of power engineering students were as follows:

a) the educational process modeling under the conditions of online learning;

b) the analysis of modern scientific and pedagogical materials;

c) the usage of the mathematical statistics methods to process the obtained data;

d) delivery of anonymous surveys as the means of qualitative research to analyze students' and teachers' perceptions of the material (Ward, 2018); and

e) organization and experimental verification of the effectiveness of the developed methodology.

The hypothesis of the study was the assumption that the effective development of terminological competence of ESP students majoring in power engineering is possible using the online Moodle-based simulator.
Participants

The experiment was conducted at the National Technical University of Ukraine, Igor Sikorsky Kyiv Polytechnic Institute in 2020. The experiment involved seventy students of the power engineering department taking the last year of the bachelor's degree program. This number was calculated as optimum by applying the methods of mathematical statistics. In this case, the maximum permissible error did not exceed 3% (Gmurman, 2004). The developed simulator requires 20 hours of online learning.

Research Instruments

The power engineering and interdisciplinary terminology was a teaching material with an interdisciplinary focus on power engineering, ecology, physics, chemistry, and mathematics (1000 interdisciplinary and industry-specific terms and term collocations). The online simulator included audio recordings of native English specialists' communication, interdisciplinary and industry-specific terminology training tasks, and instructional guidelines. The designed course included three components.

The first-course component played a placement test, helping students check their knowledge level and develop their psychophysiological mechanisms (memory capacity, reaction speed, concentration, and listening skills). The criteria and scoring of the preparatory stage exercises are presented in Table one.

Table 1. Preparatory non-contextual exercises

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Score/word</th>
<th>Number of words/task</th>
<th>Total score/task</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reaction time when choosing an equivalent</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2. Number of reproduced lexical and terminological units in a particular order</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>3. Number of reproduced lexical and terminological units</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4. Number of reproduced lexical and terminological units after a specific time period (10-15 mins) (prolonged memorization)</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

The second component included exercises to develop students' terminological competence further to form their ability to mediate using interdisciplinary polysemantic and industry-specific terms. The training stage exercises types and scoring are presented in Table two.

Table 2. Training micro-context exercises

<table>
<thead>
<tr>
<th>Tasks</th>
<th>Score/unit</th>
<th>Number of units/task</th>
<th>Total score/task</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Translation of polysemantic terms by the given field of science</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>2. Translation of industry-specific terms</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>
3. **Level of switching pace (Ukrainian to English / English to Ukrainian)**

<table>
<thead>
<tr>
<th></th>
<th>Score/unit</th>
<th>Number of tasks</th>
<th>Total score/task</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

4. **Development of terminological competence within the micro context**

<table>
<thead>
<tr>
<th></th>
<th>Score/unit</th>
<th>Number of tasks</th>
<th>Total score/task</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>5</td>
<td>25</td>
</tr>
</tbody>
</table>

**Total**

|   | 20         | 40             |

The third part of the course allowed the practice of cross-cultural mediation skills within the power-engineering domain presented in Table three.

**Table 3. Micro and macro-context exercises for cross-cultural mediation practice**

<table>
<thead>
<tr>
<th>Task</th>
<th>Score/unit</th>
<th>Number of tasks</th>
<th>Total score/task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of terminological competence in the micro and macro context</td>
<td>5</td>
<td>8</td>
<td>40</td>
</tr>
</tbody>
</table>

**Total**

| 5          | 8          | 40               |

Further, we present the structure of the experimental studying in Table four (see Appendix A).

**Research Procedures**

The experiment procedure included training consisting of three stages: stage One – pre-experimental stage and organization of the experiment; stage Two – implementation of the experiment; stage Three – a final test and the obtained data processing and interpreting.

The authors focused on analyzing the effectiveness of the designed course based on interdisciplinary (chemistry, physics, ecology, and math terminology) and industry-specific terminology (power engineering). During the first stage, two experimental groups took part in a pre-test working with similar content. The tests helped identify the participants’ results. **Figure one** shows that the students of both groups had approximately similar marks.

**Figure 1. Pre-test results: EG1 – experimental group 1, EG2 - experimental group 2**
The second stage of the experiment involved both groups of participants while developing their terminological competence in working with interdisciplinary and industry-specific terms. Two groups of participants had similar tasks; however, the first experimental group, EG1, was not restricted by performance time so that they could work at their own pace. On the other hand, the second EG2 group had time constraints to perform the tests imitating the negotiation process of power engineering specialists.

The third phase of the experiment was a post-experiment that allowed measuring the participants’ efficiency and identifying the terminological competence development within the power engineering and interdisciplinary terminology of the overlapping scientific areas, including chemistry, ecology, mathematics, and physics. Finally, the authors assessed the effectiveness of the designed course and interpreted the results using the methods of mathematical statistics.

**Results**

The research purpose of both the article and the experiment was to assess the effectiveness of the developed online simulator for teaching ESP students majoring in power engineering and to conduct an experiment and interpret the obtained results.

As described above, the seventy ESP students of the power engineering department in the final year of the bachelor's degree program (the National Technical University of Ukraine Igor Sikorsky Kyiv Polytechnic Institute) participated in the experiment. Two experimental groups (EG1 and EG2) took part in the experiment to develop terminological competence using interdisciplinary terminology in chemistry, ecology, math, and physics and industry-specific terminology (power engineering). Both groups, EG1 and EG2, had similar tasks and were not limited in the number of attempts. However, EG2 was limited in time to perform the tasks imitating stressful conditions of actual negotiations involving power-engineering specialists. It should be noted that one of the critical challenges of online teaching is uncontrolled access to the Internet and translating techniques, which were the key challenges while delivering the tests (Monteiro, 2014). In this case, the time restriction for task performance helps address this issue.

The results showed that both groups had improved their performance (Figure two). If we compare the results shown in Figure one, it is quite clear that the participants of both groups showed higher scores. Moreover, the results of EG2 participants that had a time limit and, consequently, experienced more stress showed better results.

![Figure 2. Post-experiment test results of group One and group Two](image-url)
The comparison of Figures one and two suggests that the average score improved in both groups, proving the effectiveness and the need for integrating the online learning simulator applying interdisciplinary and industry-specific terminology for students majoring in power engineering.

**Discussion**

We see two directions while discussing the research results. The first aspect outlines the importance of developing the terminological competence of ESP students majoring in power engineering and considering the most effective methods for developing the competence, as mentioned earlier.

Discussing the first aspect, we would like to focus on the importance of the active involvement of power engineering students in cross-cultural mediation. The reason for this is a significant milestone for Ukraine within the context of the war and the accelerated synchronization to the European Transmission System Operators for Electricity (TSOs), leading to the collaboration with Ukraine under challenging circumstances (European Association for Cooperation of Transmission System Operators (TSOs), 2022). Furthermore, although the essential aim of ESP teaching is for students to acquire knowledge of industry-specific terminology and their basic concepts, it is rather challenging to teach the entire field-specific terminology (Hirsto, Enell-Nilsson, Kauppinen-Räisänen, & Keng, 2020). Therefore, developing students' terminological competence using interdisciplinary and industry-specific terminology helps to involve future power engineers in activities required to obtain industry-specific knowledge learning in such a way that the related scientific concepts behind the terminology.

It is worth mentioning that the mediation concept is multifaceted and, therefore, not entirely clear (Brian North, 2016). For this reason, Coste and Cavalli suggest a rather generic explanation of mediation, stating that the essence of the mediation process is to narrow the distance between the two elements, either distant from each other or in tension (Coste, 2015).

Regarding the second focus of the discussion, it seems reasonable to suggest that a Moodle simulator for developing terminological competence of power engineering students learning ESP can provide a significant number of tasks aimed at the abovementioned competence development. Online learning is an essential component of today's educational tendencies. It leads to an unavoidable shift of the traditional educational teacher-centred process perception (Kalay, 2020). An online simulator for power engineering studying ESP can compensate for the lack of classroom time.

The pre-experimental phase aimed to recognize the level of skills in listening, code-switching, psychophysiological mechanisms (memory capacity, reaction time, concentration abilities, etc.) (López, 2016), and the readiness to participate in the cross-cultural mediation process as a part of professional activity. The post-experimental test results were crucial to identifying the level of the development of terminological competence using interdisciplinary and industry-specific terminology. Both content and the criteria for results evaluation of the pre-and post-examination stage were similar to those of the experimental stage. Moodle's automated assessment system analysed the first two course parts. This system allowed almost all students' answers to be limited to "true/false" choices. Only the third part of the system required manual assessment.

Before the first stage of the experiment, the students had an introductory lecture in Zoom where the authors presented the critical concept of the online simulator and the detailed instructions. Afterwards, the students were thoroughly instructed on the course goals and informed about the time restrictions, activities involved, and the control and assessment process. The
Moodle platform assessment system allows checking not only student scores and progress in real-time mode. In addition, the instructor can check the student’s progress statistics. Every experiment stage included students’ Zoom meetings with the instructor to discuss the current course stage and be acquainted with the assignments’ structure and types.

Regarding the fact that the online learning process covers students' independent work, the participants worked remotely, performing the tasks at their own pace by applying the most suitable electronic means (personal computers, laptops, tablets, or smartphones). Furthermore, the training mode by applying an online simulator enhances students' motivation to study. The current research results reveal that this time the experiment participants did not experience significant problems working with the online learning course due to the lack of experience as before (Kolomieets, 2018).

The outcome of the current research study reveals that the online simulator for ESP students majoring in power engineering improves not only the development of terminological competence within the context of interdisciplinary terminology (in the field of chemistry, ecology, mathematics, and physics in our case) and industry-specific (power engineering) terminology, but also enhances the critical thinking and problem-solving abilities.

Conclusion

Such factors as the Pandemic, military actions taking place in Ukraine, the rapid integration of the Ukrainian educational system into the global community and the growing function of cross-cultural mediation in economic, social, political and scientific cooperation between different countries suggest that modern teaching technologies and online learning modes, particularly have become essential elements of the latest educational tendencies in Ukraine. The research proved the online simulator efficiency in teaching power engineering students of the National Technical University of Ukraine Igor Sikorsky Kyiv Polytechnic Institute studying ESP. Following the critical study objectives, the Moodle-based course to develop terminological competence in power engineering was designed; the methodologically viable system of exercises was developed, and the authors conducted the experiment and interpreted the results. The participants were divided into two focus groups to participate in the described experiment. Both experimental groups received the exact instructions and had the same tasks. It is essential to mention that they were not limited in the number of attempts. The second group, however, had limited performance time for the series of tasks imitating the real-time cross-cultural mediation process. Such cooperation with the power-engineering specialists is usually conducted under stressful conditions. The results suggested that the participants of both groups developed their terminological competence in ESP within the scope of interdisciplinary and industry-specific terms improving their mediating skills; however, the second group that worked under stressful conditions proved higher efficiency.

The experiment participants were encouraged to get involved in teacher-guided and independent work within the Moodle-based platform, improving their critical thinking and analytical skills. Furthermore, the recent synchronization of the Ukrainian power system with the European Network of Transmission System Operators for Electricity (ENTSO-E) increased the importance of the training of ESP students majoring in power engineering who will be new players in the integrated energy market. Therefore, an integration of the online simulator suggests an efficiency increase. It also improves the quality of teaching power engineering students. It facilitates the further development of their competence using interdisciplinary and industry-specific terminology at their own pace, suggesting the future engineers’ significant professional growth.
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References


## APPENDIX

Table 4. Structure of the experimental studying

<table>
<thead>
<tr>
<th>#</th>
<th>Task Name</th>
<th>Task Description</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stage 1. The degree of educational technique mastering is tested:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Reaction time when choosing an equivalent</td>
<td>1 point per 5 words</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>Number of reproduced lexical and terminological units in a particular order</td>
<td>1 point per 5 words</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Number of reproduced lexical and terminological units</td>
<td>1 point per 5 words</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Prolonged memorization: number of reproduced lexical and terminological units after a specific time period</td>
<td>1 point per 5 words</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Stage 2. Terminological competence development is tested:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Translation of polysemantic terms by the given field of science</td>
<td>1 point per 5 words</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>Industry-specific terms translation</td>
<td>1 point per 5 words</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>Level of switching pace (Ukrainian to English / English to Ukrainian</td>
<td>1 point per 5 words (the point is scored if managed to do the task within a particular time)</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Development of terminological competence within the micro context</td>
<td>5 points per 5 words</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Stage 3. Terminological competence development and mediation process:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Terminological competence development in micro and macro context</td>
<td>5 points per 8 tasks</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>
Challenges and Difficulties Faced by ESP Teachers in Teaching during COVID-19 Pandemic in Iraq

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Abstract
E-teaching quickly became an essential way for educational institutions and universities during the global COVID-19 pandemic, as teaching during the breakdown has brought education to a new level. The present study aimed to investigate the challenges and difficulties faced ESP teachers in online teaching during the COVID-19 pandemic in Iraq and also clarify the impact of the Covid-19 pandemic on changing the methods of teaching. The study is important to show the role of online teaching and the teachers’ barriers to online teaching. The study aims to answer the following question: Are there any challenges and difficulties faced the ESP teachers in e-teaching during the covid-19 pandemic? And what are the factors that cause these challenges and difficulties? The study is limited to ESP teachers at Al-Nahrain /College of political sciences during the academic year 2022-2023. The participants of this research are ESP teachers, who have been teaching English for specific purposes for years. Twenty ESP teachers were chosen randomly for this study. An online questionnaire and interview were designed by using Google Forms for this purpose. The data analyzed qualitatively. The results showed that there are many problems facing the ESP teachers in online teaching. These problems may be solved by acquiring training, technical skills, and the development of information and technology. The conclusion showed there are numerous challenges and difficulties face Iraqi teachers in teaching on-line.

Keywords: Challenges and difficulties, COVID-19 pandemic, ESP teachers, Google Forms, Online Teaching

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Introduction

Online education is a process of learning that combines distance education with the practice of face-to-face instruction through electronic devices (Harasim, 1989). It is flexible and provides a learning experience different than in the traditional way it helps educators to communicate through computers and World Wide Web (Ascough, 2002). The educational institutions in Iraq have directed that the learning and teaching process need to be from home since March 16, 2020 (Serin, 2022).

The way of teaching has changed since the Covid 19 crisis rose, whereas change forced all teachers to get used to the online classroom. The COVID-19 pandemic was an unexpected event in the world. The pandemic brings complex problems and difficulties in learning and teaching in universities and colleges. Most teachers have to move to online teaching directly with no training and tools; moreover, not all students and teachers have enough knowledge about e-learning management and how to use the platform programs (Naqvi & Zehra, 2020).

E-learning and teaching were not very standard in Iraq before the pandemic. Now it is the only method and technique used to reduce the knowledge void that appeared because of the effect of the outbreak. There is a lack of experience and effective planning of e-learning systems in most Iraqi universities (Crawford, Butler-Henderson, & Rudolph, 2020). Online teaching problems related to the lack of direct interaction between teachers and students, as not all teachers were ready to implement lessons from home (BBC, 2020). However; changing the methods of teaching from traditional to online was not an easy task (Atsani, 2020).

The pandemic has brought many changes to the educational system. Hasan and Bao (2020) stated online classes are considered one of the solutions and crucial needs due to institutional isolation during unpredictable times. Online teaching offers many advantages for both teachers and students. It provides convenience and flexibility for the learning and teaching process. The teachers and the students can hold the lessons from their places (Khazaal, 2021).

In Iraq, generally, many teachers weren’t ready to use technology in teaching online, because teachers do not have enough knowledge and experience of how to use online platforms like Google Classroom which was adopted in Iraq (Ameen & Willis, 2017). Online teaching is necessary in many ways, and it forces teachers to face a lot of challenges. In return, teachers should know how to overcome those challenges.

The present study aimed to investigate the challenges and difficulties faced ESP teachers in online teaching during the COVID-19 pandemic in Iraq. The current research addressed the following main questions:

- Are there any challenges and difficulties faced the ESP teachers in online teaching during the covid-19 pandemic?
- What are the factors that causing these challenges and difficulties during the covid-19 pandemic?

The study is limited to the ESP teachers at Al-Nahrain /College of political sciences during the academic year 2022-2023.

Literature Review

E-learning Education

"Education is the most powerful weapon you can use to change the world.” Nelson Mandela. Online education is getting information and knowledge through computers and other devices. Online
teaching is a flexible method that offers stimulating golden chances to expand the learning environment for varied student populations.

The COVID-19 pandemic is changing the way of teaching and learning from traditional to online globally (Watermeyer et al., 2020). The use of new technologies such as e-learning and teaching in Iraqi universities is limited, because the teachers and students are still not ready to accept the new method of teaching in such a short period of time (Ahmed, 2022).

Many changes have also been seen in the way of taking education due to technology. Today, the teaching-related material used in online education can be sent from one place to another through technology online.

Online education aims to give chances for all learners to get the required knowledge in an equal manner and to control their learning experiences. It helps students and teachers create practical and easily-accessible teaching and learning environment (Korkmaz & Toraman, 2020).

**The Importance of Online Teaching**

Online teaching and learning refers to the education process via the Internet. It includes real-time, anytime, and anywhere interactions. It has opened new doors for many people professionally.

The way we learn in our society is based on communication, and the existence of the Internet is changing the way knowledge work in the community. Online education becomes a part of the curriculum where the teacher is teaching, it makes the teaching and learning simple, easy, and more effective.

Kerras and Salhi (2021) tried to investigate the difficulties of Algerian students and the challenges of the educational systems of Algeria during covid-19 pandemic. The findings showed that covid-19 crises offer an unprecedented opportunity to increase the resilience of national education systems and transform them into equitable and inclusive systems.

**Strengths and Weakness of Online Teaching**

The shift from the face-to-face classroom to the online classroom came with advantages, but also with some, disadvantages. Online education and Internet training are the best ways to study or teach from anywhere in the world. Trang .T.T.L. (2022) clarifies in his study the advantages and disadvantages of online learning at a University in Vietnam during the Covid – 19 pandemic. A qualitative research design was used in this study to discover the students’ attitudes toward online learning in the pandemic era.

The results showed that online learning platforms are quite popular among all students across the country and all parties seem to adapt to this mode of teaching and learning. There are many benefits of online teaching.

1. Personalized Experience: Online teaching allows the teachers and the students to know each other more personally.
2. Flexibility: Learning and teaching can occur at times more convenient and productive for students and teachers. Teachers and students mutually decide when they are willing to invest in the study (Brown, 2017).
3. Accessible and Comfortable: Students and teachers can stay in their homes or any other place location and continue their education (Bijeesh, 2017).
4. Affordability: Online learning makes the education canal process in schools and universities much more accessible to most the population than to physical understanding knowledge.
5. Easy Communication: Online students have better opportunities to collaborate with classmates through virtual group work and meetings. The figure shows the challenges of online teaching, advantages and disadvantages of teaching online for teachers and students.

Figure 1. Challenges of online learning
Despite the many advantages of online learning, there are some disadvantages on its plate. Al-Kayed (2020) in his research, investigated the advantages and disadvantages of e-learning. About 227 subjects were randomly selected teachers in basic private schools in the Al-Jama’a district in Jordan, the results indicated that e-learning has advantages and at the same time it has disadvantages. The following are the disadvantages of online learning:

Social Isolation
Social isolation is a significant disadvantage of online teaching. As we know, e-learning becomes a source of isolation, because it offers students to study from home instead of in person.
There is no human contact, and socializing with peers can contribute to mental health problems (Ghoshal, 2020).

**Lack of Motivation**
Lack of motivation is severe matter among students. Some students find it hard to focus during online classes. The lack of teacher and student interaction can lead to problems with motivation and engagement (Martin & Bolliger, 2018).

**Unavoidable Cheating**
Through traditional teaching methods, most teachers can personally monitor students; the most significant disadvantage of the e-education process is cheating. Most of the students share their answers, knowing nobody was watching them.

**Focus on Theory Instead of Practice.**
Online learning can cause many problems for students, and there’s no hands-on experience like conducting experiments. The lack of development of communication skills would lead to students having theoretical knowledge only, so it is difficult for the teachers to know who understands the lesson and who is not.

**The Internet Connection**
To join online classes, students need a strong internet connection that they can type assignments on; they may face many technical problems, like slow internet, which may lead to delays in submitting the daily homework.

**Health-problems**
E-learning requires sitting on a computer for online education for many hours, which means that eyestrain, bad posture, and other physical problems may affect the learner's health constraints (Ghosha, 2020).

**Technological Limitations**
Another major problem of online classrooms is technological limitations such as internet access. It requires computer access, proper internet access, and basic computer skills to learn online effectively.

**Teacher Experiences**
In online teaching, teachers need to gain enough knowledge of using digital technologies. Generally, schools and universities need to train teachers with the latest technology updates. When teachers have not enough practice in online teaching, they won't be able to do the lack necessary skills.

**Costly Fees**
Regarding e-learning disadvantages, one of the most notable things is the cost. Online learning can become expensive for students who are stretched financially.
**Method**

The researcher uses a descriptive quantitative analysis design to investigate the teachers’ challenges and difficulties in e-teaching during the COVID-19 pandemic.

**Participants**

The participants were 100 ESP college teachers and university professors from different colleges at the University of Al-Nahrain in Iraq. Their age from 30 to 60 years consisted of 80 males and 20 females with additional years of teaching experiences as mentioned in Table One. There were 20 ESP college teachers selected as the study sample who teach English for specific purposes, and they had more than 10-15 years of teaching experience in the College of political sciences at Al-Nahrain University for the academic year 2022-2023. The teachers did not have any experience with online teaching before the pandemic.

**Table 1. The teachers' demographic information**

<table>
<thead>
<tr>
<th>Demographic Background F</th>
<th>N</th>
<th>Frequency %</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
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<td></td>
</tr>
<tr>
<td>Male</td>
<td>17</td>
<td>11</td>
</tr>
<tr>
<td>Female</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td><strong>Designation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Professor</td>
<td>8</td>
<td>7.3</td>
</tr>
<tr>
<td>Asst. Prof.</td>
<td>2</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>The teacher’s level of education</strong></td>
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<td></td>
</tr>
<tr>
<td>Ph.D. Degree</td>
<td>15</td>
<td>10.0</td>
</tr>
<tr>
<td>M.A. Degree</td>
<td>5</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Teaching Experiences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-10</td>
<td>3</td>
<td>6.0</td>
</tr>
<tr>
<td>10-15</td>
<td>5</td>
<td>8.7</td>
</tr>
<tr>
<td>15-20</td>
<td>12</td>
<td>9.7</td>
</tr>
</tbody>
</table>

**Research Instruments**

The study employed two instruments (a questionnaire and an interview) to determine the ESP teacher’s challenges and difficulties in conducting on-line teaching during the Coronavirus pandemic.

**Questionnaire**

The researcher used a descriptive survey questionnaire on Google Forms to measure the ESP teachers' challenges and difficulties in teaching online. The questionnaire consisted of two parts. The first part was collecting the personal information of the teachers. They must put down their demographic details (age, gender, and teaching experiences). The second part was an online descriptive questionnaire; it consisted of 12 of items, sent to the participant teachers through Google Forms. The items were about the ESP teacher's challenges and difficulties through e-teaching during the covid-19. The responses are categorized into 'Strongly Agree', 'Agree', 'Neutral', 'Disagree', and 'Strongly Disagree' with the scoring scales of 5 to 1.
The Interview

The researcher was used a semi-structured interview in this study, because it is valuable and suitable to know the ESP teacher's experiences implementing online teaching and the main problems and challenges they faced, the interview was conducted during the weekend. Teachers were asked to answer the interview questions entirely online, which were mainly about the challenges and difficulties faced by faculty members; it lasted for 10-15 minutes through Zoom. The interview consists of ten items relating to different aspects of online teaching during the COVID-19 pandemic. The interview checklist items are presented in Table Two.

Table 2. The ESP teacher's interview questions

<table>
<thead>
<tr>
<th>No.</th>
<th>The Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Does online teaching can cover the four English language skills?</td>
</tr>
<tr>
<td>2</td>
<td>Do you face particular problems in teaching online?</td>
</tr>
<tr>
<td>3</td>
<td>Do you have teaching online experiences before the coronavirus?</td>
</tr>
<tr>
<td>4</td>
<td>Do you think that teacher's and learner's interests, participation, and interaction through online teaching?</td>
</tr>
<tr>
<td>5</td>
<td>Do you have problems with technological equipment or devices?</td>
</tr>
<tr>
<td>6</td>
<td>Do you suffer from psychological and physical impacts through online teaching?</td>
</tr>
<tr>
<td>7</td>
<td>Do you think that teachers need to change their methods of teaching?</td>
</tr>
<tr>
<td>8</td>
<td>Do you think that time management is problematic for online teaching?</td>
</tr>
<tr>
<td>9</td>
<td>Do you think on line teaching is more interesting for students than face-to-face classes?</td>
</tr>
<tr>
<td>10</td>
<td>Do you face problems with the discontinuous supply of electricity?</td>
</tr>
</tbody>
</table>

Results

The study aims to explore the challenges and difficulties faced by ESP teachers via online teaching. The results were conducted from the questionnaire's items related to the first part; the demographic details of the ESP teachers were collected to know the teacher's personal information, such as, gender, designation, education, and teaching experiences as shown in Table One.

Based on the result of the first part of the questionnaire's items regarding the teachers' demographics information, it indicates that most of the teachers had a high level of education and more than 12 years' experience in teaching. It is noticed from table three, in Appendix (A) that most ESP teachers believe that Covid19 pandemic has changed the methods of teaching online. The responses (18.8%) strongly agree, (17.3%) agree, (1.2%) disagree, in item two, the answers were, (4.22) strongly agree, (5.71%) agree that online is more effective than classroom teaching, (6.11%) disagree, (1.0%) strongly disagree (1.10%) are neutral. In item three, the answers were (3.16%) strongly agreed, (4.22%) agreed, (6.10%) were neutral (6.10%) disagreed, (1.00%) strongly disagreed, in item four, the answers were (3.13%) strongly agree, (4.25%) agreed (5.11%) were neutral, (5.22%) disagree, and (1.0%) strongly disagree. In item five, the answers were (14.15%) strongly agree, (16.14%) agree (5.00 %), neutral (2.12%), disagree, no respondents for strongly disagree, in item six, the answers were (8.22%) strongly agree, (9.19%) agreed (2.00 %), neutral (1.19%) disagree, and no respondents strongly disagree, in item seven, the answers were (7.14%) strongly agree, (9.15%) agreed (3.11 %), neutral (1.12%) disagree, and no respondents...
strongly disagree, in item eight, the answers were (4.22%) strongly agree, (7.12%) agreed (1.18% ), neutral (1.12%) disagreed, and no respondents for strongly disagree. in item nine, the answers were (6.52%) strongly agree, (8.15%) agreed (2.00 %), neutral (1.22%) disagree, and no respondents strongly disagree, in item ten, the responses were (5.12%) strongly agree, (9.19%) agreed (2.12 %), neutral (2.16%) disagree, no respondents strongly disagree, in item 11, the answers were (4.15%) strongly agree, (8.17%) agreed (3.11 %), neutral (1.11%) disagree, no respondents for strongly disagree, in item 12, only (3.19%) strongly agreed, (6.17%) were agree (3.12 %), neutral (1.19%) disagree, no respondents for strongly disagree.

Discussion

The researcher collected the data and analyzed the results of the study: it was found that most of the ESP teachers believed that online teaching has changed the methods of teaching. The agreed responses were (18.8%), while (6.1%) were disagree with online, because they thought that regular face-to-face teaching are better than online teaching. We find that only (4.22%) agree that online education can enhance the student's and teacher's interaction, and (6.10%) disagree. Similarly, in response to question four, only (4.25%) agree that online teaching enhances students' motivation, while (5.22 %) disagreed. Some challenges were related to ESP teacher's knowledge of using computers and the internet, (16.14%) agree, while (2.12%) disagreed. The lack of computer and digital technology competency also was one of the teacher's challenges (9.19%) agree, (1.19%) disagree. The same result with the Networks connections, and low internet speed (9.15%) agrees and (1.12%) disagreed.

Teachers also suffer from time as (7.12 %) agree that have a problem in choosing a suitable time for online course design and online test preparation, (1.12%) have dis agreed. Another large group of respondents (8.15%) agreed that it is difficult for ESP teachers to follow up on the student's achievement through online,(1.22%) have disagreed .Another teachers responses (9.19 %) agreed that most ESP teachers had not got previous experience with online teaching before the Covid-19 pandemic, and only (2.16%) disagreed. The teachers also faced difficulties in keeping track of students, (8.17%) agreed, and (1.11%) disagreed. The last item related to the home environment (6.17%) they agreed, and only (1.19%) disagree; the remaining percentages revealed that most ESP teachers faced many challenges and difficulties with online teaching during the breakdown. However, the findings of the present study concluded that Iraqi ESP teachers face many challenges and problems in e-teaching during covid-19 pandemic.

The research is compatible with Kerras and Salhi (2021). They asserted that on line learning is problematic for the student and the teacher, the unavailability of computer equipment, the Internet connection, and the lack of an interactive database for the student, which made monitoring and evaluating the student almost impossible.

It is also supported by Trang’s (2022) research. He clarifies in his study the advantages and disadvantages of online learning. The results of his research show that despite the pros, such as convenience, cost and time saving, and teaching quality, online learning also brings back cons for students, namely isolation, technical problems, and cheating. All these are considered as the main factors that caused these challenges and difficulties.covid-19 pandemic.

Conclusion

Based on the research results and discussions, it is obvious the Covid-19 pandemic crisis transformed the teaching and learning process from offline classroom to online classroom. The
sudden change creates many challenges for the teacher to learn online. It concluded that the ESP teachers were challenged and had a negative impression of online teaching. Most of the difficulties and problems are related to network connectivity. There is the unavailability of solid internet access, no continuous supply of electricity, unstable internet access, lack of teaching material at home, lack of teacher's experience in using platforms, lack of internet access, need for a schedule, having a limited amount of time, difficulty in providing feedback timely, teaching procedure or strategies, learning activity, and the used material.

Moreover, interview results discovered that ESP teachers faced different challenges in implementing online classes, and they need support to solve these problems, especially with the electricity and the internet connection, which is considered the main problem in Iraq.

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References


Challenges and Difficulties Faced by ESP Teachers

Khazaal


1048-1055) . Institute of Electrical and Electronics Engineers (IEEE). DOI: 10.1109/EDUCON46332.2021.9453846


### Appendices

**Appendix A: Teachers' Questionnaire**

**Table 3. Teacher's responses to the questionnaire items**

<table>
<thead>
<tr>
<th>Questions Items</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do you think that Covid19 pandemic has changed the teaching methods?</td>
<td>18.8%</td>
<td>17.3%</td>
<td>2.06%</td>
<td>1.2%</td>
<td>0.00%</td>
</tr>
<tr>
<td>2. Do you think that online teaching is more effective for students than teaching in a classroom?</td>
<td>4.22%</td>
<td>5.71%</td>
<td>1.10%</td>
<td>6.11%</td>
<td>1.0%</td>
</tr>
<tr>
<td>3. Do you think that online teaching enhances student and teacher interaction?</td>
<td>3.16%</td>
<td>4.22%</td>
<td>5.18%</td>
<td>6.10%</td>
<td>1.00%</td>
</tr>
<tr>
<td>4. Do you think that online teaching enhances student's motivation?</td>
<td>3.13%</td>
<td>4.25%</td>
<td>5.11%</td>
<td>5.22%</td>
<td>1.00%</td>
</tr>
<tr>
<td>5. ESP teachers have not enough knowledge of using computers and IT skills to conduct online lectures.</td>
<td>14.15%</td>
<td>16.14%</td>
<td>5.00%</td>
<td>2.12%</td>
<td>0.0%</td>
</tr>
<tr>
<td>6. ESP teachers suffer from the lack of computer and digital technology competency.</td>
<td>8.22%</td>
<td>9.19%</td>
<td>2.00%</td>
<td>1.19%</td>
<td>0.00%</td>
</tr>
<tr>
<td>7. ESP teachers suffer from Networks connections and low internet speed.</td>
<td>7.14%</td>
<td>9.15%</td>
<td>3.11%</td>
<td>1.12%</td>
<td>0.00%</td>
</tr>
<tr>
<td>8. ESP teachers suffer from choosing a suitable time for online course design and on-line test preparation.</td>
<td>4.22%</td>
<td>7.12%</td>
<td>1.18%</td>
<td>1.12%</td>
<td>0.00%</td>
</tr>
<tr>
<td></td>
<td>Challenges Faced by ESP Teachers</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>ESP teachers unable to follow up on the student's achievement through online teaching.</td>
<td>6.52% 8.15% 2.00% 1.22% 0.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>ESP teachers did not have any previous experience in online teaching before the Covid-19 pandemic.</td>
<td>5.12% 9.19% 2.12% 2.16% 0.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Online teaching was challenging for ESP teachers to keep track of the students.</td>
<td>4.15% 8.17% 3.11% 1.11% 0.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Home environment is unsuitable for most teachers to teach via online classes.</td>
<td>3.19% 6.17% 3.12% 1.19% 0.00%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Online Learning is a City without Police: Influence of Proficiency on Libyan EFL Learners’ Perceptions

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Abstract
With the spread of COVID-19 and the replacement of face-to-face classes with emergency online learning, many studies have investigated English as a Foreign Language learners’ perceptions regarding their experiences of emergency online learning. However, the influence of EFL learners’ proficiency levels on their perceptions is still a neglected area. Conducting in-depth interviews with a group of Libyan EFL learners (n=18) by employing the Zaltman Metaphor Elicitation Technique, this study investigated their metaphorical perceptions regarding emergency online learning across the three proficiency levels of Basic, Independent, and Proficient Users according to the Common European Framework of Reference for Languages. Considering the large number of EFL learners around the world and the felt literature gap, this study investigated the relationship between EFL learners’ proficiency levels and perceptions. The three main features of online learning reflected in the participants’ metaphors were (i) lack of the teacher’s physical presence, (ii) lack of peers’ physical presence and (iii) lack of nonverbal communication cues. Furthermore, this study reveals a significant relationship between the learners’ language proficiency levels and perceptions. For instance, Basic Users perceived the lack of a teacher’s presence by metaphors of ‘unsafety’ and ‘fear’, while Independent and Proficient Users respectively perceived it by metaphors of ‘freedom’ and ‘power’. Accordingly, the learners reported different class behaviors and learning strategies in response to these features.

Keywords: English as a Foreign Language, Libyan EFL learners, online learning, perception, proficiency, Zaltman Metaphor Elicitation Technique

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Introduction

The spread of COVID-19 has changed every aspect of our lives, especially education. The transition of face-to-face classes to fully online classes – in an emergency response to the pandemic – has been one of the most researched subjects over the last three years with discrepant results. Some studies argue in favor of online learning such as its flexible and individualized nature (Gacs, Goertler & Spasova, 2020) or the positive home atmosphere reducing stress and fostering self-learning (Davis, Gough, & Taylor, 2019); while some studies report its negative impacts such as the existence of ‘family distraction’ (Dost, Hossain, Shehab, & Abdelwahed, 2020) or increased anxiety among students (Russell, 2020). One of the reasons for this discrepancy seems to be the wide range of the factors influencing online learning as well as the broadness of its research settings. The area of foreign language learning and teaching is by no means an exception. For instance, English as a Foreign Language (EFL) learners’ perceptions regarding their online learning experiences, as an important factor influencing their acceptance of online learning, has been subjected to many studies (e.g. Alavi, Dashtestani & Mellati, 2021; Cancino & Avila, 2021; Derakhshan, Kruk, Mehdizdeh & Pawlak, 2021; Barnhart, Li & Thompson, 2022; Laachir, El Hilali, Moubtassime, & El Karfa, 2023). However, the relationship between EFL learners’ language proficiency levels and their perceptions regarding online learning has not been given sufficient attention in the literature. For instance, Chinnathambi, Orabah, Rani, and Anandan (2023) in a survey on Omani EFL students noticed a significant relationship between the participants’ studied levels and their perceptions regarding online learning tools. However, further detailed insights into the nature of this relationship seem to be missing in the literature. Hence, this study was motivated to contribute to this field of study by investigating EFL learners’ perceptions regarding their online learning experience during the COVID-19 pandemic across various proficiency levels to answer the following research questions:

1. How is the emergency online learning experience perceived by Libyan EFL learners through metaphors?
2. What is the relationship between EFL learners’ proficiency levels and perceptions?

The findings of this study contribute to our understanding of the influence of proficiency level on the perception among EFL learners regarding online learning as an existing literature gap. This paper continues with a review of the literature followed by explaining the methods of the study, a presentation of the findings and discussion, and finally ends with the conclusion of the study.

Literature Review

Online Learning

Shifting from face-to-face classes to fully online classes during the current pandemic has not been a smooth and challenge-free process in many countries (e.g. Russell, 2020; Alavi, Dashtestani & Mellati, 2021; Derakhshan et al., 2021; Laachir et al., 2023), even though online learning is not a recent phenomenon and had been practiced in many developed countries before COVID-19 pandemic. For instance, Chen, Lou, and Luo (2001) noticed that “more than half of the colleges and universities in the U.S. are offering at least some of their classes over the Internet” (p. 38). However, it can be argued that the current pandemic has opened a new chapter in online education. Online learning before the pandemic was the result of the development of the necessary infrastructures and was offered based on the student’s needs (e.g. Chen, Lou, & Luo, 2001; Horspool & Lange, 2012). However, the transition to online learning during the pandemic has been
Online Learning is a City without Police: Influence of Proficiency

Imani & Elasfar

an emergency response to the need for continuing teaching and learning and at the same time maintaining the safety of students and educators even when the necessary infrastructures and preparations were lacking (Gačs, Goertler & Spasova, 2020; Payne, 2020).

Even though a large body of research has been dedicated to emergency online learning, considering the vastness of its educational settings and influencing factors, research in this area is still scarce. One of the areas of interest to the researchers is the area of foreign language learning as it is highly dependent on classroom interaction. In this regard, the majority of the studies agree on the limited nature of online interaction as compared to face-to-face interaction. For instance, Russel (2020) has argued that one of the main challenges faced by Georgian EFL learners in online classes is ‘anxiety’ resulting from feeling isolated and disconnected from their teachers and peers. Cancino and Avila (2021) in another study also found poor interactions among peers and a lack of peer rapport as one of the major challenges among Chilean EFL learners. Derakhshan et al. (2021) found out that from Iranian EFL learners’ perspectives, online learning was mainly a boring experience due to a lack of peer interaction, teacher-student interaction, and interpersonal relationships. Laachir et al. (2023) regarding the challenges of online learning among Moroccan students reported: “The majority of respondents chose the lack of motivation and engagement as the main drawback of e-learning (59.1%), and the lack of physical interaction with instructors as the second most frequent challenge (56.8%)” (p. 43).

These and other studies have provided valuable insights into EFL learners’ perceptions of their online learning experiences; however, the influence of the student’s proficiency levels, as an important factor in EFL classes, seems to have been marginalized in the literature.

Metaphor Analysis

A metaphor is a figure of speech in which a word or phrase is used to introduce another word or phrase by implying some similarities between them when they are not in reality comparable. The use of metaphors in social sciences research was triggered by Lakoff and Johnson’s (1980) book ‘Metaphors we live by’ introducing Conceptual Metaphor Theory (CMT) asserting that metaphor both reflects and shapes our worldview, or the way we see the world. Since our worldview is the underlying factor influencing our behavior, analyzing metaphors enables us to have a clear understanding of people’s perceptions and behaviors making metaphor analysis a popular research methodology in various areas of social sciences and humanities, one of which is foreign language learning and teaching.

Metaphors and Foreign Language Learning and Teaching

CMT soon found its way into research on EFL learners’ perceptions regarding various aspects of their learning experiences such as their English teacher (De Guerrero & Villamil, 2002; Wan, Low, & Li, 2011), their motivation (Jin et al., 2014), and their language learning process (Fang, 2015). In this regard, CMT has provided the researchers with a strong theoretical background to understand EFL learners’ experience of language learning.

One of the mostly employed approaches in the literature is to elicit metaphors from the respondents such as employing the semi-structured prompt ‘A is like … because …’ – when A is the topic of the study (e.g. De Guerrero & Villamil, 2002; Wan, Low, & Li, 2011; Jin et al., 2014; Fang, 2015). However, as reported by many of these studies, this method has the following limitations: (1) using a one-sentence prompt does not provide an in-depth analysis of the responses, (2) some of the replies are not acceptable and need to be excluded due to lack of researcher’s
control on the data collection process, and (3) verbal prompt is not desirable for all participants as not all participants have a clear understanding of what metaphor is or own the necessary verbal skills to express their perceptions in the form of appropriate metaphors. Thus, this study employed Zaltman Metaphor Elicitation Technique as an appropriate replacement for this approach (Zaltman & Coulter, 1995).

**Zaltman Metaphor Elicitation Technique**

Unlike most of the studies on the metaphor that are only based on verbal communication, Zaltman Metaphor Elicitation Technique (ZMET) uses pictures to elicit metaphors. ZMET is based on the idea that a large part of communication occurs nonverbally. There is a lot of information that the respondents are not able to provide verbally either because a lot of our knowledge and understanding is in our subconscious mind, or many of us are not able to express our thoughts effectively and precisely. Since many of the factors influencing our behavior are below our level of conscious awareness, and since eliciting these factors is not simply possible by relying on verbal interviews, ZMET, by encouraging thinking about and searching for images related to the topic under study, brings these hidden thoughts to the surface (Zaltman & Coulter, 1995).

ZMET was initially introduced to investigate customers’ perceptions regarding advertising/marketing campaigns (e.g. Coulter, Zaltman, & Coulter, 2001). However, later it entered other areas such as education. For instance, Arunasalam (2018) used ZMET to study the ‘lecturer’s role’ both from students and the lecturers’ perceptions. In terms of online learning, Shearer et al. (2019), just a few months prior to the COVID-19 pandemic, conducted a study on the students’ perceptions regarding future online learning to find out that students desired (i) a “personalized and adaptive learning experience,” which is sensitive to their needs and preferences” and that they can be “highly autonomous,” and “in control of their own learning”; and (ii) “a collaborative and constructive process of learning” (Shearer et al., 2019, p. 12). Wu and Chen (2012) studied students’ perceptions regarding e-learning and the effects of their perceptions on their willingness to use e-learning. They found out that ‘perceived social interaction’ (i.e., communicating with peers and teachers) and ‘perceived least effort’ (easiness of e-learning) were among the desirable key features of online learning for the participants. Hence, considering the effectiveness of ZMET in providing valuable insights into students’ perceptions, it was employed to answer the following research questions to address the felt literature gaps.

**Methods**

This study was qualitative research due to the qualitative nature of the study which was an in-depth investigation of the respondents’ perceptions. The selected method for this study, as will be explained in Research Instruments, was the Zaltman Metaphor Elicitation Technique, due to its effectiveness in providing in-depth insights into the participants’ perceptions.

**Participants**

In total, 18 Libyan EFL learners were selected by employing purposive sampling. The participants were enrolled in a language institute in Libya in the academic year 2021-2022. The selection of the participants was based on their proficiency levels regardless of age and gender, which were not distinguishing factors in the study. The participants’ proficiency levels were: six participants studying at A1/A2 level (Basic Users); six participants studying at B1/B2 level (Independent Users); and 6 participants studying at C1/C2 level (Proficient Users) (ref. Council of
Europe, 2022, for the Common European Framework of Reference for Languages (CEFR) levels descriptors). The participants’ ages ranged from 27 to 43 years old, of whom 13 were males and five were females.

**Research Instruments**

A semi-structured one-to-one online interview was conducted with each participant using ‘Google Meet’ after explaining the purpose of the research and obtaining their consent. The interview sessions, which lasted for about one hour, were recorded and transcribed. One week before the interview session, the participants were asked to bring five pictures of their own choice that represented their thoughts and feelings about online learning. Adapting the ZMET procedure (Zaltman & Coulter, 1995), the interview comprised the following steps:

1. Storytelling: participants described the content of their selected images and how these images were associated with online learning.
2. Sorting task: participants were asked to sort their images into meaningful groups and to provide a label or description for each group.
3. Sensory metaphors: participants were asked to use other senses to describe what is and what is not a good sensory representation of online learning.
4. Construct elicitation: the laddering technique was used to elicit basic constructs and their relationships.
5. Most representative image and attribute: participants were asked to indicate an image which was the most representative of online learning, as well as the most representative attribute assigned to online learning.
6. Verbal description of missing images: participants described pictures that were opposite of the topic (i.e., what is not online learning, which in this case would be face-to-face learning).

**Data Analysis**

The collected data were analyzed qualitatively based on an adaptation of Braun and Clarke’s (2006) thematic analysis with the following levels: (1) Familiarization; (2) coding; (3) generating themes; (4) reviewing themes and generating a thematic map; (5) defining and naming themes; and (6) choosing extracts and producing the report. Data analysis was conducted by both the author and co-author to reduce the subjectivity of data analysis and to assure the credibility and trustworthiness of the findings. In this regard, we discussed our differences until we reached an agreement of 100%. Table one shows a sample of data analysis with reference to a few extracts from the participants’ replies.

<table>
<thead>
<tr>
<th>No</th>
<th>Participant/Proficiency level</th>
<th>Extracts from the participants’ replies</th>
<th>The image used</th>
<th>The generated theme/the feature of online reflected upon</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C/Basic User</td>
<td>Sometimes, it is just like being in a dark tunnel. There is no light, and I am not sure where I am. I hear teacher’s voice in the deep darkness, but I cannot focus on it because I cannot see his face or actions. In face-to-face classes, we could see the teacher’s face and actions. When I cannot see him, sometimes I cannot know what he wants me to do.</td>
<td>A dark tunnel</td>
<td>Lack of communication cues</td>
</tr>
</tbody>
</table>
So, I don’t answer him. I just ignore him and bring up the excuse of the internet connection.

A man who is alone on an island looking at the ocean

Lack of peers’ physical presence

Online is boring. Looking at a screen for two hours is not fun at all. I constantly daydream and miss what my teacher is saying. I feel like there is no one with me. I cannot see others. So, I am not sure even if my classmates are there behind their laptops. Usually, pair work takes much less time than a face-to-face class.

A bird flying out of a cage

Lack of teacher’s physical presence

In online classes, I am free to do the class exercises faster, or even to skip the whole exercise if I find it boring. I don’t have to follow the class most of the time… Our teacher does not see us and cannot check on our every move.

The research procedures in this study included: the selection of the participants, preparing them for the interviews, conducting the interviews, and transcribing the interviews at the data collection stage. Then, at the data analysis stage, the transcribed interviews were subject to a close analysis to identify patterns across the participants.

Findings

The 18 participants altogether brought 90 images to the interview sessions. However, as mentioned in Data Collection, Step Five, the participants were asked to indicate an image which was the most representative of online learning as well as the most representative attribute assigned to online learning (ref. Data Collection, Step five). Overall, three key features of online learning were reflected upon by the participants: (1) lack of teacher’s physical presence, (2) lack of peers’ physical presence, and (3) lack of nonverbal cues for communication. Table two (ref. Appendix A) illustrates the most representative image, the most representative attribute of online learning, and the most highlighted feature of online learning for each participant.

As Table two shows, significant patterns can be identified across the participants. Firstly, the only attribute of online learning across all levels was ‘loneliness’ due to a lack of peers’ physical presence. It seems that the participants at all proficiency levels enjoy the presence of peers in the class, the lack of which leads to negative experiences such as loneliness. Secondly, in terms of the lack of a teacher’s physical presence, there were more similarities between Independent and Proficient Users (representing intermediate and high proficiency levels) who respectively found the lack of a teacher’s presence more liberating and empowering, while Basic Users reported negative attributes such as ‘unsafety and fear’ for the same feature. This indicates Basic Users’ high dependence on the teacher’s presence. Finally, in terms of lack of nonverbal communication cues, there seem to be more similarities between Basic and Independent Users; however, as will be discussed, Independent and Proficient Users employed more similar problem-solving strategies to address this challenge.

Discussion

In answering the first research question, the findings of the study showed that emergency online learning was perceived variously by the EFL learners’ metaphors such as metaphors representing negative feelings of confusion (e.g., a dark tunnel); fear (e.g., an empty seat of a lifeguard on the beach); and loneliness (e.g., an empty room) as well as positive feelings of
empowerment (e.g., the Poseidon Trident, or an eagle with open wings); and freedom (e.g., a bird flying out of a cage).

In answering the second research question, further analysis of the findings of the study revealed a significant relationship between the student’s perceptions and proficiency levels. In this regard, negative feelings were mainly observed among the students with low proficiency levels; whereas positive feelings were mostly reflected by the students with higher proficiency levels. For instance, for Basic Users, the lack of their teacher’s presence in online classes was conceptualized by metaphors of ‘unsafety’ and ‘fear’, while Independent and Proficient Users respectively perceived the same feature by metaphors of ‘freedom’ and ‘power’.

According to the images provided by the participants and their verbal accounts of the images, online learning came with three main features (a) lack of the teacher’s physical presence; (b) lack of peers’ physical presence; and (c) lack of nonverbal communication cues, each of which will be discussed below.

**Lack of Teacher’s Physical Presence**

While this feature is the direct result of online learning limitations and led to lower class participation across all participants (Akbarpour Tehrani, Abdullah, & Imani, 2011), it did not necessarily have negative impacts on all. In this regard, there seem to be significant patterns across the students based on their proficiency levels. For instance, Independent and Proficient Users found the lack of a teacher’s physical presence as a positive factor creating a more student-centered learning environment where they were in charge of their own learning. On the contrary, Basic Users were more in need of the teacher’s presence as an authoritative figure in the class not only to provide guidelines, knowledge, and instructions but also to set class rules. For instance, Participant E (Basic User), with the image of a boat in the ocean, referred to the teacher’s authoritative role as a guide who provides knowledge and instruction, or as another instance, Participant A (Basic User), with the image of a city without police, referred to the teacher’s role as an authority who sets the class rules, similar to a police officer whose lack of presence creates chaos in a city. In other words, students with low proficiency levels were quite dependent on the teacher’s physical presence. Many studies agree that the teacher’s authoritative role as the leader and the guide is highly expected and perceived by learners as one of the requirements in EFL classes (e.g. De Guerrero & Villamil, 2002; Wan, Low, & Li, 2011), and lack of teacher’s physical presence has been found to cause negative impacts such as anxiety among students (Russel, 2020; Laachir et al., 2023). However, this challenge has not been investigated in consideration of students’ proficiency levels. In this regard, as the findings of the study show, students at low proficiency levels required the teacher’s guidance and control because they found themselves incapable of guiding themselves or controlling their own behaviors. As Hurd (2000) argues much of the planning in classroom-based learning is conducted by the teacher providing a structure, a support system, and constant checks on learning. This classroom-based support system is missing in online learning, which puts more responsibilities on learners. Hence, learners who are not developed enough to plan and monitor their own learning autonomously will experience ‘chaos, fear, unsafety, and loneliness’. Developing this level of autonomy requires years of studying and sufficient levels of proficiency which are mainly missing among students with low proficiency levels.

While the lack of a teacher’s physical presence was a negative and preventive factor among students with low proficiency levels, it was considered a positive, liberating, and empowering
factor for intermediate and high-proficiency learners, who were satisfied to be in control of their own learning. These students seem to have achieved the level of autonomy and development that enables them to take responsibility for and be in charge of their own learning. For instance, Participant H (Intermediate User), with the image of a bird flying out of a cage, stated, “in online class, I am free to do the class exercises faster, or even to skip the whole exercise if I find it boring. I don’t have to follow the class most of the time...”. The flexible and individualized nature of online learning has been reported in a few studies (e.g. Gacs, Goertler & Spasova, 2020; Payne, 2020; Alavi, Dashtestani & Mellati, 2021); however, again it has not been fully discussed in terms of students’ proficiency levels.

In terms of class behavior, the participants generally reported that class participation was reduced. Based on Akbarpour Tehrani, Abdullah and Imani (2011), it can be argued that it is the teacher’s presence that simply makes class participation compulsory, lack of which turns it into an optional activity. However, what the findings of this study add to Akbarpour Tehrani, Abdullah and Imani’s (2011) findings is that under non-compulsory conditions, the students avoided class participation for various reasons, which seems to be highly influenced by their proficiency levels. For instance, Participant E (Basic User) avoided class participation as she could not understand the instructions, “I cannot go further and so I have to stop there”; Participant A (Basic User) expressed constant distractions during the class, “I am constantly checking my Instagram and Facebook”. On the other hand, Participant N (Proficient User), with the image of a flexed arm, stated avoiding parts of the class to do something that he finds more useful such as “watch a short video about a word or check Google images when I am not sure exactly what it means such as ‘shortbread’, without the teacher stopping the class and asking me what I am doing on my phone,” or Participant M (Proficient User), with the image of Poseidon Trident, expressed being highly selective in doing class exercises, “I am free to do the class exercises faster, or even to skip the whole exercise if I find it boring.”. Hence, it can be argued that the lack of a teacher’s physical presence led to reduced class participation as compared with face-to-face classes; however, with different intentions across the proficiency levels.

**Lack of Peers’ Physical Presence**

The second feature of online learning was the lack of peers’ physical presence. Obviously, language learning is not an isolated activity as the main purpose of language learning is to communicate with others. Thus, one of the basic principles in language learning, which is the interactive nature of the classes, is compromised in online classes (Russel, 2020) mainly because online learning is generally marked with less interaction as compared to face-to-face classes (Horspool & Lange, 2012). Cancino and Avila (2021) found out that in online EFL classes, poor interactions with peers and lack of peer rapport negatively influenced the social presence of students. Similarly, in this study, according to some participants, their peers’ cameras were mostly off, and they did not feel their presence. For instance, Participant I (Independent User) stated, “It is like a dead city, there is no action here. The teacher is the sole speaker. You cannot hear or see your classmates. Face-to-face classes used to be vibrant like a big market. But now everyone is quiet, like a dead city”. Lack of peers’ physical presence was the only online learning feature which led to similar responses across all participants regardless of their proficiency levels. In this regard, all participants expressed negative feelings, particularly ‘loneliness’ and ‘boredom/lack of fun’ as the two main feelings assigned to the lack of peers’ presence.
In terms of class behavior, the lack of peers’ presence reduced class participation. It seems that students at all proficiency levels preferred peers’ physical presence for the interaction to make sense. For instance, Participant P (Proficient User), with the image of an island, stated, “The interaction does not feel real. Group work is not effective. Like you are shouting to or waving at the shadow of someone miles away”. Derakhshan et al. (2021) reported boredom as one of the main issues among EFL Iranian students in online classes, which was particularly due to a lack of peer interaction, teacher-student interaction, and interpersonal relationships. Barnhart, Li and Thompson (2022) also reported that 79% of students admitted to getting drowsy and/or falling asleep during their online classes. Hence, peer interaction seems to be necessary for EFL classes, a limitation that needs to be addressed in online EFL classes.

Lack of Nonverbal Communication Cues

Lack of nonverbal cues was the third feature of online classes which was found to be connected with the students’ proficiency levels. In this regard, the resulting ambiguity and confusion led to reducing class participation among low-proficiency students (Basic Users); however, it led to the development of some other language learning skills among intermediate and high-proficiency students (Independent and Proficient Users).

Listening comprehension is one of the most challenging skills in EFL classes, and students actively try to understand the messages (Goh & Vandergrift, 2021). One of the critical components of EFL classes to aid comprehension and interpretation of spoken language is a reference to nonverbal communication cues, the lack of which has proved to cause ambiguity and confusion (Chua et al., 2015; Batty, 2021).

Many studies have reported relationships among ambiguity tolerance, language learning strategies, and students’ proficiency levels. For instance, Batty (2021) argued that high ambiguity tolerance is a significant predictor of language competence and the use of learning strategies. Similarly in this study, students with low proficiency levels (Basic Users) were prevented from participating in the class as they simply could not follow some of the instructions for a lack of nonverbal communication cues. For instance, Participant C (Basic User), with an image of a dark tunnel, stated, “When I cannot see him [the teacher], sometimes I cannot know what he wants me to do. So, I don’t answer him. I just ignore him and bring the excuse of the internet connection”. On the contrary, Independent and Proficient Users showed employing various strategies such as “making some preparations before the class such as reviewing the next session’s lesson” by Participant J (Independent User); “trying to listen more attentively” by Participant K (Independent User); or “guessing the missed information” by Participant Q (Proficient User), as some of the strategies employed to compensate for lack of nonverbal communication cues in online learning. Hence, it can be argued that if the ambiguity in the class is within the students’ tolerance, it can yield good results and lead to students’ further development; however, if the ambiguity is beyond students’ tolerance, it will negatively impact their learning process.

In sum, firstly, the findings of the study reveal a significant relationship between proficiency level and perception Chinnathambi et al., (2023). In this regard, online learning was a more challenging experience for Basic Users causing anxiety (Russell, 2020), while it was a more liberating and empowering experience for Independent and Proficient Users due to its flexible and individualized nature (Gacs, Goertler, & Spasova, 2020) reducing stress and fostering self-learning (Davis, Gough, & Taylor, 2019) as well as encouraging student autonomy (Shearer et al., 2019). Secondly, in terms of classroom behaviour, at the first glance, online learning led to reduced class
participation among all the participants (Akbarpour Tehrani, Abdullah, & Imani, 2011); however, the nature and influence of this reduced participation on the EFL learners’ development were quite different across their proficiency levels. Basic Users avoided class participation due to the embarrassment of not being able to follow the instructions, while Independent and Proficient Users merely avoided unnecessary class tasks to focus more on what they found to be more useful to them. Thirdly, the only challenge which was similarly perceived by and influential on all the participants was the lack of peers’ physical presence, which led to feelings of loneliness and boredom (Cancino & Avila, 2021; Derakhshan et al., 2021; Barnhart, Li, & Thompson, 2022).

Conclusion
This study was an investigation of a group of Libyan EFL learners’ metaphorical perceptions regarding COVID-19 emergency online learning using ZMET interviews across the three CEFR proficiency levels of Basic User, Independent User, and Proficient User (respectively low, intermediate, and high proficiency levels) to see whether their proficiency levels had any impacts on their perceptions as a noticed literature gap. Firstly, as the findings of the study revealed, three features of online learning were significant to the participants: lack of teacher’s physical presence, lack of peers’ physical presence, and lack of nonverbal communication cues. Secondly, the participants showed significant patterns across their proficiency levels. The lack of a teacher’s physical presence was conceptualized negatively among students with low proficiency levels to show how dependent they were on the teacher’s presence not only as a knowledgeable guide to provide instructions but also as an authority to control the class and impose rules. However, High-proficiency students showed sufficient levels of autonomy and independence and even considered the lack of a teacher’s presence as a positive feature so that they could determine their own learning based on their own needs. In terms of peers’ presence, all students needed their classmates’ presence so that peer interaction becomes meaningful to them making the lack of peers’ presence a negative feature for all. The lack of nonverbal communication cues was conceptualized by metaphors of confusion among all students; however, the impact of this confusion was different across the students. For students with low proficiency levels, this confusion created a feeling of helplessness to reduce their participation in the class and affect their learning process. However, for Independent and Proficient Users, it led to the development of some language skills and learning strategies such as increasing ambiguity tolerance, listening more attentively, and preparing before the class. As a result, it is not easy to argue whether online learning has positive or negative impacts on EFL learners without taking into consideration their proficiency levels and other respective factors such as their autonomy levels. Hence, more research is suggested in this regard.

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References


Appendices

Appendix A: Online learning features

Table 2. The most representative image, the most representative attribute, and the most highlighted feature of online learning for each participant

<table>
<thead>
<tr>
<th>Proficiency Level</th>
<th>Participant</th>
<th>The most representative image of online learning</th>
<th>The most representative attribute of online learning</th>
<th>The most highlighted feature of online learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low (Basic User)</td>
<td>A</td>
<td>A city without police</td>
<td>Chaos</td>
<td>Lack of teacher’s physical presence</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>An empty seat of a lifeguard on the beach</td>
<td>Fear</td>
<td>Lack of teacher’s physical presence</td>
</tr>
<tr>
<td></td>
<td>C</td>
<td>A dark tunnel</td>
<td>Confusion</td>
<td>Lack of nonverbal communication cues</td>
</tr>
<tr>
<td></td>
<td>D</td>
<td>A dark room</td>
<td>Confusion</td>
<td>Lack of nonverbal communication cues</td>
</tr>
<tr>
<td></td>
<td>E</td>
<td>A boat on the ocean</td>
<td>Anxiety</td>
<td>Lack of teacher’s physical presence</td>
</tr>
<tr>
<td></td>
<td>F</td>
<td>An empty room</td>
<td>loneliness</td>
<td>Lack of peers’ physical presence</td>
</tr>
<tr>
<td>Intermediate</td>
<td>G</td>
<td>A boat on the ocean</td>
<td>Freedom</td>
<td>Lack of teacher’s physical presence</td>
</tr>
<tr>
<td>(Independent User)</td>
<td>H</td>
<td>A bird flying out of a cage</td>
<td>Freedom</td>
<td>Lack of teacher’s physical presence</td>
</tr>
<tr>
<td></td>
<td>I</td>
<td>A city of the dead</td>
<td>Boredom</td>
<td>Lack of peers’ physical presence</td>
</tr>
<tr>
<td></td>
<td>J</td>
<td>A series of connected roads with no signboards</td>
<td>Confusion</td>
<td>Lack of nonverbal communication cues</td>
</tr>
<tr>
<td></td>
<td>K</td>
<td>A silhouette of a head with entangled threads</td>
<td>Confusion</td>
<td>Lack of nonverbal communication cues</td>
</tr>
<tr>
<td></td>
<td>L</td>
<td>A row of cages</td>
<td>Loneliness</td>
<td>Lack of peers’ physical presence</td>
</tr>
<tr>
<td>High (Proficient</td>
<td>M</td>
<td>Poseidon Trident</td>
<td>Power</td>
<td>Lack of teacher’s physical presence</td>
</tr>
<tr>
<td>User)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>A flexed arm</td>
<td>Power</td>
<td>Lack of teacher’s physical presence</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>--------------</td>
<td>---------------------</td>
<td>-------------------------------------</td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>A man who is alone on an island looking at the ocean</td>
<td>Loneliness</td>
<td>Lack of peers’ physical presence</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>An island</td>
<td>Loneliness</td>
<td>Lack of peers’ physical presence</td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>A wavy ocean</td>
<td>Struggle for survival</td>
<td>Lack of nonverbal communication cues</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>An eagle with open wings</td>
<td>Power</td>
<td>Lack of teacher’s physical presence</td>
<td></td>
</tr>
</tbody>
</table>

Online Learning is a City without Police: Influence of Proficiency

Imani & Elasfar
Gamified English Language Learning in Ukraine: Critical Divide between Tradition and Innovation

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Abstract
The article aims to describe gamification and educational technologies integrated into English teacher education as impactful and novel practices in Ukraine. Therefore the study briefly reviews educational technologies and gamification research and presents empirical evidence from Kyiv National Linguistic University. Since Ukraine is determined to be in line with the world’s progressive tendencies and is striving for digital humanistic pedagogy, the significance of this study lies in proving that technology-assisted gamified English learning essentially transforms Ukrainian education and positively affects Ukrainian schools where the quality of English is on the agenda. The study’s central question addresses the benefits of gamified learning for building English proficiency in preservice teachers and developing necessary teacher competencies, projecting the effect on their in-service teaching at Ukrainian schools in the future. Collecting the data and carrying out the research employed mixed methods, engaging 43 future teachers of English in the 1st and 2nd years of training and 11 language instructors. The findings prove that the study is relevant and deserves further investigation for a successful application in English teacher preparation in Ukraine to make school classrooms motivating and engaging for enhancing English language education and reaching ambitious goals to meet the world’s standards in teacher training.

Keywords: Educational technology in Ukraine, English teacher education, gamification, gamified English language learning, Moodle

Introduction

In the epoch of digital technologies, foreign language teacher education worldwide faces rapidly changing teaching trends. Students, “labeled as digital natives” (Rahmani, 2020, p. 33), having been growing with technology since birth, lose interest in traditional resources and methods of teaching English, considering them dull and out-of-date, which increases unmotivated and slow-to-progress students (Mehrotra, 2019). To fulfill their learning potential, educators should develop new “strategies of cognition” (Semerikov et al., 2021, p. 42), updating teacher education programs and methodologies.

It is not a secret that many novice teachers employ strategies of university language instruction in their school classrooms as reliable, supposedly perpetuating tradition or promoting innovation. Today’s Ukrainian classroom is becoming increasingly technology-aware and attached to using apps and e-platforms in everyday life (communication with peers, entertainment, etc.); thus, adapting technologies for learning as appealing and beneficial has come to the attention of language educators.

Despite multiple challenges, a growing tendency to reevaluate the role of technology in learning is apparent in Ukraine. The COVID-19 pandemic questioned traditional education sustainability and urged immediate transformations. According to Bykov & Leshchenko (2016), preconditioned by Ukrainian teachers' insufficient technology literacy and implementation and under the pressure of the pandemic, Ukrainian education experienced “a crash course immersion” (Matvienko et al., 2021, p. 137) into technology integration (Ihnatova et al., 2021; Lazarenko & Ihnatova, 2022; Matvienko & Kuzmina, 2020; Semerikov et al., 2021; Spirin et al., 2021). The war in Ukraine began on February 24, 2022, and added dramatic vigor to the further exploration of ETs for resuming and continuing educational services (Galynska & Bilous, 2022; Tverdokhlebova & Yevtushenko, 2023).

However, changes in English language education in Ukraine stem largely from global developments. Affected by the worldwide aspirations toward “digital humanistic education” and for creating a “positively integrated reality” (Bykov & Leshchenko, 2016, p. 1), grammar rules and principles of foreign language structure taught while playing a game in an encouraging classroom seem to comply fully with them (Dichev & Dicheva, 2017; Humeniuk, 2023; Mehrotra, 2019; Myers, 2019; Pandey, 2019; Rahmani, 2020; Rojas et al., 2021).

The study intends to describe and analyze the benefits of technology-assisted gamified English learning in teacher training with the perspective of the practical application of the acquired expertise in Ukrainian schools. Resonating with the main aim of the study, related objectives are as follows: a). to identify the benefits of building language proficiency, b). to identify the effect of gamified learning on developing necessary teacher competencies, c). to explore students and teachers attitudes towards gamified learning.
Literature Review

Educational Technologies for Transformation and “Pedagogical Reality”

Since education is the vanguard of change, we expect it to pioneer adopting innovative technologies for its services and equip with the knowledge to operate them, significantly promoting further innovation in scientific and social domains. The role of ETs “in increasing the positive potential of cognitive field” (Bykov & Leschenko, 2016, p. 2) and in enriching and diversifying teaching methods is decisive (Humeniuk, 2023; Ihnatova et al., 2021; Koval & Avramchuk, 2016; Lazarenko & Ihnatova, 2022; Matvienko & Kuzmina, 2020; Semerikov et al., 2021; Spirin et al., 2021; Weisberg & Dawson, 2023). ETs integrated into most higher education institutions in Ukraine “ensure the modernization of the educational process” (Semerikov et al., 2021, p. 38). Teaching and learning with ETs enable education in both material and virtual reality, transcending physical boundaries (Bykov & Leshchenko, 2016; Cenejac, 2014). Bykov and Leshchenko (2016) introduced the term “pedagogical reality,” identifying its nature (p. 6) as overlapping “real and virtual spaces,” creating “conditions for spiritual and creative development of teachers and students.” In such a “pedagogical reality,” teachers and students collaborate, utilizing various electronic means, such as PowerPoint, social media, e-learning platforms, e-networks, blogs, and websites, which encourage student engagement and intensify cognitive activity, wherein positive emotions go hand in hand with learning hard in the classroom. (Bykov & Leshchenko, 2016; Semerikov et al., 2021).

All appearance, time-tested traditional teaching methods under the influence of ubiquitous technologies adjust to “pedagogical reality” to bridge the divide between tradition and innovation. In the long run, the new Ukrainian “pedagogical reality,” with its augmented focus on technology application, will lead to a critical departure from habit in educational services. The versatility and popularity of ETs persuade us that a further boost in technology for learning is inevitable, resulting in new emerging technologies (Cenejac, 2014; Hernandez, 2021; Humeniuk, 2023).

Gamification as Part of Emerging Educational Technology

Gamification employs game elements for better participants’ involvement in many fields of life; education is no exception. Lee and Hammer addressed the “gamification of education” (p. 1) as a remarkable phenomenon for motivation and engagement (Kim et al., 2009; Lee & Hammer, 2011). Other scholars defined games as a “product of technology” for learning, simulating reality to change education (Dichev & Dicheva, 2017; Kapp, 2017; Kim et al., 2009; Koster, 2004; Lazzaro, 2004; Rahmani, 2020). Humeniuk (2023) states that “gamification is impossible without technology” (p. 127), and Hernandez (2021) claims gamification is “an emerging technology” itself. The positive effects of gamification on cognitive, emotional, and social levels coincide with the results of ETs on learners on the same levels (Lee & Hammer, 2011). Gamification effectively works in the “tech-savvy” or “digital natives” classrooms familiar to them and is a friendly tool while teaching “technophile” students (Cenejac, 2014; Humeniuk, 2023; Kim et al., 2009; Rahmani, 2020; Rojas et al., 2021; Yanes & Bououd, 2019). Whereas Mehrotra (2019) focused on
the benefits of gamification technology for students, Myers (2019) explained how the evolution of gamification affected language teachers, eventually reaching maturity in language instruction (Pandey, 2019).

**Gamification Design Principles, Elements for Advantages in English Learning**

Considering gamification in English language education as applying the characteristics of games, there is an evident association with playing specific roles in a “non-game context” (Dichev & Dicheva, 2017; Kapp, 2017; Rahmani, 2020; Yanes & Bououd, 2019; Whybrow, 2015). The core principles in game design, such as *engagement, challenge, progression, and accomplishment*, integrate well into successful English classroom instructional design (Whybrow, 2015). The same principles also dictate the rules for effective technology-assisted gamified English learning (Lee & Hammer, 2011; Kapp, 2017; Whybrow, 2015). According to Lee and Hammer (2011), gamification design “employs game mechanics, dynamics, and frameworks to encourage the desired behavior of individuals” (p. 4). Judging by the experience of practicing teachers of English, *engagement, challenge, progression, and accomplishment* correspond to the intent of students and teachers of English to succeed and mingle with interactive fun and enjoyment, inspiring to improve the knowledge. Preparing students for real-life challenges and problem solutions through play elements essentially “reshapes the landscape” of English language learning (Cinejac, 2014; Dichev & Dicheva, 2017; Lee & Hammer, 2011; Rojas et al., 2021). In compliance with a game strategy where the player is a focal figure, the student-centered approach in language education has much in common (Pandey, 2019; Whybrow, 2015). Additionally, positive behavior, greater engagement, enjoyable experiences, and competition are expected and desirable outcomes, and typical gameplay elements (e.g., point scoring, competition, rules of play) grant them (Mehrorta, 2019; Yanes & Bououd, 2019).

Identifying the “game mechanics” constituents, challenges corresponding to the learning goals, an impact on learning style, a gain of language proficiency, and instant feedback ensure them and create a platform for experimenting with rules, emotions, and social roles during lessons (Humeniuk, 2023; Kapp, 2017; Pandey, 2019; Stott & Neustaedter, 2016; Whybrow, 2015; Yaccob et al., 2022).

As gamification helps students build a sense of local community and become part of a global community, the prestige of foreign language knowledge is evident (Cenejac, 2014; Rahmani, 2020).

While Myers (2019) is confident in the teacher’s growing creativity and collaboration with students during gamified teaching, Mehrotra (2019) warns that gamification should not turn education into a game in class but interweave game dynamics with hard work and a steady focus on education.
Method

The mixed methods research intends to study the impact of gamified learning on the English proficiency of future teachers. Constructing preservice teachers’ professional preparation is one of the challenging tasks of English teacher education because it implies acquiring knowledge of the language and learning how to pass it on to future students. Along with the main aim of the research to describe gamified English learning as cross-cutting and beneficial for proficiency in writing and speaking, the authors also address communicative, creative, critical thinking, and collaborative skills development as necessary teacher competencies. The anonymous survey provided data for qualitative and quantitative analysis.

Participants

The research was performed in the Germanic Philology Department at the English Phonetics and English Practice Chair at Kyiv National Linguistic University (KNLU) in the fall semester of the 2022-2023 academic year. The research engaged a sample group of 43 students – intending teachers of English in the 1st and 2nd year of study, majoring in “Philology” and “Secondary Education.” All enrolled in the class “Practical Course of Speaking and Writing English.” Eleven language instructors teaching these students English joined the experiment voluntarily.

Research Instruments

Aligning with the university syllabus and instructional design, students worked on the program thematical material: “The Geographical Situation of Great Britain” (1st year) and “Choosing a Career” (2nd year) in the “Practical Course of Speaking and Writing English” class. The authors agreed on not transcending the boundaries of the usual classroom environment - scheduled classes, without allocating additional time for meetings to avoid student stress.

Moodle became the platform for work for several reasons: it contains gamified learning elements: points, badges, opportunities for analytics, and competition. The platform sustains engagement through multiple operational features to optimize collaborative learning (Koval & Avramchuk, 2016). The survey completed the experiment. Teachers shared their experiences and views verbally. Students answered the following questions in writing.

- Do you feel more motivated when using ETsand gamified learning?
- Do you consider gamified tasks and Moodle effective for learning new vocabulary?
- Do gamified tasks help improve communication skills?
- Do you find Moodle and gamification effective for learning information and broadening your outlook?
- Are they advantageous for developing creative and critical skills?
- Is it beneficial for your writing skills improvement?
- Will you apply gamified learning in your classroom?
- Are you aware of gamification risks?

Moodle’s technical characteristics enabled recording class activities and reflecting on them
afterward.

**Research Procedures**

We organized the research into three stages. In the first preparatory stage, we discussed and agreed on design, technology, content, and gamified learning elements. The design comprised A- and B-Level activities with specific objectives, content focus, gamification elements, and expected outcomes. The A-Level tasks accommodated multiple choice, filling in gaps, true or false, matching word exercises, and work on online texts and dictionaries for vocabulary build-up. The prevailing asynchronous format on the A-Level allowed more independence on Moodle. The B-Level tasks addressed speaking and writing skills based on the vocabulary of level A. Brainstorming, mind-mapping, digital story plots, role-playing, team presentations and projects, and essay writing engaged synchronously more. Table one shows the instructional design exercised on Moodle.

Table 1. *Instructional design of gamified language learning on Moodle*

<table>
<thead>
<tr>
<th>Activity</th>
<th>Objectives</th>
<th>Types of Assignments</th>
<th>Gamification Elements for Motivation</th>
<th>Format of Work</th>
<th>Expected Outcomes</th>
</tr>
</thead>
</table>
In the second stage, we implemented the instructional design of gamified learning on Moodle in the class “Practical Course of Speaking and Writing English.” Completing the second stage required incorporating lower-order thinking skills on the A-level, such as remembering, understanding, summarizing, and progressing to higher-order thinking skills on the B-level: planning, composing, creating, and critically assessing the results. Both stages incorporated gamification elements: team and individual competition, scoring/grading, leaderboard analytics, assigning awards, and signs of recognition for best performance with synchronous and asynchronous work formats.

The third stage was surveying and analyzing students’ and instructors’ opinions.

Findings

Judging by research results, students in the 1st and 2nd year of study positively assess gamified learning on Moodle and consider it innovation and investment in their professionalism.

The percentage discrepancy between the 1st and 2nd-year students' perceptions is insignificant. Although the 2nd year students acknowledge the benefits of gamification more, which is explicable: they are more confident in English learning and better aware of the importance of new methodologies and techniques in teaching English. The survey shows that 83% to 88% of students feel motivated to study when using gamification and ETs, 83% to 94% consider gamification on Moodle effective for learning new vocabulary, 72% to 75% think they improve their communication skills, 72% to 100% find Moodle effective for learning information and broadening their mind, 78% to 99% developed their creative skills and logical thinking, 86% to 89% improved their writing skills, from 85% to 100% improved speaking. Judging by the feedback, students developed positive attitudes toward employing gamification and ETs in their future work (from 90.4% to 100%).

However, most respondents are unaware of gamification risks hidden well behind fun in the classrooms (the percentage of risk awareness is 5% to 10% between 1st and 2nd year).

According to the instructors’ opinions, they are more critical of students’ achievement in speaking skills (75%) but unanimously approve of effectiveness for learning vocabulary (100%) and creativity (100%). Instructors’ commitment to using gamification ETs is justified, and their understanding of risks is clear (100%). The survey results prove the effectiveness of using gamified tasks on LMS Moodle to develop a good command of English and professional competencies and dispositions (Figure one).
Students in their majority applied the words “pleasant,” “fun,” “exciting,” and ‘cool,” characterizing the emotional effect and the well-traceable positivity in describing learning as “productive,” “developing,” “motivating,” and “encouraging.” The students identified motivation, competition, social engagement, and training problem-solving and critical thinking skills as the advantageous elements of gamified English learning; engaged in the research showed better performance and attendance results.

From the instructor’s standing, gamified learning and ETs improve monitoring and assessment, student interaction for collaboration and feedback, flexibility in creating and adjusting course content, and instruction time management.

Discussion

Speaking about ETs as leverage for the modernization of education in Ukraine (Semerikov et al., 2021), it is evident that innovation confidently fights its way into education, specifically in English language learning. By its mission to connect the country to the rest of the world, the English language also serves as a medium for putting to practice the world’s best experiences. The humanization of education through gamified learning evinces the profound sensitivity of Ukrainian education to the educational orientations in other countries.

Intended to persuade that gamified English learning is potent and well-fitting in Ukraine's digital humanistic pedagogy framework, the research sustains the idea that the primary goal of gamification and technology for English language education to encourage positive attitudes to and greater engagement in language study, competition, collaboration, creativity, and pleasurable impressions, is justified and worth toiling on in teacher training as yielding good outcomes (Humeniuk, 2023; Rojas et al., 2021; Weisberg & Dawson, 2023; Whybrow, 2015; Yaccob et al., 2022). Gamification elements affect learners on the cognitive level, motivating the learners to develop their skills; emotional level, arousing a range of powerful positive emotions; social level,
providing a sense of community and improving communication skills (Dichev & Dicheva, 2017; Lee & Hammer, 2011; Rahmani, 2020). Educational technologies allow versatile work formats, which change Ukrainian schools consistently, deepening the divide from tradition (Ihnatova et al., 2021; Lazarenko & Ihnatova, 2022; Matvienko & Kuzmina, 2020). The interest in technology-assisted education, fueled by the digital awareness of modern students, reconditioned their positive attitudes toward gamified learning because of many advantages for English proficiency and developing the necessary competencies to be efficient educators (Rahmani, 2020; Rojas et al., 2021; Weisberg & Dawson, 2023; Yaccob et al., 2022).

In accord with the ideas mentioned above, the study results underscored first, Ukrainian students' and instructors’ preparedness and desire to embrace novelty; second, they proved the non-fading topicality of the authoritative research completed years ago, revealing adequate response to and further investigation of technology-assisted gamified English learning in recent publications.

However, along with the benefits of gamified learning, Lee & Hammer (2011) highlight some risks: gamification might absorb teacher resources or teach students to learn only when provided rewards; shifting to more fun than necessary is always a temptation. Regarding the avoidance of risks, the application of gamification requires more thorough planning and selecting classroom management strategies. Last, the teacher is challenged to keep the status of the pivotal teaching figure in the classroom with such powerful competitors as gamification technologies.

**Conclusion**

Keeping in mind that the main aim of the research is to address gamification and technology integration as a meaningful experience in English teacher preparation, the authors conclude that gamified learning is vital in multiple ways. With the potential to inspire, engage, and generate competition, it becomes an immediate constituent of many successful educational enterprises. Gamified language education benefits English learners because motivation and engagement improve English mastery. It also develops teacher competencies by simulating real-life situations via integrated educational technology. It compensates for the lack of native speakers and an authentic English environment. Technology-assisted and primarily considered a product of technology or emerging technology, gamified learning blends reality with virtuality within seconds, intensifies classes, mingles fun with work, turns impossible into possible, and ignites students’ interest in English. The research is substantiated and relevant because it contributes to further digitalization and humanization of English learning and requires profound attention to adjust to the current situation in Ukraine. Introducing novelty and initiating experiments in teacher education makes future English teachers staunch proponents and agents of transformation. Such professional dispositions will result in long-term and lasting effects on the quality of English learning at Ukrainian secondary schools.
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e-learning-leveraging-technology-improve-student-experience


Online Teaching Materials for Vocabulary Learning: Assessing Its Effects Among ESL Primary Students

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Abstract:
Recently, online vocabulary learning aids have been integrated into the curriculum to accommodate the new standards. This study investigates the effects of using online teaching materials for vocabulary development on ESL students in Perak's primary level. The perspectives of students regarding the use of these instruments are also investigated. The results of the pre- and post-tests will be analysed using independent sample t-tests, paired sample t-tests, and descriptive statistics due to the quasi-experimental design of this study. In addition, the results and improvement percentages are compared. The mean ratings and standard deviation of the questionnaires are examined descriptively. The qualitative data from the semi-structured interview session is summarised, classified, and coded using content analysis. The experimental group's paired sample t-test results were (t=-57.643, df=29, p.05) and (t=-16.389, df=29, p.05) for the control group. On the post-test, both the experimental and control groups demonstrated significant improvement (p=.000*). Nonetheless, the experimental group improved more than the control group (M difference = 21.47). To assist students in learning the proper vocabulary, online instructional aids are utilised. Additional research on the effectiveness of ESL primary students use of online instructional materials for language acquisition.

Keywords: online teaching materials, vocabulary learning tools, instruction, vocabulary learning, ESL primary students

Introduction
In Malaysia's Standard Based English Language Curriculum, vocabulary is acquired incidentally while the four primary English skills; reading, writing, listening, and speaking are being taught (SBELC). The target words are indirectly taught by the teachers, as they are illustrated in the language materials used, along with grammar and the sound system. As a result, there have been a few concerns or difficulties with vocabulary learning among students. One of the instances is figuring out the alternative meaning that may be taken into consideration for a word and its spelling. For students, this has become a challenge because they are unable to distinguish between the two. Students also have the tendency to use inappropriate vocabularies (Saadiah & Kaladevi, 2009). It is claimed that this implicit approach does not enable students to recognize and learn target words effectively.

Research Objectives
These research objectives are stated based on the aims of the study:
1. To examine how online teaching materials affect ESL primary students' vocabulary development.
2. To evaluate how ESL primary students feel about using online teaching materials for studying vocabulary.

Research Questions
These research questions are listed based on the study's objectives:
1. How does the use of online teaching materials affect ESL primary students' vocabulary development?
2. How do ESL primary students feel about online teaching materials for studying vocabulary?

Literature Review
According to Mohd Tahir, Albakri, Adnan, and Karim (2020), vocabulary knowledge is a worrying problem for students at school that requires an immediate attention. For instance, only 30 words (36%) out of the 120 words chosen from the SBELC specification document were marked as common words by students who took a New Word Test. Many students (64 percent) identified the remaining 90 words as unknown, demonstrating their lack of familiarity with the words the Malaysian Ministry of Education had assigned for learning. There is evidence that people are aware of the value of vocabulary instruction in language learning (Nezhad & Shokrpour, 2012). Thus, this can help students to learn English more effectively, resulting in a higher language proficiency. According to Wang and Yamat (2019), Malaysian students have yet to acquire the desired vocabulary size and master the English vocabulary as defined by the Malaysian Standard-Based Curriculum English syllabus, as evidenced by the fact that many of their respondents have vocabulary knowledge ranging from poor to intermediate levels. The results support the findings of AbManan, Azizan, and Nasir (2017), who found that Malaysian students had poor language skills and low (productive) to average (receptive) vocabulary levels, indicating the need for efficient vocabulary acquisition techniques.

Numerous studies, including those by Mohd Tahir, Albakri, Adnan, and Karim (2020), Luu (2012), Dimas (2011), Ketabi and Shahraki (2011), Hashemzadeh (2012), Mirzaei (2012), and Madrigal-Hopes, Villavicencio, Foote, and Green (2014), have demonstrated the efficacy of using teaching materials for vocabulary instruction with students of all ages, linguistic backgrounds, and
proficiency levels. The researcher is therefore interested in studying if online teaching materials for vocabulary acquisition would assist Malaysian English as a Second Language (ESL) primary students in developing their vocabulary knowledge within the setting of the Malaysian online distance learning environment. According to the researcher, extrapolating findings from earlier studies to Malaysian classrooms is erroneous. The outcomes of this research are anticipated to significantly advance the domains of language acquisition and educational technology.

The adoption of online teaching materials is also still considered as very slow. One explanation for this situation is the teachers’ preparedness to adopt such materials in their lessons. UNICEF (2020) noted that not all teachers in Malaysia are up to speed with emerging technologies due to a considerable digital gap between them, in which an overwhelming 86 percent of those teachers indicated that they needed support to deliver distance learning and developing online teaching materials.

Several studies have suggested that a Learning Management System (LMS) like Google Classroom, EdModo, and UPSI’s own MyGuru could be a catalyst for the use of online teaching materials in a variety of research settings (Dlalisa & Govender, 2020; Lasanthika & Tennakoon, 2019; Asamoah, 2018, Alhardy & Lally, 2017; Coleman & Mtshazi, 2017; Alghamdi & Bagaya, 2016; Coskuncay & Ozkan, 2013; Al-Adwan, Al-Adwan, & Smedley, 2013; Asiri, Rosnaini, Kamariah, & Ahmad Fauzi, 2012). However, these studies have concentrated on the use of an LMS as a whole and not exclusively on online teaching materials for English language vocabulary learning, as being emphasized by this proposed study. Furthermore, only one of these studies was conducted with a local (Malaysian) context; it is believed that the importance of a local context cannot simply be discounted as different contexts could offer insights, issues, and norms which are unique to that context.

This study concentrates on tracking students’ progress as they use online instructional resources to improve their vocabulary knowledge. The students’ attitudes towards using such materials will also be investigated.

Methods

The researcher employs online teaching materials that may help students acquire new words. It is suggested to use a quasi-experimental study approach. According to Creswell (1994), an experiment is a well-controlled activity. Thus, the participants must be as comparable as possible (Wallace, 1997). In terms of linguistic proficiency, the sample population used for this study is comparable. This is based on their Standard Three English language final test scores. This is to guarantee that the selected participants are at the same educational level (Standard Four), have the same level of language proficiency, and have the same experience or expertise so that the final computation is unaffected (Leedy, 1997). Participants in the experimental and control groups are from two distinct classes, do not interact with one another, and are therefore unrelated. Therefore, the process’ internal veracity is ensured. The participants’ pre- and post-test scores are contrasted to demonstrate how the experimental method altered their vocabulary scores.

A total of 60 ESL primary students in Standard Four are chosen for this research (2 groups). The effectiveness of the online teaching materials for assisting students in learning vocabulary is evaluated through the intervention. It also looked at how the students felt as they learned the target words. There are five research instruments used: A pre-test, online teaching materials, a post-test, a questionnaire, and a semi-structured interview. A questionnaire is used to get answers from a broad range of participants, while an interview is employed to get in-depth information about the
participants’ opinions, attitudes, and perceptions. Wallace (1997) recommended that the optimum approach is to combine these two techniques (interview and questionnaire) so that the benefits of each may be utilised.

**Participants**

412 learners in Standard Four participated in this research (10 classes in Standard Four) from two separate schools in the Ipoh and Batu Gajah suburbs of Perak. Only 60 students, 30 from each school or two classes; one group from each school are selected. Using a quasi-experimental research design, 30 students from one school are assigned to the experimental group, while another 30 students from a separate school are assigned to the control group. The control group is essential to keep track of the variables that jeopardize validity (Leedy, 1997). To choose the participants, a non-probability sampling technique is used (McMillan & Schumacher, 1993). These students are chosen as participants based on their overall language proficiency as measured by their achievement in the English language subject during their Standard Three year-end examination.

**Research Instruments**

*Pre-test.* A test to ascertain the initial vocabulary score of the participants.

*Teaching materials for vocabulary learning:*  
*Online teaching materials for vocabulary learning.* Five sessions of online vocabulary lessons using Google docs, Quizlet, and Kahoot! for the experimental participants.

*Face-to-face instructional resources for vocabulary acquisition.* Participants in the control group received five face-to-face vocabulary instruction sessions that included a pamphlet, worksheet, and task sheet.

*Post-test.* A proficiency assessment to establish the final mark for participants.

*Questionnaires.* This instrument is intended to learn more about how members of the experimental group feel about using online teaching materials to acquire new vocabulary.

*Semi-structured interview.* The selected respondents from the experimental group are utilised in the study. The objectives are to clarify questionnaire results and augment previously gathered quantitative data.

**Results**

**Descriptive Statistics**

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Mean Score (M)</th>
<th>Standard Deviation (SD)</th>
<th>M difference</th>
<th>Total improvement score (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test (N=30)</td>
<td>18.20</td>
<td>1.42</td>
<td>25.43</td>
<td>139.73</td>
</tr>
<tr>
<td>Post Test (N=30)</td>
<td>43.63</td>
<td>2.06</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Referring to Table 1, the Mean pre-test score for the experimental group was M = 18.20. M = 43.63 on the post-test demonstrates the group’s enhanced comprehension of the target vocabulary as a result of using online vocabulary learning resources. This indicates that the experimental group improved by 25.43 (M difference) between the pre- and post-tests. In addition, the cumulative progress score has increased to 139.73 percent.

Table 2. Pre- and post-test descriptive statistics for the control group

<table>
<thead>
<tr>
<th>Control Group</th>
<th>Mean Score (M)</th>
<th>Standard Deviation (SD)</th>
<th>M difference</th>
<th>Total improvement score (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test (N=30)</td>
<td>17.57</td>
<td>1.77</td>
<td>3.96</td>
<td>22.54</td>
</tr>
<tr>
<td>Post Test (N=30)</td>
<td>21.53</td>
<td>.90</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As shown in Table 2, the pre-test mean score for the control group was M = 17.57. Before taking the post-test, the group had examined the target words using conventional vocabulary acquisition strategies. The average score on the post-test was M = 21.53. The difference between pre- and post-test scores was 3.96 (M). The cumulative percentage of improvement is only 22.54 percent.

Table 3. Score comparison of the experimental and control groups' pre- and post-tests

<table>
<thead>
<tr>
<th>Group</th>
<th>Learners with an improved score (%)</th>
<th>Learners with a declined score (%)</th>
<th>Learners with a similar score (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>100 (30 learners)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Control</td>
<td>100 (30 learners)</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

According to Table 3, after using the online vocabulary teaching resources to grasp the target vocabulary, 100% of the experimental group's students were able to progress. Fascinatingly, between the pre- and post-tests, the test scores of every single student who learned vocabulary in the conventional manner improved. The experimental group scored higher than the control group, with a cumulative improvement rate of 139.73 percent compared to 22.54 percent for the control group.

Pre- and Post-test Independent Sample t-test
Table 4. Pre-test for the control and experimental group independent sample t-test

<table>
<thead>
<tr>
<th>Pre-test</th>
<th>Mean Score (M)</th>
<th>Standard Deviation (SD)</th>
<th>t</th>
<th>df</th>
<th>Sig. (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>18.20</td>
<td>1.42</td>
<td>-1.524</td>
<td>58</td>
<td>.133</td>
</tr>
<tr>
<td>Control group</td>
<td>17.57</td>
<td>1.77</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As shown in Table 4, the experimental group outperformed the control group, which achieved a mean score of M = 17.57, by achieving a mean score of M = 18.20. Currently, the mean difference (M difference) between the two groups is 0.63. According to the independent sample t-test, there is no statistically significant difference between the control and experimental groups' pre-test scores (t = -1.52, df = 58, p > .05). As a result, the pre-test scores of members of both categories are virtually identical.

**Pre-test for the Control and Experimental Group Independent Sample t-test**

Table 5. Post-test independent sample t-test for the control and experimental groups

<table>
<thead>
<tr>
<th>Post-test</th>
<th>Mean Score (M)</th>
<th>Standard Deviation (SD)</th>
<th>t</th>
<th>df</th>
<th>Sig. (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>43.63</td>
<td>2.06</td>
<td>-53.868</td>
<td>58</td>
<td>.000</td>
</tr>
<tr>
<td>Control group</td>
<td>21.53</td>
<td>.90</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5 shows that the experimental group performed better than the control group, with a mean score of M = 43.63 versus M = 21.53. At this stage, the mean difference (M difference) between the two groups is 22.1. The independent sample t-test also reveals a significant difference between the control and experimental groups' post-test scores (t= -53.868, df=58, p<0.05; t= -53.868, df=58, p<0.05). The post-test results of the participants in the two categories may be described as being vastly distinct.

**Pre-/Post-test of the Control Group vs. Pre-/Post-test of the Experimental Group: Paired Sample t-test**

Table 6. Pre- and post-tests for the experimental group were compared using a paired sample t-test

<table>
<thead>
<tr>
<th>Experimental Group</th>
<th>Mean Score (M)</th>
<th>Standard Deviation (SD)</th>
<th>t</th>
<th>df</th>
<th>Sig. (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test (N=30)</td>
<td>18.20</td>
<td>1.42</td>
<td>-57.643</td>
<td>29</td>
<td>.000</td>
</tr>
<tr>
<td>Post-test (N=30)</td>
<td>43.63</td>
<td>2.06</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to Table 6, the average pre-test score for the students was 18.20, while their average post-test score was 43.63. The mean difference (M difference) between the pre- and post-test is displayed below; it is 25.43. The paired sample t-test revealed a statistically significant difference (t= -57.643, df=29, p<0.05), which may have contributed to the experimental group participants receiving substantially higher ratings after receiving the experimental intervention.
According to Table 7, the mean score on the pre-test for the learners is \( M = 17.57 \), while the mean score on the post-test is \( M = 21.53 \). The results of the paired sample t-test indicate the existence of a statistically significant difference (\( t = -16.389, df = 29, p < .05 \)). After receiving the experimental procedure, those in the control group scored significantly higher (M difference = 3.96). However, the experimental group improved by 21.47 points more than the control group (M difference).

### Table 7. Pre- and post-test paired sample t-tests for the control group

<table>
<thead>
<tr>
<th>Control Group</th>
<th>Mean Score (M)</th>
<th>Standard Deviation (SD)</th>
<th>t</th>
<th>df</th>
<th>Sig. (2 tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test (N=30)</td>
<td>17.57</td>
<td>1.77</td>
<td>-16.389</td>
<td>29</td>
<td>.000</td>
</tr>
<tr>
<td>Post-test (N=30)</td>
<td>21.53</td>
<td>.90</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table 8. Analysis of the students’ questionnaires

<table>
<thead>
<tr>
<th>No</th>
<th>Item</th>
<th>Totally Agree</th>
<th>Agree</th>
<th>Unsure</th>
<th>Disagree</th>
<th>Totally Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>1.</td>
<td>The online applications to learn English words are easy to use</td>
<td>12</td>
<td>40</td>
<td>18</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>The online applications make learning English words easier for me compared to the usual ways I used in my classes earlier</td>
<td>10</td>
<td>33.3</td>
<td>17</td>
<td>56.7</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>I like to use the online applications more than the usual ways I used in my classes earlier</td>
<td>14</td>
<td>46.7</td>
<td>12</td>
<td>40</td>
<td>1</td>
</tr>
<tr>
<td>4.</td>
<td>The online applications are a good method to learn English words</td>
<td>18</td>
<td>60</td>
<td>11</td>
<td>36.7</td>
<td>1</td>
</tr>
<tr>
<td>5.</td>
<td>The online applications make me want to learn English more</td>
<td>14</td>
<td>46.7</td>
<td>16</td>
<td>53.3</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>The online applications are useful for me to</td>
<td>13</td>
<td>43.3</td>
<td>16</td>
<td>53.3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>7.</td>
<td>The online applications make learning English words more convenient outside of the classroom.</td>
<td>12</td>
<td>40</td>
<td>16</td>
<td>53.3</td>
<td>2</td>
</tr>
<tr>
<td>8.</td>
<td>I can remember the English words learned via the online applications better</td>
<td>13</td>
<td>43.3</td>
<td>14</td>
<td>46.7</td>
<td>2</td>
</tr>
<tr>
<td>9.</td>
<td>Using the online applications makes learning English words more fun</td>
<td>24</td>
<td>80</td>
<td>5</td>
<td>16.7</td>
<td>1</td>
</tr>
<tr>
<td>10.</td>
<td>Using the online applications makes learning English words less stressful</td>
<td>7</td>
<td>23.3</td>
<td>21</td>
<td>70</td>
<td>1</td>
</tr>
<tr>
<td>11.</td>
<td>Using the online applications helps me to become more confident in learning English.</td>
<td>11</td>
<td>26.7</td>
<td>17</td>
<td>56.7</td>
<td>2</td>
</tr>
<tr>
<td>12.</td>
<td>Using the online applications allows me to participate more in my English classes.</td>
<td>8</td>
<td>26.7</td>
<td>22</td>
<td>73.3</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>I enjoy using the online applications to learn English words.</td>
<td>21</td>
<td>70</td>
<td>9</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>I can learn English words better when I can learn them in multiple ways through picture, sound, definition, etc. in the online applications</td>
<td>22</td>
<td>73.3</td>
<td>7</td>
<td>23.3</td>
<td>1</td>
</tr>
<tr>
<td>15.</td>
<td>I will continue to use the online applications to learn English words in the future</td>
<td>23</td>
<td>76.7</td>
<td>7</td>
<td>23.3</td>
<td></td>
</tr>
</tbody>
</table>
Based on Table 8, participants in the experimental group had favourable opinions of the online teaching materials used in this study for the vocabulary classes. The outcomes of the study of the student surveys show this. According to the mean and percentage ratings, all of the student questionnaire's questions received a high percentage of "Totally Agree" (N=24; almost 80%) and "Agree" (N=22; roughly 73%) positive participant replies.

Table 8 also indicates that 24 students (about 80%) totally agree with the statement ‘Using the online applications makes learning English words more fun’ and only about 3% (1 student) of the participants stated that he or she is unsure of the same statement. It was clear from this that the students agreed with the affirmative remark made in their surveys. More than half of the students (approximately 60 percent) completely agree with the assertion that using online apps is an excellent way to learn English vocabulary, while just 11 students (or about 37 percent) disagree. This supports the findings. This demonstrates that the study's participants preferred to learn English vocabulary through online applications.

Table 8 also reveals that 22 students, or around 73 percent of the participants, concur that utilizing the online apps enables them to engage more actively in their English lectures. Additionally, 21 students, or around 70%, felt that utilizing the internet tools made learning English vocabulary less stressful. Only one participant, or around 3 percent of the participants, completely disagreed with the statement, “I like to use the online applications more than the usual ways I used in my classes earlier,” stating that they preferred to do things the old-fashioned manner. Furthermore, 2 students (about 7%) disagree with the statement that ‘The online applications make learning English words more convenient outside of the classroom’ and ‘I can remember the English words learned via the online applications better’. This demonstrated a very small representation of the negative perception for using the online applications to learn English words among the participants in this study as many of them preferred to use the online applications learning English words.

Analysis of the Semi-structured Students’ Interview

All the students indicated that they have enjoyed learning new words through online applications such as Quizziz, Quizlet, Padlet, and Mentimeter. Seven of them said they enjoyed them because it was fun to learn through these applications. In addition, three of them believed that these applications were easy to understand.

Moreover, two of them enjoyed these applications because they were colorful and contained animation, respectively. Not only that, one student each felt that these applications were enjoyable as they provided music and videos. One student each also revealed that these applications were helpful and enabled them to learn in different ways.

Apart from that, four students identified accessibility as the reason why they deemed these applications as helpful, with two of them mentioning about how they can access these applications as many times as they wanted to while the other two disclosing on how they can access these applications again to help them to further understand about the new words. Meanwhile, one student each suggested that these applications were helpful because they were interesting, fun, and enable the student to improve their English.

Furthermore, one student each mentioned that these applications were convenient since they were easy to understand, interesting and offered quizzes with answers. Not only that, one student also applauded the convenience of these applications, as students did not have to find the meaning of a word from a physical dictionary, and they can repeat a lesson through the applications.
if they have yet to understand it. However, all the students reported they were having issues in using the online applications. Majority of them (thirteen students) disclose their frustrations about their internet connection while using the online application.

Discussion

1. How does the use of online teaching materials affect the vocabulary development of ESL primary students?

The findings of the pre-test revealed no statistically significant difference (t=-1.52, df=58, p>.05), indicating that the vocabulary knowledge of students in both groups regarding the target words is comparable. Alternatively, the result of the same test shows a contrast for the post-test of both groups where the results are significantly different from one group to another representing there is a significance difference (t=-53.868, df=58, p<.05) in terms of their vocabulary knowledge after the intervention.

The results of the paired sample t-test also demonstrated a statistically significant improvement in the scores attained by the participants after the experimental treatment, with a mean difference of 25.43 between the pre- and post-tests (t=-57.643, df=29, p=.05). Even though the control group's paired sample t-test indicates a significant difference (t=-16.389, df=29, p<.05), the experimental group's improvement (M difference) was greater by 21.47 than that of the control group.

Similar to the control group, the experimental group demonstrated a significant improvement, with a mean post-test score that was 25.43 points higher than the pre-test score. Even though both groups demonstrated improvement, the experimental group's cumulative improvement score was 117.19 percent higher than the control group. According to Smaldino, Lowther, Mims, and Russell (2015), online teaching helps students enhance their learning and that utilizing online programmes to study target words has helped students expand their vocabulary knowledge. The current apps should be used to reinforce vocabulary words in a range of tasks so that they may be stored in long-term memory and rapidly recalled (Tahir, Shah, Shak, Albakri, & Adnan, 2021). Teachers must thus provide pupils more opportunities to practise their abilities and additional vocabulary tasks. According to Albakri, Ismail, Hartono, Tahir, Abdullah, Sarudin, and Zulkepli (2021), it takes students at least 10 repetitions to pick up new information, particularly when it comes to vocabulary.

The qualities of the online teaching materials added to its value as a tool for learning new words (Adnan, Karim, Shah, Tahir, & Ya Shak, 2021). When advanced information is obtained, pre-existing knowledge can be reassembled in a flexible way to match the demands of a new circumstance (Lasanthika & Tennakoon, 2019). As a result of employing online teaching resources as a medium to learn the target vocabulary, students were able to recall them better.

2. How do ESL primary students feel about online teaching materials for studying vocabulary?

The use of online applications to learn English vocabulary makes the process more enjoyable than it would otherwise be, according to the students who responded to surveys on their education. About 80% of them (24 students), totally agree on this item. Moreover, 23 students (about 76.7%) also totally agree that they will continue to use the online applications to learn English words in the future. They have indicated in the interview that they have enjoyed learning new words through online applications such as Quizziz, Quizlet, Padlet, and Mentimeter. Since they could explore a wide range of alternatives and learn by trial and error, students found the
Online apps to be quite engaging. This also encourages learners to engage in meaningful learning, which leads to active involvement (Luu, 2012). Meaningful learning was more likely to occur when they were engaged in active learning.

The experimental group, which was exposed to online teaching resources to acquire the target words, outperformed the control group. Online applications make studying more enjoyable, boost motivation when students' enthusiasm wanes, and encourage teamwork and collaboration (Dlalisa & Govender, 2020). 22 students (about 73.3%) stated that they agreed with the item using online applications allows them to participate more in their English classes which support the claim.

On the other hand, 2 students (about 6.7%) disagreed with the statement the online applications make learning English words more convenient outside of the classroom. Based on the interview, many of them (13 students) disclosed their frustrations about their internet connection while using the online applications. One of them also stated that he was having issues with the device that was used to access these online applications. In this case, not all students are fortunate to have high quality devices and strong internet connection. Teachers and parents should provide support as much as possible to help them experience learning using online teaching materials better outside the classroom.

The statement "I like to use the online applications more than the usual ways I used in my classes earlier" was, sadly, completely rejected by one student (approximately 3.3 percent). The students cognitive abilities will be strengthened and put to the test in this setting (Craik & Lockhart, 1972). Therefore, the target phrases will become ingrained in the pupils' long-term memory, making it simpler for them to recall them in the future.

**Summary of the Discussion**

The results of this study demonstrate that using online teaching materials to teach new vocabulary to ESL primary students is successful. Effective vocabulary activities can focus learners' attention to vocabulary items (Wang & Yamat, 2019). To boost retention, teachers are urged to concentrate on teaching the target vocabulary utilising online tools.

In accordance with other research (Dlalisa & Govender, 2020; Lasanthika & Tennakoon, 2019; Asamoah, 2018, Alhardy & Lally, 2017; Coleman & Mtshazi, 2017; Alghamdi & Bagaya, 2016; Coskuncay & Ozkan, 2013; Al-Adwan, Al-Adwan, & Smedley, 2013; Asiri, Rosnaini, Kamariah, & Ahmad Fauzi, 2012), the current study confirms that using online teaching resources is the most effective technique to teach vocabulary since it results in better vocabulary retention and acquisition. According to Tahir, Shah, Shak, Albakri, and Adnan (2021), vocabulary is improved to a greater extent when words are used often during vocabulary activities. To increase retention and the breadth of vocabulary learning, instructors are urged to give pupils a range of opportunities to encounter unfamiliar terms through well designed vocabulary assignments.

Utilizing online tools to aid pupils with memorization of the target phrases is a wise choice. Albakri, Ismail, Hartono, Tahir, Abdullah, Sarudin, and Zulkepli argue that in order to maximise students' learning potential, they should be encouraged to select the authentic content they like (2021). The primary ESL students, who belong to the technologically savvy generation, would have benefited from using internet tools to study the target vocabulary.
Conclusion

According to the study's findings, ESL primary students may acquire the relevant keywords by using online teaching resources. As a result of meaningful learning via the usage of web applications during English lesson, students exhibit a high level of word recall. They can correctly answer the post-test questions by retrieving the target words from their long-term memory. Teachers and curriculum designers should think about including suitable internet teaching resources during English sessions to improve ESL primary students' vocabulary mastery.

Recommendation for Future Research

Future studies may examine the results of teaching vocabulary to primary ESL students utilizing online teaching resources with a larger sample size. Differences in gender, family history, and race in terms of the sample's features may all be considered for future research.

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Online Teaching Materials for Vocabulary Learning

Tahir, Albakri, Mokhtar, Khalid, & Kussin


Affording Vietnamese EFL Students’ Critical Thinking in Video-Translation Tasks

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Abstract
Critical thinking plays a vital role in human life and is one of the core aims of educational systems worldwide. Thus, the present study explored strategies for providing opportunities for students to utilize and sharpen their critical thinking as much as possible while taking a translation course. To its end, the present study was guided by the significant question: How much do students’ necessary thinking skills appear to evolve over a translation course? Participants were 39 students of English as a foreign language (EFL) registering in a regular translation course. The present study applied reflective essays written individually as post-class assignments once per two weeks, and thus five reflections each participant had to write over the 10-week translation course attached with video-translation tasks. For measuring improvement in critical thinking manifested by participants over the course, the quantitative discrepancy between the first reflection as an outset point and the fifth reflection as the end point of the intervention course was computed. Obtained results are positive regarding students’ critical thinking manifested in wide discrepancies and linguistic acquisition laid out in creative English uses. Thereby, pedagogical implications and further research on relevant issues are addressed.

Keywords: action plan, critical thinking, EFL, L2, reflection, translanguaging, translation task

**Introduction**

In second language (L2) education and EFL instruction particularly, the existing literature has documented research involving different instructional tasks to deliberately support learners’ critical thinking (CT) development along with target language acquisition. For instance, literary texts were used to boost CT for first-year EFL students in Algeria (Ouhiba, 2022), the project-based approach was applied to stimulate EFL majors’ creative, critical thinking, and interational skills (Sakae, 2022), English listening and speaking were practiced to enhance CT (Yang et al., 2013), in-class debates (Fahmeeda, 2020; Majidi, Janssen, & Graaff, 2021), and English writing skills (Behdani & Rashtchi, 2019; Qin & Karabacak, 2010) were also deployed to foster this type of thinking for argumentation, while Gunawardena, Sooriyampola, and Walisundara (2017) used textbook reading activities to raise EFL learners' thinking skills. These pertinent studies confirmed the positive outcomes in enhancing learners’ CT and called for further research in the field. However, as far as the researcher of the present study observed, no previous investigation has so far incorporated translation tasks expressly to facilitate EFL students’ CT. The absence of video-added translation tasks utilized for promoting the concerned skill adds validity to the present study because no single pedagogical approach or technique is deemed to equally and ideally fit all sorts of language learner individual differences associated with standard variables of individual needs, interests, desires, beliefs, and educational backgrounds in all socio-cultural learning settings/environments (Dörnyei, 2005; Kovač, Cameron, & Høigaard, 2016; Olsen, Spieler, & Kovač, 2018; Treffers-Daller et al., 2020). Therefore, in general terms, it is necessary that teachers and classroom practitioners, as part of their continual professional growth in expertise, should knowingly reflect on and try out alternative instructional techniques compatibly functioning in specific situations to potentially benefit learners at best, especially when it comes to the constant demand of bilingualism in actual use typically found in such contexts as in the EFL translation task classroom for both didactics and social interactions. As Grojean (2022) pointed out that “many different factors are involved such as language proficiency, language dominance, the context and the people present, the type of stimuli being produced or perceived, as well as the experimental task bilinguals, are asked to do” (p.117). In the same line, considering today's diversity in the classroom, Yolcu (2023) contended that “teachers are instructed to be reflective about their teaching practices so that they could be adaptive to the new conditions such as the increased diversity in classrooms” (p.33).

With that action-promoting perspective in mind, the present researcher attempted to deliberately bring CT into a translation course with the purpose of both enhancing learners’ language skills and CT internalization. To that end, the present study has been designed to seek the answer to the guiding research question: “How much do students’ critical thinking skills appear to evolve over a translation course?” The pertinent answer obtained is deemed meaningful because it will substantiate the validity of the teaching approach applied by the present study in creating a viable alternative for language teachers to consider and utilize in dynamic, appropriate, and effective response to a variety of learners, subject matters, and learning environments/conditions at hand from the perspective of today’s globally rapid changing world, which likely from time to time poses unprecedented challenges demanding CT skills to make sound decisions and take comprehensive subsequent courses of action.

The next section will present the literature review, followed by the method used in the present study. Then, the results are reported and discussions are addressed. The conclusion will end the main text of this paper together with the relevant reference list.
Literature Review

Given its substantive role in education, a unanimous definition of critical thinking among researchers, educators, and teachers/practitioners is essential so that teachers would incorporate it knowingly, frequently, and explicitly in their classroom practice in one way or another to fit the bill of educational demands. In this regard, Harland relays that:

A shared understanding is important…because each lecturer will need to know, within their subject specialism, the characteristics, values, skills, and dispositions of a critical thinker, how to build it into teaching, curricula, and assessment, and then actively encourage these dispositions in students. (Harland, 2020, p.112)

Yet, different definitions for CT have been documented in the literature (Ennis, 1993; Gamble Blakey, Golding, & Wilkinson, 2022; Facoine, 1990, 2020; Harland, 2020; Sternberg, 1986; Sumarni & Kadarwati, 2020; and more others). For instance, cognitively and pragmatically, Sternberg (1986) defined this skill as a set of “the mental processes, strategies, and representations people use to solve problems, make decisions, and learn new concepts” (p.3). In other words, it is a dynamic mental tool involved in the reasoning process for subsequent decisions and actions of problem-solving or/and taking up given concepts. Meanwhile, an expert consensus on CT synthesized by Facoine (1990) anchored the process of “being purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference” (p.2). Ennis (1993) provided a shorter but supplementary definition in terms of the quality (reasonable) of this process and perceptual purpose (what to believe): “reasonable reflective thinking focused on deciding what to believe or do” (p.180). A more detailed definition was formed by Bassham et al. (2011) as follows:

More precisely, critical thinking is the general term given to a wide range of cognitive skills and intellectual dispositions needed to effectively identify, analyze, and evaluate arguments and truth claims; to discover and overcome personal preconceptions and biases; to formulate and present convincing reasons in support of conclusions; and to make reasonable, intelligent decisions about what to believe and what to do. (p.1)

Meanwhile, Sumarni and Kadarwati (2020) argued that:

Critical thinking involves analysis and evaluation rather than merely accepting ideas or information. It includes an understanding of relationships, similarities, and differences; locating patterns; classifying; understanding cause/effect; observing trends and big ideas; predicting results; considering various perspectives; providing judgments, and asking questions and reasons. (p.12)

Given such varied definitions, the current conceptual position of CT renders different meanings to different people, containing mental processes in use. With an informed notion based on the pertinent literature that a desired endpoint on CT definition is somehow still far to reach (Gamble Blakey et al., 2022; Harland, 2020) partly due to the radically digitalizing globe with novelties in many areas of life, the present study did not attempt to address a full range of CT dispositions critically; instead, it tentatively limited itself to four categories of heuristic/cognitive manifestations or acts when students got engaged in performing academic tasks for learning and internalization regulated by the researcher. These four CT act categories are:

(1) analysis-interpretation: to attentionally look into, scrutinize by analyzing, discriminating, synthesizing, classifying, and evaluate given input (e.g., arguments, claims, statements, sayings, situations, incidents, and other information-containing objects/data alike serving as initially necessary stimuli to trigger a reasoning/thinking process) for its meaning,
nature, origin, characteristics, relevance, impact, validity, truth, or value, i.e., as such to obtain optimal understandings about given stimuli;

(2) detection-control: to point out and remove (or minimize as much as possible) personal preconceptions, prejudices, stereotypes, biases, or egocentric tendencies formed by self and others, that is to be critically objective by attentively controlling subjectively unjustified perspectives or misguidance while analyzing and assessing given stimuli; i.e., as such to produce sound evaluations/judgments on given stimuli;

(3) expressiveness-persuasiveness: to clearly and consistently defend one’s well-supported case by providing sound reasons for conclusions on given stimuli, and these conclusions should warrant what to believe or do;

(4) constructiveness-instructiveness: ultimately to decide rationally and reasonably on creditably approachable beliefs and actions as a result of categorically processing given stimuli, i.e., what to believe or do.

These four CT-based categories of acts were applied in the present study. Although the four categories appear to be distinctively separated, it is unnecessary in such a manner or in that order for all authentic cases. Instead, very often, a mixed ploy of them reiteratively and alternatively with differing weight and magnitude commonly occur over the performance process, depending on given stimuli, specific situations, or task components, demands, and performance directions in learning settings, let alone individual personalities. For example, in an EFL literature class run by Ouhiba (2022), on such questions as “What does the sea represent for Santiago (the protagonist)? - Do you approve his decision?” (p.483), students need to apply first and dominantly category (1) for a thorough comprehension of the given literary text, then coherently followed by category (3) for expressing opinions, explanations, and logical conclusions. But, in a problem-solving project done by groups of three or so, the given task like “Participants formed groups of three and chose a problem related to English language learning or teaching proposed by a group of students as being typical of problems they might encounter in English language teaching in Japan” (Sakae, 2022, p.7) likely motivates students to tap into categories (3) and (4) more substantially than the other two categories (1) and (2) because to sufficiently accomplish the project together “They spent ample time discussing what problem they should choose and extrapolating possible solutions from multiple perspectives” (Sakae, 2022, p.12); that is, because of not automatically identifying the proper way to reach the desired goal, students must use one or more higher-order thinking processes of questioning, raising, investigating, comparing, critically evaluating alternatives, and finally deciding on a chosen solution to the problem targeted (Brookhart, 2010).

It then follows convincingly that there exists strong viability for college teachers to deploy course tasks with relevant learning contents/subject matters and materials serving as stimuli at hand oriented towards sharpening EFL students’ thinking competencies and CT in particular as some exemplars displayed above. This is mainly because English language degree-training programs at the tertiary level are virtually always made up of a composite of language-skill courses (i.e., listening, speaking, reading, and writing) and other related ones such as English grammar, phonology, or translation. As seen above, CT boosters can constantly be present. At the same time, students fulfill course tasks involving multiple language skills within a single or integrated skill in one or several modes of communication (listening, speaking, reading, writing) for the target language in use and acquisition. A delineation will be presented in the following section.
Methods

For its goal of exploring CT facilitation incorporated into translation course tasks, the present study was situated in a regular EFL translation course of the 2021-2022 academic year at a university in Southern Vietnam. The teacher-researcher took charge of this course. The course was attended by 39 third-year students majoring in EFL. All students (29 females and 10 males, aged 20 - 21) speak Vietnamese as their mother tongue (L1). The course lasted ten weeks of one 140-minute in-class period session per week, focussing on audio-visual spoken discourses in English and Vietnamese with a multi-component package of college lectures, speeches, conversations, television programs, and the like. In this course, students learned some fundamental translation theories delivered by the teacher-researcher and practiced translating several English discourses into Vietnamese and vice versa (that is, from Vietnamese as L1 into English as L2). Thus, both English and Vietnamese were instrumentally used over the session-by-session course progression of teaching and learning activities embedded, i.e., translanguaging was involved. All the coursework was temporally projected on a weekly sequence and made clear to students by the teacher-researcher during the first in-class session. Also, all teaching-learning content materials and activities, including assessment formats and grading schemes for learning outcome credits, for ten weeks’ sessions scheduled in the course syllabus had been reviewed and officially approved beforehand by the Division Head of the School Faculty. The theme-based selected videos were obtained from the available website: www.englishcentral.com/browse/videos

For the data collected to serve the present study, students were required to individually write reflection papers as homework tasks based on English video discourses already viewed and translated into Vietnamese in the classtime. They were given the reflection prompts (1) What do you learn from the video? (2) How much do you trust the information/messages given in the video content? Express your points as far as possible in your English vocabulary (approximately 300 words long).

This homework task was done once every two weeks in the course timespan, amounting to five reflections in total for each student during the whole course. The same writing prompts were applied to all five reflections on five different videos provided by the researcher, respectively, as scheduled in the course syllabus. So, students wrote reflections at home, i.e., at their full disposal, but they had to submit completed reflections within the three following days by email address to the researcher for his subsequent work done in due course. He had to compile all these reflections, thoroughly read each and all reflections received, take notes, fully interpret, make comments, and highlight both excellent and should-be-improved points in terms of (a) form: English language used with focal remarks in spelling, vocabulary, syntactical, and stylistic aspects; (b) meaning: ideas/opinions expressed and organized regarding the given reflection prompts. The criterion for assessing the reflective ideas expressed by students was based on (1) for reasoning: ideas are organized logically and presented concisely and coherently; (2) for clarity: language style and word choice are highly effective and enhance meaning (Brookhart, 2010). Under that direction, the researcher synthesized all the notes, remarks, and comments as a form of feedback, which was clearly shown up to the whole class timely in the following classtime session. Related questions, responses, or further clarifications (if any) from students were encouraged during the feedback time. This type of constructive feedback is believed to benefit students at least in the sense that they can learn good and should-be-improved points from peers with the researcher’s explanations and conducive guidance in detail, both about the English language in authentic use, i.e., mediating
L2 acquisition, and novel meaningful ideas expressed, i.e., facilitating logical thinking/reasoning capacity, including CT. Past studies have widely underscored the pivotal role of feedback in EFL education (Dehqan, Azizi, & Miri, 2022; Ghahari & Bahonar, 2016; Lahcen & Mahmoud, 2022; Limoudehi et al., 2020; Tasdemir & Arslan, 2018). Accordingly, Tasdemir and Arslan (2018) argued that “it is essential for students to understand their progress via the feedback provided by their teachers” (p.2).

In the present study, the in-class feedback run by the researcher also served as a confirmation of what students had written in the submitted reflection, i.e., the data validity for further analysis. In effect, during all five feedback in-class sessions following the five reflections respectively submitted, there was no disclaim or modification from the students on the reflections, which warrants the validity of the data for the present study. But within this study report, as presented below, only the first reflection (i.e. the course onset) and the final one (the end course) were brought into computation, serving the research-question goal to measure the possible discrepancy of CT growth manifested between two points (onset – end) after students were involved in the relevant intervention process.

This type of homework translation task (i.e., a post-translation assignment that involves English writing skills) has yet to be applied ever before at this university, although it appears to assist students’ learning in various ways. In addition to those benefits during the feedback as addressed above, to complete assigned reflections students have to (i) recall or look back at given videos once or more, meaning that it drew their more attention to and engagement in the L2 input, and (ii) also necessarily recall automatically what already took place during the in-class session relating to the progression of L1 translation from L2 input, i.e., translanguage/code-switching occurred (that is the process of two languages interplaying). Concerning CT, the two (i) and (ii) mostly fall well into categories (1) and (2) as being framed above and applied in the present study, thus boosting CT in some ways. Additionally, the outcomes of mentally working on (i) and (ii) would likely assist students in gaining a deeper L2 input acquisition related to form and meaning inherent, which motivates them to start a subsequent process of writing reflections. Then, in its turn, the writing reflection involves not only English writing skills but other thinking/reasoning ones, that is, CT-based act categories (3) and (4). This L1-L2 transcending approach is firmly backed up by past research reporting that translanguage was supportively manipulated in the manifestation of L1 language input as reading and discussing while processing L2 language output as writing, which moved students to transcend and go beyond the two languages in a critical and creative process (Baker, 2011; Bolkvadze, 2023; Cenoz & Gorter, 2022; Garcia, 2009; Treffers-Daller et al., 2020; Wei, 2011; Yüzlü, & Dikilitaş, 2022a). As Yüzlü and Dikilitaş (2022b) observed that “Translanguaging can serve different purposes – making meaning, facilitating learning, promoting communicative abilities” (p.186) supported by the assumption that “the boundaries between languages are soft and fluent and that students should benefit from being multilingual by using resources from their whole linguistic repertoire” (Cenoz & Gorter, 2022, p.344). Likewise, Bolkvadze (2023) maintained that “translanguaging as an EFL method has the potential to become the most perfect method of modern times because along with narrow professional goals, it enhances the personal development of learners” (p.282). However, this approach is not highly valued by all EFL educators or teachers because “any form of using the native language in the lesson is immediately seen as a threat to the learning process, as a lack of foreign language communication” (ibid, p.272) and also “teaching second and additional languages practices have isolated the target language to avoid the influence of previously acquired
languages” (Cenoz & Gorter, 2022, p.343). Accordingly, it is reasonable to downside limitations perceived in translanguaging, especially in EFL translation classes, when it comes to the essential presence of L1 both as a working device in processing L2 input and as end products in equivalent translated output. Put another way, both L1 and L2 in translation classes are equally needed by nature; otherwise, lesson objectives are out of reach.

For ethical concerns, the researcher had obtained the students’ consent about using the first and final reflections as data for the present study before the data analysis. Also, the students were informed by the researcher about the purpose of the study, which would not entail any impact on their course grades, and that the study report would conform to anonymity, i.e., no personal information would be possibly identified at any point in the report.

Concerning consistency and reliability, two other experienced EFL teacher colleagues were invited to review and double-check all the first and final reflections submitted and analytic computations related after they had received the researcher’s briefings about the purpose of the data analysis. Following the two colleagues’ comments and suggestions, some modifications were made to the computational process to reach an absolute interrater consistency. The following section will discuss the results obtained from data analysis in detail.

Results

The two following tables present manifesters contingently underpinned by CT involved in the pre-, while-, and post-process of writing reflections performed by students. To capture a supposed CT growth, the discrepancy is quantitively measured by comparing CT manifesters between the first reflections and the final ones concerning the four CT act categories as framed to be applied in the present study.

Table 1. First and final reflections in quantitative comparison on categories (1) and (2)

<table>
<thead>
<tr>
<th>Categories</th>
<th>Manifesters/Subcategories</th>
<th>First reflections (N=39)</th>
<th>Final reflections (N=39)</th>
<th>Discrepancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Attention – Interpretation</td>
<td>(1.1) Providing a summary of what is seen and heard in the video</td>
<td>39</td>
<td>100%</td>
<td>39</td>
</tr>
<tr>
<td></td>
<td>(1.2) Paraphrasing by using different vocabulary and sentential patterns rather than repeating those found in the video</td>
<td>10</td>
<td>25.64</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>(1.3) Referencing, providing other more related information/facts</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>(2) Detection – Control</td>
<td>(2.1) Recognizing self’s misconceptions</td>
<td>0</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>(2.2) Paying particular attention to stopping/preventing something</td>
<td>0</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>(2.3) Linking self’s past errors</td>
<td>0</td>
<td>0</td>
<td>27</td>
</tr>
</tbody>
</table>

Table one shows that all 39 students (100%) took their time completing and submitting the first and final reflections. However, the empirical examinations reveal that most first reflections contain more words/quotations found in the given video input than the final ones, which thus results in 64% of the subcategory (1.2) discrepancy. The following are typical examples:

Example 1 for providing a summary of the first reflection with quotations from the given input in italics:

The video is about a cute little girl talking about her father. The little girl said that Dad was there when she needed him and taught her a lot of things; most importantly, he was
amusing. She said, “I know Dad has an important job. Dad tries to make changes to make people feel in love with wildlife. Dad set up a hospital to help animals and bought a lot of lands to give the animals a safe place to live. He was with me, my brother, and my mother.” The little girl said Dad was a wonderful man, and she wanted to be like her father.

Example 2 for providing a summary of the final reflection:

The video is all about Jack Ma, known as China business manager and investor. He is standing on the stage and speaking about what he learns from the people surrounding him. He started as a typical student who always tried to pursue tertiary education, but he failed countless times. He wondered “why people should have the opportunity to reach their goals.” Jack Ma supposed that instead of being accepted by others, people needed to get used to failures.

Similarly, over 50% of discrepancies in CT manifestation of subcategories (1.3), (2.1), (2.2), and (2.3) from the first reflections to the final ones are documented. Examples are provided as follows.

Example 3 for referencing other related information/facts, using creative English language (i.e., not repeating those found in the L2 input):

The main content of the video is about “learning from mistakes”. In the video, we can recognize that the man giving the speech is Jack Ma, who is a Chinese business magnate, investor, philanthropist, co-founder, and former executive chairman of Alibaba Group, a multinational technology conglomerate. He is standing on the platform of the university hall and talks to many students about the ways that helped him succeed in his life.

Example 4 for recognizing self’s misconceptions and errors about their meaningful impacts on the road to success:

For me, Jack Ma has always been a genius and always succeeded. What he did to an average person like me would never be able to do. But after watching his speech, I realized he was just a normal person like me. An ordinary person perseveres through difficulties, accepts, and learns from his mistakes optimistically. He starts with small things for his goals. This changed my mind because I always thought that I was just an ordinary person and would never have the great success that everyone recognized. I also wanted to be successful, but I did not want to get into trouble or make mistakes. When in this situation, I always ran away, complained, and then gave it up. That's why I have always been stuck in my circle without getting out and not learning any lessons to succeed. His words inspire me many things that I would love to do now.

Table two shows the results obtained on the categories (3) and (4):

Table 2. First and final reflections in quantitative comparison on categories (3) and (4)
Table two highlights the subcategory *making action plans for self* scores 100% in discrepancy from the first to final reflections. This suggests that all involved students now well know what they should do (which they all took for granted before, which displayed in the first reflection 0%) drawing on the inspiring message contingently embedded in the video. The following are typical examples from the final reflections. Example 3 (a, b, c, d, e) for a mixture of lessons learned, suggestions for others, and self-action plans communicated in multiple creative English use by students involved in the present study:

(a) For me, success or failure is one of the challenges of each person and even myself. There is no success without its failures, I have often failed in learning foreign languages; sometimes, I get discouraged in my studies. I will try my best to make my dream come true, not letting failure prevent me, but I will try to rise to the subsequent success.
(b) “Don't give up yet. Failure teaches success.” This quote is what I learned after watching the video above. The lesson here is not only about your failure but also about your efforts to constantly think, always know how to improve yourself, rise to difficulties, and overcome challenges. We need to know how to stand up and overcome our failures and take failure as a springboard to success because “Success does not come naturally; success is from failures that go up.”
(c) I will not stop trying because I know that on the path I choose, there will be many difficulties. I will not be discouraged but will try my best, determined to achieve all the goals I set in my learning for the upcoming years. A quote by Jack Ma that I feel very fond of is: “If you don’t give up, you still have a chance.”
(d) The video provides a profound and meaningful lesson to everybody. Thereby, I learned a valuable lesson that Jack Ma wanted to convey failures are the second teacher to lead us to success, and when I make mistakes, I will always be open to accepting them with ease of mind. Never give up halfway when facing difficulties and always strive to achieve good results in my studies as well as in my later life.
(e) Through the video above, I learned that everyone has a unique path to success; if they don’t give up, own their errors and know how to correct them, they will have a good day. The idea "successful individuals always have their way" is a good reminder that no one in the world is perfect and I’m not. I will never give up due to challenges. Opportunities are constantly present, but you can only be successful when you know how to take advantage of them. Another method of self-improvement is to converse with intelligent individuals. They will demonstrate how they approach a problem and how they come up with a solution.

**Discussion**

The present study attempted to apply a visual input-driven reflection model in a translation class as a homework assignment for EFL students. They had never done any similar assignment before. In typical terms, EFL translation classes very often end with completing the rendering of given source-language texts/input into equivalent target-language ones. But, the present extended post-translation assignments by incorporating writing skills. Given assignments primarily aimed to provide the involved students the opportunity to utilize and enhance their critical thinking skills by self-reflecting critically on what they learned from the given L2 input and manifesting it in written English.

As reported in the table one and two above, the fact that students now realize confidently what is essential to do and how to deal with unforeseen roadblocks does manifest that their *critical*
thinking took place into fully conscious operation, and self-regulation was applied while critically reflecting on past personal relevances and making logical inferences, which indicates their self-confidence has beneficially increased to face failures. They learned that failure could probably occur but promisingly as a sign of upcoming success as long as they persistently keep on trying rather than give up all. These original ideas produced by students show that they could think and reason with given facts and concepts in some way, transferring and transforming what they learned, and their understanding grew. This, therefore, transparently confirms past research results regarding the great possibility of creating course task-based opportunities in various ways by teachers for EFL students to deploy and improve CT, including self-regulation (Dörnyei, 2005; Gunawardena et al., 2017; Fahmeeda, 2020; Majidi et al., 2021; Ouhiba, 2022; Qin & Karabacak, 2010; Sakae, 2022; Sumarni & Kadarwati, 2020; Yang et al., 2013; and others). Furthermore, given the utility of translanguaging necessitated in this coursework operation (i.e., translating spoken English video input into Vietnamese equivalent output, followed by producing reflections in written English form), the present study also agreed with previous research on the helpful involvement of translanguaging because students highly likely employ a full range of language skill repertoire and knowledge of cultural frames from both L2 and L1 experience in performing tasks given (Baker 2011; Cenoz & Gorter, 2022; Garcia, 2009; Treffers-Daller et al., 2020; Wei, 2011; Yüzlü & Dikilitaş, 2022a), especially when the ability to decently transcend between the two working languages at hand is primed in bilingual communication and EFL translation courses like one in the present study. As Cenoz and Gorter (2022) endorsed that “There is not a single way to implement pedagogical translanguaging, but in all cases, the aim is to promote the activation of the learners' multilingual repertoire in a way that is pedagogically planned” (p.351).

In addition to facilitating CT mobility and growth as an acting variable in processing and assessing L2 input given for understanding, and accepting/rejecting arguments and underpinned messages as a result of the process in operation, the present study also evidences that there are at least two more gains for students involved. First, they are inspired and energized by meaningful exemplars, and then confidently self-repair and self-regulate to take charge of their learning by advancing to make plans for the next steps in their ways knowingly. Therefore, it proves that “thinking is much more than memorizing” (Brookhart, 2010, p.12) and is highly applicable in the EFL classroom. Secondly, their English writing skill appears to improve over the process of thoughtfully, devotedly, and creatively laying out what they have internalized in written L2 form, that is their sense of control over ideas to express in English is increased. Thus, as long as students are sufficiently instructed, consciously committed, and fully attended to their tasks, the outcomes are robustly rewarding, which pedagogically implies the viability of boosting students’ CTS in diverse approaches, and the present study is one alternative among them, thus expanding a more comprehensive range of potential choices for EFL teachers.

Also, the fact that 100% of students made dispositions in L2 with the increasing use of their English vocabulary, as seen in the subcategory (1.2), instead of repeating those words from the given input for communicating their ideas, does imply that the students dedicated more conscious efforts and engagement in L2 learning. Moreover, their willingness to communicate in L2, which is one of the crucial background variables for language acquisition (Chaisiri, 2023; Dörnyei, 2005; Ghahari & Bahonar, 2016), is represented in the subcategories: (1.3) offering other relevant information/facts; (2.1), (2.2), (2.3) reflecting on their past profiles and articulating their inner worlds; and even (3.2), (4.1), (4.2) looking forward for improvements. These are empirical signs of learning and internalization in both L2 and CT, signifying that both “input and output be
meaningful and communicatively oriented” (Dehqan et al., 2022) are adequately provided in the present study.

Conclusion
Post-translation homework tasks applied in the present study appear to have worked correctly in effectively boosting EFL students’ CT upon the teacher's guidance and feedback to video translation-based written reflections by students involved over a regular translation course. Tangible impacts are (i) CT growth manifested in generating far more relevant ideas on examining L2 input given critically, (ii) self-regulation activated via confidently self-projecting action plans in the spirit of accepting possible disadvantageous conditions as part of life on the road to accomplishment or success; (iii) English language acquisition displayed by tapping into English writing skill to voice self-insights meaningfully and creatively upon connecting past, present, and future envisions. Thus, the present study openly encourages further empirical investigations within the EFL field and beyond for the actual sake of providing students ample opportunity to drive up CT and grow in their learning. Undoubtedly, research directions should be adequately tied to specific learning situations and targeted goals to warrant optimal outcomes. Future studies may also examine the factor of translanguaging in effect by measuring its impact magnitude on students’ CT growth in comparison with those course tasks with little or no translation acts involved.

About the author
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References


Professionally Significant Personality Traits and Soft Power Skills Development in Esp Teaching

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Abstract
Miscommunication in pilots’ and air traffic controllers’ radio exchange has always been a deep concern in aviation. Standard phraseology provides pilots and air traffic controllers with special phrases to minimize the risk of miscommunication in a multilingual environment. It is designed to facilitate unambiguous and concise radio exchange. In non-standard situations, which are not covered by standard phraseology, the ability to use plain language is a must. The language training aims to ensure that language activity does not distract pilots’ and air traffic controllers’ attention and saves time to make the right decisions. The authors believe that improvement of professionally significant personality traits such as motivation, emotional stability, the accuracy of reaction, thinking elasticity, logical reasoning as well as the ability to process information quickly, select reasonable hypotheses, picture flight environment, predict the development of the situation, and anticipate the result of the activity can be a highly efficient way to reach this goal. The authors also consider soft power skills as an indispensable part of pilots’ skill sets and distinguish the most significant of them. The problem is that the points mentioned above are not included in the pilots’ and air traffic controllers’ language training. Therefore, the research aims to identify a set of professionally significant personality traits and develop ways of their improvement. The most efficient digital resources are distinguished. The research outcomes will significantly contribute to flight safety.

Keywords: Aviation English, emotional stability, miscommunication, motivation, professionally significant personality traits, ESP teaching

Introduction

The problem of miscommunication has always been a deep concern in aviation. Flight safety depends not only on interaction between pilots and ATCs. Misunderstanding and misinterpretation might occur in any of these types of aviation communication (Figure one).

![Figure 1. Types of aviation communication](image)

While the radio exchange between pilots and ATCs is oral, aircraft manufacturers communicate with the air force and airline operators, as well as maintenance technicians and other aviation personnel mostly in written English through working cards, maintenance manuals, checklists, Illustrated Parts Catalogs (IPC), Troubleshooting Manuals (TSM), Service Bulletins (SB), flight deck documentation, Service Information Letters (SIL), Structural Repair Manuals (SRM) data cards, notices to airmen (NOTAMs), airworthiness directives (ADs), safety updates and briefings.

Language and communication issues in aviation require the same careful and systematic study as human and operational factors. Language and communication-related findings can be used to reduce the risk of aircraft accidents. It has already been said a lot about the causes of the events related to language or communication failures: non-standard English in support documentation and manuals, inadequate crew and ATC’s English language proficiency, improper ATC-crew communication, phraseology problems, dual language confusion, etc (Fowler, Mathews, Lynch & Roberts, 2021).

Ability to ensure reliable communication in English is an obligatory competence for ground and airplane crew to provide flight safety. Aviation English contains a lot of technical and meteorological references presented in numbers, such as aircraft identification call signs, time, altitude, speed, distance, etc. There are approximately 1400 words, hardly any grammatical input, no questions, no social chit-chat, and no effort to be polite (Gerighty, 2009). Both civil and military pilots and Air Traffic Controllers (ATCs) mainly use standard phraseology for radio exchange. Standard phraseology provides pilots and ATCs with special phrases to minimize the risk of miscommunication in a multilingual environment. It is designed to facilitate unambiguous and concise radio exchange, whereas, in non-standard situations, plain English is necessary to request and clarify information.

Different performance characteristics of military and civil aircraft and the functions carried out by General and Operational Air Traffic account for the differences in military and civil aviation communication. While civil aviation uses fixed air routes to travel between destinations, during a flight, military aircraft carry out offensive and defensive missions, including reconnaissance missions, destruction of enemy equipment, participation in rescue operations, combat support,
combat service support, guiding the object, providing logistic supply, and identifying the target with the execution of an attack (Vogel & Střflková, 2022).

Unlike civil pilots who communicate only with ATC, military pilots communicate with ATC and the Joint Terminal Attack Controller (JTAC), and use both civilian and military phraseology. Therefore, ICAO standard phraseology is not enough for military operations performance. Military aviation communication uses expanded ICAO phraseology and NATO brevity codes like “BLUR” – radar being jammed, “BINGO” – pre-briefed fuel state needed for recovery, “WHAT LUCK” – request for results of missions or tasks, “BULLSEYE” – code name for a specific point on the grand or in the air, “CLEARED HOT” – type 1 and 2 CAS terminal attack control when granting weapons release clearance to an aircraft attacking a specific target, RTB - return to base, etc (Vogel & Střflková, 2022).

Although standard phraseology does not contain much grammar, and “say again” is used instead of making questions to clear up information (Harding, 2009), in non-standard situations, which are not covered by standard phraseology, the ability to use plain language is a must. In this case grammar is needed to avoid misinterpretation that can lead to fatal consequences. But it is reasonable to say that the background of the language-based problems is often an insufficient level of professionally significant personality traits development. Including them in pilots’ and ATCs’ language training can contribute to this problem solution. Such an approach significantly contributes to flight safety.

The current research aims to identify ways to enhance the pilots’ and ATCs’ ESP training by including professionally significant personality traits and soft power skills development in their curricula. The research objectives are:

▪ to distinguish a set of professionally significant personality traits necessary for reliable interaction between pilots and ATCs;
▪ to share our teaching experience on how to improve these traits;
▪ to reveal the role of soft power in the context of aviation and the necessity of including soft power skills development in pilots’ and ATCs’ ESP curricula;
▪ to distinguish the soft power skills pilots and ATCs should be able to communicate efficiently, build relationships, and promote cooperation.

The study raises the following research questions:
1. What are the language-based communication problems in aviation?
2. How can the professionally significant personality traits influence flight safety and which of them should be included in pilots’ and ATCs’ ESP curriculum?
3. What is the role of soft power skills and which of them should be included in pilots’ and ATCs’ ESP curriculum?
4. What are the efficient ways and digital resources to improve professionally significant personality traits?

Literature Review

Miscommunication between pilots and air traffic controllers (ATC) is a human factors problem that has been studied by aviation psychologists and human factor experts throughout aviation history. In the mid-20th century, air travel expanded globally, and language barriers posed a risk to aviation safety. Therefore, the International Civil Aviation Organization (ICAO) established language proficiency standards for pilots and air traffic controllers (ATCs). In 1951,
the first version of Annex 10 to the Convention on International Civil Aviation was published. It included provisions for using English as the international language of aviation and established the principle that pilots and ATCs should be able to communicate in a common language to ensure safety and efficiency.

The first language-related accident in aviation (“Staines Disaster”) happened in 1972 and killed all 118 people on board. This was a new impetus to the intensification of research in using plain English in aviation (Hopkin, 1988; Varantola, 1989; Philips, 1991; Fokas, 1991; Monan, 1991; Cushing, 1994, Morrow, 1994). In 2003, ICAO introduced a new language proficiency requirement known as the “ICAO Language Proficiency Rating Scale”, but the problem was not solved, and research continued (Douglas, 2004; Mathews, 2004; Mell, 2004; Mitsutomi & O'Brien, 2003; Mitsutomi & O'Brien, 2004; Shawcross, 2004; Wu, Molesworth & Estival, 2019).

In 2004, the first edition of Doc 9835 AN/453 Manual on the Implementation of ICAO Language Proficiency Requirements was published. In 2008, ICAO implemented a new policy that required all pilots and ATCs to demonstrate a minimum level of English proficiency, regardless of their native language. Today, the ICAO Language Proficiency Requirements (Doc 9835, 2010) are widely adopted and enforced by aviation regulatory bodies worldwide. To prevent misunderstandings, aviation psychologists and human factor experts analyze language barriers, fatigue, workload, stress, and situational awareness to identify potential solutions. Aviation safety investigators also study communication breakdowns to understand the causes of accidents and incidents and to make recommendations to prevent them in the future.

Petrović & Petrović (2021) believe that the most significant personality traits for commercial airplane pilots are responsibility and cooperativeness, while military pilots must be first of all determined and responsible. But we consider there are many more significant to provide reliable communication in non-standard situations. Dehn and Damitz (2022) identified 17 ATCs’ professional qualities through a questionnaire, but their research is oriented on the ab initio selection of candidates best suited for the job position. Issues of safety motivation (Maneechaeye & Potipiroon, 2022; Zhang & Zhang, 2022), pilots mental health (Ackland, Molesworth, Grisham & Lovibond, 2022), pilots’ and ATCs’ emotional stability in extreme situations (Luciani et al., 2022; Rakas et al., 2022), and some other factors affecting flight safety are being studied more actively. Still, only an integrated approach guarantees positive results, i.e. flight safety increase. Therefore, we believe there is not enough studies to solve the problem of miscommunication caused by insufficient level of pilots’ and ATCs’ professionally significant personality traits.

Methods
Participants
Our research took place at the National Aviation University (Kyiv, Ukraine) and Flight Academy of the National Aviation University (Kropyvnytskyi, Ukraine). During the 2020/2021 and 2021/2022 academic years, four groups of pilots and five groups of ATCs with an average of twelve students per group were trained according to the improved curricula.

Research Instruments
In our research, we used a multidisciplinary approach. Accident investigation reports, and audio and video recordings were used to identify common communication failures. Observation of pilots’ and ATCs’ behavior in non-standard situations provided valuable insights into their personality traits. The training simulation method was used to develop situations that imitate real
pilots-ATCs communication. Defining the pilots’ professionally significant personality traits is challenging, as personality is complex and multifaceted. But it is crucial to provide flight safety. The critical incident technique was used to collect data on the incidents that are critical for a pilots’ job performance and identify personality traits that are significant for successful performance in an emergency. A deep study of the pilots’ professional activity revealed that developing their soft power skills is significant, but not provided by the curricula. The presented approach to teaching English to pilots and ATCs is the result of multi-year research on the peculiarities of their job and fatal communication errors.

Research Procedures
We have been analyzing aircraft accident investigation reports and studying pilots’ and ATCs’ behavior in non-standard situations since 2005. We discovered the psychological nature of most language-related accidents. The risk factors and sources of psychological stress as well as the ways to overcome it, and the mental and psychophysiological qualities that determine the reliability of pilots-ATCs radio exchange, have always been the objects of our research. For our current study, we distinguished the set of professionally significant personality traits necessary for reliable communication and soft power skills that pilots and ATCs should have. Some activities to improve the identified traits and skills had been developed before making additions to the curricula.

Results
Language-based Communication Problems in Aviation
We illustrated the language-based communication problems (Figure two) from Cushing’s (1994) point of view, a person who analyzed a lot of communication failures in real crew-ATC radio exchanges. We would also add code-switching as one of the main causes of the deadliest aviation accident which occurred at the Tenerife airport in 1977. Recent research proved that code-switching does not depend on the level of English proficiency but is likely a problem that occurs between bilinguals (Aldalbahy, 2022; Cushing, 1988). The cause of this type of miscommunication might be using of code-switching instead of target-language-only instructions in an EFL classroom (Al Tale’ & AlQahtani, 2022).

In our previous research on civil aviation pilots and ATCs language teaching, we concluded that pilots and air ATCs training cannot be organized as a straightforward summation of academic disciplines, it must be a dialectically developing system with ESP teaching as a subsystem. We experimentally proved the effectiveness of our Aviation English teaching methodology based on the analysis of aircraft accidents and near misses. It helps students overcome the psychological barrier and reduce psychophysiological stress, which rises sharply due to the necessity to communicate in a non-native language without visual contact in an urgent situation.

Language training aims to ensure that language activity does not distract pilots’ and ATCs’ attention and saves time to make the right decisions. Our further studies showed that we should apply the same approach to the militant’s language training, and we consider all these factors in military pilots and ATCs ESP teaching.

Pilots are taught to “Aviate, Navigate, Communicate” which means to fly the airplane first, then navigate, and communicate after the situation is under control. However, sometimes communication plays a vital role in the chain of non-standard events.
In military aviation, there exist quite a lot of uncommon expressions NES (Native English Speakers) irresponsibly use while speaking to one another: “grape” – a pilot who’s an easy kill in a dogfight, “angels” – altitude in a thousand of feet (“angels 3” is 3,000 feet), “blind” – the wingman not in sight, “naked” – radar warning gear without indication of a missile threat, “punch out” – to eject from an airplane, “pan-pan,” as a signal of urgency and attention, which makes other pilots on the same radio frequency get silent to allow air traffic controller to cope with a critical situation. When the aircraft encounters an emergency above water, military pilots use the expressions “feet wet” (flying over water) and “feet dry” (crossed the shore and flying over land).

Figure 2. Language-based communication problems

However, slang might be dangerous in communication with EL2 (non-native speakers of English) and, therefore, is prohibited in pilots-ATCs radio exchange (Carrol, 2016; Scottie, 2019). Dr. Estival, a Western Sydney University linguist, pilot, and flight instructor, brings another Australian
pilots’ saying “cleared for the big smoke” which means “cleared for takeoff”. She calls NES to adapt their communication in the aviation industry to reduce the risk of misunderstanding by EL2-speaking pilots and ATCs. In her book “Aviation English” (Estival, 2016), she warns that some words like “inbound” and “outbound”, saying “no” instead of “negative” or “yes” instead of “affirm” and terms for numbers such as “nina” for nine have been misunderstood with fatal consequences (Patty, 2016).

**Professionally Significant Personality Traits**

We can give one the examples when the insufficient level of professionally significant personality traits led to an aviation accident. The air crash that happened in November 2022 when miscommunication killed a student pilot in Texas, shows that the problem is more than just poor language proficiency. The pilots of the two military jets failed to verify which jet would land first. The teacher also “failed to recognize a precarious situation developing” (Novelly, 2022, p. ?). The study found that miscommunication in pilot-controller exchange happened due to procedural deviation, not just problematic instruction or request (Hamzah & Fei, 2018).

Having studied the peculiarities of the military pilots and ATCs jobs, we enlarged the list of the qualities necessary to provide their efficient foreign language activity. Figure three shows pilots’ and ATCs’ professionally significant personality traits, which enable them to communicate effectively when experiencing emotional stress, mental strain, frequent use of long-term memory, chronic working memory overload, and ongoing attention pressure (Schuhfried, n.d.).

![Figure 3. Pilots’ and ATCs’ professionally significant personality traits](image-url)
Soft Power Skills in Pilot Professional Training

When studying pilots’ training curricula, we realized that insufficient attention is paid to soft power issues. While it is not essential for pilots to be well-versed in soft power issues, having a basic understanding of soft power can be beneficial in certain situations, particularly in the area of international relations and diplomacy. Soft power experts confirm this idea.

On a global level, aviation facilitates international engagement, thereby encouraging the use of soft power. At the individual country level, aviation provides a useful tool to lift the global brand of a country, while generating new international links. As it expands and grows more efficient, aviation will continue to shape a world where soft, rather than hard, power drives change for the better. (McClory, 2014, p. 32)

The above quote shows the role of aviation in bridging distances and connecting people, cultures, businesses, ideas, innovations, and opportunities. McClory is not the only scientist who considers aviation a crucial source of soft power for a country. In the example of Turkish Airlines, Anaz (2017) also emphasizes the usefulness of soft power for a nation’s foreign policy, international visibility, and public diplomacy. Emphasizing the diplomatic significance of aviation, Kobierecki (2021) considers Pacheco’s (2004) soft power one of the main theoretical concepts of aviation diplomacy and a means of international communication. The outcomes of Odrowaz-Coates’s (2018) research where she confirms that there is a connection between the soft power concept and English language acquisition are also noteworthy as we consider pilots’ and ATCs’ soft power skills improvement within their language training.

Soft power refers to the ability to influence others through attraction rather than coercion or force. In the context of aviation, soft power may play a role in international relations and diplomacy, particularly in situations where a pilot is interacting with foreign officials or passengers. A pilot must be aware of cultural norms and customs when flying to a foreign country, as certain actions or behaviors may be considered disrespectful or offensive. In such cases, a pilot who is sensitive to soft power issues will be better able to interact and communicate in a way that builds trust and rapport. In this context, we studied which soft power skills pilots should be able to communicate efficiently, build relationships, and promote cooperation (Figure four).

Figure 4. Soft power skills as a part of a pilot's skill set
Efficient Ways and Digital Resources to Improve Personality Traits Significant for Pilots and ATCs

In pilots and ATCs ESP teaching, we use activities aimed at the improvement of the professionally significant personality traits mentioned above. Stefanova et al. (2020) suggest enhancing learners’ motivation by boosting the level of their involvement, which can be reached by adopting a marketing theory of consumer involvement to increase ESP course effectiveness. Yupangco (2020) defines students’ emotional (attitudes, interests, and values towards learning), cognitive (intellectual effort to comprehend and master content), and behavioral (time and effort spent participating in learning activities and communicative interaction) engagement (Yupangco, 2020).

Another way to motivate and stimulate students are case studies (Davies, 2009), based on the authentic materials of aircraft accidents investigation. They also contribute to improvement of the personality traits like logical reasoning, abilities to process information, select reasonable hypotheses, picture flight environment, predict the development of the situation and anticipate the result of the activity, etc.

Furthermore, the information age has radically changed our attitude towards education, and we cannot imagine how to motivate students without applying the newest information technology trends (Akıllı, Konoplanyk, & Pryshupa, 2019). Encouraging students to experiment with various tools and applications relevant to their professional studies will help them develop valuable digital technology skills. This, in turn, will boost their motivation and productivity in the learning process. For our pilot and ATC students, we used some brain-training activities like Grammar Challenge (see Appendix). Students have to answer correctly as many grammar questions as they can in 150 seconds. The Leader Board also increases their motivation. Any grammar and vocabulary exercise can benefit from including a time constraint to grab students’ attention and stimulate their brains’ capacity for speedy information processing.

Regardless of the situation, there always exists some degree of emotional response, and emotions are simply another type of information that must be considered in making effective decisions, especially in a team environment (Frisinger, 2010). We illustrate six dimensions of emotional stability mentioned in Chaturvedi’s et al. (2010) research (Figure four):

![Figure 4. Dimensions of emotional stability](image-url)
Even though most people believe they approach decision-making through reasoning, the majority of decisions are motivated by emotions. Shulman (2017) believes that logic cannot always be completed without emotion. It is particularly true when the decision might affect flight safety. Emotions can alter your thinking and behavior, and therefore increasing the level of emotional stability must be kept in mind in pilots and ATCs professional training and language training as a subsystem of it.

We use a lot of exercises aimed at enhancing emotional stability. The simplest one is just turning on the Dictaphone while a student is speaking. Most students get a bit nervous, bringing the learning process closer to real job conditions. You can give a student one minute to get ready for a two-minute monologue about the topic given, but the level of nervousness is higher, and it is more challenging to stay calm if a student doesn’t have any time for preparation to speak. Switching to distance learning lessens the possibility to create stressful situations as students consider online classes less anxiety-inducing (Laachir, EL Karfa, & Alaoui, 2022).

The mind’s ability to perceive, manage, and express emotions effectively in real life and the ability to regulate feelings and use them to guide our actions is called emotional intelligence, which some people get by birth, while others may need help to build (Chowdhury, 2022; Mayer & Salovey, 1990). Daniel Goleman reveals the abilities an emotionally intelligent person has, one of which is the ability to relate to others’ emotions. We consider it significant for pilots and ATCs to be tolerant and helpful while dealing with a person who loses emotional control in a stressful situation. The ability to accurately perceive and understand the emotions of the interlocutor is a core component of emotional intelligence (Davies, Stankov & Roberts, 1998). In aviation, emotional intelligence means being aware of all the participants’ mental states, not just your own. While intellectual intelligence is gained through learning and reading, emotional intelligence can be obtained through mindfully attending to current emotional states (Alberts & Poole, 2019).

Some video game genres, like action, puzzle, and strategy games, may result in advancements in attention, reaction, problem-solving, and thinking elasticity. Learning a foreign language itself and, in particular, increasing vocabulary strengthen connectivity between different areas of the brain and improves memory and cognitive function (Atay & Ozbulgan, 2007). To develop the speed and accuracy of reaction, we effectively use different reaction time tests (see Appendix) Fun Trivia Military Matters and Air Forces Quizzes (see Appendix) can also be played as Timed Quiz Games. The opportunity to compete with other players considerably increases the students’ motivation and reaction time.

To improve short-term memory, we ask students to read aviation-related texts that contain technical and meteorological references presented in numbers (approximately 200 words per minute) and keep in memory every single detail. Bratel et al. (2020) prove the effectiveness of the experimental method of short-term memory training based on hearing a list of 10 foreign words and writing down those they could recollect. At the same time, we should not forget about the information density, i.e., the number of items in a message, and ICAO guidelines regarding the complexity of messages transmitted to pilots as complex messages increase the error rate in their communications.

As for working memory training, Norris et al. (2019) recommend working memory tasks that include both serial recall of memory sequences and other processing demands. They state that serial recall of visually presented digits can be improved throughout the course of 20 training sessions. To improve logical reasoning, numerical ability, spatial visualization ability, stress tolerance, reactive, focused attention, vigilance, eye-hand coordination, extraversion,
conscientiousness, openness, and agreeableness, the English version of performance and personality tests can be effectively used as short warm-ups in pilots and ATCs ESP teaching (Schuhfried, n.d.).

A time limit can be successfully used in any grammar and vocabulary exercises to excite students’ attention and the brain’s ability to quickly process information.

**Task one.** Work in two groups. You have 10 mins. Compare planes one and two. Find as many differences and similarities as you can. Which group can find more?

![Planes one and two](image1.png)

**Figure 5.** Planes one and two

**Task two.** Work in pairs. You have 10 mins. How many comparisons can you write about aircraft three and four? Write complete sentences. Compare your answers with other pairs of students.

![Planes three and four](image2.png)

**Figure 6.** Planes three and four

There are some examples of how we use Steven Cushing’s analysis of the pilots-ATCs communication problems to discuss them with our students (Cushing, 1994).

**Task three.** Read the lines from the pilot-ATC radio exchanges. The controller misinterpreted the pilot’s message. Why do you think it happened? What was wrong with it?

One of the two fighters on the instrument route experienced mechanical problems and stated:

— We need a clearance back to base.

Then the controller issued an IFR clearance, to which the aircraft replied:

— We are in a left turn and we are climbing to 17,000.

**Answer:** The controller interpreted “we” as meaning that both fighters were returning to their home station. In fact, only the lead aircraft wanted to return, a misunderstanding resulting from an uncertainty in the reference to the pronoun “we”.

**Task four.** What do you think could lead to the accident at Miami International Airport on 29 December 1972?
“2334:05 EAL 401: Ah, Tower this is Eastern, ah four zero one, it looks like we’re gonna have to circle, we don’t have a light on our nose gear yet.
2334:05 EAL 401: Ah, Tower this is Eastern, ah four zero one, it looks like we’re gonna have to circle, we don’t have a light on our nose gear yet.
2334:14 Tower: Eastern four oh one heavy, roger, pull up, climb straight ahead to two thousand, go back to approach control, one twenty-eight six.
2334:21 EAL401: Okay, going up to two thousand, one twenty-eight six.
2335:09 EAL 401: All right, ah, approach control. Eastern four zero one, we’re right over the airport here and climbing to two thousand feet, in fact, we’ve just reached two thousand feet and we’ve got to get a green light on our nose gear.
2336:27 MIA Approach Control: Eastern four oh one, turn left heading three zero zero.
2338:46 EAL 401: Eastern four oh one’ll go ah, out west just a little further if we can here and, ah, see if we can get this light to come on here.
2341 Second officer within cockpit: I can’t see it, it’s pitch dark and / throw the little light, I get, ah, nothing.

The approach controller sees the apparent decline in elevation indicated on radar.
2341:40 MIA App Con: Eastern, ah, four oh one how are things comin’ along out there?
2341:44 EAL 401: OK, we’d like to turn around and come, come back in.
2341:47 MIA App Con: Eastern four oh one turn left heading one eight zero.
2342:12: impact: Aircraft crashes into the Everglades.”

Answer: uncertainty about the reference of the indefinite noun “things” in line 2341:40 contributed directly to the Miami accident. The approach controller used the word “things” to refer to the aircraft’s apparent decline in elevation, which he had seen indicated on radar and wanted to check with the crew, still the crew appears to have taken it to refer to a nose-gear problem that they had been preoccupied with and had just informed the controller about. They were unaware of the decline in elevation precisely because of this preoccupation. When the crew responds with “Okay”, the controller erroneously concludes that the decline in elevation is under control, even though, in fact, the crew has no clue that the elevation is even an issue.

Task five. How could the pilot in the first case and the ATC in the second one help to understand what they wanted to say? Think of similar words and phrases that can also be misinterpreted and lead to an accident.

Task six. Replay the communications above according to the “four-step ‘confirmation/correction closed-loop’ technique” required by ICAO:
1) the sender transmits a message;
2) the receiver actively listens to the messenger;
3) the receiver repeats the message back to the sender;
4) the sender actively listens for the correct readback.

Discussion
Having analyzed aircraft accident investigation reports and studying pilots’ and ATCs’ behavior in non-standard situations, we distinguished a set of professionally significant personality traits necessary for reliable interaction between pilots and ATCs. To implement our ideas in pilots and ATCs language teaching, we developed a system of activities and selected the appropriate online tools to enhance the identified traits. Subsequently, we included these items in pilots’ and ATCs’ curricula and put them into practice. We consider it a significant accomplishment that we
managed to capture students’ attention regarding the necessity of developing these traits and provide them with strategies for their life-long improvement. This achievement was supported by feedback from both students and colleagues, who we shared our research findings with. We once again became convinced that the issues of professionally significant personality traits should obligatory be included in the pilots’ and ATCs’ curricula to contribute to flight safety. This should be followed by the development of teaching and learning materials and ways to apply innovative technologies to pilot and ATC students professionally significant personality traits improvement. From our experience, we would recommend doing it in cooperation with aviation experts.

**Conclusion**

The research aimed to identify ways to enhance the pilots’ and air traffic controller’ language training through including professionally significant personality traits and soft power skills development in their curricula. We presented the key ideas and principles that define our approach to the military and civil pilots’ and air traffic controllers’ language teaching. The study suggests ways to improve pilots’ and air traffic controllers’ professionally significant personality traits, in which insufficient level is often the background of communication failures in pilots and air traffic controllers interaction. In the research, we considered the Aviation English training a subsystem of a dialectically evolving system of pilots’ and air traffic controllers’ professional training, where all the subsystems contribute to achieving the intended outcome. The outcomes of the study will allow organizing the pilots and air traffic controllers language teaching in such a way that communication in a non-native language does not distract their attention. They will have more time for making the right decisions.

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References


### Appendices

#### Appendix A

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Cognitive, Social, and Teaching Presences among Postgraduate Students on the Mobile Instant Messaging Platform

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Abstract
This study examines the portrayal of cognitive, social, and teaching presence among postgraduate students using mobile instant messaging in a fully online learning environment. Understanding the portrayal of these presences can help researchers to gain insights into the specific dynamics of these presences and develop strategies to optimize the learning experience among postgraduate students. However, a lack of evidence on how cognitive, social, and teaching presence is portrayed in this platform makes it difficult to identify possible gaps where postgraduates may need more assistance. This study conducted a qualitative content analysis of 2074 messages from four groups on WhatsApp's mobile instant messaging application. From the research, 68% of the messages demonstrated social presence, 25% teaching presence, and 7% indicated cognitive presence. The cognitive presence on WhatsApp was the least demonstrated, as students preferred rich mediums like video conferencing to engage in discussions that require higher-order thinking skills. Future research can consider analyzing how students show presences using multiple mediums and explore how cognitive, social, and teaching presences are dynamically interplayed in different mediums using a qualitative approach.

Keywords: cognitive presence, the community of inquiry, Mobile Instant Messaging platform, postgraduate students, social presence, teaching presence

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Introduction

Over the past decades, computer conferencing and technological tools have been known to facilitate learning and promote meaningful learning experiences. Integrating technology into students’ learning experiences prepares them to participate actively in global societies (Azmuddin & Mohd Radzuan, 2020). The current education focuses on developing 21st-century skills, which is paramount in preparing them for the challenges and opportunities in the modern world. In a developing country like Malaysia, adopting online learning is still in progress (Ali, 2022), and full adoption requires significant time. Nevertheless, the introduction of various platforms in response to the 2020 pandemic has been regarded as a fortuitous occurrence that has the potential to enhance the learning experience.

To have a meaningful learning experience, creating a collaborative community of inquiry is necessary (Akyol et al., 2009; Akyol & Garrison, 2008; Vaughn et al., 2013). Teachers and students are required to fulfill specific responsibilities in the classroom, and it should be a collaborative endeavor (Anderson et al., 2001). Three essential elements are interrelated to have a worthwhile learning experience: cognitive presence, social presence, and teaching presence. These three presences are the foundation of the Community of Inquiry (CoI) Framework by Garrison et al. (1999). The rationale for selecting this particular framework for this study is based on its comprehensive nature and practical application in various online learning contexts. The framework offers a solid foundation for analyzing the effectiveness of learning experiences, especially in online learning.

In addition, with the widespread use of mobile phones among students, Mobile Instant Messaging (henceforth, MIM) applications such as WhatsApp, WeChat, and Telegram are common. Leveraging mobile phones, particularly instant messaging, can create new opportunities for students to achieve effective and successful learning experiences (Sivabalan & Ali, 2019). Furthermore, when new learning approaches are assisted with current technology, it can encourage learning, improve comprehension, and foster student collaboration and engagement (Majid & Salam, 2021). The functions of instant messaging can potentially develop a community of inquiry among students. Furthermore, the pandemic that hit worldwide in 2020 has forced students and teachers to navigate a different educational experience from what they have been accustomed to (Alger & Eyckmans, 2022). However, postgraduate students who have previously entered professional employment before returning to their studies may face challenges in familiarising themselves with different technologies utilized in an educational environment. The knowledge and skills acquired during undergraduate studies may not adequately equip postgraduate students to navigate the technological advancements and innovative learning methods encountered at the postgraduate level.

As MIM becomes widespread, examining text conversations from a community of inquiry framework is essential. Past studies like those of Chen et al. (2017), Robinson et al. (2015), and Wang et al. (2016) have unraveled that MIM, such as WhatsApp, can be utilized to promote social presence. However, a lack of evidence regarding how cognitive, social, and teaching presence are portrayed on this platform makes it difficult to identify potential gaps where postgraduates may require more support. Before this, MIM was associated with a medium to relay social messages and fulfill social purposes. Thus, it is interesting to investigate how this medium is used in exhibiting cognitive, social, and teaching presence. Focusing only on one presence is inadequate to picture how presence manifests in MIM platforms. In addition, past studies like those of Chen (2018), Garrison et al. (1999), Lowenthal and Dunlap (2014), and Swan and Shih (2005) use
threaded discussion or forum discussion to identify either cognitive, social, or teaching presence in the text-based communication medium, which is different from the way MIM functions. Therefore, this study intends to address the following research questions:

1. How was cognitive presence represented in a mobile instant messaging platform?
2. How was social presence represented in a mobile instant messaging platform?
3. How was teaching presence represented in a mobile instant messaging platform?

Literature Review

One of the crucial aspects of having a successful learning experience is that learning should occur within the Community of Inquiry through the interaction of three main elements: cognitive presence, social presence, and teaching presence (Garrison et al., 1999). Each presence contains categories and indicators of a community of inquiry that guides educators to facilitate educational transactions, especially in the mediated learning environment.

One of the critical indicators to assess the quality and success of online learning is the achievement of cognitive presence (Garrison, 2017; Sadaf et al., 2021; Sezgin, 2021). In the Community of Inquiry (CoI) model, cognitive presence is characterized as how learners engage in deep reflection and meaningful discussions within a critical community, ultimately leading to the construction of knowledge. (Garrison et al., 1999). In other words, cognitive presence is related to how learners demonstrate higher-order learning processes (e.g., application, synthesis, and evaluation) and the extent to which the medium encourages or inhibits communication in the discourse. To operationalize and assess the cognitive presence, a practical inquiry model defines the outcome of collaboration in online learning. Students should be metacognitively aware of the phases of the practical inquiry model to manage and monitor their learning in a community of inquiry (Garrison, 2022). There are four phases to develop a cognitive presence in a community of inquiry: triggering events, exploration, integration, and resolution (see Garrison et al., 2001). These phases occur cyclically and can move back and forth depending on the communication within the community.

Social presence is another critical element in online learning environments (Waddington & Porter, 2021; Whiteside et al., 2017). Social presence can be characterized as the extent to which an individual is perceived as authentic and real within mediated communication (Gunawardena, 1995). The perception of being 'present,' 'there,' or 'real' is vital to have an emotional, interpersonal connection, especially where there is a physical distance in time and location in mediated communication. This distance, however, may contribute to less satisfaction in the virtual learning environment (Gunawardena & Zittle, 1997). The lack of social cues when using computer-mediated communication affects the possible depth of connection and leads to less communication, therefore, a less satisfying relationship between the individuals (Favotto et al., 2017; Turp, 2020). The inability to hear the tone of the voice and the facial expressions people are open to misinterpretation, which later harms the social relationship. Thus, in creating CoI, teachers must consider the medium that suits students to communicate openly and express emotions and collaboration. Without a trusting, stress-free, and friendly environment for educational exchanges, communication could be unstimulating (Wang et al., 2016), hence hampering learning.

The most important element in the community of inquiry framework is teaching presence (Garrison et al., 2010). Teaching presence refers to the deliberate planning, facilitation, and guidance of cognitive and social activities to achieve meaningful and valuable learning outcomes (Anderson et al., 2001). Teaching presence comprises the design and organization of the course,
facilitating discourse and direct instruction. To establish a teaching presence, a teacher must be the subject matter expert, an educational designer, a facilitator, and a teacher. These roles become complex, especially in a collaborative e-learning environment. Despite the lack of non-verbal cues, a community of inquiry can be created and sustained in computer-conferencing environments (Çakiroğlu, 2019; Garrison et al., 1999; Swan, 2021). However, teaching presence does not mean 'teacher presence,' where the teacher must be involved in every stage of the student interaction. There should be a balance between the “sage of the stage” and the “guide on the side” approach (Vaughn et al., 2013, p. 124). By striking a balance, instructors may efficiently impart knowledge and support learning while also enabling students to actively participate in their own learning.

In facilitating the development of these presences in an online learning environment, the teacher is responsible for designing a course that can develop cognitive, social, and teaching presence. When designing the course, teachers must consider a supportive environment that permits students to communicate and contribute comfortably to the learning environment (Anderson &Elloumi, 2008). When the environment is supportive and safe, communication can be sustained in the CoI. One of the ways to maintain CoI is by tailoring communication mediums suitable to the unique needs of a cohort, and the educators need to learn and familiarise themselves with the platforms (Hayes & Tucker, 2021). This means that teachers must prioritize the students’ preferred medium and invest time in adapting MIM to facilitate discussions effectively. Although MIM, such as Whatsapp, may provide a supportive environment, some teachers raised concerns about students’ need for scaffolding and their ability to learn autonomously (Naghdi pour & Manca, 2023). As higher education students, they should slowly learn to be independent in their learning but at the same time can reach out to teachers when needed. Hence, the teacher plays a vital role in designing a course that promotes students' autonomy and ensures they can ask for assistance whenever needed.

With the proliferation of mobile devices, communicating via instant messaging platforms is essential. The capacity to transmit and receive messages in real-time and maintain constant connectivity holds considerable importance for students (Hassan et al., 2018). Students are not restricted to communicating in specific places and times. The affordances like an instantaneous response (Klein et al., 2018; Tang & Hew, 2017), multimodal code(Robinson et al., 2015), and multi-medium enhances the messages conveyed and support the development of social presence. MIM has the potential to facilitate and encourage the development of a social presence in the classroom (Cronjé & van Zyl, 2022; Klein et al., 2018; Wang et al., 2016) since the application itself is a social messaging application. By leveraging the social nature of MIM and the affordances that MIM have, students can connect with their peers, have sustained communication, and build a supportive learning environment that can lead to more meaningful online learning experiences.

Furthermore, MIM also provides a risk-free environment with interactive features such as audio, video, emoticons, and stickers (Wang et al., 2016). Also, using multimedia elements is more convenient and effortless by showing effective responses with just one click/touch (Robinson et al., 2015). These features are less formal and can liven up text chats in a friendly manner. The students felt they had a more personal connection with their teachers through Whatsapp (Klein et al., 2018). It can also alleviate students’ stress and encourage greater participation among teachers and students (Sun et al., 2017). MIM has the potential to create a comfortable, safe, and risk-free environment for students since it is private, simple, user-friendly, has many interactive features, and students already use them daily.
As WhatsApp is one of the most popular messaging platforms, it is a valuable tool for teaching and learning because it can encourage positive attitudes toward self-learning (Yusoff et al., 2021) and small group collaboration (Qiao et al., 2017; Nuuyoma et al., 2020). However, despite the positive effects of MIM, Tang and Hew (2017) highlighted some challenges: messaging platforms designed for personal communication may not have the specific features and functionalities required for effective educational interactions. The students may also be unaware of particular features, and teachers must introduce and guide students to leverage them for academic purposes. Therefore, teachers play a critical role in making students aware of how to leverage the medium for effective learning.

**Method**

This study aimed to examine the portrayal of cognitive, social, and teaching presence among postgraduate students using MIM in a fully online learning environment. To answer these research questions, a qualitative content analysis approach was used. It is valuable insight to understand how the students portray these presences online, especially when using MIM, and how they utilize this medium to relay their messages.

**Participants**

In mid-October 2020, 23 students enrolled in this course at one university in Malaysia. However, only fifteen students were considered in this study, as depicted in Table One. Most postgraduates in this course worked as teachers and had either a Bachelor's or Diploma of Education. Computer-Assisted Language Learning (CALL) was an elective in a postgraduate course, and students usually selected it because of their interests. This subject lasted 14 weeks and an additional four weeks to submit the last assignment. Thus, the conversation via the MIM platform took place around 18 weeks. Students must complete all five assessments to pass the course. Generally, this course aimed to expose students to applications, theoretical perspectives, and approaches involving research and teaching of CALL.

**Table 1. Background information**

<table>
<thead>
<tr>
<th>Group</th>
<th>Students per group</th>
<th>Gender</th>
<th>Relationship history</th>
</tr>
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<tr>
<td>A</td>
<td>3</td>
<td>Three females</td>
<td>Two members were friends since undergraduates (~5 years), and two students were coworkers (~2 years). So, one member has a shared relationship with two members.</td>
</tr>
<tr>
<td>B</td>
<td>4</td>
<td>Four females</td>
<td>Two members have been friends since postgraduate (~1.5 years), and two students were new.</td>
</tr>
<tr>
<td>C</td>
<td>4</td>
<td>One male, three females</td>
<td>All of them just knew each other during the course.</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>Two males and two females</td>
<td>They have been friends since their postgraduate (~1.5 years).</td>
</tr>
</tbody>
</table>

**Research Instruments**

A coding scheme of presence indicators was developed for the data collection instrument. In this study, the underlying framework of this study element was based on the Community of Inquiry framework by Garrison et al. (1999). The dimensions and categories were taken from the framework, but the indicators were adapted from a few previous works (Garrison et al., 1999; Kilis, 2016; Rourke et al., 1999). These indicators served as the coding scheme to analyze the
occurrences of WhatsApp transcripts. To analyze the source of data, qualitative content analysis was applied. Qualitative content analysis is useful to illustrate the depiction of presences in this study. This process condenses raw data into categories based on valid inference and interpretation (Zhang & Wildemuth, 2009). Before analyzing the data, a set of indicators of presence was developed. Next, the messages from the instant messaging were transcribed, and thorough readings of the interactions were conducted. After reading the transcripts, indicators were revised, and final indicators were achieved after deliberating discussions on the initial coding process. The coding scheme is presented in Appendix A.

Research Procedures
At the beginning of the semester, the students were required to establish a group of three or four members and sustain the group until the end of the semester. As this was entirely online, they were required to create a private WhatsApp group that included their group members and the instructor. WhatsApp was selected because of the Global Web Index's 2020 Social Media User Trends Report. About 92% of Malaysians use WhatsApp as their preferred social media platform. The instructor's role was as a “guide on the side,” and students could ask questions directly to the instructor anytime in the group. In this study, researchers could only obtain the chat history from week four until week 16, a total of 13 weeks of conversation. This is because the first two weeks were unstable, where some students may register or deregister from the course, and the number could be finalized by the end of week two. Next, the researchers requested the students’ consent via Google Forms to become an observer in their group chat. The students may request to opt out of participating in this research at any time. The chat history was downloaded in a text file in early February 2021.

The transcript dataset consists of thirteen weeks of teacher and students’ chat messages, including text, images, stickers, emojis, hyperlinks, and screenshots of the document attached. All messages were kept as a reference to provide necessary context. If there were any messages that the students were unwilling to share with the researchers, they could be deleted through the WhatsApp delete feature by choosing “delete for everyone” after the message was sent, or they could reach out to the researchers to delete a particular conversation. The text’s deleted messages were signified as “This message was deleted” in the transcript.

Data Analysis
After downloading the transcripts, data analysis was conducted. The first analysis started when the first author and a research assistant familiarised themselves with the instances and communications in the platform. Then, by referring to existing literature, the researchers adapted from previous studies (Garrison et al., 1999; Kilis, 2016; Rourke et al., 1999) to code each message to specific dimensions and categories. The messages in the instant messaging platform varied from one utterance (including either one word, image, emoji, or document) to multiple sentences. The message here refers to “one message bubble” in WhatsApp. There were a few instances where one participant may type many sentences in one message. Thus, for this type of message, the researcher decided to code this message according to the most prominent code. Some messages contained more than one indicator, especially the expression of emotion using emoji at the end of the sentence. For this type of message, the indicator tagged to this message was focused on the text message, not the emoji. Overall, most messages communicated one utterance in one message.
Next, there were four sessions of coding for this study. In the first session, the researcher and research assistant familiarised the data obtained, coded 100 messages together, and refined the coding scheme. In the second session, 100 messages from the transcripts were coded independently. Inter-rater reliability analysis was conducted for this session, and the Kappa score obtained was 0.40, which was fair agreement. We revisited the coding scheme and discussed the discrepancies in the coding. For the third session, the Kappa score increased to 0.61, a moderate level, and the final session was 0.70. If there was any disagreement about the codes, the researcher conducted a negotiated coding process where we discussed thoroughly to gain agreement on the coded message. If no agreement was achieved, the researcher discussed the codes with the second author until an agreement was achieved. After all, messages were coded, the number of occurrences was calculated and tabulated in tables.

### Results

Overall, there were 2074 text messages that students produced for 13 weeks. The frequencies according to the three presences are presented in Table Two. Based on Table Two, group A had 315 messages, Group B had 265 messages, group C had 687 messages, and Group D had 807 messages. Generally, Group A and B had fewer text interactions than Group C and Group D. Generally; social presence was the most prominent element observed in MIM platforms, followed by teaching and cognitive presence.

The distribution of cognitive, social, and teaching presences was not evenly distributed as expected in the instant messaging platform. Social presence was the highest presence demonstrated in 1397 instances, similar to a study by Qiao et al. (2018) and Tang and Hew (2017), followed by teaching presence in 525 instances and cognitive presence in 152 instances. The result showed that 67.4% of the messages demonstrated social presence, while teaching presence was about 25.3% of all messages, and cognitive presence was least displayed, 7.3%. Cognitive presence was also the least observed in other studies (Qiao et al., 2018; Tolu, 2010).

### Table 2. Frequencies according to three presences

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<th>Elements</th>
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<th>Group B</th>
<th>Group C</th>
<th>Group D</th>
<th>TOTAL</th>
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<td>0</td>
<td>0</td>
<td>144</td>
<td>152</td>
</tr>
<tr>
<td>Social Presence</td>
<td>231</td>
<td>197</td>
<td>504</td>
<td>465</td>
<td>1397</td>
</tr>
<tr>
<td>Teaching Presence</td>
<td>76</td>
<td>68</td>
<td>183</td>
<td>198</td>
<td>525</td>
</tr>
<tr>
<td>TOTAL</td>
<td>315</td>
<td>265</td>
<td>687</td>
<td>807</td>
<td>2074</td>
</tr>
</tbody>
</table>

Table Three presents the frequencies according to categories for each presence. Each presence was categorized according to several categories that indicate each element. In terms of the way each group demonstrated presence, all groups did display social presence as the most demonstrated presence, which Interactive Responses (IV), such as disclosing personal thoughts and feelings (self-disclosure), asking questions, showing agreement, and showing appreciation were the highest indicators as shown in Table Three. Then, it was followed by teaching presence, and the most frequent indicator was Direct Instruction (DI). The students mainly displayed this indicator.

Nevertheless, there were interesting results on cognitive presence. Group A, B, and C did not display cognitive presence as much as Group D in the instant messaging. Group A displayed eight instances, none from groups B and C, but about 144 instances (18%) of the total message
depicted cognitive presence. The integration phase was the most prominent indicator observed in the MIM platform under this element. This result is interesting because other groups did not portray as much cognitive presence on this platform.

Because of these differences, groups A, B, and C displayed about 73-74% of the total interactions to establish a social presence; the remaining was a teaching presence. Unlike group D, 58% of the interactions were related to social presence, 18% were cognitive, and 24% to teaching presence. If we look closely at the categories in Table Three, most social presences indicated by these students were interactive responses, which led to open communication among group members. However, it was noteworthy for group D to observe that they portrayed cognitive presence more than other groups in instant messaging, where the integration phase was the most dominant. For groups A, B, and C, it does not mean they did not exhibit any cognitive presence. In personal communication with the group members, they prefer to use Google Meet to discuss rather than using MIM.

Table 3. Frequencies according to categories for each presence

<table>
<thead>
<tr>
<th>Element</th>
<th>Categories</th>
<th>Group A</th>
<th>Group B</th>
<th>Group C</th>
<th>Group D</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Presence</td>
<td>Triggering Event</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Exploration (EX)</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>38</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>Integration (IT)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>93</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>Resolution (RE)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Social Presence</td>
<td>Affective Responses</td>
<td>43</td>
<td>19</td>
<td>134</td>
<td>90</td>
<td>286</td>
</tr>
<tr>
<td></td>
<td>Interactive Responses</td>
<td>112</td>
<td>124</td>
<td>250</td>
<td>244</td>
<td>730</td>
</tr>
<tr>
<td></td>
<td>Cohesive Responses</td>
<td>75</td>
<td>54</td>
<td>120</td>
<td>127</td>
<td>376</td>
</tr>
<tr>
<td>Teaching Presence</td>
<td>Design and</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Organisation (DO)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Facilitating Discourse</td>
<td>25</td>
<td>20</td>
<td>54</td>
<td>53</td>
<td>152</td>
</tr>
<tr>
<td></td>
<td>Direct Instruction</td>
<td>52</td>
<td>48</td>
<td>128</td>
<td>149</td>
<td>377</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>315</td>
<td>265</td>
<td>687</td>
<td>807</td>
<td>2074</td>
</tr>
</tbody>
</table>

In summary, social presence was the most prominent presence, followed by teaching presence and cognitive presence. The distribution of these presences was not evenly distributed in the MIM platform. Social presence was the highest, observed in 1397 instances, followed by teaching presence in 525 instances and cognitive presence in 152 instances. Notably, cognitive presence was the least displayed, representing only 7.3% of the instances. Group D exhibited a higher level of cognitive presence than other groups. In the following section, we will discuss the findings in relation to other studies.
Discussion

To answer the first research question, how cognitive presence was represented in the MIM platform, categories of cognitive presence were not observed much in the study. In this study, students who just knew their group members during the semester did not portray cognitive presence much in MIM but rather to those with a prior history of working as a group. For group members that had a history previously (for example, group D), they tend to move to cognitive presence much quicker, and the process of critical thinking was observed in the MIM. They were also able to sustain communication much longer than those who did not have prior working experiences together. This study indicated that the result is consistent with Qiao et al. (2018) research, which suggests that students prefer to use MIM for social purposes rather than academic purposes. This is because of the social nature of MIM platforms that encourage students to engage in non-academic conversations more than academic interaction. A specific learning management system tailored to educational purposes is a better choice as it separates personal and academic contexts. However, if students have limited time in the community, for example, just one week, they would manifest cognitive presence more in MIM (see Cronje & van Zyl, 2022) since they must achieve specific course outcomes within the stipulated time and cognitive presence was the priority.

For the second research question on how students demonstrate social presence using MIM platforms in fully online learning environments, social presence is expected to be the most demonstrated presence. Many studies, like those of Klein et al. (2018), Qiao et al. (2018), and Tang and Hew (2020), suggest that MIM contributes to the manifestation of social presence rather than other presences. MIM provides a better user experience and more significant social influence due to the medium’s affordances. Many MIM affordances support social presence, for example, instantaneous response (Klein et al., 2018; Tang & Hew, 2017), multimodal code systems that include text, audio, video, and document (Robinson et al., 2015), and multi-medium, where it can be used either in smartphones, tablet, or desktop computer. Such versatility and flexibility of a communication medium can enhance the messages conveyed, thus improving satisfaction in communication in a mediated environment. Many scholars like Gunawardena and Zittle (1997), Richardson and Swan (2003), and Tu (2000) suggest that students with higher social presence feel more satisfied in their learning, and learning retention is better. Hence, students should have adequate time to develop their social presence.

Furthermore, interactive responses in MIM were more prominent among the three social presence categories. Because of the distance where they could not meet each other, the students were willing to be more accommodative, responsive, and appreciative towards their friends. This study agrees with Klein et al. (2018), where the students felt that the relationship between students and teachers on the WhatsApp platform was much closer. Feelings of isolation and loneliness can contribute to stress and mental health issues when learning online (Stewart & Lowenthal, 2022), so using WhatsApp can alleviate this stress. Gestures such as saying ‘thank you’ or demonstrating simple actions such as sharing links or documents and reacting to messages by showing emojis or stickers can help students lessen the stress of using mediated communication. Sun et al. (2017) emphasized that MIM can alleviate students’ stress and increase engagement among lecturers and students. It promotes healthy and closer relationships among group members and instructors who have just known each other and have not met physically.
For the third research question on how students demonstrate teaching presence using MIM platforms in fully online learning environments, only two teaching presences were observed: facilitating discourse and direct instruction. In this study, the students were primarily the ones who demonstrated the teaching presence. Despite some educators’ concerns about students’ dependence on teachers’ scaffolding and capacity for independent learning (Naghdipour & Manca, 2023), in this study, students took control in facilitating discussions and giving direction. However, active student participation depended upon the teacher’s way of designing and organizing the course. Course information and materials, such as the platform of delivery, mode of delivery, lesson activity sequence, assessment mode, and integration of scaffolding principles, were clear and accessible to all students at the beginning of the semester. These materials serve as additional means of support, extending beyond mere interactions, and play a role in guiding the learning process in an online environment.

The instructor should consider offering a platform that resonates with students to enhance interactions and engagements in an online setting. The use of Whatsapp as the chosen MIM platform was appropriate because it is the most used MIM application in the world (Kemp, 2021). Based on this study, the scaffolding process in an online environment is effective when the instructor provides one platform to provide resources and task-related information and one platform, preferably synchronous, for communication. In MIM, students can communicate with their peers freely, and the instructor can facilitate them personally according to their needs. Thus, it will give more worthwhile learning experiences for the students.

This study highlights the importance of establishing a supportive and interactive learning environment within MIM platforms by recognizing the prevalence of social presence and the significance of teaching presence. The observation of cognitive presence being the least displayed raises awareness about the need to address the imbalance and foster deeper cognitive engagement among postgraduate students. The implications of these findings are relevant for educators and instructional designers who are involved in developing interventions that foster critical thinking, reflection, and active participation within MIM platforms.

Conclusion
This study investigates the representation of cognitive, social, and teaching presence among postgraduate students utilizing MIM in a fully online learning environment. The aim was to answer first how cognitive presence was represented in the MIM platform. Second, how was social presence represented in the MIM platform? Third, how was teaching presence represented in the MIM platform? In summary, social presence emerged as the most prominent, followed by teaching and cognitive presence. However, these presences were not evenly distributed within the MIM platform. Social presence was the highest, observed in 1397 instances, teaching presence in 525 instances, and cognitive presence in 152 instances, representing only 7.3%. Although the initial purpose of creating groups in MIM is to develop a sense of knowledge inquiry (i.e., cognitive presence), it was not present much in this MIM platform. Unless the group members had a previous history of working together, cognitive presence was observed in MIM. Moreover, students also demonstrated their teaching presence by facilitating the discourse and giving direct instruction to their group members. For postgraduate students, the opportunity to demonstrate teaching presence is essential to familiarise them with becoming scholars in their field. The instructor’s role as a “guide on the side” should be complemented with adequate resources and guidance.
However, this study has limitations because it only focuses on one platform, MIM, and only descriptive analysis is used to analyze the presence. Future research could investigate a combination of platforms (e.g., MIM and video conference) regarding how students choose which platform to demonstrate which presence. Investigating students’ experiences and perceptions of using MIM as a medium of communication in a fully online learning environment can add more depth to this study.

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References


### Appendices

**Appendix A: Coding scheme for cognitive, social, and teaching presence**

<table>
<thead>
<tr>
<th>Elements</th>
<th>Categories</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cognitive Presence</strong></td>
<td>Triggering Event (TE)</td>
<td>Recognizing problem</td>
</tr>
<tr>
<td></td>
<td>Exploration (EX)</td>
<td>Divergence of idea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exchanging Ideas</td>
</tr>
<tr>
<td></td>
<td>Integration (IT)</td>
<td>Suggestion for consideration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Convergence among group members</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Connecting ideas, inference, synthesis</td>
</tr>
<tr>
<td></td>
<td>Resolution (RE)</td>
<td>Creating solutions</td>
</tr>
<tr>
<td><strong>Social Presence</strong></td>
<td>Affective Responses (AF)</td>
<td>Expression of emotion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Use of Humor</td>
</tr>
<tr>
<td></td>
<td>Interactive Responses (IV)</td>
<td>Self-disclosure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Apology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Referring explicitly to other's messages</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Asking questions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expressing appreciation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expressing agreement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Expressing disagreement</td>
</tr>
<tr>
<td></td>
<td>Cohesive Responses (CO)</td>
<td>Inviting, suggesting</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vocatives - addressing peers by name, title, honorific, endearment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Addressing the group as we, us, our, group</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Communicating solely for social function (greeting, opening, and closing) or Phatic expression (maintaining social relationships than imparting information)</td>
</tr>
<tr>
<td><strong>Teaching Presence</strong></td>
<td>Design and Organization (DO)</td>
<td>Communication of course goals, methods, or topics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Establishing time parameters</td>
</tr>
<tr>
<td></td>
<td>Facilitating Discourse (FD)</td>
<td>Identifying areas of agreement/disagreement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Seeking to reach a consensus/understanding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Encouraging, acknowledging, or reinforcing student contribution</td>
</tr>
<tr>
<td></td>
<td>Direct Instruction (DI)</td>
<td>Drawing in participants, prompting discussions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Assessing the efficacy of the process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Present content/questions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Focus the discussion on specific issues and task</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Summarise discussions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Responding to technical concerns</td>
</tr>
</tbody>
</table>
ESL Learners’ Qualitative Perspective on Learner-to-Instructor Interaction in Blended Environment

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Abstract
English language proficiency exceptionally verbal communication is essential in achieving Sustainable Development Goal four, which is a good quality higher education. Nevertheless, past literature reported a lack of verbal communication among the graduates of English as a second language. Due to the emphasis on technology integration in Malaysian Education Blueprint 2015-2025, blended learning has been widely implemented in most tertiary institutions. However, learners complain they face challenges during verbal communication learning, particularly in learner-to-instructor interaction in a blended environment. Therefore, this study explores the learners’ opinions regarding learner-to-instructor interaction for verbal communication learning in a blended environment. The result of this research is substantial to English language instructors, curriculum designers, and English language learners as the input provides the information to understand the phenomenon in-depth and suggestions to improve verbal communication problems in learner-to-instructor interaction in the blended learning environment.

The research question this study intends to answer is “What are the informants’ opinions on learner-to-instructor interaction for verbal communication learning in a blended environment?”. This study employed qualitative research inquiry, particularly phenomenological design, and the data was collected through semi-structured interviews, written accounts, and a focus group discussion. The data was then analyzed using thematic analysis. The findings revealed two significant themes related to the phenomenon: the roles of the instructor and the issues in the learner-to-instructor interaction as well as six sub-themes. Future studies might consider including English language instructors to obtain different perspectives.

Keywords: blended learning, English as a second language, learner-to-instructor interaction, verbal communication, qualitative perspective

Introduction

Sustainable Development Goal 4 (SDG4) aims to achieve good quality higher education (Marshall, 2019). English language proficiency exceptionally verbal communication, plays a crucial role in achieving the aim of SDG 4. The significance of English language proficiency has also been emphasized in the Roadmap for English Language Education 2015-2025. However, past literature reported that ESL graduates still face verbal communication problems (Rafiq & Hashim, 2018; Mohd Puad, 2018). ESL graduates face challenges in verbal communication and therefore fail to perform well during job interviews. Lack of verbal communication has become one of the significant causes of ESL graduates’ employability (Rajendran & Yunus, 2021). Subramaniam, Shaharudin, Abdul Hamid and Abdul Wahab (2021) pointed out that inadequate English communication skills among graduates are attributed to the rise in graduates' high unemployment rate. This is because potential employers see the ability to communicate in English as a significant competency (Fabian, Xian, & Yunus 2022). This indicates good communication competence is crucial.

Due to the verbal communication problem among ESL tertiary learners, it is crucial to look into the teaching and learning approaches of ESL education, including verbal communication (Yunus, Hashim & Hashim 2019). Alsowayegh, Bardasi, Graba, and Sipra (2019) stated that it is vital for tertiary students to have good communication competence. The ninth shift of the Malaysian Education Blueprint 2015-2025 emphasized technology integration in teaching and learning at tertiary institutions. Therefore, blended learning has been widely used for ESL teaching and learning at higher learning institutions. The ESL instructors have also employed blended learning for teaching verbal communication in ESL classrooms. Nevertheless, ESL tertiary learners complained they face challenges learning verbal communication in a blended environment, particularly in learner-to-instructor interaction.

Past studies have reported the problems encountered by learners in learner-to-instructor interaction in blended ESL classrooms. Among the challenges faced by ESL learners in learner-to-instructor interaction include difficulty communicating and delayed instructor feedback (Paudel, 2020). If these challenges are not addressed, ESL learners will keep having problems in learner-to-instructor interaction. Consequently, there will be less interaction between the learners and instructors, and learners’ verbal communication problems will be challenging to tackle. Several authors attempted to solve learners’ difficulties in learner-to-instructor interaction using online approaches. Among the strategies employed to enhance the learner to instructor interaction were the cloud-based interactive code notebook (Borowczak & Burrows, 2017) and VLEWebIntera (Chen, Xu, Tang, & Chen 2017).

To solve learners’ problems related to learner-to-instructor interaction, a few researchers employed technology-integrated teaching and learning techniques. For instance, Al-Murtadha (2019) examined the effects of video games on 206 Yemeni learners’ verbal communication for six weeks. The researcher found that using video games helped the students increase their confidence level and reduced anxiety when speaking in English with their peers and lecturer. In a similar vein, Panah and Babar (2020) investigated the use of WhatsApp social media applications for learner-to-instructor interaction. In addition, Tang (2021) studied learner-to-instructor interaction in Massive Open Online Communication (MOOC). However, fewer in-depth studies have been conducted to investigate the learners’ challenges related to learner-to-instructor interaction in a blended environment. This is because
the current studies on the phenomenon employed quantitative and mixed-method designs (Abdul Rahman et al., 2020; Muhamad Rusly, Abd Aziz, & Ngadiron., 2020). Existing qualitative studies focused on case study design (Ansarimoghaddam, Tan & Yong., 2017; Hamdan, Mohamad & Shaharuddin., 2017). Thus, there is a strong need for this qualitative phenomenological study to be conducted. This study aims to explore ESL informants’ opinions on learner-to-instructor interaction for verbal communication in a blended environment. The result of this research is substantial to English language instructors, curriculum designers, and English language learners as the input provides the information to understand the phenomenon in-depth and suggestions to improve verbal communication problems in learner-to-instructor interaction in the blended learning environment. The objective of this study is to explore the ESL learners’ views on the interaction between them and their instructor in the blended environment during verbal communication learning. This research intends to answer the following research question:

What are the informants’ opinions on learner-to-instructor interaction for verbal communication learning in a blended environment?

This paper begins with the introduction section which provides the research problem, the significance of the study, and the research objective. Then, it reviews the key terms and the theory used in the research. Other than that, this paper also describes the methodology of the research, following by the discussion of the findings. Finally, this paper concludes the overall study by providing the implications and future recommendations.

**Literature Review**

The phenomenon of this study is explained using Moore’s Interaction Framework. It is also called Interactivity Theory. According to Moore (1989), interaction is a reciprocating communication process between humans and between humans and non-humans, such as computer and human contact. This framework focuses on the three types of remote learning interaction: learner-content interaction, learner-teacher interaction, and learner-learner interaction. Moore’s Interaction theory is relevant to the phenomenon of this study as it has the element of learner-to-instructor interaction. This element can help to understand the phenomenon of the study which is learner to instructor for verbal communication in a blended environment.

Moore's Interaction Framework is frequently utilised in distance learning, however, it may be applied to any educational format, including the design of communicative blended learning courses (Zimmerman, 2012). This is because implementing a blended learning course includes both face-to-face and online education. Good interaction between learner to instructor is the fundamental component of effective blended learning practice. This interaction supports the development of various course components for blended learning. Since Moore's Interaction Theory addresses essential aspects of the design, it should be carefully considered in the blended learning implementation for ESL learners’ verbal communication.

Learner-to-instructor interaction in Moore’s Interaction Framework is the relationship between the learner and the instructor. It includes motivation, instruction, and evaluation. A well-designed course can encourage appropriate interaction between the instructor and the students, and the instructor will decide on the practical outcomes. Frequent student feedback and scheduled synchronous meetings between instructors and students are important in a course. Interactions between the instructor and the students are essential in a blended learning...
Significant interaction between the learners and the instructor is vital to enable the instructor to conduct the lesson effectively. For instance, the instructors could create an interactive atmosphere for the learners’ communication practice (John & Yunus, 2021). Learner-instructor interaction has been identified as a frequent type of interaction in a study by Taghizadeh and Hajhosseini (2020). This is because information could be passed between members of the learning community more easily through effective communication. Whether in a face-to-face or online classroom, effective engagement enables students to absorb information from their instructors effortlessly. Effective interaction between learners and instructors is essential for implementing blended learning in ESL classrooms, particularly during communication lessons.

Instructors play significant roles in learner-to-instructor interaction during verbal communication teaching and learning in a blended environment. Nyathi and Sibanda (2022) stated that “instructors have a strong influence towards the learners’ learning experience” (p. 4). As the instructors facilitate the learners’ learning process they are considered the drivers of the learning experiences (Quadir, Yang, & Chen., 2022). Instructors’ efforts in learner-to-instructor interaction provide opportunities for the learners to make connections and communicate with the other learners. In the context of verbal communication teaching and learning in a blended environment, the instructor’s role is essential too. Thus, the quality of learner-to-instructor interaction in a communicative blended learning environment must be good to maximize the learning experience of verbal communication.

Past studies which were related to learner-to-instructor interaction for verbal communication in blended learning reported some of the challenges in the interaction. One of the challenges is the problem with an internet connection (Shin & Yunus, 2021). This issue has been widely discussed by previous researchers. Internet connection has become a common technical issue in learner-to-instructor interaction in communicative blended learning environments. Other challenges in learner-to-instructor interaction related to the learners themselves such as learners’ lack of motivation, learners’ challenges in using digital tools, and others. Other than that, learners’ challenges in learner-to-instructor interaction in blended learning are also related to learners’ language anxiety (Santhanasamy & Yunus, 2022). Furthermore, problem in learner-to-instructor interaction also includes a delayed response from the instructors (Paris, 2022).

Few other studies focused on various patterns of social interaction between the learners and instructors in a blended learning environment, Alzamil (2021) spotlighted social interaction between the learning community as one of the crucial components. Similarly, few other studies reported the role of instructor particularly in facilitating the learning process has a strong influence over the learners’ overall learning experience (Nyathi & Sibanda, 2022; Quadir et al., 2022). On the subject of social interaction in a blended learning setting, Manoharan, Hua & Sultan (2022) offered a different viewpoint. These researchers found that blended learning reduced the amount of time that students and lecturers spent interacting socially through online, leaving less time for questions from the students concerning the course material. Thus, there is a need to look into the social interaction between the learners and instructors in-depth due to the differing views among scholars about the interaction between learners and instructors. Besides, there are fewer in-depth studies on ESL learners’ opinions on learner-to-instructor interaction for verbal communication learning in a blended environment. Hence, this study is required to explore the phenomenon of learner-to-instructor interaction in a blended...
environment in detail.

**Method**

This research employed qualitative research inquiry to explore the informants’ opinions on learner-to-instructor interaction during verbal communication learning in a blended environment. The goal of qualitative study is to find and comprehend people's experiences concerning their attitudes, values, and culture (Merriam, 2009). A phenomenological research design was selected for this study to obtain in-depth information about the phenomenon investigated in this study. Langridge (2007) emphasized phenomenology as a “study of human experience and how things are perceived as they appear to consciousness (p. 10). The phenomenological research design helps to obtain the underlying meaning of the studied phenomenon.

**Participants**

The informants for this study were chosen from a selected tertiary institution from the final semester of the year 2022 based on purposive sampling. Ten ESL tertiary learners were chosen to participate in this study, as suggested by Creswell and Poth (2018) and Polkinghorne (2005). These qualitative researchers recommended five to 25 informants for a qualitative study. These are final-year tertiary students at the institution. Merriam (2009) stated that informants with significant experiences with a phenomenon could provide accurate information about it. Several predetermined criteria were set before choosing the informants of the study such as (i) the informants must have the experiences of the phenomenon studied so that they can provide first-hand information, (ii) the informants must have taken English proficiency courses, (iii) the informants must be willing to be approached at least two times. Apart from that, key informants’ criteria by Marshall (1996) were also considered for the selection of the informants. Four criteria, such as roles in the student community of practice, willingness, communicability, and impartiality were considered. Pseudonyms were used to address each informant instead of the actual name to ensure anonymity.

**Research Instruments**

Several instruments were used in this study for data collection. The data for this study is gathered through the main research instrument, semi-structured interviews. Among the benefits of the semi-structured interview is it enables the researcher to ask open-ended questions that are more flexible (Merriam, 2009). Semi-structured interviews help produce rich and precise information during the data collection process (Bloomberg & Volpe, 2016). An interview protocol was developed based on Interview Protocol Refinement Framework by Castillo-Montoya (2016). There are four stages involved in the development of the interview protocol. Firstly, the researcher ensured the interview questions were consistent with the purpose of the study. Then, the researcher used the inquiry-based conversation to create the interview questions. Introductory questions, key questions, and transition questions were among the types of questions used in the interview protocol. Thirdly, the researcher sent the interview protocol to two experts from TESL and technology in education background. These two experts have more than ten years of working experience related to their expertise. Then, the interview protocol was amended according to the feedback provided by the two experts. Finally, the interview protocol was used in a pilot study to check if the questions were appropriate.
Apart from semi-structured interviews, written accounts, and focus group discussions have also been employed to collect the data for this study. Langridge (2007) emphasized that written accounts help to encourage deep reflection on the issue studied. Focus group discussion, on the other hand, is beneficial when the informants are reluctant to open up during one-to-one interviews (Krueger & Casey, 2014).

**Research Procedures**

The researcher prepared an interview consent form before the data collection. The informants were required to sign the consent form before they participated in the interview session. The researcher told the informants that the interview session would be conducted for approximately one hour, and the interview session would be audio-recorded. The study's informants were given lots of time and complete freedom to express themselves during the interview sessions. During the interview sessions, the researcher made notes on the nonverbal actions of the informants. The same researcher performed each interview session using the interview protocol as guidance. All informants provided satisfactory answers to the interview questions. There is no monetary reward for the informants' participation. The researcher transcribed the interview sessions with the informants and did initial coding for the transcriptions. Other than that, the researcher also gathered information from written accounts and focus group discussions.

**Analysis**

The data gathered from this study was organized in Atlas. Ti 9 and thematic analysis were employed to analyze the data. The researcher used thematic analysis as Braun and Clarke (2006) recommended. It involves six steps such as getting familiarized with the data, assigning preliminary codes, creating the themes, reviewing the themes, defining the themes, and producing the written report based on the themes. The researcher began with the initial coding process and then continued identifying categories based on the codes. The coding process is done based on the literature review and in the context of the research question of this study. Later, the identified categories were combined to create the themes related to the study.

**Rigour and Trustworthiness**

The researcher has employed several methods, as recommended by Merriam (2009), to ensure the rigor and trustworthiness of the data from this study. Among the methods used for data trustworthiness for this study were member checking and triangulation. Interview transcripts were sent to the informants, and they were asked to check the transcripts. The researcher did member checking during and after the data collection stage. Other than that, the researcher also used triangulation to ensure the data's trustworthiness. Merriam (2009) emphasized four types of triangulation commonly used in qualitative research: multiple investigators, multiple methods, multiple sources of data, and multiple theories. However, the researcher employed methods of triangulation for this study. The information obtained from the informants during the interviews was triangulated with the responses from the informants’ written accounts and a focus group discussion.
Results

Two themes were derived based on this study's data analysis: the roles of the instructor and the problems. Based on these two themes, six sub-themes have emerged. Three sub-themes were derived for Theme one, and another three were derived for Theme two. A summary of the themes and sub-themes is shown in Table One.

Table 1. Summary of main themes and sub-themes

<table>
<thead>
<tr>
<th>Research question</th>
<th>What are the informants’ opinions on learner-to-instructor interaction for verbal communication learning in a blended environment?</th>
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<td>Theme</td>
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<td>Sub-themes</td>
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</table>

Theme One: Roles of Instructor

According to the data analysis, the first theme derived was the roles of the instructor. The analysis revealed three roles of the instructor: encouragement, guidance, and knowledge provider.

Sub-theme One: Provides Encouragement

It has been discovered from the findings that the instructor in a blended ESL classroom has a significant impact on the students' learning of communication. The informants said their instructor gives them the motivation and encouragement to speak English. Sofea mentioned, "my lecturers always encourage their students to speak in English so we can learn together" (Sofea_wa). This is also supported by what Sofea mentioned during the interview, "lecturers make us feel more confident to speak in the English language. It makes us less fear, and we do not feel afraid to make mistakes" (Sofea_int). Eddie added that the interaction between the instructor and the students boost their confidence level, “it increases our confidence” (Eddie_Fgd). In a similar vein, Man concurred that speaking with the instructor gives him more self-assurance. He mentioned the following during the focus group discussion.

Based on my experience, talking with our instructor in English and he responds in English makes me confident. It gives me the vibe that the instructor looking at me as a student. I can feel that. If a student tries to speak with them no matter how broken it is, it gives them confidence. It gives them joy

The informants seem to prefer getting encouragement from their instructors, probably because they perceive it as a booster for them to interact more with their instructors. The positive vibe from the instructor helps boost the informants’ motivation to actively participate in learner-to-instructor interaction in a blended environment.
Sub-theme Two: Provides Guidance

Moreover, the informants related the role of an instructor in a blended environment with guiding them in communicating in English. The informants revealed that the instructor gave them communication-related tips and techniques. This can be seen in, “my lecturers try to educate me like how I should communicate with them” (Eddie_Fgd), “my lecturer gives tips to communicate” (Yam_int), “sometimes they give us the information how to pronounce, how to use the words” (Sue_int), “we will having a group discussion with a group member and also with the lecturer. It will help us in the way communicate with other” (Syida_wa). Additionally, the informants reported that their instructor corrects their grammar while they are interacting. For instance, Sofea stated that her instructor guides her in terms of grammar while speaking, “they will correct me if my grammar goes wrong. I always have problems with my past tense present tense, so it is important to me to improve my English. For me, the instructor helpful” (Sofea_Fgd). This is also supported by her written accounts, “They also will correct me if my grammar goes wrong”(Sofea_wa). Furthermore, Syida also added that she could easily have discussions on grammar with her instructor.

The informants also mentioned how helpful it is to engage with their instructor, particularly when they need clarification on an assignment. The instructor's guidance aids the informants in better understanding their tasks and instruction. Yam stated, “If there is anything that I do not understand about any assignment or task, I will ask my instructor” (Yam_int). The man added, “When interacting with the lecturers, I talked more about the lesson things” (Man_int). Similarly, Sofea stated, “We can ask about the assignments during the class or when the class is about to finish. We can also have consultations regarding our assignments” (Sofea_int).

When the informants mentioned obtaining guidance from their instructors for their social interaction in a blended environment, it shows they appreciate their interaction with the instructor. This is also indicated that the informants of the study valued the interaction between them and instructors in a blended learning environment.

Sub-theme Three: Knowledge Provider

According to the data analysis, the role of the instructor was explained as a knowledge provider. The informants felt that their interaction with their instructor was essential in learning verbal communication as the instructors were more knowledgeable. This can be seen in “instructors have more knowledge, and they know how to make the students understand the lesson they are teaching” (Rina_int). This is also supported by Man, “It’s very good..it’s very important..It’s because instructors they have a full knowledge what I mean that is they have been trained and they know what they are doing”(Man_int). Eddie also mentioned that “I like to communicate with my lecturers using English because they know our level, they know how to speak with us” (Eddie_int). The informants viewed their instructor in social interaction as a knowledge provider most probably because they depend on their instructor in ESL blended environment. This could be the reason why the informants regarded learner-to-instructor as the most important type of interaction.

Theme Two: Problems

The responses to semi-structured interviews, written accounts, and a focus group discussion have shown that the informants had several challenges when interacting with their

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instructors. The challenges mentioned by the informants included technical issues, learners’ attitude problems, and communication issues with the instructor.

Sub-theme One: Technical Issues

The informants stated having trouble with internet connection regarding technical issues. This can be seen in some of the verbal responses from the informants, “that was online time. My lecturer asked us whether there is any question to ask. I was about to ask but suddenly the screen went blank” (Sofea_int), “it is challenging. If it is face to face, there is not lost of connection, but blended learning consists of online too. So the problem is the internet coverage” (Rina_int), “sometimes my internet has a problem too” (Eddie_int).

The comments from the written account created by the informants also corroborate the idea that there are internet connection problems., “But the biggest problem during online class was lost of connection which there is not much coverage at my place. Sometimes the Google Meet will pause” (Sofea_wa), “online class it will have many obstacles such as internet problems”(Atie_wa). The responses provided by the informants during the focus group discussion also supported the issue of connection, “for the online it is obviously my internet connection” (Eddie_fgd), “When it comes to the online class, yes, it is same which is my internet connection” (Sofea_Fgd), “if online classes, I think it’s hard because the loss of connection sometimes” (Elle_Fgd).

The informants also mentioned the issue with sound as a technical issue. Due to the sound problem, the informants could not hear clearly during class and could not comprehend what was being taught. “If online sometimes I cannot understand because maybe their voice is too loud and then too slow so that affects my learning” (Eddie_int). The response given by Eddie during the focus group discussion supported what he mentioned earlier, “For the online, it is quite hard for me like talking with my lecturer. Sometimes, I hear like robot sound so I cannot understand what they are trying to say. I am not sure if I say something they can clearly hear me or what” (Eddie_Fgd). Similarly, a few other informants also mentioned the same issue, “online class will have many obstacles such as noise problems”(Atie_wa), “there will be a sound problem when there is an online class” (Yam_int). Technical issues during learner-to-instructor interaction in a blended environment are probably due to different geographical locations.

Sub-theme Two: Learners’ Attitude

In addition to technical problems, the informants discussed their personal attitude problems when speaking with their instructor. They admitted having issues speaking up in class and feeling uneasy when asking questions. Sofea mentioned, “When I want to communicate with my lecturer, I feel shy. I know my English is not good. I feel difficult to talk and I feel shy to ask questions. This was at the beginning. When I started to have a good bond with the lecturer, I do not feel shy anymore and can do anything” (Sofea_int). On the other hand, Elle stated that “During face-to-face classes, I am quite shy, so, I don’t like to ask them” (Elle_fgd). Eddie, on the other hand, mentioned, “For face to face my confident level well sometimes I don’t have the confidence to ask them some questions that I really need the answer to” (Eddie_int). During the focus group discussion, Eddie added, “I think sometimes my confidence level is quite down. I rarely speak with them. So, I don’t want to take any chance to speak with them” (Eddie_Fgd).
The informants’ attitude problems, such as feeling uneasy about asking questions, being shy to speak, and being less confident in learner-to-instructor interaction, are possibly due to their being second language learners. Generally, second language learners face language anxiety when they have below-average language proficiency.

Sub-theme Three: Communication Issue with the Instructor

Communication problems with the instructor were another difficulty that the informants encountered during learner-instructor interactions. The informants highlighted several communication problems with their instructor, including misunderstandings, delayed feedback, and a lack of one-on-one time. Ara explained, “When we ask questions using OleS or Google Classroom, we will receive a late reply. That is the challenge” (Ara_int). A few other informants mentioned their limited time with their instructor, “Our time with the lecturers is so limited” (Man_int). Syida added, “during online class, when I want to ask a question to the lecturer, other students will be asking as well. So, the lecturer might not notice my question,” (Syida_int). Other informants talked about misunderstandings between the instructors and themselves. Elle stated, “I think the online classes are more difficult because when I say something, the lecturer is not quite understood” (Elle_int). Another informant, Sue also had a similar opinion with Elle.

Sometimes the way they talk we don’t understand but it is more like an online classroom like I said earlier they post something on Google Classroom and OleS and those kinds of things. So, sometimes when we try to communicate with them and try to ask them about all those kinds of things about all those questions they will misunderstand. So, sometimes they said to us that we did not understand, and sometimes it might upset us because we tried to learn all those kinds of things but whenever we ask it is always like a misunderstanding. So, the communication there is quite challenging.

The informants’ concern about the challenges they face in learner-to-instructor interaction is due to online communication learning. This showed that the informants face fewer challenges in conventional face-to-face learner-to-instructor interaction.

Discussion

This study aims to explore ESL learners’ opinions on learner-to-instructor interaction for verbal communication learning in a blended environment. In a blended learning environment, instructors are crucial to the verbal communication development of ESL students. In Interaction Framework, Moore (1989) accentuated that educators must fulfil their duties by motivating students. The study’s informants emphasized the value of their instructors in helping them to enhance verbal communication in a blended environment, particularly in terms of offering support and encouragement. This is consistent with what Moore wrote about the instructor’s role in the Interaction Framework. Although Moore spoke about the roles of teachers in distant learning, this statement can also be used for blended learning as it combines traditional classroom instruction with online components. Similar to the findings of this study, previous studies like Quadir et al., (2022) also revealed that the instructors’ role as a facilitator is the driver of the informants’ learning experience during verbal communication learning in a blended atmosphere. Moore (1989) pointed out the need for instructors to sustain their students’ enthusiasm and interest in the learning process. The roles and responsibilities of the instructor.
are deemed crucial in ESL learner-to-instructor interaction in a blended environment.

The study's informants highlighted in the findings that when studying verbal communication in a blended learning environment, they encounter several difficulties with learner-to-instructor interaction. One of the challenges the study's informants pointed out was technical issues; however, this problem has received lots of attention in earlier studies. The results of this study have indicated a few additional challenges that the informants had when interacting in a blended context. One of the major issues raised by the students is their attitude, which makes them afraid to approach their instructors during interactions with them. Research by Santhanasamy and Yunus, (2022), which supports this finding, showed that English language learners' shyness and nervousness in the language were caused by their inadequate language proficiency. In a similar vein, research by Hussain, Akhtar, Shabir, Aslam, and Arshad (2021) also supported the notion that a lack of vocabulary and language competence causes ESL students' shyness and speaking anxiety. There is less information about the difficulties that students encounter in learner-to-instructor interactions in Moore's Interaction Framework. Hence, this study has the potential to broaden the theory in terms of the challenges that students face while interacting with instructors in a blended environment.

This study also revealed that the informants complained about having issues getting their instructor to respond promptly and interact with them during verbal communication learning in a blended environment. This is corroborated by a study by Manoharan et al., (2022) which found that learners, particularly in online classes, experienced insufficient time interacting with their instructors and asking questions during blended classrooms. In the study done by Hijazi and Alnatour, (2021), the learners do not fully engage in blended learning particularly online communication learning as it is more of a one-way mode of interaction. This study's results, however, contradict what Hijazi and Alnatour (2021) stated. The informants of the current study pointed out that communicating with their instructors online is challenging due to the large class size (Du, Wang & Wang., 2022). When there are many learners in a classroom, especially during an online communication lesson, the informants find it challenging to interact with their teachers or ask questions. To create an effective communicative blended learning classroom, the size of the classroom should be taken into consideration as one of the key factors.

The findings of this study are the roles of instructors and challenges in learner-to-instructor interaction are significant to ensure effective blended learning implementation for verbal communication teaching and learning in ESL classrooms. The quality of learner-to-instructor interaction is crucial for the learners’ verbal communication learning in a blended environment. Hence, it is essential to always make sure of the good quality of learner-to-instructor interaction in the communicative blended learning environment.

Conclusion

The main aim of this study is to explore the informants' opinions on learner-to-instructor interaction for verbal communication learning in a blended environment. To conclude, ESL instructors’ roles and responsibilities are crucial for second language learners’ verbal communication in a blended environment. Even though blended learning combines face-to-face and online approaches, good facilitation from ESL instructors is significant during teaching and learning verbal communication. Encouragement and guidance from ESL instructors would assist ESL learners in reducing their English language anxiety in learner-to-instructor interaction in a learning environment.
communicative blended classroom. As for the learners who have good language proficiency, outstanding support from ESL instructors would be helpful to increase further the learners’ motivation to engage actively during the verbal communication lesson and activities in a blended environment. Other than that, serious attention needs to be provided to the group size, particularly for online verbal communication, to help reduce the ESL learners’ problems in learning verbal communication through online platforms. This reduces the learners’ challenges in learner-to-instructor interaction in a blended environment. The findings of this study provide practical implications for curriculum designers to plan and design verbal communication lessons and activities accordingly. On top of that, the result of the study also offers theoretical implications by extending the theory of Interaction Framework that underlies this study. Since this study focused on ten ESL informants only, future research might want to consider learners from various geographical locations. Future studies may also select ESL instructors as informants to obtain different perspectives on the phenomenon.

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PowerAR: A Tool for Improving ESL Year Six Pupils' Reading Comprehension

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Abstract
There is a growing concern about the level of reading skills in the English language, specifically among primary school pupils in Malaysia. The integration of technology in language learning had proven to facilitate the reading process and indirectly enhance reading comprehension. This study intends to investigate the integration of technology, specifically, Augmented Reality (AR) combine with PowerPoint (i.e., PowerAR) as a learning tool to improve reading comprehension among primary school pupils. A total of 17 primary Year six pupils participated in this study. An intervention was designed to focus on reading lessons that used PowerAR as a learning tool to facilitate reading comprehension among pupils. According to the data analysis of the pre-test and post-test, the PowerAR intervention has somewhat improved the pupils' reading comprehension skills. The results also showed that the participants had reaped many technological benefits, but some of them needed more assistance and collaborative learning to be implemented in reading classrooms. Theories that emphasised active learning, constructivism, and self-directed learning were key elements of the PowerAR intervention. Reading comprehension improves when students make sense of the reading material by connecting it to prior knowledge and building connections to it. PowerAR demonstrates the versatility of using technology in the language classroom that amplifies language learning. The findings provide insights to teachers, academics, and other interested parties with information on how to employ technology, particularly augmented reality (AR), to enhance reading comprehension and other language skills.

Keywords: English as a Second Language, PowerAR, reading classroom, reading comprehension, technology

Introduction

Reading in a second language is a daunting task for many English as a Second Language (ESL) learners. Specifically, for young ESL learners, reading texts that are different in terms of orthography, morphology, and phonology from their First Language (L1) might be cognitively challenging for them. Reading comprehension is difficult because it is an interactive process between the reader and text in which the reader simultaneously extracts and constructs meaning. According to a study conducted by Chandran and Shah (2019), the majority of Malaysian students are reluctant readers and unable to completely comprehend reading materials, which hinders their progress in language learning. There are too many cognitive processes running concurrently to make reading comprehension effortless. Skilled readers would find the process quite simple, and their comprehension would develop naturally as they read. However, the process is rather contradictory for less-skilled readers causing frustration during reading.

In Malaysian education context, English is taught as a compulsory subject at primary and secondary schools; where reading skill is an integral component in the syllabus. With the advancement of technology in the education context, students are geared to be competent in the new literacies of 21st-century technologies. Consequently, the Malaysian government has made necessary changes to the syllabus to address such issues by introducing the Malaysian Education Blueprint 2013-2025 under Shift 7 which incorporation of Information and Communication Technology (ICT) and the Common European Framework of References (CEFR) to equip pupils with the basic language skills including reading comprehension and introduced for more meaningful and purposeful learning (Sivalingam, 2020). The Ministry of Education has recognised the potential of technology integration in education, but the implementation is still an ongoing process. These technological modifications have brought numerous advantages to language classrooms which cause major effects on second language acquisition (Tour, 2020). The significance of technology for the benefit of learners during the teaching and learning process occurs both within and outside the classroom. Teachers are transformed into facilitators, while students become active language learners, as a result of the incorporation of technology into the classroom (Ahmad & Reza, 2018; Hashim, 2018). According to Pazilah, Hashim, and Yunus (2019), the adoption of technology has revolutionized language learning and created a new opportunity with the introduction of multimedia tools and social media platforms. Augmented Reality (AR) is at the forefront of the social-technological evolution of modern society. Gamification and role-playing techniques in Augmented Reality have been used to increase motivation and a sense of authenticity. More research is required to determine the potential of technology such as AR for primary school pupils of language learning, particularly in terms of enhancing language skills.

This study intends to investigate the integration of technology, specifically AR in helping primary school pupils improve reading comprehension skills. The result of the study would provide an understanding of the impact of technology in improving reading comprehension skills and at the same time offer opportunities to adapt AR in the classroom. The information eventually would
aspire teachers to explore the use of technology, specifically AR in improving reading comprehension and other language skills. Specifically, this study aimed to investigate the effectiveness of PowerAR in improving reading comprehension skills among English as a Second Language (ESL) primary Year six pupils. In this study, the term PowerAR is intervention used in the study, which is the coined term for Powerpoint and Augmented Reality.

**Literature Review**

*Benefits of integration of ICT tools; Powerpoint and Augmented Reality (AR)*

Technology is considered a tool to revolutionize learning, enrich the curriculum, develop pedagogy, as well as improve students' learning. Integrating technology helps improve pupils' thinking skills, ultimately developing their reading comprehension skills in the process (Singh & Shaari 2019). This is further supported by a study by Vanduhe, Nat, and Hasan (2020) where the findings illustrated using a gamification platform in education technology improves students' motivation and learning engagement.

According to Qureshi et al. (2021), review, much research has pointed out that digital technologies are a significant element for educational transformation, holistically impacting the process of language learning and developing language skills. Augmented Reality (AR) is one of the multimedia tools that provide enhanced versions of the real physical world via the use of digital visual elements, sounds, or other sensory stimuli to enable teachers to create an interactive learning experience in language classrooms. The application of AR in classrooms offers the potential to transform learning and improve learning outcomes (Parmaxi & Demetriou, 2020). Hence, more comprehensive research is needed to investigate the potential of AR as a tool to increase language abilities (Dalim, Sunar, Dey & Billinghurst, 2020).

According to Hockly (2019), AR is used through the overlay of virtual information onto the real world which immerses the user in the virtual world. Blending a virtual world with reality by adding digital information such as photos, videos, and audio enhances immersive learning through authentic sensory experience and elevates the learning process to the next level (Taksiran, 2018). This is mostly due to the capabilities of this technology that enable 3D learning content, which improves learners' perceptions of presence and immersion and enables them to visualize the invisible (Galati et al., 2019). AR has many educational benefits including improved attention and motivation, increased interaction, and enhanced creative thinking and problem-solving skills (Galati et al., 2019; Taksiran, 2018; Yilmaz, 2018). The findings of a study conducted by Huang, Zou, Cheng & Xie (2021) indicated that augmented reality (AR) technologies were useful for promoting learning and enhancing student motivation and their attitudes toward the use of technology.

In the same vein, numerous studies on PowerPoint have demonstrated its user-friendliness and effectiveness in language learning (Baker, Goodboy, Bowman & Wright, 2018). Baker et al. also remarked that PowerPoint's characteristics make language learning more engaging and meaningful. When combined with audio and video, PowerPoint is a technology tool that makes
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Language learning more engaging and relevant. Powerpoint allows for displaying static images, animations, and videos and adding transition effects between images, information, or slides, and at the same time embedding sound effects and music into Powerpoint assists in attracting and retaining the attention of learners (Solikhah, 2018). In addition, Drahman and Hashim (2020) in their research revealed that teachers perceived PowerPoint as a positive way to teach subject-verb agreement due to the user-friendly attributes of Powerpoint. According to the conclusions of Sahadevan and Mohamad's (2020) study, PowerPoint makes teachings plain and comprehensible while sustaining students' interest and enhancing their comprehension. Hence, combining two tools, namely AR and PowerPoint would provide a more engaging experience among language learners through discovery learning.

More research is required to determine the potential of technology such as a combination of AR and PowerPoint for primary school pupils of language learning, particularly in terms of enhancing language skills (Dalim, Sunar, &Billinghurst 2020). Moreover, little research has been conducted that could serve as a guide for instructors and educators regarding reading approaches, strategies, and techniques for enhancing reading comprehension skills among Malaysian elementary and secondary school students (Kiu & Yamat 2020; Zakaria, Azmi, & Hadi, 2019). In this study, the research gap is addressed by implementing intervention utilising AR and PowerPoint (named Power AR) for improving pupils' reading comprehension skills. Furthermore, the perceptions of the primary pupils in using technology during language learning are also investigated.

Autonomous learners; A key toward self-directed learning

In this era of teaching and learning processes, the pervasive use of technology is becoming more apparent as a means of fostering student autonomy. According to Esfandiari and Gawhary (2019), the primary objective of the inclusion of technology in teaching and learning is the enhancement of student autonomy as a result of the options presented by the incorporation of technology. Khan, Ali and Alourani (2022) noted that the incorporation of technology can assist students to become more independent in their learning because classes will be more student-centered. Developing autonomous students is essential for assisting students in becoming more self-directed in their learning (Khan, Ali, & Alourani, 2022). Lee (2019) observed that learner autonomy is a disposition to act, embracing activities with enthusiasm and exercising independence across disciplines. In a study, Reswari and Kalimanzila (2021) discovered that fostering skills such as teamwork, information search, and student readiness is essential for promoting autonomous learning, which will also benefit students across subjects, demonstrating the transferability of what has been learned to a broader context, as proposed by Lee.

Autonomous learning contributes to the growth of self-directed learning in which students are acutely aware of their own learning processes. According to Khan and Umair (2018), students learn to assume responsibility for their own learning processes and teachers can promote their active participation by monitoring and supervising students' technology use. Cong-Lem (2018)
found that teachers can take a backseat in the classroom by enabling students to direct their own learning. This conclusion is consistent with Chang, Song, and Fang’s (2018) concept of a "guide on the side". As the driving force behind the growth of teaching and learning processes, technology plays a crucial role in influencing numerous facets of the teaching and learning process, including the transformation of student's responsibilities in the classroom as they learn to take ownership of their learning (Bikowski & Casal, 2018).

PowerAR has been designed to foster and cultivate autonomous, self-directed learners. As the pupils learn the story through animations and videos, pupils will participate actively in the learning process. According to Geng, Law, and Niu (2019), the active participation of students through classroom tools or instructional strategies enhances the learning process and performance. Hiver, Al-Hoorie, Vitta, and Wu (2021) also noted that self-directed learning only results from the active participation of students in the learning process, even though students may seek support from teachers.

Developing self-directed learning presents its own challenges. According to Geng et al. (2019), the qualities of students and their drive to study have a significant impact on their tendency and propensity toward self-directed learning. In addition, Morris and Rohs (2021) asserted that students may be swayed toward self-directed learning if teachers provided the right instruction and direction to foster the skill development required for self-directed learning. These few difficulties can be solved through the PowerAR intervention, which requires teachers to assist pupils in comprehending the material. Without effective guidance from teachers, pupils will be unable to engage in the learning process, which is the primary purpose of the PowerAR intervention. Sumuer (2018) highlighted that learning tools, motivation, and supervision are crucial components for assisting pupils in becoming more self-directed learners. Teachers play a crucial role in the successful implementation of PowerAR and in helping pupils comprehend short stories.

Methods

This study used an experimental research design, specifically a one-shot pre-test, and post-test research design. This research methodology offers the advantage of enabling the researcher to determine whether there is a difference between the tests and how much change or development occurred between the pre-test and post-test (Baldwin, 2018). Only 17 Year Six ESL primary school pupils chose to participate in this study. Pre and post-tests were employed to investigate the effectiveness of PowerAR as a tool to improve pupils’ reading comprehension. The reading comprehension level was determined by comparing the pre-test and the post-test scores. The test was based on the Year Six Academy Stars CEFR textbook. A minor modification was made to the number of questions when a Year Six teacher reviewed the test paper. The test consists of two sections, the first section of the test consists of objective questions and the second consists of subjective questions.
Participants
The participants were involved in two lessons. The first lesson was taught through shared reading and the pre-test was conducted. After that, the pupils were introduced to PowerAR to familiarise themselves with technology. Introducing PowerAR in a lesson would take time for pupils to operate and use the intervention for reading activities. The second lesson was the PowerAR reading lesson and the post-test was administered.

Research Instruments
The development of PowerAR involves the combination of Powerpoint and AR apps. The AR app used in PowerAR is CoSpaces. This AR is available for free and allows users to design the AR layout and the desired marker that would activate the AR. The teacher demonstrated how to use PowerAR to ensure that pupils have a clear understanding. A short story is selected prior to the lesson and divided into several parts, then followed by designing using PowerAR. The first part of the story is created according to the suitability of the pupils with the incorporation of videos or images. This first part of the story is designed using Powerpoint where the slides can be played automatically when pupils click on the link. The link can be shared via Google Slides for easy access. The dialogues between characters in the first part are designed using the CoSpaces app. The interaction between characters, movements, and environment design depends on the scenario of the story. Clicking on the CoSpaces app will direct pupils to the app where pupils can rotate the environments, watch videos and read the dialogues at the same time. Then, pupils were given a link to go to Powerpoint to answer questions from the first part. Pupils can decide to read the first part of the story again before answering the questions. Then, pupils proceed to the second part by clicking on another link provided. These steps are repeated until the story ends.

Results
To investigate to what extent PowerAR improves Year six pupils’ reading comprehension, the difference between the mean scores of the reading comprehension tests as pre and post-tests were analysed.

Pupils’ pre-test scores
Table one shows the range of pre-test scores and the number of pupils who achieved the scores within the respective range. The range of scores is also classified into reading comprehension categories to indicate the level of pupils’ achievement.

<table>
<thead>
<tr>
<th>Range of scores</th>
<th>Number of pupils</th>
<th>Percentage (%)</th>
<th>Reading comprehension strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-100</td>
<td>0</td>
<td>0</td>
<td>Excellent</td>
</tr>
<tr>
<td>65-79</td>
<td>5</td>
<td>29.4</td>
<td>Good</td>
</tr>
</tbody>
</table>

Table 1. Classification of reading comprehension categories of pupils' pre-test scores
There were six pupils (35.3%) who fell under the fail category and fair category respectively. Both of these categories have the highest number of pupils recorded. There were five pupils (29.4%) in the good reading comprehension category. The mean score for the pre-test was 49.12. The standard deviation was 17.432 with a variance of 303.860. A high standard deviation indicates the data is more spread out resulting in a bigger variance figure. The highest score recorded was 75 while the lowest score was 20.

**Pupils' Post-test Scores**

In the distribution of data frequency, Table two. illustrates the results of post-test scores. Table two shows the range of scores and the number of pupils within the range of scores. The range of scores is also classified into reading comprehension categories to demonstrate pupils’ achievement in the test.

<table>
<thead>
<tr>
<th>Range of scores</th>
<th>Number of pupils</th>
<th>Percentage (%)</th>
<th>Reading comprehension strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-100</td>
<td>3</td>
<td>17.6</td>
<td>Excellent</td>
</tr>
<tr>
<td>65-79</td>
<td>6</td>
<td>35.3</td>
<td>Good</td>
</tr>
<tr>
<td>50-64</td>
<td>5</td>
<td>29.4</td>
<td>Fair</td>
</tr>
<tr>
<td>40-49</td>
<td>2</td>
<td>11.8</td>
<td>Poor</td>
</tr>
<tr>
<td>&lt;40</td>
<td>1</td>
<td>5.9</td>
<td>Fail</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

The number of participants recorded is 17 based on Table three. The highest range recorded is between 65 to 79 which is six pupils (35.3%) in the good category. The lowest number of pupils is one (5.9) who got scores below 40 in the fail category. Two pupils (11.8%) got scores in the poor reading comprehension category. Five pupils (29.4%) have obtained the fair category. Three pupils (17.6%) managed to get scores in the excellent reading comprehension category. Table four exhibits the descriptive statistics of pupils’ post-test scores where the total number of samples was 17 pupils. The mean score for the post-test was 62.06. The standard deviation was 16.014 with a variance of 256.434. The highest score was 90 while the lowest score was 35.
Differences in pre and post-test scores

This study used paired sample t-tests to measure the significant improvement in pupils' reading comprehension skills scores taught by using PowerAR intervention before and after treatment. The result of the paired sample t-test is shown in Table three.

Table 3. Differences in test scores

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Reading Comprehension level</th>
<th>Standard Deviation</th>
<th>T value</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-test</td>
<td>62.06</td>
<td>Fair</td>
<td>16.01</td>
<td>3.996</td>
<td>16</td>
<td>0.01</td>
</tr>
<tr>
<td>Pre-test</td>
<td>49.12</td>
<td>Poor</td>
<td>17.43</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The mean for pre-test scores is 49.12 while the mean for post-test scores is higher which is 62.06. The mean score for the pre-test reflects a poor reading comprehension level while the mean score for the post-test shows a fair reading comprehension level. The standard deviation for the pre-test (17.43) is higher than the standard deviation for the post-test scores (16.01). It was also found that the results show df= 16 with a t-value = 3.996. The sig value is 0.01 which is lower than 0.05 and the t-value (3.396) was higher than the t-table (2.120). Hence, it could be concluded that there was a significant improvement in pupils' reading comprehension scores using PowerAR intervention.

Discussions

The findings indicated that there was a significant improvement in pupils' pre-test to post-test scores in reading comprehension skills when the PowerAR intervention is applied. The results indicated that PowerAR intervention is a good tool for improving pupils' reading comprehension skills. It can be inferred that the use of technology such as PowerAR can impact pupils' learning process and enhance reading comprehension skills. This is in line with the result of a study carried out by Sahadevan and Mohamad (2020) where the integration of technology has significantly improved pupils' understanding of the lesson while maintaining interest. Similarly, a study by Kalangi, Liando, and Maru (2019) showed that using technology accompanied with the appropriate selection of teaching strategies to teach reading comprehension skills improves pupils' learning.

The results of the pre-test signify that the participants mostly were lacking in reading comprehension skills although two pupils managed to score better results. The reason for such a difference in the scores of pre-test ranging from good to fail reading comprehension category is due to many elements that greatly influence reading comprehension such as vocabulary skills, decoding skills, prior knowledge, linguistic abilities, and lack of reading strategies. These findings are similar to a study by Talwar, Tighe, and Greenberg (2018) where it was noted that many factors affect comprehension in struggling readers. Some of the factors discussed are employing different strategies in understanding a text, decoding skills, reading proficiencies, and having more prior knowledge which influences pupils' reading comprehension. In a parallel study, Elleman and Oslund (2019) supported that reading comprehension is a multifaceted skill that involves text
complexion, reading instruction strategies, activating background knowledge, linguistic abilities, and decoding skills which undergird reading comprehension that complicates the teaching of reading comprehension and acquiring reading comprehension skills.

The post-test was then administered to the same participants to study if there is a difference in pre and post-test scores that would indicate the effectiveness of the PowerAR intervention. The post-test was conducted after the PowerAR was taught during the intervention lesson. Participants were allocated 30 minutes duration to answer individually which was the manner the pre-test was administered. There are six pupils reported in the good reading comprehension category while one pupil was in the fail category. The six pupils who scored under the good reading comprehension category were influenced by the implementation of PowerAR. This finding implies that PowerAR has helped pupils in developing their reading comprehension skills through the use of technology which has changed the learning experiences in the classroom by increasing motivation with the use of photos, videos, and audio. This finding is synonymous with Taksiran (2018)'s study where the integration of AR has enhanced learning experiences and provides immersive learning through an authentic sensory experience that elevates the learning process to the next level. Likewise, the findings of Galati et al., (2019) and Yilmaz (2018) support the findings of this present study where the implementation of technology in the classroom improves motivation and promotes thinking skills that support reading comprehension. These findings also emphasize the impact of technology in developing reading skills that align with the TAM model. When TAM is implemented appropriately, it can produce beneficial outcomes including a better comprehension of educational background associated with the usage of aims and the ability to foresee activities that will forward these objectives. A study by Vanduhe, Nat, and Hasan (2020) showed that integrating technology with the basis of the TAM model enhanced students' participation and development of skills.

However, the data analysis also reveals some pupils showed no difference between the performance of pre and post-tests which signifies that the PowerAR intervention did not improve their reading comprehension skills. These pupils required more guidance in comprehending the reading material. Nonetheless, based on the overall result, PowerAR intervention has somewhat improved pupils' reading comprehension skills. The findings affirm the theories, concepts, and teaching strategies underlying PowerAR intervention. Further, the findings of this study are also echoed in Samat et al. (2019), which state that primary school students grasp reading content with an emphasis placed on activating preexisting knowledge through the assistance of technology. These findings are also reflected in the study by Drahman and Hashim (2020), where teachers found the use of technology very beneficial in enhancing pupils' learning processes due to the ability to display static images, animations, and videos that assist in attracting and retaining the attention of learners. According to these findings, one of the most effective ways to assist pupils in the reading classroom is to activate students’ existing schemas and provide them with scaffolding while they read which is achieved through PowerAR intervention.
Conclusion

A positive result from the implementation of PowerAR indicates that the intervention has a positive effect on the English reading skills of primary school pupils. The PowerAR was developed carefully based on the relevant underlying learning theories and teaching strategies that involve guidance to enhance comprehension of reading materials. The PowerAR intervention can be readapted to suit the teaching of reading skills or other language skills. The strategies applied through the PowerAR intervention can be applied to suit pupils' of different levels of proficiency, to teach other reading skills, or to teach other language skills. The adaptation towards PowerAR intervention would express the versatility of using technology in the language classroom that amplifies language learning. Teachers can learn and adapt techniques used in PowerAR to develop contextual clues techniques that are advantageous for second language learners.

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References


Perceptions of ESL Undergraduates Regarding the Impact of Smartphones on Learning the English Language

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Abstract
This study explores the significance of mobile phone usage in English language learning among students at the National University of Modern Languages. By administering an open-ended questionnaire to a sample of 100 Pakistani students enrolled in Advanced English for the Master of English program, the research investigates how smartphones are used, the attitudes and behaviors of students, and the challenges encountered in utilizing mobile technology within the learning environment. The findings demonstrate that smartphones play a crucial role in enhancing students' English language learning, as most participants express a positive view regarding their use in language instruction. This research presents a novel teaching approach for ESL students, underscoring the importance of a robust pedagogical foundation and appropriate training. Additionally, the study suggests the need for further exploration through experimental studies to examine the efficacy of smartphones in English language learning. The outcomes of this study contribute to a comprehensive understanding of the effective integration of mobile technology in ESL education, providing valuable insights for educators and researchers in the field.

Keywords: Digital learning, digital literacy, e-learning, ESL undergraduates’ perceptions, smartphone for English learning, 21st-century learning

Introduction

The rationale for conducting this study stems from the need to investigate the potential benefits of smartphones in Second Language (L2) classes used by NUML learners and understand how they are utilized in educational contexts. In today's digital age, smartphones have become ubiquitous, presenting an opportunity to explore their role in English language learning. By examining the advantages they offer, such as instant access to learning resources, language-learning applications, and online materials, this study aims to shed light on their effectiveness as instructional tools. Additionally, understanding learners' opinions and attitudes toward using smartphones for English language learning is crucial to tailor educational practices to their needs and preferences. By delving into these areas, this study aims to contribute to the field of language education by informing educators, administrators, and policymakers on the potential benefits and challenges associated with integrating smartphones into L2 classrooms.

Technological advancements have provided Pakistan's nationals and expatriates with convenient means to communicate with their loved ones domestically and internationally. The popularity of digital devices with multifunctional capabilities, such as phone calls, texting, internet browsing, and language-learning applications, has increased rapidly. These affordable and user-friendly communication technologies offer educational benefits, especially in the form of capacitive digital devices equipped with features like dictionaries and translation tools. University students find it essential to have smartphones during lectures for academic purposes, including accessing study materials and electronic dictionaries.

Using language, we may communicate with others. English's significance in terms of social, cultural, financial, and ecological progress cannot be understated. The English language serves as a medium for dialogue and a tool for communication. (Hassan, Aliya, Sani Ya'u, and Muhammad, 2018) The majority of the globe speaks English as their primary language. There is no disputing the importance of being able to interact positively in today's society, and because of this, non-native English speakers' desire to study English as a second language is increasing constantly (Richards, 2006). English language instruction and programs are sponsored by Americans and Britons to encourage English language learning (Marsh & Lange, 2000; Shamim, 2011). There are several English-language television series now airing in Pakistan.

Mobile-Assisted Language Learning (MALL), which pertains to language learning using smartphones, was created in the 21st century due to the widespread use of communications devices. Learning is more personalized and individualized with e-learning, enabling learning in formal and casual settings. Students may be seen utilizing cell phones to read online books, practice communication abilities, and study translation and unique projects (Kukulska-Hulme & Shield, 2008). In the same way, a smartphone may be used for individual study. It can also be used for group learning. Today's students have more access to internet boards and social media sites like Facebook, where they may participate in conversations. They can also practice and improve their speech via English language learning Youtube videos. These social elements encourage group learning among ESL students (Baruah, 2012).

Pakistani students struggle to acquire English because they study it as a second language, which prevents them from becoming proficient and leaves them with little time to practice (Marsh & Lange, 2000; Swarts, 2000). Because technology is so widely used these days, academics and instructors are successfully employ it for language teaching and learning. It is currently quite usual for students to use mobile devices such as cell phones for language learning. Thus this research was done to find out whether this practice aids students in learning English. Today's students are
glued to tech and utilize various educational programs on their cell phones (Shamim, 2017). Researchers are interested in understanding the possibility of smartphones for learning English since the availability of English language learning apps on internet-connected smartphones has made task fun for pupils (Chaudron, 2015).

The research problem in this study revolves around using smartphones as instructional tools for ESL students at the National University of Modern Languages. The problem can be stated as follows: Despite the growing popularity of smartphones and their potential benefits in English language learning, there is a need to examine the effectiveness of integrating mobile technology into the classroom and the challenges faced by students and educators in utilizing smartphones for educational purposes.

With time, educational methodologies are evolving since learning is becoming a social and portable action in the twenty-first century. This research examines students' perceptions of how phones are helping them learn English. Additionally, it looks at how students utilize their cell phones to improve their English language skills, their enthusiasm for using learning apps, and their study habits. After examining their present methods of learning English using cell phones, Kukulska-Hulme (2010) stated that learners may be more led and involved in activities. This study is noteworthy because it will add to the body of knowledge in digital learning research, which is now the most recent area of study and research. Since there hasn't been much research done on it in Pakistan, this study will serve as a starting point for other studies. This research is novel since it examines how Pakistani students learn English using phones. This study will assist ESL students, instructors, researchers, and operators comprehend the situation and how smartphones aid in English language acquisition. Students will benefit from this study by discovering how others use cell phones for English language learning within and outside of the university, as well as by developing and exploring new wide variety of skills on their cell phones. This project will also boost instructors' and students' comfort levels with mobile learning, improving both teaching and learning. Since cell phones are so widely used, academics now use them in their studies to see how they could aid learning (Barseghian, 2012b; Keegan, 2002; Pollara, 2011; Traxler, 2009; Weier, 1991). M-learning was referred to be a forerunner of future learning by Keegan (2002). (Sharples, Taylor, & Vavoula, 2005b; Uden, 2007; Zurita & Nussbaum, 2007) Researchers have also contrasted mobile learning with conversational and action learning. For teachers to effectively use smartphones in the classroom for learning, a suitable educational framework is needed (Kulowiec, 2011).

The significance of this study lies in its contribution to understanding the role of smartphones in English language learning at the National University of Modern Languages. By examining the usage patterns, attitudes, and challenges associated with mobile phone usage among ESL students, this research provides valuable insights for educators, administrators, and policymakers. Understanding the benefits and limitations of incorporating smartphones as instructional tools can inform the development of effective pedagogical strategies and curriculum design. Furthermore, this study addresses the need to explore innovative approaches to language learning in the digital age, where smartphones are becoming increasingly prevalent. The following are the research objectives:

- To explore and analyze the benefits of smartphones in English language learning within L2 classes at the National University of Modern Languages (NUML).
- To investigate and gather learners’ opinions and perspectives on using smartphones as a tool for English language learning.
To assess the attitudes and perceptions of students towards using smartphones as a means to study English within an educational context. By addressing these objectives, this study aims to provide insights into the effectiveness of smartphones in L2 classes at NUML and to understand learners' attitudes and preferences regarding their use of English language learning.

This study examines the benefits of smartphones in L2 classes used by NUML learners and looks at how they are used in educational contexts. These are the primary inquiries behind this study:

- How can smartphones aid in English language learning?
- What are learners’ opinions on using smartphones for English language learning?
- How do students feel about using smartphones to study English?

**Literature Review**

Recent literature has explored the role of smartphones as a valuable tool in language learning, uncovering various benefits and challenges associated with their integration into educational settings. Studies have highlighted the convenience and accessibility offered by smartphones, allowing learners to access language learning materials, applications, and resources at their convenience (Viberg, 2019). The anytime, anywhere access provided by smartphones enables learners to engage in self-directed and autonomous learning beyond the confines of the traditional classroom (Thomas & Reinders, 2020).

Furthermore, smartphones have been found to enhance learner engagement and motivation due to their interactive and multimedia capabilities. Integrating audio, visual, and gamified elements on smartphones creates engaging and immersive language learning experiences (Kukulksa-Hulme, 2021). Additionally, social networking features and collaborative learning opportunities facilitated by smartphones have shown promise in fostering learner interaction and motivation (Stockwell, 2021).

However, challenges have been identified as well. These include potential distractions from non-academic activities on smartphones and the need for learners to develop self-regulation skills (Hoven & Palalas, 2019). Technical issues, such as connectivity problems and limited screen size, have also been noted as potential obstacles to effective smartphone-based language learning (Burston, 2019).

Researchers have highlighted the importance of understanding learners' perspectives on using smartphones as learning tools. Dashtestani (2013) examined the attitudes of 73 EFL professors and 126 students toward using online dictionaries on their smartphones. The findings indicated positive outcomes, as students could access dictionaries anytime and anywhere. However, caution was advised in selecting reliable dictionary apps. Johnson (2014) explored the impact of using social media on mobile devices in the classroom and found that instructors supported its use to enhance student engagement. Kanchana and Saha (2015) observed that incorporating smartphones in the learning process improved instruction effectiveness and benefited both instructors and students. Nalliveettil and Alenazi (2016) surveyed undergraduate English majors at Aljouf University in Saudi Arabia, revealing their positive perception of using mobile phones for English study. Khalid (2018) found that Pakistani students recognized the potential of mobile devices for improving their writing skills. Ishaq (2018) investigated the use of electronic dictionaries among 100 BS English students and observed their enthusiasm for regularly...
expanding their vocabulary using smartphone dictionaries. These studies collectively underscore the benefits and support for integrating smartphones into language learning.

The current literature on smartphones in language learning reveals a research gap that warrants further investigation. While numerous studies have examined the benefits and challenges associated with the use of smartphones in language education, there are still key areas that require more attention. Firstly, there is a need for longitudinal studies that assess the long-term impact of incorporating smartphones into language learning environments. While existing research has primarily focused on short-term effects, such as immediate learning outcomes, there is a lack of comprehensive studies that explore the sustained impact on language proficiency development and retention over an extended period. Additionally, there is a research gap concerning practical pedagogical approaches for utilizing smartphones in language learning. While the benefits of smartphones are acknowledged, there is a need for more exploration of specific instructional strategies and methodologies that can optimize the use of smartphones as educational tools. By addressing these research gaps, future studies can provide valuable insights into the long-term effects of smartphone integration and offer practical guidance for educators in utilizing smartphones effectively in language learning contexts.

**Proponents of Smart Phones in Education**

In various ways, cell phones have benefited the area of education. Firstly, digital literacy assists students in developing their reading and arithmetic capabilities as well as identifying their current strengths. Second, it may be used to promote both solo and group learning activities. Additionally, it aids students in recognizing where they need guidance. Additionally, it aids in overcoming reluctance to ICT usage and may assist in closing the knowledge gap between ICT literacy and mobile phone literacy. Further, it motivates hesitant learners and takes a minor stiffness out of the education process. Additionally, it improves students' ability to concentrate for extended periods. In the end, it promotes self-worth and self-assurance. Totwell (2004) Furthermore, online learning gives kids "more of a sense of accomplishment and helps to encourage them" (Cited in Katz, p.95). Moreover, it permits the completion of the continuous directive to "switch off your mobile device" and the reduced deployment of authentic, text-based engagement (Markett, 2006, p. 283). Even in modern times, several US colleges still forbid using mobile phones and pagers. Nevertheless, state laws prohibiting mobile telephones have been repealed due to safety concerns, particularly during the Boulder, Columbia school disasters and the terrorist attacks in New York, Pennsylvania, and Washington, DC. Additionally, some parents find that coordinating kids' after-school and school schedules is quite convenient for both parties.

**Detractors of Smartphones in Education**

Despite smartphones' wide acceptance worldwide, they have not been extensively employed in academic contexts because some individuals are hesitant to use them (Mcneal & Hooft, 2006). The drawbacks of implementing cell phones in the classroom have been outlined and described in research. Some critics of using smart devices in the classroom demand that all schools eliminate them. They represent the smartphone as "a cause of annoyance, misbehavior, and even criminality" (Katz, n.d, p78, 1988).

According to some academics, mobile phones shouldn't be handed to young children since "they don't add to the learning." Additionally, they "intercept instruction" and "use of mobile devices in the classroom will wind up producing greater distractions" (as cited in Katz, p.94, 1987).
Consequently, it seems from a review of the literature that much research has focused on the use of portable apps, notably mobile phones, in language acquisition. The views of students regarding using their mobile phones for language study and the difficulties they encounter, nevertheless, have received little attention until lately. For this reason, the present research aims to further examine and comprehend this topic. This article details learners’ study that examined the habits, attitudes, and difficulties associated with the National University of Modern Languages using cell devices to learn English.

**Methods**

**Participants**

The study involved a sample size of 100 participants who were selected to represent the population under investigation. The participants were students enrolled in the Advanced English program at the National University of Modern Languages. The selection criteria for participants may have included factors such as their proficiency level in English and their willingness to participate in the study. The sample size of 100 participants was considered sufficient to gather meaningful insights and analyze the data effectively.

**Research Instruments**

The research instrument utilized in this study consisted of a qualitative questionnaire and a self-report assessment. The qualitative questionnaire was designed to gather instructors' and students' perspectives on using smartphones as learning tools in the language learning process. It included open-ended questions aimed at eliciting detailed insights, opinions, and experiences related to the integration of smartphones in educational contexts.

Additionally, a self-report assessment was employed to collect quantitative information. This assessment included a series of structured questions that allowed participants to rate their agreement or disagreement on specific statements related to the use of smartphones for language learning. The Likert scale was commonly used, ranging from strongly agree to strongly disagree, to measure participants' attitudes, perceptions, and preferences.

By employing both qualitative and quantitative approaches, the research instrument aimed to capture a comprehensive understanding of instructors' and students' viewpoints on the benefits, challenges, and potential of utilizing smartphones in language learning settings.

**Research Procedures**

The research procedure employed in this study encompassed several vital steps to collect and analyze data on the utilization of smartphones in language learning. Firstly, a qualitative questionnaire and a self-report assessment were meticulously designed to gather insights from instructors and students. The questionnaire comprised open-ended questions to explore their perspectives, while the self-report assessment consisted of structured statements to gauge their attitudes and opinions. Following the design phase, a sample of instructors and students was selected based on predetermined criteria such as their experience in language teaching or learning and their accessibility to smartphones. Subsequently, the data collection process commenced, wherein participants completed the qualitative questionnaire and the self-report assessment, providing their responses and feedback on the use of smartphones in language learning. The collected data were subjected to comprehensive analysis utilizing appropriate qualitative and quantitative techniques. The qualitative responses underwent scrutiny to identify recurring themes,
patterns, and unique insights, while the quantitative data were statistically analyzed to ascertain participants' attitudes and perceptions. The findings derived from the data analysis were then interpreted, allowing the researchers to identify critical patterns and insights pertinent to the research questions. These findings were discussed within existing literature, and the implications of the study's results were deliberated upon. Additionally, the researchers acknowledged any limitations encountered during the research procedure and proposed potential areas for future investigation.

**Findings**

The results of this research are based on quantitative information gathered from instructors' and students' responses to a qualitative questionnaire and a self-report assessment.

**A. The Effect of Electronic Devices on NUML Undergraduates' English Language Acquisition**

According to the study's findings, 75% of students own smartphones, with the remaining 25% owning other electronic devices, including iPods, Laptops, and smartwatches. According to an examination of the data, smartphones have a more significant influence on daily life than other digital equipment. It has been shown that 60% of learners scan books and articles relating to their studies, while 46% read notes on their smartphones during examinations. These youngsters use their cell phones for four to eighteen hours a day to talk with pals. According to the literature review, many learners search for unknown terms on their cell phones using English-language apps like devices and electronic. English professors may assign writing-related assignments that allow students to utilize their mobile devices' keyboards to create and modify brief written texts for interaction. Most learners who own smartphones are only vaguely familiar with the functions of mobile technology. Students from all levels and disciplines should make an effort to grasp the fundamentals of communications devices throughout their undergraduate studies. Understanding topological difficulties, file formats, file sizes, file kinds, USB drives, and the efficiency of versions of Windows by English instructors and undergraduates may provide positive results.

**B: The Amount University students Rely on Smart Phones for English Communication**

According to the study's results, just 15% of learners use English while interacting through smartphones, while 87% of learners use Arabic. The results also show that 86 percent of the pupils utilize cellphone translation apps to comprehend English words and phrases. However, the failure of the numerous language translation tools on the market to accurately interpret distinct English expressions might impede students' comprehension of the precise meaning. Students are increasingly using their smartphones to look up the definitions of English terms in their native tongues. Additionally, mobile phones may be helpful for connecting and communicating with individuals abroad. Mobile devices have the drawback of potentially impeding students' ability to learn other languages by providing erroneous translations of provided English words. Insufficient guidance when utilizing these interpretation software applications might cause pupils to interpret words incorrectly, breaking down interaction. It is time for English instructors to explore and test portable adopting technological activities to assist students in creating a positive approach towards reading comprehension since ESL learners are often dissatisfied with the standard teaching techniques. When employing mobile phone technology in the classroom for communicative activities, English instructors should inspire their students to work effectively and collaboratively. The level of student engagement may be increased and a pleasant learning atmosphere can be
created in the classroom by done through social that let students take ownership of their own education while utilizing a mobile device.

**C: Smartphones are seen favorably by students and teachers as a means of enhancing English language proficiency.**

According to the study, 67 percent of students feel that using a mobile phone may help them spell better in English, and 45 percent say that they do not need to learn how to spell since they can always use a mobile phone. Achieving greater competence levels may be hampered by the idea that because they always have access to mobile devices, learning English spelling is not important. When unsure about how to spell words in English, it has been noted that pupils often turn to their mobile devices. Due to the constant accessibility of portable mobile phones, undergraduates may not feel the need to learn or practice spelling new English words. Students think that computerized English dictionaries are useful for showing word spelling accurately. Additionally, students can access electronic copies of well-known English dictionaries like Oxford and Cambridge if they have trouble deciphering the meaning of terms in the language. The percentage of pupils who think using a phone in class is unacceptable is only 2%. The study's results imply that the English professors who were contacted are aware of how well students' English language proficiency is improved by mobile phones. Mobile phones may undoubtedly improve students' communication abilities and give them a sense of independence, according to the English instructors who took part in this research. Additionally, they believe that kids may form autonomous study skills and often access materials from various online sources. English professors think pupils might benefit from using mobile devices to record their pronunciations and hone their abilities. Nevertheless, before integrating mobile technology into the classroom, some challenges must be methodically addressed, including classroom management, variances in smartphone software, and the following example.

**D. Do Students' English Language Learning Skills Advance or Deteriorate as a Result of Using Mobile Phones?**

The results of the current research show that English professors and the majority of the undergraduates who took part in the poll believe that smartphones may help students learn the English language more quickly. Smartphones are "always within grasp and available for use at any moment," according to one instructor, and they "assist in checking the use of English terms," according to another. One student said, "Within the classroom, I occasionally use it for translation, while outside of the school, I use it to converse in English," expressing his opinion. Despite being aware of the benefits of employing mobile devices in teaching, the English instructors who were questioned rigorously adhered to the standard course materials recommended for use in the classroom. Fifty-two percent of students believe they can't recall anything they see on their smartphones, while 42 percent of students claim their instructors forbid them from taking notes on their smartphones. To improve their students' English language learning abilities in this situation, English instructors must come up with innovative methods to use communication devices with lecture notes. It is also crucial to remember that using a smart telephone for an excessive number of hours each day may have adverse health effects and raise the risk of stress and sleeplessness. The use of smartphones may result in pupils doing poorly on academic examinations if these issues are not resolved early on in their educational careers. According to the study's results, 52% of
students say that their cellular applications are the primary reason they performed poorly on their examinations.

The findings from this study shed light on the opinions of learners regarding the use of smartphones for English language learning. Participants expressed overwhelmingly positive views toward utilizing smartphones as valuable tools in their language-learning journey. They appreciated the convenience and accessibility that smartphones offer, allowing them to access online dictionaries, language learning apps, and a wide range of educational resources at their fingertips. Learners recognized the benefits of incorporating smartphones into their learning process, enabling them to study English on the go, practice language skills, and engage with interactive learning materials. The positive opinions expressed by learners highlight the potential of smartphones as compelling and engaging tools in English language learning environments.

Limitations and Direction for Future Research

The researcher suggests some situations that would be worth looking into in the context of the findings provided here and the benefits observed regarding using smartphones in the lecture and studying. Such situations, involving a greater number of responders, may provide a clearer view of how mobile devices are used in education.

This study might also be done on students who took the (EEE) English for English Expert course. Additionally, this article didn't examine how well a particular smartphone feature—such as text messaging, the internet, or the camera—performed in relation to English Language Learning. Nevertheless, it broadly addressed every task. Most significantly, it is advised that this paper be rewritten to study and understand more about the instructor's opinions and issues, which are key aspects of the learning process.

According to the results, instruction is advised to improve and effectively use smartphones for English language learning, as well as to help learners become more autonomous and self-reliant. According to Humle (2009), for students to utilize their smartphones efficiently for educational reasons, they must be directed. So, to benefit from studying through cellphones, good training, and an effective instructional structure are essential. Future studies should examine how students really utilise their cell phones to study English and their success in doing so. It may be possible to undertake both empirical and continuous research to determine the capacity of smartphones for English language acquisition over time. The usefulness of including cell phones in academic tasks for learning the English language may be studied via research. In Pakistan, cell phones help students become more fluent in English at the BS and MA levels. To get more trustworthy findings, it would be beneficial to look into how cell phones may support learners studying English in other countries as well.

Implication

The investigation of smartphone use while students are learning a language is not new. The use of smartphones in learning has been supported by several studies in this area. Additionally, they all expressed support for the use of smartphones as "common learning tools" and "powerful instructional methods" (Kiernan & Aizawa, 2004, p. 80). The results of this research will thus have ramifications for how we think about and promote mobile phone usage in education and the workplace. Additionally, it is crucial to motivate instructors to promote their pupils' use of cell devices by outlining the advantages of mobile devices for both learning and instructing. Additionally, it is crucial to consider how cell phones might be used in CALL: Computer
Supported Language Learning to "relieve some of the tension on organisational funds like server rooms and laboratories, particularly concerning the use of internet and mobile Devices" (Kiernan & Aizawa, 2004, p. 80). The efficiency of smartphones in delivering language classes, idiomatic phrases, and other skills like writing is also very important. It is important to note that the answers' economic and societal circumstances should be carefully considered. In contrast to Japanese students who have "unique attitudes, unmatched access to technology, and unmatched patterns of using digital technology," these Omani college kids do not all appear to have an affection for software and its use in studying as they stated that they "bored" using it and seek it "not interesting" in the lecture hall (Thoronton & Houser, 2007, p. 227).

The results demonstrate that smartphones assist students in learning English, and students' attitudes about using smartphones for educational reasons are favourable. Due to their small size and internet access, cell phones make studying simple for pupils. Students use interactive learning tools as conveniently as possible. It encourages teamwork while doing educational assignments. By utilising these online resources as well as Youtube videos for English study, students may learn English independently and with enjoyment, regardless of time or location. Students concurred that utilizing wiktioary and translators helps them expand their vocabulary. They hone their language skills online since it gives them the chance to interact with instructors, presentations, other learners, and the internet community at large while also taking part in online classes (MOOC). All of this inspires students to speak efficiently and with conviction while also assisting them in enhancing their dialect and articulation. Therefore, a cell phone has the potential to be utilised as an educational tool. The majority of the students felt that training is necessary for efficient cellphone use as a learning tool, including the use of educational apps, applications, websites, and other online resources. In the lines that follow, the researcher examines the research question in light of the results of the most recent study.

The majority of participants, according to the results, had a favourable attitude about studying English on their cellphones and see them as a useful instrument for honing their four language skills—listening, speaking, reading, and writing—as well as for expanding their vocabulary. By utilising a mobile dictionary and conversing in English on their smartphone, students' vocabulary grows and they can acquire new words and their meanings (Small, 2014). Their oral skills are polished by watching English audio/video on their smartphone, and their communication skills are polished as a result of constant practise (Miangah & Nezarat, 2012). It was also agreed that communicating in English through their smartphone will help them speak more fluently. Online electronic books are helpful for pupils to improve their reading abilities. Students may read in English for pleasure or knowledge more easily thanks to smartphones. On their phones, students read and write emails, professional or casual notes, messages, and comments in English, honing their written communication skills for everyday use. Previous studies have shown that using a smartphone may boost pupils' linguistic abilities (Plana, et al., 2013). According to Khalid (2018), students who use their phones to send messages in proper English have better writing abilities. They also have a good attitude toward studying on their smartphones. Students were shown to be eager and motivated to study from online resources via their Smartphones are superior to PCs for learning since they allow for rapid access to resources, word definition learning, and translation and retranslation. Online resources are employed in addition to printed ones since they are helpful for teaching and learning. Because smartphones are more readily available and lighter than PCs, they are ideal for use in classrooms. The students agreed that they would be more enthusiastic about using their smartphones for educational purposes. Most instructors let their
pupils use their smartphones both inside and outside of the classroom for studying. In contrast to face-to-face interactions, students may freely speak in English on their smartphones. According to Kam, Kumar, Shirley, Mathur, and Canny (2009), smartphones provide users access to English learning resources outside of the classroom.

The main goal of the research questions is to learn more about how individual feels about using smartphones to improve their English language skills. According to research, pupils may acquire proper spelling and grammar using the software that comes with their cell phones. Online authentic English resources are tailored to the students' level of comprehension. Social networking apps like Facebook, WhatsApp, and Twitter are used by students on their mobile devices to encourage collaborative learning and proper English use. Students use English to post and read on Facebook. They had a good outlook on smartphone-based English learning. What are the similarities and contrasts in students' perspectives on learning English through smartphones? Students responded well to studying English on their cellphones, and research indicates that 78% of students utilize English-learning apps. They utilize it to play educational activities and learn more facts. Eighty percent of students thought smartphones should be permitted in the classroom, while sixty-five percent said they distracted them from their studies to engage in social pastimes. 90% of people agree that professors should urge pupils to utilize smartphones to access online learning resources such as dictionaries, audio and video courses, educational websites, and applications. On their cell phones, they may instantly access the necessary documents to create conferences, initiatives, and tasks. Studying on a smartphone makes learning a private affair, as accepted and claimed by Kress and Pachler (2007), Naismith, Lonsdale, Vavoula, and Sharples (2004), Okabe, and Ito (2006), and Sole (2009).

Conclusion

The main aim of this study was to investigate the benefits of smartphones in English language learning among students at the National University of Modern Languages. Overall, the study highlighted the potential of smartphones as effective and accessible tools for English language learning, supporting the integration of technology in language education. Students at the National University of Modern Languages use their cell phones to study English; practice mindsets and obstacles. It has been shown that learners only sometimes utilize their smartphones for educational purposes. Rethinking the role that smartphones play in education and outlining the benefits of utilizing them in the curriculum for both learners and lecturers have been suggested as solutions to the problems that may prevent individuals from using portable devices in class. The drawbacks of this study, including the small number of individuals and the use of cell phones as an instance of wireless technology within educational settings are avoided by making suggestions for future research. Given that it is now a primary language and a language of scientific and social communication, mastering English is crucial for Pakistani students. Cell phones are useful for English study, depending on the ease and accessibility of the learners. Because of their internet connection, users have access to learning resources, including applications, apps, and websites, and they responded well to learning English via their connected phones. The main goal of this research was to look at how the circle of friends about smartphones and their use in teaching English as a second language.
About the author

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The Impact of Using the Multimedia Modality Principle to Teach Shakespearean Drama

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Abstract
The present study investigates the effect of the modality principle in multimedia learning during the teaching of drama at the English department at a Saudi university, the University of Ha’il. It compares explicitly the impact of using static pictures and narration concurrently with on-screen text for the control group with the impact of using pictures with narration only for the experimental group. A sample of 69 male English-majoring students was selected and divided into control and experimental groups. The aim was to determine which group performed better than the other with the hypothesis that audio-visual presentation of the selected content would enhance students’ knowledge retention and mental skills and would lead to better learning outcomes for the experimental group. A quasi-experimental design was adopted and ANCOVA test was used to observe variation in the scores of the two groups after studying Hamlet’s play. The results support the hypothesis. Students in the experimental group outperformed their counterparts in the control group. This was observed in the post-tests on the retention of knowledge and mental skills. The findings of this study provide additional evidence of the superiority of audio-visual presentation in a previously unstudied context related to the teaching of literary content. Keywords: Computer-based multimedia, multimedia-based learning, modality principle, redundancy effect, teaching Shakespearian drama, multimedia-based instruction

Introduction

The COVID-19 pandemic has introduced new challenges in education systems across the globe. While educational institutions endeavor to proceed with teaching the English language, they must simultaneously address the challenges associated with the COVID-19 pandemic. The also have to undertake timely and effective steps to ensure continuity and efficiency at all levels of education to mitigate these challenges.

Remote or online education was a solution to the necessary reduction in in-person education during the pandemic. According to the United Nations Educational, Scientific, and Cultural Organization (UNESCO, 2021), the design of “online courses became a necessary skillset for educators across the world” during the COVID-19 pandemic (Cavanagh & Kiersch, 2022, p. 1). Thus, educators faced an increasing demand for online programs, and many tertiary education institutions began to offer such programs.

At the tertiary education level in Saudi Arabia, Blackboard was the leading Learning Management System (LMS) platform for providing lectures during the pandemic. During the last few semesters, it has been observed that teaching English language courses followed traditional approaches with the instructor delivering the lecture and the students remaining silent. The English department at the University of Ha’il was no exception. In an attempt to improve the quality of education during the COVID pandemic, the researchers decided to implement a new teaching approach to keep students fully engaged both visually and aurally by applying what is known as the multimedia modality effect, as understood within cognitive load theory (Sweller, 1999, 2020; Clark, Nguyen, & Sweller, 2006; Allen & Seaman, 2014).

The Modality Principle (MP) asserts that using graphics and narration would lead to a more effective learning process because “two channels are used when the words are served as narration” (Çeken & Taşkın, 2022, p. 6). To avoid verbal redundancy (Moreno & Mayer, 1999; Mayer, 2014), Mayer (2001) suggests removing the on-screen text from the multimodal lesson, arguing that doing so would lead to a better learning outcome for the students. This can be attributed to the fact that the addition of on-screen text serves as a surplus load to the students’ working memory and negatively affects their performance in recall and transfer. There is evidence from that literature that the removal of on-screen text can, and on many occasions does, result in better outcomes for students in different settings (e.g., Mayer, Lee & Peebles, 2014; Clark & Mayer, 2016; Colliot & Jamet, 2018; Scheiter et al., 2019). However, this effect has not been examined in the teaching of literary content. This study aims to address that research gap by investigating the impact of using static graphics and narration in addition to on-screen text in a control group and using graphics and narration only in an experimental group on the achievement and performance of literature students at the Department of English at the University of Ha’il.

Literary courses form the vast majority of those available to students majoring in English at the English department at the University of Ha’il. Therefore, it was decided to implement the multimedia modality principle in teaching one of these modules, namely a Shakespearean drama, Hamlet. The researchers designed literary content and presented the play to students using
multimedia-based instruction to study the effect of the modality principle. The present study has two objectives: to ascertain whether the redundancy effect might occur in teaching English language drama when using audio-visual and visual-only narrations and also to decide, based on statistical evidence, whether the removal of on-screen text can mitigate the load on the audio-visual channel and thus lead to better results for the experimental group.

In order to achieve these objectives, the current study seeks answers to the following research questions:
1- To what extent does the modality principle with graphics and narration only enhance students’ retention of knowledge of the play Hamlet in the experimental group more so than with graphics, narration, and text in the control group?
2- To what extent does the modality principle with graphics and narration only enhance students’ retention of mental skills about the play Hamlet in the experimental group more so than with graphics, narration, and text in the control group?

Literature Review

The Cognitive Load Theory (CLT) (Sweller, 1999) and the cognitive theory of multimedia learning (Mayer, 2001, 2021) pave the way to improved learning. Clark et al. (2006) further developed the CLT, referring to the potential of this theory to affect both short-term and long-term memories. They assert that short-term memory is limited in capacity and duration, and to ensure retention in short-term memory, the instructional design process should eliminate irrelevant content. They refer to three types of cognitive loads: (1) intrinsic, concerning the content itself; (2) extraneous, referring to the improper principles of instructional design; and (3) effective, including the instructional variables that enhance learning. The CLT identifies three effects that reduce the extraneous cognitive elements: redundancy, modality, and split attention.

Baddeley (2000) assumes that working memory has three distinct capacities: the visual-spatial capacity that deals with mental images, the phonological capacity that deals with verbal information, and the central executive capacity which functions as a coordinating processor. Mayer (2001, 2021) developed the cognitive theory of multimedia learning based on the principles of Sweller's CLT and Baddeley's working memory model. The cognitive theory of multimedia learning is based on three assumptions: the dual-channel assumption, the limited-capacity assumption, and the active processing assumption. The dual-channel assumption suggests that the learning process consists of two paths for the processing of information. The first path represents the auditory-verbal channel. The second represents the visual-pictorial channel. The limited-capacity assumption indicates the existence of a limit on the amount of information that one channel can process simultaneously. The active processing assumption argues that learners are not passive recipients of language and that teachers should engage them during teaching and retention. Mayer’s model comprises several stages, namely: using words in verbal memory, using images in visual memory, processing words within a mental model, processing images in a visual mental model, and finally integrating the verbal content, the visual content, and the prior knowledge.
Regarding multimedia learning, Sweller (1999) and Clark and Mayer (2016) argue that pictures or animations should be narrated rather than presented through text. Sweller (1999) calls this the modality principle. The three conditions to achieve multimedia learning using the MP are removing the redundancy effect, avoiding the split-attention factor, and using spoken text rather than visual. Clark et al. (2006) assert that a better learning experience may result from using graphics and narration compared to graphics and narration with text (Colliot & Jamet, 2018; Scheiter et al., 2019). This is because the pictorial channel will be overloaded when pictures and text are presented together. The on-screen text can negatively affect the working memory which leads to an impairment in the learning process. It has long been argued that “instructional material should be designed in a way as to not overload the channels” (Krüger & Bodemer, 2022, p. 2).

Knoop-van Campen, Segers, and Verhoeven (2018) conducted a study on the modality and redundancy effects of multimedia learning in children with dyslexia to explore the advantages of learning from written and spoken text with pictures. They show that children with dyslexia spent more time learning when using text than learning through audio and graphics. The study concludes that it is more beneficial to use auditory learning. Similar results in favor of auditory presentation have been reported in the literature (e.g., Sweller, 1999; Mayer, 2001, 2005, 2009, 2014; Ginns, 2005; Ayers & Sweller, 2005; Clark et al., 2006; Harskamp, Mayer, & Suhre, 2007; Schmidt-Weigand, Kohnert, & Glowalla, 2010; Kühl, Scheiter, Gerjets, & Edelmann, 2011; Tabbers, Martens, & Van Merriënboer, 2001, 2004; Scheiter, Schüler, Gerjets, Huk, & Hesse, 2014; Mayer et al., 2014; Eitel, 2016; Mutlu-Bayraktar, Cossgun, & Altan, 2019; Castro-Alonso & Sweller, 2020; and for a comprehensive review see van den Broek et al., 2014).

The computer-based multimedia presentation has been extensively investigated in the literature. For example, Savoji, Hassanabadi, and Fasihipour (2011) presented 80 eighth-grade female students with a computer-based multimodal presentation comprising 16 slides on lightning formation. The goal was to examine the role of dual coding and interactivity level in promoting scientific understanding in a multimedia learning environment. Surprisingly, they found that the narrative group in their study spent less learning time and exhibited more mental effort in processing information than the on-screen text group. Similar findings have been reported in the literature by Singh, Marcus, and Ayres (2012), Incecay and Kocoğlu (2016), and Lee and Mayer (2018).

Savojiet al. (2011) also found that low-interactivity groups outperformed high-interactivity groups on tests for retention and transfer. They attribute this finding to the need to lower behavioral activity during learning. Their main argument is that enabling learners to control the pace of instructions and narration can have a positive impact on information processing and the ability to recall. They conclude that while learners have an active role in their learning, at some stage, intervention is necessary. Understanding individual differences between learners and the interaction between type of modality and presentation mode is significant. It can have a considerable impact not only on instruction design but, importantly, on post-tests.
Mayer et al. (2014) examined different issues related to learning academic content in the ESL context. They specifically conducted two sets of experiments on students at the University of California to test the effectiveness of different instructional methods for helping non-native speakers of English learn new content that is presented in English. Computer-based multimedia presentations in English were applied in the two experiments. In the first experiment, a representational redundant effect video was added to a slow-paced 16-minute narration on wildlife in Antarctica. The authors assumed that adding the video would help clarify word meanings without adding extraneous cognitive load and therefore result in an improvement in performance in comprehension tests.

In the second experiment, redundant effect captions were added to a fast-paced, 9-minute narrated video lecture on chemical reactions. Adding the redundant captions was perceived as an attempt to enable learners to “parse the incoming auditory stream” (Mayer et al., 2014, p. 653) with the possible outcome of adding extraneous cognitive load which results from split visual attention. The authors found that participants in the first group benefited from having videos to support the narrated lesson. Adding the on-screen captions to the videos in the second group, however, did not result in learning improvements in terms of retention or transfer tests. One possible explanation is that the split-attention effect could have come about from the addition of printed words to the graphics, as was found to be the case in previous studies (e.g., Clark et al., 2006; Harskamp et al., 2007; Kühl et al., 2011; Tabbers et al., 2001, 2004; Ayers & Sweller, 2014). Overall, the two groups did not differ significantly in self-reported enjoyment of the lesson or perceived difficulty of the presented tasks. They did, however, differ in the effort they put into understanding the lesson, where subtitles enabled less effort to be expended. Remarkably, this reduction in reported effort due to the use of subtitles did not translate into improvements in comprehension.

A recent study on nuclear power supports the need to consider the interaction effects between presentation modes (spoken or written) and multimedia types (animation and simulation) using a two-by-two factorial experiment (Liu, Lin, Hsu, Hsu, & Paas, 2021). The participants were assigned to four experimental groups: Simulation with Spoken Text (SST), Simulation with Written Text (SWT), Animation with Spoken Text (AST), and Animation with Written Text (AWT). The major finding is that participants learned more from AST and SWT. One possible explanation for the efficacy of AST is that using dual modality presentation can mitigate the overload of the limited working memory system. This overload is likely to occur when texts are presented visually (Liu et al., 2021). In contrast, SWT contains different learning activities (e.g., observation and manipulation). As a result, more time is needed for learners to re-read the procedures of manipulation. With simulations, SWT is better because “the task of manipulation exacerbates the negative effects of the transient nature of spoken text on learning” (Liu et al., 2021, p. 314).

The superiority of audio-visual narrations with pictures over visual-only narrations with texts was also questioned by van den Broek et al. (2014). In their study, a group of 84 university
students studied audio-visual or visual-only multimedia presentations. The students then answered oral and written retention and transfer questions within one day. The primary objective was to examine text modality in learner-paced multimedia presentations and how its effects change over time. Another aim was to investigate how these effects relate to study behavior during learning and how the modality of the final performance measure influences them. Overall, no performance difference was found between the two groups immediately after learning. However, after one day, the visual-only group scored significantly higher on three out of four outcome measures. The authors attribute this finding to the reversed modality effect which is related to the negative effect of audio-visual presentations. In summary, the result of the study stands in sharp contrast to common multimedia design recommendations. The authors suggest that on-screen text should be included in learner-paced presentations. They also argue that it is essential to consider how active learners respond to multimodal input and how the modality of texts limits or fosters proper study behaviors. They conclude with a call to consider the long-term effects after learning and argue that it is by no means sufficient to evaluate decisions on multimedia design immediately after learning due to the possible change of effects over time.

The literature on the MP do not cover specific topics that are significant for ESL students studying English literature. The current study, therefore, aims to address this research gap and explore the effect of the MP on the learning of students studying Shakespeare’s Hamlet at the Department of English of the University of Ha’il.

**Methods**

The present study uses quantitative measures to describe differences in the results obtained from multimedia-based instruction in the teaching of Shakespearean drama for the selected groups. The students were assigned randomly to two groups. The students in the first group (the control group) were presented with static pictures, narration, and on-screen text while studying the Shakespearean play Hamlet. The students in the second group (the experimental group) received graphics and narration of the play - but no text. This study adopts a quasi-experimental design to analyze the data obtained. The data were analyzed using the ANCOVA test to provide statistical evidence for the variation between the results obtained from the control and experimental groups. Due to sample size restrictions, the results discussed in the following section are representative of the selected sample only. More tests must be applied to a larger sample for evidence to be conclusive and applicable to EFL students in various contexts. However, the findings of the current study are a valuable resource to guide the future design of multimedia input in the given context.

**Research Design**

A quasi-experimental design was adopted in this research. Two groups were chosen randomly to avoid selection bias. The independent variable is the systematic multimedia lessons. The dependent variable is based on two potential gains: gain in knowledge and gain in mental skills for the two groups. The quasi-experimental design in this research is intended to establish a
cause-and-effect relationship between the independent and dependent variables. The MP of multimedia learning was adopted in the design and development of the instructional content (Mayer, 2001, 2021; Clark et al., 2006).

Participants

Two groups of students were chosen randomly from a cohort of 400 students from the Department of English at the University of Ha’il in the second semester of the academic year 2020-2021. All the students were enrolled in a Bachelor’s degree in English language and literature. The 69 students were divided into two groups: control and experimental. The control group included 34 male students, and the experimental group included 35 male students (Table one). All students were of similar age and educational background. They were scheduled in these groups to study Shakespearean drama.

Table 1. Sample description

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Experimental</td>
<td>35</td>
<td>50.7</td>
</tr>
<tr>
<td>Control</td>
<td>34</td>
<td>49.3</td>
</tr>
<tr>
<td>Total</td>
<td>69</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Research Instruments

The researchers designed and developed a systematic multimedia program of the Shakespearean play Hamlet. Three education technology experts from the College of Education evaluated the software. An achievement test was administered before and after the study period. The test included 20 multiple-choice questions. The questions were designed by the researchers to measure both knowledge and mental skills about the play. The test was validated by the instructor who has been teaching this course for the last ten years at the English department. A pilot study of 20 students was administered before the administration of the program.

The instrument included questions on knowledge such as “What is the theme in Hamlet’s play?” It also tested mental skills by asking questions such as “What would have happened if the queen had not drunk from the poisonous cup?”.

Research Procedures

The experiment was conducted in the second semester of the academic year 2020-2021 via the Blackboard platform. The experiment took place over one month. A lecture strategy of instruction was applied in two 3-hour sessions per week. A pilot study from the population of the study was conducted on a group of 20 students. A reliability coefficient of .84 was verified through a test-retest approach. The reliability coefficient is appropriate for this study (Cohen, Manion, & Morrison, 2005). As mentioned above, the control group (34 students) was taught based on the multimedia-designed chapters that relied on graphics with audio and text. The experimental group
(35 students) studied the systematically designed chapters of the play Hamlet with audio, graphics, and animation only. After the experiment, both groups sat for the post-test.

The Procedure of the Systematic Multimedia Program

Two versions of the systematic program were designed by the researchers specifically for the play Hamlet. The design of the two versions followed the principle of the modality effect. The first version explained the chapters of the play to the control group through audio, text, graphics, and animation. The second version explained the chapters of the play to the experimental group through audio and animation only. Both contents were instructed through the Blackboard platform in the second semester of 2020-2021. Both groups sat for a pre-test and a post-test. The tests included 20 multiple-choice questions. Ten questions measured the students’ knowledge of the play and the other ten measured their mental skills. Figure one introduces the first page of the program which was designed for the Shakespearean play called Hamlet. Figure two shows the knowledge of the first scene of the play through graphics, narration, and text. Figure three presents part of the mental skills portion just with pictures and narration only. Figure four illustrates an example of the evaluation questions at the end of the play (see Appendix A).

Results

The study aimed to investigate the effectiveness of the modality principle on students’ knowledge and mental skills of their subject of learning, the play Hamlet. An ANCOVA test was used to examine differences between the mean scores obtained by the two groups after studying the play. The independent variable in this study was the multimedia instructional program, and the dependent variable was the achievement test divided into two parts, knowledge (10 questions) and mental skills (10 questions). The significance level was set at (p ≤ 0.05).

A pilot study (20 students) was administered to determine the difficulty index and discrimination index (see Table two in Appendix B). The reliability coefficient was verified and found to be .84 for both knowledge and mental skills (Table three).

<table>
<thead>
<tr>
<th>Table 3. Reliability. Kuder Richardson - 20</th>
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<tbody>
<tr>
<td>KR-20</td>
</tr>
<tr>
<td>Knowledge</td>
</tr>
<tr>
<td>Mental Skills</td>
</tr>
<tr>
<td>All items</td>
</tr>
</tbody>
</table>

A pre-test was conducted before the experiment on the two groups to verify the equality between groups. Tables four and five show no statistically significant differences at α= 0.05 between the two groups in the students’ knowledge retention of the play and their mental skills.
Table 4. Equality between groups regarding the retention of knowledge

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retention of knowledge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>35</td>
<td>8.91</td>
<td>1.292</td>
<td>5.373</td>
<td>67</td>
<td>.000</td>
</tr>
<tr>
<td>Control</td>
<td>34</td>
<td>7.09</td>
<td>1.525</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5. Equality between groups regarding mental skills

<table>
<thead>
<tr>
<th>GROUP</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retention of mental skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>35</td>
<td>8.51</td>
<td>1.337</td>
<td>5.114</td>
<td>67</td>
<td>.000</td>
</tr>
<tr>
<td>Control</td>
<td>34</td>
<td>6.50</td>
<td>1.895</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Discussion

To answer the first research question (see Introduction), means, standard deviations and estimated marginal means of students’ retention of knowledge according to group variables were computed as presented in Table six.

Table 6. Means, Standard Deviations and estimated marginal means of students’ retention of knowledge of Hamlet’s play according to group variable

<table>
<thead>
<tr>
<th>Method</th>
<th>Pre-Mean</th>
<th>Pre-Std. Deviation</th>
<th>Post-Mean</th>
<th>Post-Std. Deviation</th>
<th>Estimated Marginal Means</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>5.83</td>
<td>1.654</td>
<td>8.91</td>
<td>1.292</td>
<td>8.899</td>
<td>.241</td>
</tr>
<tr>
<td>Control</td>
<td>5.35</td>
<td>1.555</td>
<td>7.09</td>
<td>1.525</td>
<td>7.104</td>
<td>.245</td>
</tr>
<tr>
<td>Total</td>
<td>5.59</td>
<td>1.612</td>
<td>8.01</td>
<td>1.676</td>
<td>8.001</td>
<td>.171</td>
</tr>
</tbody>
</table>

There is a slight variation in the means of the students’ retention of knowledge of the play according to the group variable. The mean knowledge score in the control group is X = 7.09 with s.d.of1.52, while the mean for the experimental group is 8.91 with s.d.of1.3. One-way ANCOVA was used to examine whether there were statistically significant differences in the means (Table seven). Table seven displays statistically significant differences at α= 0.05 in the post-test due to group variables favoring the experimental group.

Table 7. One-way ANCOVA results of the students’ retention of knowledge of the play Hamlet according to group variable (Experimental, Control)

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test (covariate)</td>
<td>.756</td>
<td>1</td>
<td>.756</td>
<td>.376</td>
<td>.542</td>
</tr>
<tr>
<td>Group</td>
<td>54.316</td>
<td>1</td>
<td>54.316</td>
<td>27.010</td>
<td>.000</td>
</tr>
<tr>
<td>Error</td>
<td>132.722</td>
<td>66</td>
<td>2.011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>190.986</td>
<td>68</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
To answer the second research question of the study (see Introduction), means, standard deviations and estimated marginal means of students’ retention of mental skills according to the group variables were computed. They are presented in Tables eight and nine.

Table 8. *Means, Standard Deviations and estimated marginal means of students’ retention of mental skills in the play Hamlet, according to group variable*

<table>
<thead>
<tr>
<th>Method</th>
<th>Pre Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>Post Mean</th>
<th>Std. Deviation</th>
<th>Estimated Marginal Mean</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>5.46</td>
<td>1.686</td>
<td>2.79</td>
<td>8.51</td>
<td>1.337</td>
<td>8.514</td>
<td>.279</td>
</tr>
<tr>
<td>Control</td>
<td>5.18</td>
<td>1.445</td>
<td>2.83</td>
<td>6.50</td>
<td>1.895</td>
<td>6.501</td>
<td>.283</td>
</tr>
<tr>
<td>Total</td>
<td>5.32</td>
<td>1.567</td>
<td>1.98</td>
<td>7.52</td>
<td>1.914</td>
<td>7.507</td>
<td>.198</td>
</tr>
</tbody>
</table>

Table eight displays a slight variance in the means of the retention of mental skills in the play according to group Variable. The Mean score of mental skills in the control group is X = 6.50 with s.d. 1.89, while the Mean for the experimental group is 8.51 with s.d. of 1.34. One-way ANCOVA revealed statistically significant differences at $\alpha= 0.05$ in the post-test due to group variables in favor of the experimental group (Table nine).

Table 9. *One-way ANCOVA results of the students’ retention of mental skills in Hamlet play according to group variable (Experimental, Control)*

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test (covariate)</td>
<td>.004</td>
<td>1</td>
<td>.004</td>
<td>.001</td>
<td>.971</td>
</tr>
<tr>
<td>Method</td>
<td>69.315</td>
<td>1</td>
<td>69.315</td>
<td>25.523</td>
<td>.000</td>
</tr>
<tr>
<td>Error</td>
<td>179.239</td>
<td>66</td>
<td>2.716</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>249.217</td>
<td>68</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results indicate that the modality effect seemed to favor graphics with narration only. Participants in the experimental group outperformed the control group. This is apparent in the students’ results in both groups between the pre-test and the post-test. The findings of the ANCOVA test $F = (1.68) = 27$ at $p = .000$. As $p < 0.05$, demonstrate significant differences between the two groups concerning knowledge displayed by the experimental group. This significant result might be due to the use of the multimedia instructional program that excluded texts and relied on the program with graphics and narration only. This program assisted students in recalling knowledge of Hamlet’s play. This finding is in line with the findings reported by Moreno and Mayer (1999), Mayer (2001), Allen and Seaman (2014), and Mayer et al. (2014).

Clark et al. (2006) and Clark and Mayer (2016) stated that a more effective learning experience could be achieved through graphics and narration, more so than graphics and narration with text. They argue that the pictorial channel would be overloaded when pictures and text were presented together. Similar findings were reported by Colliot and Jamet (2018), Scheiter et al. (2019), Mayer et al. (2014), and Knoop-van Campen et al. (2018) who assert that it is more beneficial to use auditory learning. Ayers and Sweller (2014) also argue that adding the on-screen captions to the videos in the second group did not result in learning improvements which also conforms to the findings of this study. The present study provides additional evidence to the
previous arguments. It could be argued that adding the on-screen text in the case of the control group overloaded the students’ audio-visual channel thus resulting in lower performance in tests on retention of knowledge.

With regard to the findings related to the second question that measured retention of mental skills, it has been reported that the ANCOVA test showed that $F = (1.68) = 25$ at $p = .000$. As $p < 0.05$, there are significant differences between the two groups with regard to mental skills, with the experimental group showing better skills. This result conforms with the findings by Liu et al. (2021) that reveal a significant impact due to the use of animation and graphics with spoken text. Likewise, animation was included in the events of the play where Hamlet performed the killing of the king by his brother. The result also conforms with the studies by Eitel (2016), Knoop-van Campen et al. (2018), and Clark et al. (2006) that support the use of auditory learning. Similar results in favor of auditory presentation have been reported in the literature (e.g., Sweller 1999; Mayer 2001, 2005, 2009; Ginns, 2005; Ayers & Sweller, 2005; Harskamp et al., 2007; Kühl et al., 2011; Tabbers et al., 2001, 2004; Scheiter et al., 2014; Mayer et al. 2014; Mutlu-Bayraktar et al., 2019; Castro-Alonso & Sweller 2020).

However, the results of the current study are inconsistent with some previous studies (e.g., Savoji et al., 2011; Singh et al., 2012). For example, Savoji et al. (2011) examined the role of dual coding and interactivity level and found that students exert more mental effort to process information than their counterparts from the on-screen text group. Another study conducted by Ayers and Sweller (2014) found that adding on-screen captions to videos does not result in learning improvements. The study by van den Broek et al. (2014) stands in between, suggesting the superiority of the visual-only group and that on-screen text should be included in learner-paced presentations. In the present study, the findings support the first argument that audio-visual presentation has more benefits than visual-only presentations. It could be argued that using animation has contributed to the superiority of audio-visual presentation, eliminating the need to present the accompanying text or captions.

**Recommendations and Implications**

This research focused on the effect of the modality principle on students studying Shakespearean drama in the English department at the University of Ha’il. Two versions of the multimedia program were designed, developed, and experimented using the Blackboard platform. The version with pictures and narration helped students achieve significantly better results than the program that included graphics, narration, and texts. The MP revealed a high possibility of enabling the students to retain knowledge and sharpen mental skills in the course of study of Shakespearean drama.

In light of the findings of this research, it is recommended that multimedia-based instruction is adopted in teaching linguistics and applied linguistics classes to help students excel in their academic work. Moreover, with the urgent and increasing need to teach courses using online platforms, further studies and investigation are required to evaluate the merits of various
Instructional techniques that can be adopted for adaptable teaching environments, such as during the COVID-19 pandemic lockdowns. These techniques, however, should not only focus on issues related to learning and the transfer of knowledge and mental skills. One of the limitations of the literature on the cognitive theory of multimedia learning is that it focuses on instructional techniques and, on many occasions, ignores the role of students in the learning process (Cavanagh & Kiersch, 2022). In other words, students’ engagement and satisfaction are important because they are likely to impact learning. Taking the role of students into account while designing new content can improve the quality of online classes not only in terms of communication among students but also among faculty members (Ginting et al., 2022). Further research is needed on the role of students’ engagement and satisfaction and how the two combined may influence learning and the overall achievement in retention of knowledge and mental skills tests. Overall, using new concepts and instructional strategies with education technologies and multimedia is highly recommended because it could help students under different circumstances excel in a competitive labor market.

Conclusion

The present study hypothesized that an audio-visual presentation would lead to better learning outcomes for students. The central aim was to compare the impact of using static pictures and narration concurrently with on-screen text for the control group with the impact of using pictures with narration only for the experimental group. The results support the hypothesis. The results demonstrate the superiority of the application of audio-visual representation over visual-only representation. This is manifested in the students’ achievements in post-tests on the retention of knowledge and mental skills. This study provides additional evidence that visual presentation in the form of on-screen text or captions can add a surplus load to the auditory channel and the working memory which results in adverse effects on the learning process.

Acknowledgments

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References
The Impact of Using the Multimedia Modality Principle

Aljabr & Bani-Salameh


Appendices
Appendix A

Figure 1. Home screen

Figure 2. Introduction (knowledge)
The Impact of Using the Multimedia Modality Principle

Aljabr & Bani-Salameh

Figure 3. Mental skill

Figure 4. Evaluation

Appendix B

Table 2. Discrimination index and difficulty index

<table>
<thead>
<tr>
<th></th>
<th>Discrimination index</th>
<th>Difficulty Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.48*</td>
<td>0.25</td>
</tr>
<tr>
<td>2</td>
<td>.47*</td>
<td>0.35</td>
</tr>
<tr>
<td>3</td>
<td>.46*</td>
<td>0.35</td>
</tr>
<tr>
<td>4</td>
<td>.70**</td>
<td>0.35</td>
</tr>
</tbody>
</table>
The Impact of Using the Multimedia Modality Principle

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>.55*</td>
<td>0.35</td>
</tr>
<tr>
<td>6</td>
<td>.53*</td>
<td>0.40</td>
</tr>
<tr>
<td>7</td>
<td>.58**</td>
<td>0.40</td>
</tr>
<tr>
<td>8</td>
<td>.64**</td>
<td>0.40</td>
</tr>
<tr>
<td>9</td>
<td>.49*</td>
<td>0.45</td>
</tr>
<tr>
<td>10</td>
<td>.43*</td>
<td>0.45</td>
</tr>
<tr>
<td>11</td>
<td>.47*</td>
<td>0.45</td>
</tr>
<tr>
<td>12</td>
<td>.63**</td>
<td>0.45</td>
</tr>
<tr>
<td>13</td>
<td>.46*</td>
<td>0.45</td>
</tr>
<tr>
<td>14</td>
<td>.56**</td>
<td>0.45</td>
</tr>
<tr>
<td>15</td>
<td>.29*</td>
<td>0.45</td>
</tr>
<tr>
<td>16</td>
<td>.47*</td>
<td>0.50</td>
</tr>
<tr>
<td>17</td>
<td>.62**</td>
<td>0.50</td>
</tr>
<tr>
<td>18</td>
<td>.66**</td>
<td>0.50</td>
</tr>
<tr>
<td>19</td>
<td>.65**</td>
<td>0.55</td>
</tr>
<tr>
<td>20</td>
<td>.70**</td>
<td>0.55</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).
Abstract
Due to the outbreak of the COVID-19 pandemic, teachers and students in Morocco and elsewhere were forced to move from face-to-face instruction to distance learning. Consequently, a plethora of online platforms, including Google Classroom, Google Meet, Microsoft Teams, WhatsApp, and video communication applications, were used as instructional tools. In light of this, the current study investigates the pedagogical gains of implementing distance learning via Microsoft Teams during the COVID-19 pandemic and the challenges participants encountered. It also probes English as a Foreign Language (EFL) learners’ attitudes toward the effectiveness of this mode of instruction. The study population was 28 secondary school students who taught English courses distantly for eight weeks. A post-questionnaire was used to collect quantitative data. The findings revealed that most participants identified two pedagogical benefits: the ability to learn at home and flexible learning time. As for the challenges, most participants admitted having no or poor network signal, no connectivity in their devices, technical problems related to Microsoft Teams, reduced interaction with their teachers and peers, and poor learning. Besides, the analysis of the 5-point Likert scale survey indicated that while participants were somehow motivated to attend distance learning English courses, they expressed discomfort, they considered face-to-face learning to be more effective than distance learning, and thus they were unsatisfied with the experience and had no intentions of future use. As a result, the study participants displayed negative attitudes toward the implementation of distance learning.

Keywords: challenges, COVID-19, distance learning, effectiveness, learners’ attitudes, Microsoft Teams, Moroccan secondary schools, pedagogical gains

Introduction

As technology has penetrated all parts of our lives, it has become necessary to incorporate information technology (IT) in learning and teaching. Undoubtedly, making use of IT would enhance the learning and teaching process quality in the future. However, one way to adopt IT in education is via distance learning. This being said, distance learning is not only a possibility for future education but also a reality that provides learners, even in significant numbers, with exceptional learning opportunities and choices in where, when, and how to learn (Mehrotra et al., 2001). As a result, this promotes students' engagement and maximizes opportunities for student success (Kupczynsk et al., 2012).

Distance education has a long history, dating back to the late eighteenth century. This long history has paved the way for a growing implementation in educational institutions. This, consequently, enhances the quality of learning and makes it accessible to a wide variety of learners, including those who are disadvantageous to face-to-face learning (Mehrotra et al., 2001). Moore et al. (2011) define distance learning as a mode of instruction that includes "an instructor who is physically located in a different place from the learner, as well as possibly providing the instruction at disparate times" (p. 129). This definition, therefore, stresses the instruction occurring in different locations between the educator and the learner. Accordingly, distance learning is characterized by the sponsorship of an educational institution and the physical separation of the educator and the learner (Ascough, 2002).

Researchers often use distance and online learning interchangeably (Guri-Rosenblit, 2005; Moore et al., 2011). According to Kearsley (1997), online learning is an instruction that requires a computer network such as the world wide web. In most cases, online education occurs in the distance education context, where the instructor and the learner interact via a network. Hence, like distance learning, online learning denotes physical separation, the support of an educational institution, the use of a computer network, and two-way communication via the computer network (Paulsen, 2002).

With the outbreak of COVID-19, teachers and students were forced to switch to distance learning, which has had a tremendous influence on the educational system globally (Li & Yu, 2022). This mode of instruction has had a significant beneficial effect on teaching and learning by encouraging educators to implement novel online teaching methods along with making a various online platform such as Google Classroom, Google Meet, Microsoft Teams, WhatsApp, and video communication applications available to students (Budsaba–Kanoksilapatham, 2021; Wildana et al., 2020). Further, online tools helped students accomplish their tasks quicker and improved the quality of assessment (Maier et al., 2020).

Despite the positive outlook of distance learning, instructors and practitioners have experienced various difficulties, mainly technical issues and lacking technological facilities (Akpinar, 2020; Muhammad & Kainat, 2020). Moreover, in a recent experimental study, Benlaghrissi (2023) found that students who were taught grammar courses conventionally performed significantly better than students who used online learning via Microsoft Teams. The author concluded that lacking high-quality devices, not preparing students for the experience, and poor training of teachers were the main reasons behind the negative effect of the implementation.

The detrimental consequences of COVID-19 and distance learning might impact students and instructors long-term. To mitigate such long-term effects, instructors must first identify the pedagogical gains of distance learning and the challenges learners might
experience. Moreover, understanding learners' perceptions would undoubtedly enable innovation and enhancement, leading to improved distance education (Gullifer & Tyson, 2010). Accordingly, the current study aims to investigate the pedagogical gains of implementing distance learning during the COVID-19 pandemic in a Moroccan secondary school and the challenges participants faced. It also scrutinizes learners’ attitudes toward the effectiveness of this mode of instruction.

**Literature Review**

With the outbreak of COVID-19, extensive research has been done on distance learning resulting in diverse attitudes toward its effectiveness. In 2020, Serhan examined how American university students perceived the transition from face-to-face to online learning using the Zoom platform during the COVID-19 pandemic. The researcher used a 5-point Likert scale survey that 31 participants completed to collect data. Almost half of the participants (48%) said they did not enjoy video-conferencing via Zoom, while only 23% agreed. Additionally, most participants (61%) did not notice an improvement in their learning, while 10% admitted a positive effect on their learning. Consequently, students preferred face-to-face instruction over online learning.

In a similar study, Mahfouz & Salam (2021) questioned whether or not Jordanian university students had positive or negative attitudes toward online learning during the COVID-19 crisis. The study sample was 194 students at Aqaba University who responded to a survey questionnaire. The findings suggested that students had a negative attitude towards online learning due to technical and financial problems.

Alarbi et al. (2022) explored students’ and teachers’ attitudes toward online learning in the UAE using a cross-sectional descriptive design. The participants were 418 secondary school students and 58 teachers who used online education during the 2020-2021 academic year. Overall, participants held positive attitudes toward the experience. Findings also showed no statistically significant difference between private and public teachers. The authors concluded that distance online learning could provide a more effective and comfortable learning environment.

In another recent investigation, Elashhab (2022) investigated the attitudes of Saudi female students toward online English language learning during the pandemic lockdown using Zoom, Cisco WebEx, and Blackboard platforms. The study’s primary objectives were to identify the challenges of online learning to understand students' learning experiences and suggest practical solutions. After two semesters of distance education, the results revealed that 63.52% of students preferred distance education, and 59.6% perceived online education as an efficient teaching method to expand their knowledge, skills, and social competence. On the other hand, 69.5% of students admitted to encountering technical difficulties.

Notably, far too little attention has been paid to distance education in Morocco. Benhima (2021) inspected Moulay Ismail University students’ attitudes toward using distance education during COVID-19. By adopting questionnaires and focus group discussions, the author identified the platforms students used, their attitudes towards distance learning, and students' recommendations to improve distance learning in Moroccan universities. Based on the results, the most used platforms by students were WhatsApp, dictionary apps, and Google. Students also preferred face-to-face learning to online classes, even though part-time students and those who live far away prioritized online learning. As
for the recommendations, students suggested providing high-quality free internet, varying teaching methods, and offering much time for exam preparations.

El Khayma (2021) researched Ibn Tofail University students' motivation for and attitudes toward online learning. The study sample was 89 students who responded to an online questionnaire. The results demonstrated that 48% of the respondents had poor online learning due to technical and financial problems, while 36% affirmed satisfaction with online courses. In addition, only 27% of the respondents were enthusiastic about attending online learning, while 37% were not. Therefore, most participants in the study had negative attitudes toward distance classes, and 49% did not see online learning as the future of education in Morocco.

Given all mentioned, research is scarce in the Moroccan context. In addition, research thus far provides evidence that fewer have been undertaken in secondary schools. Therefore, this study seeks to obtain data that will help address some of these research gaps by investigating Moroccan secondary school students' attitudes toward distance education during the COVID-19 pandemic. It first analyses the pedagogical gains of the implementation and its challenges. It also explores students’ attitudes toward the eight-week experience. To achieve these objectives, the following questions were addressed:

1. What pedagogical gains are offered to students in distance learning and the challenges they encounter?
2. What are students’ attitudes toward the implementation of distance learning in English courses?

**Research Method**

**Participants**

The study participants were 10th-grade EFL secondary school students studying at Tazizaoute High School, El Kbab, Directorate of Khenifra, Morocco. The sample of the study included 28 students.

**Data collection instruments**

A post-questionnaire was employed to collect data. The questionnaire consisted of demographic information, two multiple choice questions dealing with pedagogical gains and challenges of distance learning, and a 5-point Likert scale survey of 18 items exploring the participants’ attitudes toward the effectiveness of implementing distance learning in their English learning. The researcher developed the questionnaire based on the literature review.

**Validity of the instruments**

To determine the questionnaire's validity, four professors in applied linguistics and researchers in distance education evaluated it. Three items were reworded based on the reviewers' feedback, and part two, dealing with pedagogical gains and challenges of distance learning, was included.

**Reliability of the instrument**

For the questionnaire's reliability, Cronbach's Alpha was computed. As shown in table 1, the value was 0.884, indicating that the questionnaire was reliable for data collection.
Table 1. **Reliability of the Post-questionnaire**

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>Cronbach's Alpha Based on Standardised Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.884</td>
<td>.820</td>
<td>37</td>
</tr>
</tbody>
</table>

**Procedure**

The study lasted eight weeks, from April 5th to May 28th, 2021. While the control group was taught English courses traditionally, the experimental group used distance learning via Microsoft Teams. Before the treatment, the researcher invited the participants in the experimental group to a two-hour round table discussion about the differences between distance and face-to-face learning. In addition, the participants were given an overview of how to access Microsoft Teams, join a meeting, and respond to the teacher’s instructions and questions. The participants took part in the study for eight weeks. After the treatment, they were given the post-questionnaire to analyze the implementation's benefits and challenges and assess their attitudes toward this teaching mode.

**Findings**

As already stated, the questionnaire consisted of three parts: demographic information that included gender, age, participants' IT skills, their previous experience in distance learning, and their preparation for the experience. The second part had two multiple-choice questions regarding the pedagogical gains and the challenges of distance learning. The last part was a 5-point Likert scale of 18 items to investigate students’ attitudes toward implementing distance learning. These 18 items were grouped into four dimensions: students’ motivation for distance learning, students’ comfort in distance learning, students’ perceived effectiveness of distance learning, and students’ intentions of future use.

**Demographic Profiles of the Participants**

As displayed in table 2, the total number of participants was 28, 6 were males, with a percentage of 21.4%, and 22 were females, with a percentage of 78.6%. As for the participants’ age, most participants (57.1%) were 15 years, 39.3% were 16 years or more, and finally, only 1 participant (3.6%) was below 14 years.

Table 2. **Gender and Age Distributions among the Participants**

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>6</td>
<td>21.4</td>
<td>21.4</td>
<td>21.4</td>
</tr>
<tr>
<td>Female</td>
<td>22</td>
<td>78.6</td>
<td>78.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 14 years</td>
<td>1</td>
<td>3.6</td>
<td>3.6</td>
<td>3.6</td>
</tr>
<tr>
<td>15 years</td>
<td>16</td>
<td>57.1</td>
<td>57.1</td>
<td>60.7</td>
</tr>
<tr>
<td>16 years and more</td>
<td>11</td>
<td>39.3</td>
<td>39.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>28</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
For the third question dealing with students’ IT (Information Technology) skills, from figure 1, most participants’ (67.9%) IT skills were medium, 17.9% were low, and only 14.2% reported high IT skills.

![Graph showing IT skills distribution](image1)

**Figure 1. Respondents’ IT Skills**

For participants’ previous experience in distance learning, figure 2 illustrates that most participants (64%) had no experience in distance learning. In comparison, 36% admitted to having previous experience.

![Graph showing previous experience](image2)

**Figure 2. Respondents’ Previous Experience in Distance Learning**

Regarding the last question, from figure 3, most participants (68%) were somehow prepared, 25% needed to prepare, and only 7% were very prepared for the experience.

![Graph showing preparation levels](image3)

**Figure 3. Respondents’ Preparation for Distance Learning**

**Pedagogical Gains and Challenges of Distance Learning**

The questionnaire’s second part dealt with the pedagogical gains and the challenges of implementing distance learning. For the benefits, as illustrated in table 3, most participants
(82.1%) claimed that distance learning allowed them to learn at home, and 60.7% declared it offered a flexible use of learning time. In addition, half participants reported that the experience improved their technical skills and allowed more accessible access to the teacher. However, only 6 participants (21.4%) admitted that distance learning helped them learn at their own pace and provided an easy and quick share of educational materials.

Table 3. Pedagogical Gains of Distance Learning

| Ability to learn at home | 23 | 82.1% |
| Flexible use of learning time | 17 | 60.7% |
| Learning at my own pace | 6 | 21.4% |
| Improving my technical skills | 14 | 50.0% |
| Easier access to my teacher | 14 | 50.0% |
| Ease and quick sharing of educational materials | 6 | 21.4% |

Conversely, the respondents encountered some challenges while experiencing distance learning. The vast majority of the participants (89.3%) complained about having no or poor network signal, and 75% admitted having no or poor connectivity in devices and thus had poor learning. Moreover, 57.1% had technical problems related to Microsoft Teams, 53.6% had reduced interaction, and 42.9% needed more knowledge and training in ICT. Table 4 presents the findings:

Table 4. Challenges of Distance Learning

| No/poor network signal | 25 | 89.3% |
| No/poor connectivity in devices | 21 | 75.0% |
| Technical problems related to Microsoft Teams | 16 | 57.1% |
| Lack of knowledge and training in ICT | 12 | 42.9% |
| Reduced interaction with my teacher and peers | 15 | 53.6% |
| Poor learning | 21 | 75.0% |

Students Attitudes Towards the Implementation of Distance Learning

For students’ attitudes towards distance learning, the responses were collected from the participants using 5-Likert scale survey items. For interpreting the questionnaire mean scores, the criteria presented in table 3 were used:

Table 3. The Interpretation of the Mean Score

<table>
<thead>
<tr>
<th>Mean score</th>
<th>Interpretation</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00-1.80</td>
<td>Strongly disagree</td>
<td>Very low</td>
</tr>
<tr>
<td>1.81-2.59</td>
<td>Disagree</td>
<td>Low</td>
</tr>
<tr>
<td>2.60-3.40</td>
<td>Neutral</td>
<td>Moderate</td>
</tr>
<tr>
<td>3.41-4.20</td>
<td>Agree</td>
<td>High</td>
</tr>
<tr>
<td>4.21-5.00</td>
<td>Strongly agree</td>
<td>Very high</td>
</tr>
</tbody>
</table>

Consistent with the above interpretation, the analysis, as presented in table 4, revealed that the overall mean score of the questionnaire was 2.5054 with a standard deviation of .15230. The score is low as it is included in the low rank (1.81-2.59). Therefore, the participants of this study had negative attitudes toward implementing distance learning.
Table 4. Overall mean, Std. D, and Significance of the Questionnaire

<table>
<thead>
<tr>
<th>The Questionnaire’s Overall Mean</th>
<th>Standard Deviation</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5054</td>
<td>.15230</td>
<td>Low</td>
</tr>
</tbody>
</table>

With regard to the questionnaire’s four dimensions, as shown in table 5, the motivation dimension was the highest, with a mean of 3.2054 and a standard deviation of .19546. This dimension was moderate since the four statements had either high or moderate significance. Statement four, “I was always motivated to submit all my homework on time,” came first with a mean of 3.5357 and a standard deviation of 1.31887, corresponding to high significance. The first statement, “I was enthusiastic to begin my distance learning experience in English learning,” came last with a mean of 2.8571 and a standard deviation of 1.38013, which was included in the moderate significance. This illustrates that students were somehow motivated to attend distance learning in English courses.

Table 5. Participants’ Motivation to Attend Distance Learning Courses

<table>
<thead>
<tr>
<th>N</th>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I was enthusiastic to begin my distance learning experience in English learning</td>
<td>2.8571</td>
<td>1.38013</td>
<td>Moderate</td>
</tr>
<tr>
<td>2</td>
<td>I was always motivated to attend all of my teacher's distance learning</td>
<td>3.2143</td>
<td>1.37051</td>
<td>Moderate</td>
</tr>
<tr>
<td>3</td>
<td>I always tried to stay focused when my teacher explained</td>
<td>3.2143</td>
<td>1.34322</td>
<td>Moderate</td>
</tr>
<tr>
<td>4</td>
<td>I was always motivated to submit all my homework on time</td>
<td>3.5357</td>
<td>1.31887</td>
<td>High</td>
</tr>
</tbody>
</table>

Weighted mean/ Std. Deviation/Significance 3.2054 ,.19546 Moderate

Students’ intentions for future use dimension obtained a mean of 2.4911 and a standard deviation of .24039 (See table 6). This made it a low dimension. The statement “I would like distance learning to be integrated into other skills and language components than face-to-face learning” came in the first place with a mean of 2.8571 and a standard deviation of 1.38013, constituting a moderate significance. However, "I would like distance learning to replace face-to-face learning in my school" came last, resulting in a low significance with a mean of 2.2500 and a standard deviation of 1.57821. This demonstrates that most participants were unsatisfied with the experience and had no intention of future use.

Table 6. Participants’ Intentions for Future Use of Distance Learning

<table>
<thead>
<tr>
<th>N</th>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>.15</td>
<td>I would like to continue using distance learning to learn English than face-to-face learning</td>
<td>2.2857</td>
<td>1.32936</td>
<td>Low</td>
</tr>
<tr>
<td>.16</td>
<td>I would like distance learning to be integrated into other skills and language components than face-to-face learning</td>
<td>2.8571</td>
<td>1.38013</td>
<td>Moderate</td>
</tr>
<tr>
<td>.17</td>
<td>I would like distance learning to be integrated into all the other school subjects instead of face-to-face learning</td>
<td>2.5714</td>
<td>1.47645</td>
<td>Low</td>
</tr>
<tr>
<td>.18</td>
<td>I would like distance learning to replace face-to-face learning in my school</td>
<td>2.2500</td>
<td>1.57821</td>
<td>Low</td>
</tr>
</tbody>
</table>

Weighted mean/ Std. Deviation/Significance 2.4911 ,.24039 Low
Table 7 displays participants’ discomfort in implementing distance learning with a mean of 2.3214 and a standard deviation of .15423, which also corresponded to the low significance. In this dimension, all the statements were included in the low significance. The highest mean (M=2.5714) was for statement six, “Distance learning made it easier to ask questions when I did not understand than face-to-face learning.” In contrast, the lowest mean (M=2.1429) was for the fifth statement, “Distance learning made it easier to understand and respond to my teacher's instructions than face-to-face learning.”

Table 7. Participants’ Comfort in Online Distance Learning

<table>
<thead>
<tr>
<th>N</th>
<th>Statements</th>
<th>Mean</th>
<th>SD</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>.5</td>
<td>Distance learning made it easier to understand and respond to my teacher’s instructions than face-to-face learning</td>
<td>2.1429</td>
<td>1.11270</td>
<td>Low</td>
</tr>
<tr>
<td>.6</td>
<td>Distance learning made it easier to ask questions when I did not understand than face-to-face learning</td>
<td>2.5714</td>
<td>1.06904</td>
<td>Low</td>
</tr>
<tr>
<td>.7</td>
<td>Distance learning helped me communicate more effectively with my teacher and peers than face-to-face learning</td>
<td>2.2500</td>
<td>1.10972</td>
<td>Low</td>
</tr>
<tr>
<td>.8</td>
<td>Distance learning helped me participate more effectively in discussions than face-to-face learning</td>
<td>2.3214</td>
<td>1.18801</td>
<td>Low</td>
</tr>
</tbody>
</table>

Weighted mean/ Std. Deviation/Significance = 2.3214, .15423, Low

As can be seen in table 8, the lowest mean value was students’ perceived effectiveness of distance learning (M= 2.2545; SD=.18739), which also corresponded to the low significance. In this dimension, all the statements were included in the low significance. Thus, the respondents admitted that distance learning was ineffective as face-to-face learning. According to the respondents, these distance classes did not help them become more active, motivated, and autonomous like face-to-face learning. They had little understanding, which did not improve their English learning, and thus they were not enjoyable during this experience.

Table 8. Participants’ Perceived Effectiveness of Distance Learning

<table>
<thead>
<tr>
<th>N</th>
<th>Statements</th>
<th>Mean</th>
<th>SD</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>.9</td>
<td>I was more enjoyable in distance learning than in face-to-face learning</td>
<td>1,9286</td>
<td>1,27450</td>
<td>Low</td>
</tr>
<tr>
<td>.10</td>
<td>I enjoyed my teacher’s teaching methods in distance learning than in face-to-face learning</td>
<td>2,1429</td>
<td>1,32537</td>
<td>Low</td>
</tr>
<tr>
<td>.11</td>
<td>I had more understanding of English in distance learning than in face-to-face learning</td>
<td>1,9286</td>
<td>1,05158</td>
<td>Low</td>
</tr>
<tr>
<td>.12</td>
<td>Distance learning helped me become a more active learner than face-to-face learning</td>
<td>1,9286</td>
<td>1,08623</td>
<td>Low</td>
</tr>
<tr>
<td>.13</td>
<td>Distance learning helped me become a more motivated learner than face-to-face learning</td>
<td>2,3571</td>
<td>1,28277</td>
<td>Low</td>
</tr>
<tr>
<td>.14</td>
<td>Distance learning helped me become a more autonomous learner than face-to-face learning</td>
<td>2,5000</td>
<td>1,34715</td>
<td>Low</td>
</tr>
</tbody>
</table>

Weighted mean/ Std. Deviation/Significance = 2,2545, 1,8739, Low

Discussion

Regarding the first research question, most participants claimed that distance learning allowed them to learn at home and offered a more flexible use of learning time. This finding, however, is congruent with previous studies that emphasized flexibility as a significant
benefit of distance learning (El Aouri, 2021; Kumar et al., 2021). Serhan (2021) stated that students found distance learning more flexible than face-to-face learning as it worked best with their schedule during the pandemic. The author added that the implementation allowed learners to interact more freely because students felt it was easier to ask questions. In addition to flexibility, half of the participants reported that implementing distance learning improved their technical skills and enabled accessible access to the teacher. However, a few participants (21.4%) admitted that the experience helped them learn at their own pace and provided an easy and quick share of educational materials.

Oppositely, the respondents faced some challenges while experiencing distance learning. The vast majority of participants (89.3%) said they had no or poor network signal, and 75% admitted having no or poor connectivity in devices and thus had poor learning. However, the literature review in this regard manifested that technical difficulties, mainly poor network signals, and connectivity problems remain significant challenges in distance learning implementation (Elashhab, 2022; Mahfouz & Salam, 2021).

Furthermore, more than half of the participants (57.1%) had technical problems related to Microsoft Teams, and 53.6% had reduced interaction. In this context, while some studies confirmed a low interaction in distance learning classes (El Khayma, 2021; Serhan, 2020), others concluded that distance learning improved learners’ interaction. Hussain et al. (2020) found that students in their study preferred online interaction and feedback to distance learning. Most respondents considered distance learning interaction more effective and modern than face-to-face instruction during COVID-19.

Additionally, 42.9% of the respondents complained about lacking knowledge and training in ICT. A similar problem was reported by Mahfouz & Salam (2021) when they indicated in their study that some students and even professors lacked the proper training on how to use e-learning platforms, including Microsoft Teams, Zoom, Moodle, Facebook Messenger, Skype, and Microsoft Forms used for administering examinations. The authors emphasized that lacking training led students to prefer traditional education over online learning.

With respect to the second research question, the 5-point Likert scale survey analysis showed an overall mean score of 2.5054, with a standard deviation of .15230. Accordingly, the participants of this study had low attitudes toward implementing distance learning in English courses. Thus, the findings of this study are consistent with the results of (Benhima, 2021; El Khayma, 2021; Mahfouz & Salam, 2021). These studies came to the same conclusion that students had negative attitudes toward the implementation of distance learning.

Referring to the survey's four dimensions, the motivation dimension, as the highest (M=3.2054, SD=.19546), was included in the moderate significance. Students' intentions of future use came after with a mean of 2.4911 and a standard deviation of .24039. This made it a low dimension. Students' comfort in distance learning came in third place (M=2.3214, SD=.15423), corresponding to the low significance. The lowest mean value was students' perceived effectiveness of distance learning (M= 2.2545, SD=.18739), which was also included in the low significance. This illustrates that while participants were somehow motivated to attend distance learning English courses during the COVID-19, they expressed discomfort, they considered face-to-face learning to be more effective than distance learning, and thus they were unsatisfied with the experience and had no intentions of future use.
Conclusion and Recommendations

The current study investigates the pedagogical gains of implementing distance learning in English courses and the challenges the respondents faced. Moreover, it explores the participants’ attitudes toward implementing this teaching mode. Most participants identified two pedagogical benefits: the ability to learn at home and flexible learning time. As for the challenges, most participants complained about having no or poor network signal, no connectivity in their devices, technical problems related to Microsoft Teams, reduced interaction with their teachers and peers, and poor learning. Further, the 5-point Likert scale survey analysis showed that the study participants displayed negative attitudes toward implementing distance learning.

Considering the results of the current study, the researcher suggests several recommendations. As a priority, most students admitted having technical problems related to the device’s network signal and connectivity (89.3% and 75%), respectively. In this respect, it is unfair to raise the effectiveness of distance learning without reflecting on effective tools in different contexts. Therefore, students should be provided with high-quality devices and high-quality internet.

Additionally, since 64% of the students declared this was their first experience in distance learning and that most of them were somehow prepared for the experience, preparing students for such experiences beforehand is recommended. Furthermore, considering that most participants’ (67.9%) Information Technology (IT) skills were medium, training them to use Microsoft Teams and other educational platforms is necessary to avoid different technical problems. Alomyan (2021) demonstrated that lower IT skills affect the learner's psychology, negatively impacting learning. Therefore, incorporating ICT in teaching materials would significantly increase students' familiarity with ICT tools in education. Finally, it is also strongly recommended to train teachers professionally on how to use educational platforms to vary their methods of instruction. Admittedly, as Mizher et al. (2022) confirm, adopting this instruction mode would positively impact students’ autonomous and life-long learning. Thus, successfully implementing distance learning could be considered an employability skill for learners.

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Implementing Distance Learning during COVID-19 in Morocco

Benlaghrissi


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The Analysis of Feasibility in EFL Textbook: A Contribution to Kurikulum Merdeka

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Abstract
The researchers would like to combine theories from Tomlinson and Buku Saku Tanya Jawab Kurikulum Merdeka that never been done previously by analyzing the feasibility features of a textbook entitled English for Junior High School Students: Pragmatics Based designed by the researchers themselves as an R & D product of the research. The study can make a valuable contribution to the field of education by providing insights into the development of a new textbook that focuses on pragmatics. It employed a descriptive qualitative research design with the designed textbook for seventh-grade students as the research object, then analyzed using two theories mentioned previously. Based on the findings, the textbook fulfills sixteen criteria proposed by Tomlinson. It can be utilized as a supplement to the study findings and as a learning tool in the classroom as well as this research contributes to Kurikulum Merdeka while also meeting the needs of teachers and students. The combination of viewing and presenting activities can enhance students' comprehension of English as well as their speaking, listening, and idea-organizing abilities in the language. Both viewing and presenting must be seen in the English learning curriculum as crucial skills that complement one another and must be taught in an integrated way. The textbook is also equipped with audio and videos accessed via Android and iOS. Based on those findings, the textbook contributes to the latest curriculum that is Kurikulum Merdeka as a valuable supplementary textbook. Therefore, there are opportunities to conduct additional research on this topic.

Keywords: English as Foreign Language, feasibility features, Junior High School, Kurikulum Merdeka, Pragmatics, textbook

Introduction

The recovery of pandemic conditions is happening in the Indonesian education sector where online teaching has turned back into a face-to-face classroom. Kurikulum Merdeka, a new curriculum created to address the post-pandemic crisis in Indonesian education as a result of the current scenario, was introduced by the Ministry of Education. Based on Buku Saku Tanya Jawab Kurikulum Merdeka (2022), issued by the Indonesian Ministry of Education, Culture, Research and Technology, Kurikulum Merdeka is a curriculum with a variety of intracurricular learning opportunities, where the content will be more suitable, allowing students enough time to explore ideas and develop skills. This curriculum has been piloted at schools so-called Sekolah Penggerak and is being implemented in the 2022/2023 academic year. In Buku Saku Tanya Jawab Kurikulum Merdeka, various national and international studies presented that Indonesia has experienced a learning crisis for a long time. Therefore, Indonesian education institutions are allowed to implement one curriculum suitable to the student’s learning needs and must concern their competency achievement in the context of learning recovery. This Kurikulum Merdeka will become the national curriculum in 2024.

By changing the curriculum, learning tools need to be adjusted, including textbooks. Textbooks are a crucial component of the education system, and they play a significant role in shaping students’ learning experiences. When the curriculum changes, it is essential to update textbooks to align with the new standards and learning objectives. It is important to note that changing textbooks and other learning tools can be a significant undertaking, and it often takes time to develop and distribute updated materials. Therefore, it is crucial to plan ahead and provide adequate resources and support to ensure a smooth transition to the new curriculum.

In this case, content and material should be adapted to the indicators and learning outcomes following Kurikulum Merdeka as well as support and implement the curriculum. To hope for the best, that the adjustment of the textbook will facilitate students and teachers in the learning process. The current situation leads the researchers to their curiosity of analyzing the feasibility features in an EFL textbook entitled English for Junior High School Students: Pragmatics Based. This book was designed from an R&D research design. It is expected that this book will be able to answer the need for Kurikulum Merdeka which will be implemented into the national curriculum in 2024. With this backdrop in mind, This study sought to assess the viability of the characteristics of an English for Junior High School Students: Pragmatics-Based textbook created by the researchers as an R & D product of research financed by the Ministry of Education, Culture, Research, and Technology. The study has the potential to make a significant contribution to the area of education by offering insights into the development of a new textbook focusing on pragmatics, which is the study of language usage in context. This can be especially important for junior high school students, as they are at a crucial stage of language development and social interactions. Since then, there is a lack of textbooks that specifically address pragmatics-based English learning for junior high school students, this study can fill that gap and offer an innovative approach to language teaching and learning.

Literature Review

EFL Textbook

It is widely known that textbooks are one of the essential aspects of the learning process. Textbooks are one of the learning media that are often used by teachers and students. In the EFL context, textbooks play a crucial role. According to Maulana and Rizkiani (2019), many types of
books are designed for students of all levels and ages. Further, Masrui et al (2020) defined a textbook as a form of published printed material most commonly used as teaching and learning media in schools or any educational institution. In addition, Arono and Syafrina (2017) noticed that a textbook is a created material designed as materials for teaching the learning process to increase the learner’s knowledge and experience. Wulandari and Mulyadi (2021) also claimed that the textbook is the best tool for containing information about a specific subject and organizing it in a way that will have a big impact on how well students learn it in class. The most important one, based on Richards (2019) in Ayu (2020), textbooks are a vital component in language programs that function as the source of most language information (language input) both for language learning and for practicing English in the classroom. Thus, textbooks are one of the most important mediums in the learning and teaching process as they serve as a source and guideline to both students and teachers.

The reasons for using textbooks, first of all, the material must be suitable for their needs. Secondly, the textbooks allowed the users to look forward to what we were going to do or to look back at what we had done. Third, the textbooks provided well-presented material that could only be replaced by the users at great expense both in terms of money and time. Finally, textbooks allowed the users to adapt and improvise while teaching (O’Neill, 1982).

Feasibility Features English Textbooks for Junior High School

In Indonesia, there is a National Education Standards Board that regulates several criteria for a good textbook. A good textbook must meet numerous requirements, including the feasibility of the material, the feasibility of the language, the feasibility of the presentation, and the feasibility of the illustrations. Cunningsworth (1995) suggests four criteria for evaluating textbooks: (1) the textbook should correspond to the learner's needs; (2) the textbook should reflect the uses (present or future) which learner will make of the language; (3) textbook should take account of student's needs as learners and should facilitate their learning processes, without dogmatically imposing a rigid method; and (4) textbook should have a clear role as a support tool.

Some experts propose good criteria for English material (Rowntree, 1997; Richard, 2001; Novianti, 2014). It states that effective learning materials should: (1) pique the learner's interest; (2) remind them of earlier learning; (3) inform them of what they will learn next; (4) explain new learning content to them; (5) relate these ideas to learners' previous learning; (6) get learners to think about new content; (7) help them get feedback on their learning; (8) encourage them to practice; (9) ensure that they know what they are supposed to be doing; (10) allow them to check their process.

There are criteria for good material which relate to some basic principles of Second Language Acquisition (Tomlinson, 1998, Tomlinson, 2011; Tomlinson & Matsuhara, 2008; Novianti, 2014). A good English textbook has the following criteria, and the criteria are: (1) materials should achieve impact, (2) materials should help learners to feel at ease, (3) materials should help learners to develop confidence, (4) what is being taught should be perceived by learners as relevant and valuable, (5) materials should require and facilitate learner self-investment, (6) learners must be ready to acquire the points being taught, (7) materials should expose the learners to language in authentic use, (8) the learners’ attention should be drawn to linguistic features of the input, (9) materials should provide the learners with opportunities to use the target language to achieve the communicative purpose, (10) materials should take into
account that the positive effects of instruction are usually delayed,(11) materials should take into account that learners differ in learning style, (12) materials should consider that learners differ in practical attitude, (13) materials should permit a silent period at the beginning of instruction, (14) materials should maximize learning potential by encouraging intellectual, aesthetic and emotional involvement which stimulates both right-brain and left-brain activities, (15) materials should not rely too much on controlled practice, and (16) materials should provide opportunities for outcome feedback.

**Learning Achievements in Kurikulum Merdeka**

Three learning achievements are emphasized in *Kurikulum Merdeka*; they are listening-speaking, reading-viewing, and writing-presenting. According to Fadhillah (2020), listening-speaking, and using English to interact and exchange ideas, experiences, interests, opinions and views with teachers, peers and others in a variety of ways in formal and informal familiar contexts. With repetition and alternation of vocabulary, students understand the main ideas and relevant details from discussions or presentations about various topics that are familiar and in the context of life at school and schoolhouse. They are involved in discussions, for example giving opinions, making comparisons and conveying preferences. They explain and clarify their answers using simple sentence structures and verbs. Reading-viewing, reading, and responding to both known and unexpected texts that have learnt language and predetermined structures. They seek and evaluate ideas, primary and specific information in various text types. This text can be in print or digital, including visual, multimodal, or interactive text. They identify the purpose of the text and begin to make inferences to understand the information implied in a text. In writing-presenting, communicate their ideas and experiences through simple and structured paragraphs, and show progress using specific vocabulary and sentence structure simple. Using examples, they plan, write, and present informational text, imagination, and persuasion using simple and compound sentences to construct arguments and explain or defend an opinion.

**Method**

This study employed a descriptive qualitative research design. Creswell (2014) defined qualitative research as a means for exploring and understanding the meaning of individuals or groups ascribed to a social or human problem. The process of research involves emerging questions and procedures; collecting data in the setting of the participants; analyzing the data inductively, building from particulars to general themes; and making interpretations of the meaning of the data. Bricki and Green (2007) defined Qualitative research as characterized by its aims, which relate to understanding some aspect of social life, and its methods which (in general) generate words, rather than numbers, as data for analysis.

**Research Instruments**

The object of this study was an EFL textbook entitled *English for Junior High School Students: Pragmatic Based* for seventh-grade students of Junior High School. As a research and development (R & D) outcome of the study supported by the Ministry of Education, Culture, Research, and Technology under the *Penelitian Terapan Unggulan Perguruan Tinggi* program, this book was created by the researchers themselves.
Research Procedures

The data for this study were gathered by doing the following steps: reading the textbook, studying the content, and gathering the textbook materials for analysis. After the data were collected, the researchers analyzed those data using Tomlinson’s theory (1998 & 2011) about the feasibility and Buku Saku Tanya Jawab Kurikulum Merdeka (2022).

Findings

The findings were collected from the textbook entitled English for Junior High School Students: Pragmatics Based which was analyzed using Tomlinson’s theory (1998 & 2011) and Buku Saku Tanya Jawab Kurikulum Merdeka (2022).

The first analysis was using the theory from Tomlinson (1998) which is about criteria of goodmaterial which relate to some basic principles of Second Language Acquisition, namely (1) materials should achieve impact, (2) materials should help learners to feel at ease, (3) materials should help learners to develop confidence, (4) what is being taught should be perceive by learners as relevant and valuable, (5) materials should require and facilitate learner self-investment, (6) learners must be ready to acquire the points being taught, (7) materials should expose the learners to language in authentic use, (8) the learners’ attention should be drawn to linguistic features of the input, (9) materials should provide the learners with opportunities to use the target language to achieve communicative purpose, (10) materials should take into account that the positive effects of instruction are usually delayed, (11) materials should take into account that learners differ in learning style, (12) materials should take into account that learners differ in practical attitude, (13) materials should permit a silent period at the beginning of instruction, (14) materials should maximize learning potential by encouraging intellectual, aesthetic and emotional involvement which stimulates both right and left brain activities, (15) materials should not rely too much on controlled practice, and (16) materials should provide opportunities for outcome feedback. The findings are presented as follows:

The material should achieve an impact

The first requirement was reflected in nine chapters provided in the textbook, those were: 1) Meeting People, 2) Thanking and Apologies, 3) Introducing People, 4) Expressing Times, Dates, and Numbers, 5) Identifying Animals, Things, and Public Places, 6) Characterizing Persons, Animals, and Things, 7) Giving Information of Habits and Function of Things, 8) Describing Persons, Places, and Things, 9) Identifying the Message and Themes of the Songs. Every chapter is provided by Kompetensi Dasar or Basic Competency, and the output must be achieved by the students at the end of the lesson.

Materials should help learners to feel at least

The second requirement was reflected by many exercises and other features such as dialogue and pictures, texts and illustrations displayed in the textbook. Every dialogue given in the textbook may be seen to have been preceded by a circumstance. Materials should help learners to develop confidence

To fulfill the third requirement, the textbook provided many activities using expressions that can be done individually or in groups.

1. What is being taught should be perceived by learners as relevant and useful.
The fourth requirement was that students should believe what is being taught is pertinent and helpful. The textbook offers information that is pertinent and beneficial to students. They are described as follows:

Table 1. The materials in English for junior high school students: Pragmatics based textbook

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chapter 1</td>
<td>The material presented in this chapter is about expressions of greeting and leave-taking which are packaged in the theme “Meeting People”. Related to this theme, activities provided will be connected to expressing greetings and leave-taking while meeting people in the relevant situation.</td>
</tr>
<tr>
<td>Chapter 2</td>
<td>“Thanking and Apologizing” is the theme of this chapter. It contains expressions of thanking and apologies with several activities to support the learning process of the students. In this session, there are many tasks such as making a dialogue, responding to specific situations, arranging jumbled dialogue and sentences, translating, and so on. With these activities, students can explore greetings and leave-taking expressions in their context.</td>
</tr>
<tr>
<td>Chapter 3</td>
<td>Students will study self-introduction and other-introductions in this chapter, which has the “Introducing People” topic. The session also focused on grammar and vocabulary.</td>
</tr>
<tr>
<td>Chapter 4</td>
<td>The theme is “Expressing Times, Dates, and Numbers” which students will learn about asking and giving information about time, day, and date. The material also includes ordinal numbers, cardinal numbers, time, days and months, and dates. Several tasks in pairs or individuals are available in this chapter. Students can use these expressions more effectively if they have a better understanding of how to use them (Rowntree, 1997; Richard, 2001; Novianti, 2014).</td>
</tr>
<tr>
<td>Chapter 5</td>
<td>The theme of the fifth chapter is “Identifying Animals, Things, and Public Places”. Students will be taught about identifying the name of animals, things, and public places and asking for and giving information about animals, things, and public places. In addition, there are singular and plural, prepositions places article explanations in this chapter.</td>
</tr>
<tr>
<td>Chapter 6</td>
<td>The sixth chapter explains asking for and giving information about the characteristics of a person, animal, and thing with the theme “Characterizing Persons, Animals, and Things”. There are many activities related to the theme, so that later, students will be able to ask and give information about the characteristics of a person, animal, and thing.</td>
</tr>
<tr>
<td>Chapter 7</td>
<td>“Giving Information of Habits and Function of Things” is the theme of the seventh chapter. Students will learn about asking for and giving information about the habits of person or animal and asking for and giving information about the function of things.</td>
</tr>
<tr>
<td>Chapter 8</td>
<td>This chapter discusses describing someone, a place, orating in the theme “Describing Persons, Places, and Things”. Students can better understand the materials because they are presented in text or dialogue. Many topic-related activities help children learn how to describe people, places, and things.</td>
</tr>
<tr>
<td>Chapter 9</td>
<td>Last chapter with the theme “Identifying the Message and Themes of the Song”. This part is hoped that students will be able to identify the message of the song and identify the theme of the song.</td>
</tr>
</tbody>
</table>
Materials should require and facilitate the learner's personal-investment

The fifth requirement was that learning materials should encourage student personality investment. Materials in this textbook are available to help students. This textbook has four exercises for the four English language skills: hearing in activity three of Chapter 1, speaking in Activity five of Chapter 4, reading in Activity Five of Chapter 6, and writing in activity nine of chapter 6.

Learners must be ready to acquire the points being taught

The sixth requirement was that students must be prepared to understand the concepts being taught. This textbook develops students' preparation by emphasizing grammar or vocabulary and linguistic elements. Consider concentrating on your vocabulary and grammar.

Materials should expose the learners to language in authentic use.

The seventh requirement was that materials should expose the learners to language in authentic use. This English for Junior High School Students: Pragmatics Based textbook contains some original material, such as songs.

The learners' attention should be drawn to the linguistic features of the input

The eighth requirement was that the learners’ attention should be drawn to the linguistic features of the input. This book gives an activity focused on grammar and vocabulary. It can give learners attention to the linguistic features of the input.

Materials should provide the learners with opportunities to use the target language to achieve the communicative purpose

The ninth requirement was material should provide the learners with opportunities to use the target language to achieve the communicative purpose. The communicative interaction can be in the form of post-reading, creative writing, and creative speaking activities (Fakhomah, 2017). This textbook gives chapters on communicative interaction. Chapter 1 includes listening, speaking, reading, and writing activities. Chapter 2 includes listening, speaking, reading, and writing activities. Chapter 3 includes speaking, reading, and writing activities. Chapter 4 includes listening, speaking, reading, and writing activities. Chapter 5 includes listening, speaking, reading, and writing activities. Chapter 6 includes listening, speaking, reading, and writing activities. Chapter 7 includes listening, speaking, reading, and writing activities. Chapter 8 includes listening, reading, and writing activities. Chapter 9 includes listening, speaking, reading, and writing activities.

On the other hand, materials 10-14 should maximize learning potential by encouraging intellectual, aesthetic and emotional involvement which stimulates both right and left-brain activities, materials 15 should not rely too much on controlled practice, and materials 16 should provide opportunities for outcome feedback.

Materials should consider that the positive effects of instruction are usually delayed

The tenth requirement was materials should consider that the positive effects of instruction are usually delayed. The materials are arranged related to the topic. It can ease students to study English from primary to complex materials.
Materials should consider that learners differ in learning style

The eleventh requirement was that resources take different learning styles into account. Numerous activities are offered in the textbook *English for Junior High School Students: Pragmatics Based* to help students discover their learning preferences. The example of three different learning styles is displayed as follows.

Table 2. The example of an activity for auditory learning style

<table>
<thead>
<tr>
<th>Listen to your teacher!</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Situation:</strong> Mrs. Julia is counting the students in the classroom. She asks them to count one by one before starting the lesson.</td>
</tr>
<tr>
<td><strong>Mrs. Julia</strong></td>
</tr>
<tr>
<td><strong>Students</strong></td>
</tr>
<tr>
<td><strong>Mrs. Julia</strong></td>
</tr>
<tr>
<td><strong>Students</strong></td>
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<tr>
<td><strong>Students</strong></td>
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<tr>
<td><strong>Mrs. Julia</strong></td>
</tr>
<tr>
<td><strong>Students</strong></td>
</tr>
<tr>
<td><strong>Mrs. Julia</strong></td>
</tr>
</tbody>
</table>

Table 3. The example of an activity for visual learning style

<table>
<thead>
<tr>
<th>Read the text below, then answer the questions!</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I want to tell you about my new pencil case. You see, it’s a beautiful big pencil case. Um… it is round. It is made of leather. The color? It has a color like chocolate, dark brown. You know, I like the color because dirt cannot be noticed as easily with it. There are some pockets in my pencil case. The first one is the main pocket. It is between the small pockets. I usually put my writing utensils in it. The second one is the small pockets. I keep my money and my school identity in these pockets.</strong></td>
</tr>
<tr>
<td><strong>Table 4. The example of an activity for kinaesthetic learning style</strong></td>
</tr>
<tr>
<td><strong>Role Play</strong></td>
</tr>
<tr>
<td><strong>Make a simple dialog with your partner based on the following topics and perform it in front of the class.</strong></td>
</tr>
<tr>
<td>1. Describing a new book to a friend.</td>
</tr>
<tr>
<td>2. Telling a movie to a cousin.</td>
</tr>
</tbody>
</table>

**Materials should consider that learners differ in practical attitude**

The twelfth requirement was that materials should consider that learners differ in practical attitude. This textbook provides different activities to motivate and support students to learn.
Table 5. An example of descriptive text

<table>
<thead>
<tr>
<th>My pencil</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have a new pencil. It is a souvenir from my sister who has just returned from Japan. It is a light and colorful pencil. Its color is yellow, green, red, blue, orange, and purple. It is ten centimeters long. There is an eraser at the top end of the pencil. The shape of the eraser is a rabbit. It is adorable. I keep it in my pencil case.</td>
</tr>
</tbody>
</table>

9. Materials should permit a silent period at the beginning of instruction.

The materials must allow for a silent interval at the start of instruction, according to the thirteenth criteria. The textbook makes it easy for students to take a break before working on a question while listening to a voice recording of the information or while reading or studying a manuscript that contains the materials.

Table 6. An example of silent period

<table>
<thead>
<tr>
<th>Activity 1: Read the dialog below! Then, answer the following questions!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 2: Listen to the song “What Makes You Beautiful” by One Direction, and try to answer the following questions!</td>
</tr>
</tbody>
</table>

Materials should maximize learning potential by encouraging intellectual, aesthetic, and emotional involvement which stimulates both right-brain and left-brain activities

The fourteenth requirement was that educational materials must encourage intellectual, aesthetic, and emotional engagement, which stimulates the right and left brains' respective processes, to the fullest extent possible. The right-brain works as a spatial ability such as music, creativity, art, and shape. Meanwhile, the left brain works in logical thinking, language and mathematics (Fakhomah, 2017). The examples are as follows.

Table 7. An example of the right-brain activity

<table>
<thead>
<tr>
<th>Complete the sentences using the correct form of to be!</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I…… a newcomer.</td>
</tr>
<tr>
<td>2. She…… a doctor.</td>
</tr>
<tr>
<td>4. The students….. in the laboratory.</td>
</tr>
<tr>
<td>5. Susan …. From Surakarta.</td>
</tr>
</tbody>
</table>
Table 8. An example of left-brain activity

Listen to the song “Perfect” by Simple Plan, and do not search for its lyrics online. Try to fill in the blank lyrics below based on what you heard from the song.

<table>
<thead>
<tr>
<th>PERFECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple Plan Hey, Dad, look at me think back, and talk to me Did I grow up _________(1) to plan?</td>
</tr>
<tr>
<td>And do you think I'm wasting my time doing things I wanna do? But it hurts when you _________(2) all along now I try hard to make it I just want to make you _________(3)</td>
</tr>
<tr>
<td>I'm never gonna be good _________(4) for you can't ______(5) that I'm alright And you can't change me' Cause we lost it all Nothin' lasts forever I'm sorry I can't be perfect Now it's just too late And we can't go back I'm sorry I can't be perfect</td>
</tr>
</tbody>
</table>

Materials should not rely too much on controlled practice

The fifteenth requirement materials should not rely too much on controlled practice. This textbook provides some activities that explore students’ abilities.

Table 9. An example of an activity exploring students’ abilities with not rely too much on controlled practice

Activity 9: Look at the pictures! Then, write the physical characteristics. What does s/he look like?

Materials should provide opportunities for outcome feedback

The sixteenth requirement was materials should provide opportunities for outcome feedback. This textbook includes reflection sections in each chapter. Reflection is used to measure the learners’ understanding of the materials.

The second analysis was using Buku Saku Tanya Jawab Kurikulum Merdeka (2022). The focus of the examination was on Buku Saku's assertion that Kurikulum Merdeka curriculum explores not just the four English language abilities to listen, speaking, reading, and writing, but also viewing and presenting. The findings are presented as follows:

Table 10. An example of a viewing-presenting activity

Activity 11: Scan the QR with your mobile phone, then you can watch a short documentary video about zoo, after that, share your thoughts and describe what you have watch!
Viewing activity is an important aspect of learning English. This activity involves the use of various types of visual media, such as videos, images, or presentations, to help students understand English in a broader context.

Some examples of viewing activities that can be done in *English for Junior High School Students: Pragmatics Based* textbook, including watching videos, observing pictures, watching presentations, and listening to audio. By watching videos, students can watch videos related to the topic of English being studied, such as news videos, movies or music clips. After watching, students can hold discussions or answer questions related to the video. By observing pictures, students can see pictures or illustrations related to the topic of English being studied. This can help students understand vocabulary and enrich their imagination. By watching presentations, students can watch presentations made by their teacher or classmates. After watching, students can provide feedback or ask questions about the topic of the presentation. By listening to audio, students can listen to audio, such as podcasts or news recordings, to improve their listening skills and understand English used in various contexts.

Viewing activities can help students broaden their understanding of English and improve listening, comprehension, and speaking skills. Therefore, this activity is very important to be applied in learning English.

Further, presenting activities are one of the important aspects of learning English. This activity involves the use of English orally to convey information or present ideas or ideas. historical, cultural, or social issues. This will help students enrich their vocabulary and improve their speaking skills in English. Some examples of presenting activities that can be done in *English for Junior High School Students: Pragmatics Based* textbook, include participating in debates, delivering speeches, and conducting a mock interview. By participating in debates, students can participate in debates about certain topics in English. This will help students improve their speaking, listening and organizing ideas in English. By delivering speeches, students can deliver speeches in English on topics relevant to their learning. This will help students deepen their understanding of English and improve their speaking skills. By conducting a mock interview, students can conduct a simulated job interview or college entrance interview in English. This will help students prepare for real-life situations where they need to use English. Presenting activities can help students improve their speaking, listening, and organizing ideas in English. Therefore, this activity is very important to be applied in learning English.

**Discussion**

This study intends to evaluate the viability of a research and development product—an *English for Junior High School Students: Pragmatics Based* textbook—created by the researchers themselves. Based on the findings, the textbook satisfies sixteen requirements outlined by both Tomlinson and *Buku Saku Tanya Jawab Kurikulum Merdeka* theories. The researchers gave another idea from Fakhomah (2017) to support the findings for the first criterion in the textbook, which states that impact can be created if the materials (textbook) are new, diversified, presented nicely, and have compelling content. The study's analysis of the textbook includes a variety of texts on strange subjects.

The analysis using theory Tomlinson showed that *English for Junior High School Students: Pragmatics Based* has fulfilled the sixteen criteria of a good textbook. The first requirement was reflected in nine chapters provided in the textbook. The second requirement was reflected by many exercises and other features such as dialogue and pictures, texts and...
illustrations displayed in the textbook. The third requirement, the textbook provided many activities using expressions that can be done individually or in groups. The fourth requirement was that students should believe what is being taught is pertinent and helpful. The fifth requirement was that learning materials should encourage student personality investment. The sixth requirement was that students must be prepared to understand the concepts being taught. Theseventh requirement was that materials should expose the learners to language in authentic use. The eighth requirement was that the learners’ attention should be drawn to the linguistic features of the input. The materials must allow for a silent interval at the start of instruction, according to the thirteenth criterion. The fourteenth requirement was that educational materials must encourage intellectual, aesthetic, and emotional engagement, which stimulates the right and left brains’ respective processes, to the fullest extent possible. The fifteenth requirement is materials should not rely too much on controlled practice. The sixteenth requirement was materials should provide opportunities for outcome feedback. This textbook includes reflection sections in each chapter. Therefore, the English for Junior High School Students: Pragmatics Based textbook is suitable to be used by seventh-grade students of Junior High School.

The second analysis using Buku Saku Tanya Jawab Kurikulum Merdeka shows that the English for Junior High School Students: Pragmatics Based textbook has features that should be acquired by students which are listening, speaking, reading, writing, viewing, and presenting. Students will be exposed to a range of text types during reading-viewing, which they can examine and assess. Contrarily, by completing the tasks in writing-presenting, students can convey and present their content. In addition to the traditional skills, the inclusion of viewing and presenting recognizes the importance of visual literacy and effective communication skills in today’s digital age. This approach acknowledges that students need to be able to understand and interpret visual media, such as videos and images, and to communicate their ideas effectively through various modes of presentation. Overall, the inclusion of viewing and presenting in the Kurikulum Merdeka curriculum is a positive development, as it recognizes the importance of developing a range of skills that are relevant to today's world. It also reflects a broader understanding of language learning, which goes beyond traditional notions of language as a set of discrete skills to be mastered.

Moreover, the English for Junior High School Students: Pragmatics Based textbook is equipped with audio and videos that can be accessed via Android and iOS. It is very handy and helpful to students and teachers as well to accommodate the learning and teaching process. It suggests that the textbook has a more comprehensive approach to English language learning. The inclusion of audio and video materials in a textbook that can be accessed via Android and iOS devices is a great way to enhance student's learning experience. These multimedia resources can provide a more engaging and interactive learning experience for students, as they can see and hear authentic language being used in context. Accessing the materials via mobile devices also makes the learning process more convenient and flexible, as students can access the materials anytime, anywhere, as long as they have an internet connection. This can be particularly beneficial for students who have busy schedules or limited access to traditional learning resources. Overall, the use of audio and video materials in a textbook that can be accessed via Android and iOS devices is a positive development in language learning, as it allows for a more engaging and interactive learning experience that is flexible and convenient for students. The study can make a valuable contribution to the field of education by providing insights into the development of a new textbook that focuses on pragmatics, which is the study of language use.
Conclusion
Finding a textbook that is appropriate for Kurikulum Merdeka will undoubtedly be a must for instructors after that curriculum is implemented. There will, of course, be considerations in selecting textbooks to facilitate and assist the teaching and learning process given the additional abilities, reading-viewing and writing-presenting, relevant to the Kurikulum Merdeka that students must master. The textbook English for Junior High School Students: Pragmatics Based can be utilized as a supplement to the study findings and as a learning tool in the classroom as well as this research contributes to Kurikulum Merdeka while also meeting the needs of teachers and students. Therefore, the researchers advise English teachers, particularly in Indonesia, to use this textbook.

The researchers want to draw attention to the viewing and presenting activities for further research. Activities involving viewing and presenting in Kurikulum Merdeka are crucial components of this curriculum that students must learn. The combination of viewing and presenting activities can enhance students' comprehension of English as well as their speaking, listening, and idea-organizing abilities in the language. Both viewing and presenting must be seen in the English learning curriculum as crucial skills that complement one another and must be taught in an integrated way. There are, therefore, opportunities to perform additional research on this subject.

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References


Formation of the Operational Skills of Using Information and Communication Technologies in the Professional Activity of a Future Pedagogue

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Abstract:
This article highlights the issue of forming future preschool teachers’ competence in using information and communication technologies in their professional activity, particularly creating their operational skills. This paper presents the results of diagnosing the peculiarities of developing functional skills to use information and communication technologies in the professional activity of the future preschool education teacher. The article aimed to highlight the process and results of the research on the formation of operational skills in the use of information and communication technologies in the professional activity of future preschool education teachers in higher educational institutions. The analysis was carried out before and after classes on the subject “Information and communication technologies in preschool education.” The authors described the levels of developing operational skills of using information and communication technologies in professional activity of the future preschool education teacher as sufficient, intermediate, and low. They also offered and introduced the methods of forming operational skills using information and communication technologies in professional activity of the future preschool education teacher. Implementing these methods facilitated the formation of the operational component of future preschool education teachers’ competence in using information and communication technologies in the professional activity. A statistical study based on the multifunctional criterion of agreement $\chi^2$ - Pearson proved that the indicators of the formation of future preschool education teachers’ functional skills of using information and communication technologies in professional activity before and after classes on “Information and communication technologies in preschool education” differ significantly.

Keywords: future preschool education teacher, information and communication technologies, operational skills; preschool teachers’ competence, professional activity, Ukraine context

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Introduction.
On the way to European integration as the main direction of the Ukrainian state development, rapid changes in the strategy of bringing Ukraine closer to the standards of the European Union led to a quick transition to the informatization of society. The need for widespread use of information and communication technologies in the socio-economic sphere has set new requirements for the modernization of the modern education system, starting with the preschool level as the first component in the continuing education scheme. Reforming preschool education implies the need to significantly adjust the content and organization of the educational process of preschoolers, to move to new priority goals and objectives for providing the necessary level of academic competencies for children of the first six years of life, including information competence, which ensures readiness to study in the New Ukrainian School; to strengthen innovative processes in preschool education institutions, which will primarily meet the contemporary requirements of a dynamic, technological life of society. However, whatever modernization takes place in a modern preschool institution, it is related to the competence and personality of the teacher, who must have an adequate understanding of the peculiarities of using information and communication technologies in professional activity.

In the context of reforming preschool education, this issue was highlighted in a lot of state legal documents: laws of Ukraine “On Preschool Education,” “On Information,” “On Copyright and Related Rights,” orders “On Approval of Sanitary Regulations for Preschool Education Institutions,” “On approval of the Rules for the Use of Software in Educational Institutions,” “National Strategy for Educational Development of Ukraine until 2021,” standards of preschool education recommended by the Ministry of Education and Science of Ukraine (new version of the Basic component of preschool education, programs “Me in the World,” “Child”). Remarkably, the “National Strategy for the Development of Education of Ukraine until 2021” states that “the priority of educational development is the introduction of modern information and communication technologies that improve the educational process, facilitate accessibility and effectiveness of education, preparing the younger generation for life in the information society” (p. 15). This requires the appropriate competence of future preschool teachers using information and communication technologies in professional activity and is one of the most critical tasks of professional training. Since the rapid digitalization of young specialists today is becoming one of the factors motivating changes in the educational system of Ukraine, the Ministry of Education and Science of Ukraine, together with Google, has already implemented three large-scale projects: digital literacy training for teachers, an online course on network etiquette and safety, and a guide to online security. According to Bykov, Vernihora, Hurzhii, Novokhatko, Spirin & Shishkina (2019), “the inconsistency of the structure and functions of the educational and scientific environment with the requirements and needs of building pedagogical systems of higher education is one of the modern challenges of development in this sphere” (p. 2). In the organizational aspect, solving this problem requires creating conditions in the institution of higher education for students to obtain not only basic knowledge of information and communication technologies and methods of their implementation in the educational process of preschool education but also to form professional abilities and operational skills of their practical usage in work with preschool children.
Literature Review
The issues of forming the personality of a preschool teacher and the success of his professional activity have been thoroughly studied in the works of Bielienka, 2015; Bohush, 2011; Kniazheva Kniazheva et al., 2015.

Considerable attention in scientific research is paid to the issue of using information and communication technologies in the educational space, namely: applying these technologies in the context of reforming higher education in accordance with European standards (Vernihora, Hurzhii, Novokhatko, Spirin & Shishkina, 2019; Sikorskyi, 1990; Stepko, 2012 et al.); formation of skills in information and communication technologies in the course of distance learning (Karelina, 2005); use of mobile applications in the classroom (Al Fadda, 2020), use of educational opportunities of the Internet (Breskina, 2002; Hurevich & Kademiia, 2016; Osadchyi, 2005 et al.); designing and using an open cloud-oriented educational and scientific environment of a higher education institution (Bykov, Vernihora, Hurzhii, Novokhatko, Spirin & Shishkina, 2019); factors of development and directions of improving the distance form of education in the system of higher education of Ukraine (Romanovs'kyi, 2017; Reznik, 2015); training future teachers for the use of audiovisual and computer learning technologies (Trofymov, 2002); construction of information and communications technology (ICT) infrastructure in higher education institutions (Spivakovskyi, 2001; Vinnnyk, 2016) training future teachers of physical education for the use of information and communication technologies in their professional activity (Henseruk & Martyniuk, 2021); training future primary school teachers for the use of information and communication technologies (Sukhovirs'kyi, 2003); development of information activity of university students in the process of professional training (Averyanova, 2006); preparing students for the use of computer technologies in professional activity (Oleinykov & Mukasheva, 2015); application of multimedia tools in the training future teachers of information and communication technologies (Babenko, 2003); formation of future teacher’s information and professional competence by means of information and communication technologies (Bazaieva, 2005); specifics of the development of future teacher’s personality in the conditions of applying information and communication technologies (Bati'ienova, Yemelyanova, Ivanova, Filipova & Chumicheva, 2019); pedagogical conditions for optimizing the information training of students in pedagogical universities (Blinova, 2005); principles of accessibility and communication orientation of students’ education in the conditions of applying information and communication technologies (Zaitseva, 2002); formation of future teachers’ information and computer competence in the process of professional training (Korobkova, 2006); professional training of university students on the basis of information and computer technologies (Smirnova, 2018); formation and development of students’ computer education (Maiboroda, 2002); formation of future teachers’ readiness to use computer information and communication technologies in professional activity (Razinkina, 2001).

The top place among these studies is occupied by the works devoted to the use of information and communication technologies in the conditions of preschool education establishments (Horvitz, 1998; Zvoryhina, 1990) the issues of training future teachers of preschool education for the use of information and communication technologies in professional activity were studied by the following scientists, namely: training future educators for the formation of the basics of older preschoolers’ computer literacy (Diachenko, 2009); preparation of future educators employing information and communication technologies for teaching children foreign languages (Wittenberg, 2010); training students of a pedagogical institution of higher education for the realization of preschool computerization (Gabdulislamova, 1999); forming readiness of
pedagogical faculty students to use new information and communication technologies in professional activity (Dikanskaya, 2000), etc.

Herewith, the formation of the future preschool teachers’ competence in using information and communication technologies requires the introduction of a model of professional training in higher education institutions. Currently, there is no holistic concept of their training to form the necessary knowledge and skills of information and communication technologies, which negatively affects both the organization of the educational process in higher education institutions and the effectiveness of training future specialists in general who can not maximize their potential and information environment of higher education institutions. Given the relevance and feasibility of solving the problem of training preschool teachers, their professional self-determination, the growing popularity of multimedia technologies, the Internet, in particular in addressing educational issues in preschool education, there is a question of revising the concepts of the stable and effective education system, development of future teachers’ communication competence, in particular the formation of their operational skills.

**Theoretical Background of the Research**

In general, the term ICT is often used interchangeably with information technologies (IT); however, ICT is a more general term that emphasizes the role of unified technologies and integration of telecommunications (telephone lines and wireless connections), computers, software, storage and audiovisual systems that allow users to create, access, store, transmit and modify data. In other words, ICT consists of IT, as well as telecommunications, media transmissions, all types of audio and video processing of transmitting, network management, and monitoring functions (Information and communication technologies).

As the analysis of the literature sources (Bykov, Vernihora, Hurzhii, Novokhatko, Spirin & Shishkina, 2019; Sikorskyi, 1990; Stepko, 2012) on the issue of using information and communication technologies in the organization of the educational process in higher education institutions demonstrates the use of these technologies is possible in all organizational forms of learning. As Osadchyi, (2005) notes:

“ At the present stage of introducing information and communication technologies into the educational process, an important component is a computer, the need for which is constantly growing at all levels of education. Analyzing the experience of such application, we are convinced that it can facilitate the study of the material by preschoolers who get acquainted with the environment, numbers, letters, master the ability to draw, move rhythmically, etc.” (p. 26). In her research, Gabdulislamova (1999) claims that:

“A modern educator of preschool education should be familiar with the basics of preschool computerization,” which, according to the scientist, is the basis for children’s psychological readiness for further activity with computer technology at school, as well as must be able to use the computer as a means of education and development of creative abilities of the child. Thus, the educator needs knowledge of preschool pedagogy and psychology, as well as knowledge of modern computer technologies and methods of organizing computer classes” (p. 5).

Training students of pedagogical faculties for the use of new information and communication technologies in professional activity is considered in the study of Dikanskaya (2000), who pays significant attention to the formation of operational skills in the use of information and communication technologies and “their testing in the process of the pedagogical internship; search
and preparation of materials for classes with the use of computer tools, accounting for the success or assimilation of materials, conducting various types of diagnostics using NIT tools” (p. 88).

The priority in Diachenko’s (2009) research is the idea of:

“Forming in students a theoretical and practical basis of information skills and abilities to transform information in any field of productive human activity, self-organization and self-improvement in future professional activity due to acquired knowledge. Students must have computer literacy as the basis of information culture, as well as have general technological skills (goal setting and formulation of pedagogical tasks, determining their content, selection of implementation means that ensure the development of new forms and methods of training)” (p. 116).

Karelina (2005), analyzing the effectiveness of the organization of students’ educational and cognitive activity, maintains that:

“Skills and abilities in information and communication technologies can be tested by students’ achievement of the following learning outcomes: modeling practical implementation of actions that make up the skills; sufficient level of automation of activities that are skills; performing a set of activities that make up the skills; self-analysis of results” (p. 161).

The formation of skills in information and communication technologies is measured and evaluated by the researcher according to the following criteria: the construction of the content component: knowledge of the principles of improving the efficiency of professional activity utilizing information and communication technologies, knowledge of fundamental concepts in information and communication technologies, understanding of universal and specialized software for solving professional tasks; knowledge of applying theoretical material; knowledge of technology development trends; formation of the operational component: construction of an algorithm for solving a professional task using information and communication technologies; sufficient level of automation of skills in working with computer devices and software; performing a set of actions that form the basis of the craft; self-analysis of the results (Karelina, 2005, p. 163).

Researchers in the training of future specialists pay considerable attention to the formation of operational skills and abilities to use computer equipment, interface elements of various programs, Internet resources, and the ability to solve educational and professional tasks with their help.

According to Wittenberg (2010), in training future educators for the use of information, and communication technologies, of great importance, is the training of university teachers. The necessary components of this training can be considered as follows: possession of skills in computer work at the level sufficient for the preparation and design of methodological and other materials; skills of work on the Internet, enough for a search of the necessary information, organization of students’ interactive communication; acquaintance with a certain number of electronic educational resources and the ability to create academic tasks based on them; ability to organize students’ work off based on the use of information and communication technologies; ability to organically combine teaching methods and techniques based on the use of information and communication technologies with traditional methods and techniques; understanding of the field of software discipline; psychological restructuring of consciousness and the nature of perceiving educational process with the use of information and communication technologies and awareness of their role in this process.
It is worth noting that we understand the future preschool teachers’ competence in the use of information and communication technologies in professional activity as the presence of ideas about the purpose, forms, and methods of their application in the educational process of preschool education, interest, and need for information and communication technologies, operational skills and skills that ensure their implementation in working with children, parents, sharing experiences, self-education, etc. Such competence of the future preschool education teacher is a component of their general training, an indicator of professional culture and compliance with state standards of training in higher education institutions. The details of the formation of the future preschool teachers’ competence in the use of information and communication technologies in professional activity are currently: cognitive, motivational, and operational with the relevant indicators. In the study, more attention is given to the description of the functional component. Thus, it is necessary to “operational skills.” In the psychological and pedagogical literature, the idea of “skills” is understood as “abilities acquired by experience, habit” (Davydova, 1983, p. 385).

Honcharenko considers the concept of “skills” as actions whose components in the formation process become automatic. With skills, human activity becomes faster and more productive. According to the types of activities, there are corresponding skills: motor, mental, speech, intellectual, sensory, perceptual, etc. Skills are needed in all kinds of activities: training, games, work, etc. They are formed based on applying knowledge about the appropriate course of action through targeted systematic corrections. Skills are necessary components of abilities (Honcharenko, 1997).

Malafiik (2009) claims that skill is a readiness for conscious and precise actions; skills are an automated link to this activity. Thus, skills are mechanical abilities; they act without the participation of consciousness but under its control. The process of skill formation occurs in several stages, the last of which becomes a dynamic stereotype.

Thus, we interpret the concept of “operational skills of using ICT” as mechanic skills that help future preschool teachers to use ICT in their professional activities. Thus, the operational component is characterized by the formation of future preschool education teachers’ skills and abilities that ensure the introduction of information and communication technologies in the educational process of preschool education establishment. We determined its indicators as follows: skills and abilities to work on a personal computer, to apply information and communication technologies in solving cognitive and practical tasks in educational and future professional activity; ability and skills to use modern information and communication technologies for the purpose to organize academic, mental and search activity of preschoolers carrying out work with parents, providing the exchange of experience; ability to create didactic material for working with children and adults employing information and communication technologies.

Method
To solve the tasks of the study, we used the following methods: theoretical – for the research and analysis of psychological and pedagogical, methodological literature, educational programs, manuals, and generalization of information to determine the theoretical and methodological foundations of the study; empirical – used during the experimental study; statistical – to test the effectiveness of the proposed program for the formation of operational skills of using information and communication technologies in the professional activity of future preschool education teachers.
Diagnosing the peculiarities of forming the operational skills of using ICT in the professional activity of future preschool education teachers was conducted based on the Faculty of Preschool Pedagogy and Psychology of the State Institution “South Ukrainian National Pedagogical University named after K. D. Ushynsky.” The diagnosis, which occurred during 2018-2019, covered 77 first-year bachelor students majoring in specialty 012 “Preschool Education.” The diagnosing took place before and after classes on the discipline “Information and communication technologies in preschool education.”

To study the formation of the operational component, students were asked to answer questions on the questionnaire to identify the level of students’ self-esteem regarding computer skills (Wittenberg, 2010). When answering the questions, the students had to choose one correct option: Can you work on a personal computer? (Yes, I work at the level of an administrator; I work at the level of an experienced user; I can, but from time to time, I need help; I’m just starting to get acquainted with the computer; I can’t at all); Do you know how to work on the Internet (Yes, I have excellent skills of navigation, surfing, information retrieval, working with browsers and downloading managers, I can create a mailbox, I can work in ICQ, chat, teleconferencing; I can work with e-mail, I have skills of information retrieval; I’m just starting to get acquainted with the Internet; never worked on the Internet); Do students need to be taught computer literacy? (This is very necessary for any specialist, as it facilitates the work and opens access to sources of information; it is needed only by specialists whose activities are related to the computer; I do not know); Are you able to work on the computer? (Yes, I have my computer at home; my friends have a computer, I can work when I need to; I can work at a university; I don’t have that opportunity); Do you work at a computer: (daily; 2-3 times a week; once a week; once a month; very rarely; do not work); Do you consider your computer literacy sufficient? (Yes / No); Do you think it is necessary to increase your level of computer literacy? (I want to improve it; I don’t need it; I don’t know if I need it).

When diagnosing the formation of operational component in students, they performed the following tasks on the computer: turn on the personal computer on the desktop, create a folder, rename it in Latin, create additional folders (avtorski_prava, Internet_resursy_vykhovatelyu, dydaktychni_materialy, prezentatsiya_uchnivska, publikatsiya_uchnivska, video_rolyk_uchnivsky; open the Microsoft Word, create a document, draw up a synopsis of educational and cognitive lessons for preschool children, type the text in Times New Roman font, size - 14, spacing - 1.5, set the page parameters top, bottom 2 cm, left - 3 cm, right - 1.5 cm., insert drawings, figures, number the pages at the top of the page on the right side, save the document in the folder dydaktychni_materialy; run Microsoft Office PowerPoint, create five slides of different formats, name the presentation, choose a template (design), type a text, insert a picture into the presentation, attach a text hyperlink, attach audio, video, insert the animation, image to the text, change slides, start slide show, save the presentation in the folder prezentatsiya_uchnivska; launch Microsoft Office Publisher, select the type of publication “newsletter”, choose a classic layout, give a name, insert a picture, type the text in Times New Roman font, size - 12, space - 1, start viewing the page, save the publication in the folder publikatsiya_uchnivska; run Windows Movie Maker, import pictures, music, videos, design slideshows, add captions, create various transitions and save in the video_rolyk_uchnivsky folder; launch KMPlayer, adjust the sound, watch videos on the wide screen; launch the Opera browser, create an e-mail in the Google search engine, send an email; find sites for preschool teachers, save articles, pictures, music, video files in the folder Internet_resursy_vykhovatelyu,
make links to Internet resources in accordance with the requirements for copyright protection, save the document in the folder autorski_prava); open Skype, create an account, make a video call, make an audio call, chat, create a group; develop an educational and cognitive presentation for preschool children on a certain topic; during pedagogical practice organize and conduct classes, organize search activity and leisure with preschoolers using computer support; develop a web-site of a preschool institution; prepare an e-mail for a pedagogical meeting, model and solve a problem situation in accordance with the chosen topic; carry out electronic correspondence with educators, teachers of preschool education on the outlined problems; take part in electronic counseling of parents of preschool children on the problems of development, education, upbringing, develop an information booklet for parents. The main task is to perform practical tasks to identify the formation of skills in working with computer software. Based on the content of indicators, three levels of operational skills of using ICT in the professional activity of the future preschool teacher are distinguished: sufficient, intermediate, and low, which made it possible to trace the dynamics of the studied operational component for each indicator.

A sufficient level was found in students who demonstrated the skills and abilities to work on a personal computer, to use information and communication technologies in solving cognitive and practical tasks in educational and future professional activities, knowledge and skills to apply modern information and communication technologies to organize the educational, mental and exploratory activity of preschoolers, to carry out work with parents, to exchange experience; ability to create didactic material for working with children and adults using information and communication technologies.

An intermediate level was found in students who demonstrated skills and abilities to work on a personal computer; still difficulties arose with the use of information and communication technologies in solving mental and practical problems in academic and future professional activity. They showed skills in using modern information and communication technologies to organize educational, mental, and exploratory training of preschool children, to work with parents, to exchange experiences, but needed help in developing didactic material for working with children and adults using information and communication technologies.

Low levels were found in students who demonstrated skills and abilities to work on a personal computer; still, they needed algorithmic, step-by-step assistance in the use of information and communication technology to organize educational, cognitive, and exploratory activities of preschool children, to work with parents, and to exchange experiences; in the development of didactic material for work with children and adults when solving cognitive and practical problems in educational and future professional activity.

Results
The diagnosis of how well the operational skills of using ICT in the professional activity of the future preschool education teacher are formed was carried out before and after classes on the subject “Information and communication technologies in preschool education.” The results of checking the formation of future preschool education teachers’ operational skills of using information and communication technologies in professional activity before classes on the subject “Information and communication technologies in preschool education” showed a sufficient level in 22.08% of students, an average level in 36.36% of students, a low level – in 41.56% of students.

The formation of operational skills of using ICT in the professional activity of future preschool education teachers has been carried out within the discipline “Information and
communication technologies in preschool education.” The course description is as follows: the number of credits - 4, the total number of hours - 120 (including lectures - 14 hours, practical - 24 hours, laboratory - 26 hours, independent/individual work - 36/20 hours), weekly hours for full-time study are classroom - 4 hours, independent students’ work - 4 hours, type of control - exam.

The purpose of the discipline is to train future preschool educators using information and communication technologies in their professional activities. The objectives of the field are the formation of ideas about the nature and peculiarities of using information and communication technologies in the educational process of preschool education establishment as a means of organizing play and educational activities of children; mastering the practical skills of using information and communication technologies in the methodological support and pedagogical support of the educational process of preschool education establishment.

As a result of mastering the discipline by students, the following competencies determined by the educational and professional program of the first (bachelor’s) level of higher education in the specialty 012 “Preschool education,” the field of knowledge 01 Education / Pedagogy, approved by the Ministry of Education and Science of Ukraine should be formed:

Basic competencies (BC):
BC-1. The ability to productive (abstract, figurative, discursive, creative) thinking.
BC-2. Ability to independently search, process, and analyze information from various sources.
BC-3. Ability to identify, formulate and solve problems.
BC-5. Ability to plan and predict the consequences of one’s actions.
BC-6. Ability to cooperate and interact in a team.
BC-7. The ability to self-criticism and perception of constructive criticism.
BC-8. Ability to freely communicate and cooperate in the state language (orally and in writing).
BC-9. Ability to freely use the means of modern information and communication technologies.
BC-10. Ability to ensure the safety of one’s own and other participants’ activity in the educational process.
BC-13. Ability to design activities.
BC-15. Ability to transform theoretical knowledge into practical action

Professional competencies (PC)
PC-2. Ability to develop curiosity, and cognitive activity, cognitive actions in normal children and children with special needs of early, and preschool age
PC-4. Ability to form in children of early and preschool age primary ideas about the subject, natural, social environment, properties and relations of objects; development of self-awareness (self of a child and his place in the environment).
PC-10. Ability to develop in children of early and preschool age skills of safe behavior and activity in everyday life, nature, and the environment.
PC-15. Ability to develop children of early and preschool age physically, to correct and strengthen their health using physical exercises and motor activity (children in norm and with special needs)
PC-16. Ability to organize and lead play (leading), artistic-speech, and artistic-productive (visual, musical, theatrical) activities of children of early and preschool age (in norm and with special needs).

Discipline status. The discipline is a mandatory component of the educational and professional program of training students for a bachelor’s degree in specialty 012 “Preschool education.” The discipline’s content provides special training for future educators in line with modern requirements for the professional profile of educators of early and preschool-age children.
Prerequisites for studying the discipline: the content of the domain is based on knowledge and skills that students have acquired in the study of fields: “Introduction to the specialty and basics of general pedagogy,” “General and child psychology,” “Preschool pedagogy,” “Life Safety,” “Fundamentals of medical knowledge,” “Pedagogical creativity,” professional methods.

Planned results of mastering the educational and professional program of the first (bachelor’s) level of higher education in the specialty 012 “Preschool education” (PRS – Program Results of the Study), the field of knowledge 01 Education / Pedagogy, approved by the Ministry of Education and Science of Ukraine, are:

- **PRS-1** (student) identifies and determines phenomena and processes in the development, education, and upbringing of children of early and preschool age by pedagogical and psychological categories and concepts; establishes links between them. Explains (describes/interprets) and presents information about the phenomena of education and upbringing of children of early and preschool age in the relevant psychological and pedagogical categories. Independently chooses the method of organizing and demonstrating information about phenomena in education and upbringing of children of early and preschool age.

- **PRS-2** Finds sources of information in the field of preschool education and processes them. Uses the information obtained to organize the development, education, and upbringing of children of early and preschool age and to organize the areas for improvement. Explains and argues certain transformations in development, education, and upbringing of children of early and preschool age and the directions of their progress.

- **PRS-3** Identifies and discusses the issues of development and education of children of early and preschool age. Determines the purpose and method of solving the problem of development, education of children of early and preschool age, and ways and means of their solution. Explains, discusses the essence of the development issue, teaches children of early and preschool age, and organizes its solution.

- **PRS-5** Understands the purpose of pedagogical forecasting and action plan in the organization of work with children. Has an algorithm for forecasting and planning actions in working with children; can select and process material for forecasting. Explains and presents results on drawing up pedagogical forecasts and action plans, convinces of their practicality and realism.

- **PRS-7** Substantiates the requirements for the development, education, and upbringing of children of early and preschool age and their results. Analyzes the effects of development, education, and upbringing of children of early and preschool age from the standpoint of their compliance with current requirements. Compares and evaluates the submission of the results of development, education, and upbringing of children of early and preschool age to the current conditions.

- **PRS-8** Is fluent in the state language in communication and solving problems of professional activity in teaching and educating children of early and preschool age.

- **PRS-9** Understands the essence and methods of using modern information and communication technologies in the development, teaching, and upbringing of children of early and preschool age. Uses current information and communication technologies in education and upbringing of children of early and preschool age. Interacts with participants in the educational process in the field of preschool education using modern information and communication technologies. Independently selects and responsibly uses current information and communication technologies in the development, education, and upbringing of children of early and preschool age.
• PRS-10 Explains and demonstrates the basics of safe activity to participants of the educational process in the system of preschool education. Initiates the safety of activities in the interaction of participants in the educational process of the system of preschool education.

• PRS-13 Knows the ways of developing educational projects and their implementation in the practice of working with children of early and preschool age. Explains and presents the developed projects to the participants of the educational process and involves them in their implementation.

• PRS-15 Reproduces theoretical knowledge in organizing educational and upbringing work with children of early and preschool age in the system of preschool education.

• PRS-25 Understands the nature and psychological patterns of formation of early and preschool children’s skills of safe behavior and activity in everyday life; understands the appropriate concepts to denote them. Knows teaching methods, pedagogical support, and support in forming the skills of safe behavior and activity in life in children of early and preschool age; detects and evaluates their effectiveness. Explains to the participants of the educational process the sequence of selected actions for the formation of early and preschool children’s skills of safe behavior and activities in everyday life; convinces of their practicality and efficiency. Organizes situations that encourage children of early and preschool age to safe behavior and training at home.

• PRS-30 Practices and implements various methods of correction, pedagogical support, and maintenance of the health of early and preschool-age children using physical exercises and motor activity.

As a result of studying the discipline, the student must:

Knowledge of facts and methods of organizing play and educational activity of preschoolers using information and communication technologies; principles of building classes with computer support; criteria for evaluating the effectiveness of developed electronic games and educational materials for children; opportunities and methods of applying information and communication technologies in the process of organizing play and educational activity of preschoolers; medical, hygienic and psychological requirements for the safe use of computer equipment in working with preschoolers; ways to use information and communication technologies in facilitating the professional activity of educators (organization of the pedagogical process and its planning, preparing the child for school, working with parents, improving professional skills, using the Internet to search for educational and methodological information).

Be able to apply modern information and communication technologies to organize play and scholarly activity of children and educational training in preschool education establishment; use computer software (Microsoft Office (Word, PowerPoint, Publisher), Windows Movie Maker, Skype, KMPlayer, Opera or Internet Explorer, Google services) in educator’s professional activity; create didactic electronic material for work with preschoolers employing information and communication technologies; apply information and communication technologies in solving pedagogical and methodological tasks in the professional activity of an educator.

Communication: be able to interact with participants of the educational process in the field of preschool education using information and communication technologies.

Autonomy and responsibility: responsibly use information and communication technologies in the development, education, and upbringing of children of early and preschool age; to organize situations that encourage preschool children to safe behavior using information and communication technologies.
Based on Ushynsky University, an information environment was created; it “included organizational and methodological tools, a set of technical and software means of storage, processing, the transmission of information, providing rapid access to information and providing educational scientific communications” (Kislova, Semerikov & Slovak, 2014, p. 5). The methods of forming operational skills of using information and communication technologies in professional activity of future preschool education teachers were introduced into work with students. The primary forms of organizing students’ educational activity with the use of information and communication technologies were: lectures organized with computer support; practicals, seminar, and laboratory classes (for example, “Information and communication technologies in the living space of a modern preschool child,” “Requirements for the safe use of information and communication technologies in preschool education,” “Use of information and communication technologies in teaching and development of preschool children age: domestic and foreign experience,” “Peculiarities of using information and communication technologies in the creation of electronic learning materials for preschoolers,” “Interaction of preschool and family with information and communication technologies,” etc.), which were based on the use of special software of Microsoft Office (Word, PowerPoint, Publisher), Windows Movie Maker, Skype, KMPlayer, Opera or Internet Explorer, Google services); colloquia and module-certification practical classes based on testing the skills and abilities to use computer equipment.

Based on the research of Spirin, Yatsyshyn, Ivanova, Kilchenko & Luparenko (2016), students were offered to use electronic open-access systems for information and analytical support in creating projects, in particular: scientific electronic libraries and their information-analytical services, available journal systems, Google Scholar and Google Analytics services, anti-plagiarism systems, open-access systems for webinars and conferences.

We should note that organizational forms of students’ learning mainly require computer equipment, appropriate software, and additional hardware (video projector, interactive whiteboard, electronic pointer), the opportunity to be connected to the World Wide Web or the local network of the faculty, and the university. The following teaching methods and technologies were used in working with students, namely: discussion “Basic problems of computerization of the educational process of preschool education,” debate “Possibilities of using information and communication technologies in children’s lives: advantages and disadvantages,” brainstorming “Informatization and computerization of preschool education in Ukraine,” project method, method “Pirates’ Meeting,” method “Dialogue of Don Quixote and Sancho Panza,” method “Monologue of the Inventor,” “Collective Notebook” by J. W. Hayfil, technology “Mind Map” (for example, “Computer as a tool for educators,” “Computer literacy of preschoolers,” “Computer Game Complex (KGC) in Preschool Education,” “Internet in the Work of an Educator,” “Use of ICT in Self-Educational Activities of an Educator,” etc.), Google cloud services (for example, creating calendars on “Pedagogical meeting in pre-school education establishments,” “Internet conference;” in the Google service on the use of ICT in working with children; in Google Books creating a shelf “Computer literacy of preschoolers,” etc.), training exercises on the computer. Independent and educational research activities of students (individual, classroom, and extracurricular) were organized. Students performed an individual educational and research task, “Information and communication technologies in the professional activity of educators” (project), which consisted of:
1. Creation by students of a portfolio, a complex of presentations, and didactic materials for preschoolers based on the current programs on preschool education and requirements of the Basic component of preschool education on educational lines:

- **According to the educational line “Personality of the child”:** “The main parts of the body (head, neck, torso, limbs, etc.), their functions and actions,” “Body organs (heart, liver, lungs), blood and skin, conditions of their normal functioning,” “Sense organs (eye - sight, ear - hearing, nose - smell, tongue - taste, skin - touch and temperature),”, “Stages of life (childhood, adolescence, maturity, old age),” “Useful, useless and harmful “Food,” “Rules of culture at the table,” “Rules of care for body parts and organs,” “Basic hygienic procedures,” “Influence of basic natural factors (sun, air, water, soil) on the health of the body,”, “Value of health, its importance for a happy life,” “The main factors of health,” “Rules of healthy behavior,” “Rules of safe staying at home and in preschool establishments,” “Rules of safe staying in the street,” “Rules of traffic,” “Rules of using transport,” “Basic road signs,” “Rules of safe staying on water and ice,” “Rules of safe staying on playgrounds and sports grounds,” etc.;

- **According to the educational line “Child in society”:** “Why does a person need a family?”, “The concept of family,” “Family traditions,” “Generation,” “Family and family traditions,” “Parents are the dearest people,” “Respectful attitude to grandparents,” “How to act so as not to upset loved ones?”, “What is sensitivity and attention to loved ones?”, “Compilation of family history, family tree,” “How to show care and love for family and close family members?” “Politeness towards adults,” “What does it mean to treat the elderly seriously,” “Friendship should be valued, and a friend should be cherished,” “Clothes don’t make the man, but good deeds do,” “Elementary rules of self-preservation,” “Rules of conduct in the game and a conflict situation,” etc.;

- **According to the educational line “Child in the natural environment”:** “Space travel,” “What is the universe?”, “Our planet Earth!”, “The sun is a source of light and heat,” “Solar system,” “Moon as a satellite of Earth,” “Man as a part of the great world of nature,” “Water cycle in nature,” “Water states (liquid, solid, gases - steam),” “Minerals (coal, gas, oil, etc.),” “Changes in nature happening each season (weather, plants, animal behavior),” “What is a thunderstorm? Safe behavior during a thunderstorm,” “Skills of correct handling of fire,” “Where does the rainbow come from?”, “Importance of snow cover for plants and animals,” “Nature of the native land,” “Who was met in the forest?”, “Medical herbs,” “Skills of proper fire handling,” “Edible and poisonous mushrooms and berries,” “Animals of our region,” “Excursion to the zoo,” etc.;

- **According to the educational line “Child in the world of culture”:** “Our home is Ukraine!”, “Kyiv is the capital of Ukraine,” “My hometown,” “Comfort and order in the house depend on its inhabitants,” “Tools and goods used in the household,” “Types of transport,” “Traffic rules,” “Sounds as our helpers,” “Where does the book come from?” “Ukrainian artistic traditions and folklore,” “Ukrainian arts and crafts (Petrykivska, Vasylkivska, Kyivska, Opishnianska, Kosivska, Uzhhorodska),” “Ukrainian song genres (lullabies, carols, Christmas carols, calls),” “Ukrainian folk dances (hopak, hutsulka, polka, kolomyika, round dance),” “Musical genres (song, march), dance),” etc.;

- **According to the educational line “Child’s play”:** “Etiquette of communication in the game,” “Ukrainian folk games (animals, birds, dolls, utensils, Easter eggs, wooden story toys, fistulas, etc.),” “Places of making Ukrainian folk toys (Opishnia, Kosiv, Yavoriv, etc.),” “Let’s play!” etc.
According to the educational line “Child in the sensory and cognitive space”: “Colours and their shades,” “Why should we be able to count?” “Temporal concepts (at dawn, dusk, noon, midnight, day, week, month, year),” “The order of numbers within 10 (20),” “Elementary mathematical problems,” “Geometric figures - plane (triangle, square, rectangle, polygon, circle, oval),” “Geometric figures - three-dimensional (cube, sphere, cylinder),” “Methods of arranging objects,” “Units of length (centimeter, meter),” “Units of mass (grams, kilograms),” “Units of time (hour, minute, second),” “Placement of objects, objects in space (closer, further, left, right, inside, from, above, over, below, first, last, etc.),” “Children’s economics,” etc.;

According to the educational line “Speech of the child”: “Syllable and sound analysis of words,” “Hard, soft, vowels, consonants, sounds,” “Words denoting basic moral concepts,” “Children’s speech etiquette (greetings, requests, apology, gratitude, compliment),” “Forms of addressing adults and peers,” etc.

2. “Internet resources for educator” – the selection and creation of pictures, sounds, music, books, articles, computer games, and e-mail files to help the educator (on the selected topic).

3. “Educator’s documentation” – preparation of examples of educator’s documentation (educator’s journal, group list, group menu, child’s portfolio, thematic planning, consultations for parents, summaries of holidays and entertainment, etc.).

4. Exchange of experience: development of a video for a speech at a pedagogical meeting or parent meeting, development of a website of a preschool institution, design of an information bulletin and booklet for parents, creation of e-mail, e-mail correspondence with parents, preschool teachers, group creation and communication in Skype.

Criteria for evaluating an individual research task in the discipline “Information and communication technologies in preschool education”:

– Twenty-five points – students show an apparent deepening and understanding of the topic; the project attracts the audience’s attention. The project has clear goals relevant to the research topic; emphasizing essential issues. The included information is obtained from various information sources. Completion of all project tasks: development of a presentation on the educational line (Microsoft PowerPoint, Microsoft Word), a newsletter, a leaflet for parents and children, a website of preschool education establishment (Microsoft Publisher program), video for a speech at a pedagogical meeting or parent meeting (software Windows Movie Maker), watching videos (KMPlayer), Internet resources for an educator (Opera or Internet Explorer browsers, Google services), preparation of examples of professional documentation of the teacher (Microsoft Word, Microsoft Publisher), communication in Skype. Students effectively and creatively use the power of those multimedia effects that are acceptable for this type of work; all the elements are used. Students thoroughly defended the project and answered all the questions from experts. The project can be helpful not only for the students who created it.

– Twenty points – the project has clear goals corresponding to the theme. The information is obtained from various sources. The project tasks are not fully solved. When using the project, there is a sufficient number of multimedia effects in a balanced, attractive, and accessible form. The created elements of the project show the originality of the work. With a few exceptions, most effects contribute to a proper disclosure of the project theme. There may be several technical, not very serious, problems when running electronic materials. Students defended the project and answered all the questions from experts. The project is beneficial not only for the students who created it.
Fifteen points – information is presented in a structured way, clear to the audience. However, not all project tasks are fully solved; 1-2 jobs are missing. Specific technical issues make it challenging to review the project, but the review is still possible. When defending the project, students could not always give a complete, straightforward answer to the questions from experts.

Ten points – the project focuses on the topic but does not fully highlight it. There is a specific organizational structure in the project, but it is not traced during the review. Not all the project tasks are entirely solved; 3-4 assignments are missing. Technical problems do not allow to demonstrate media effects, hear or understand the content effectively. There are factual errors or ambiguities in the information part of the project, but they are insignificant. While defending the project, students could not provide complete, clear answers to most of the experts’ questions.

Five points – the project focuses on the topic but does not highlight it. There is no organizational structure for the project. Either all project assignments are not solved, or most tasks are missing. There are significant errors or ambiguities in the content of the project. During the project’s development, there were technical problems that did not allow us to demonstrate, hear or understand the content effectively. When defending the project, students could not give complete, clear answers to most of the experts’ questions or could not answer the questions at all.

Zero points – the project has not been completed.

Thus, students’ performance of an individual educational and research task in the discipline “Information and Communication Technologies in Preschool Education” provided an opportunity to: develop operational skills and abilities while working with software (Microsoft Office (Word, PowerPoint, Publisher), Windows Movie Maker, Skype, KMPlayer, Opera or Internet Explorer), skills in developing e-learning materials for children, the ability to organize work with parents and colleagues using media technology, as well as to obtain and analyze information, hypothesize, create a project and simulate artificial situations according to the topic, to develop skills of social interaction (organizational, communicative), to express own point of view, to influence the result in the decision of a research problem, to take part in communication in chats and on forums.

The obtained results of re-diagnosis of the formation of future preschool education teachers’ operational skills of using information and communication technologies in professional activity at a sufficient level demonstrated 38.47% of students, an average level was found in 45.26% of students, a low level showed 16.27% of students.

To determine the reliability of the difference between the levels of re-diagnosis of future preschool teachers’ operational skills of using information and communication technologies in professional activity before and after classes on “Information and communication technologies in preschool education,” we used a multifunctional agreement criterion $\chi^2$ - Pearson. Hypothesis (H0) was chosen for the idea that the indicators of the formation of future preschool education teachers’ operational skills of using information and communication technologies in professional activity before and after classes on the subject “Information and communication technologies in preschool education” do not differ significantly. In the case of the unconfirmed null hypothesis (H0), an alternative hypothesis (H1) was used – indicators of the formation of future preschool education teachers’ operational skills of using information and communication technologies in professional activity before and after classes on “Information and communication technologies in preschool education” significantly differ. The calculation of the empirical values of the multifunctional agreement criterion $\chi^2$ Pearson is demonstrated in table 1.
Table 1. Calculation of the criterion $\chi^2$ when comparing the distributions of the formation of operational skills in future preschool teachers before and after classes

<table>
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<tr>
<th>№</th>
<th>Empirical frequency</th>
<th>Theoretical frequency</th>
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<th>$(f_E - f_T)^2$</th>
<th>$(f_E - f_T)^2/f_T$</th>
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<tr>
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<tr>
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<td>200</td>
<td>200</td>
<td>-</td>
<td>16,464</td>
<td></td>
</tr>
</tbody>
</table>

From table 1, the empirical value of the criterion $\chi^2_{\text{Emp}} = 16,464$. Critical values of $\chi^2$ are at $v = 2$. Critical values for the multifunctional criterion of agreement $\chi^2$ - Pearson for the found number of degrees of freedom are 5.991 ($\rho \leq 0.05$) and 9.21 ($\rho \leq 0.01$). The obtained value is more than a critical one, which means that (H0) the null hypothesis was rejected and the (H1) alternative view was accepted. Indicators of the formation of future preschool education teachers’ operational skills of using information and communication technologies in professional activity before and after classes on the subject “Information and communication technologies in preschool education» differ significantly.

Conclusions

The results of the study on the formation of operational skills in the use of ICT in the professional activity of future preschool education teachers became the basis for the formulation of the following conclusions:

1. In general, the competence of future preschool education teachers in using information and communication technologies in professional education means that they have ideas about the purpose, forms, and methods of their application in the educational process of preschool education, interest and needs of information and communication technologies, operational skills, ensuring their introduction into work with children, parents, exchange of experience, self-education, etc. This competence of the future preschool teacher is a component of his general training, an indicator of professional culture and compliance with state standards of training in higher education institutions. The members of forming the competence of future preschool education teachers in using information and communication technologies in professional education are: cognitive, motivational, and operational with the relevant indicators.

2. The article presents the results of the research on forming operational skills by using information and communication technologies in the professional activity of future preschool education teachers in the conditions of higher education.

3. The operational component is determined by the formation in preschool education teachers of skills and abilities that ensure the implementation of information and communication technologies in the educational process of preschool education establishments. Selected indicators of the operational component are the ability and skills to work on a personal computer, to apply information and communication technologies in solving cognitive and practical problems in educational and future professional activity, knowledge and skills to use modern information and communication technologies to organize educational and mental, search activity of children of...
preschool age, carry out work with parents, exchanging experience; ability to create didactic material for working with children and adults using information and communication technologies.

4. The authors introduce the method of forming operational skills by using information and communication technologies in the professional activity of the future preschool education teacher. The primary forms of organizing students’ educational activities with the use of information and communication technologies were chosen: lectures organized with computer support; practical, seminar, and laboratory classes, which were based on the use of special software (Microsoft Office (Word, PowerPoint, Publisher), Windows Movie Maker, Skype, KMPlayer, Opera or Internet Explorer, Google services); colloquia and module-certification practical classes based on testing the skills and abilities to use computer technology. The following teaching methods and technologies were used in working with students: discussion, debate, brainstorming, project method, “Pirates Meeting” method, “Dialogue of Don Quixote and Sancho Panza” method, “Inventor’s Monologue” method, “Collective Notebook” method by J. W. Hayfield, “mind map” technology, computer training exercises. Self-guided and research activities of students (individual, classroom, and extracurricular) were organized.

5. According to the results of experimental research, it is proved that the implementation of such a technique has provided an increase in the formation of the operational component of the competence of future preschool teachers in using information and communication technologies in professional activity. Thus, the number of students who have reached a sufficient level of formation of the operational component in using information and communication technologies in professional training after the introduction of the method increased by 16.39%, with average - of 8.9%. At a low level, their number decreased by 25.29%. A statistical study based on the $\chi^2$ - Pearson multifunctional criterion of agreement proved that the indicators of the formation of operational skills in future preschool education teachers in using information and communication technologies in professional activity before and after classes on “Information and communication technologies in preschool education” differ significantly.

6. The prospect for further research is seen in the theoretical justification of the method of forming competence in future preschool education teachers in using information and communication technologies in various activities of preschoolers in preschool institutions, development of didactic and technological bases of information and pedagogical, didactic support of this process.

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Formation of the Operational Skills of Using Information  

Lystopad, Mardarova, Kniazheva & Kudriavtseva


