

Technology Use in the Language Classroom: Paradigms, Experiments, and Recommendations

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Abstract

The use of technology in language learning brings forth several challenges to task-based teaching and student preparation in colloquial usage. As the internet becomes a mode for new forms of written, oral and visual languages everyday with their unique community of users, the last two decades have seen a redefinition of the pedagogical paradigms that inform language literacy goals in the classroom. Where technology-based activities are challenging teachers who wonder its efficacy in meeting the language proficiency goals of their syllabus, teachers who have incorporated such activities to teach language have not seen overwhelming success, thereby making them hesitant to experiment. The purpose of this paper is to bring pedagogical challenges posed by technology use in language classrooms to the forefront and discuss a few case studies from across continents to highlight how a constructivist approach to language teaching using technology and effective teacher scaffolding allows for student engagement in their own learning and helps teachers achieve the desired proficiency level in their classes. The paper ends with a look at the limitations of and recommendations for incorporating technology in language teaching.

Keywords: technology-based activities, constructivist approach, cultural experiments, cultural competence, critical thinking.

Introduction

The world of internet is increasingly the first place where the youth is engaging in and learning their first conversational discourses. The need for language teachers to incorporate technology-based activities in their classrooms is the primary mode through which they can bring the target language closer and make it more relatable to the out-of-class world of their students. However, this poses several challenges in terms of the paradigms that define a teacher's role and approach in the classroom and requires an understanding that simply applying technology-based activities is not an end in itself. Rather, it requires scaffolding. In this paper, I will examine the pedagogical approaches that have traditionally informed language teaching and how they have been challenged by the pedagogical paradigms of teaching using technology in the last two decades. I will next bring forward some recent case studies and experiments done across the world to incorporate technology in language teaching, the approaches they were based on, and the extent to which their results were positive. In the process, I will include a discussion of the problems that scholars state teachers will run into if they simplistically replace non-technology mediated classrooms with projects involving technology. I will conclude by highlighting the limitations of and recommendations for incorporating technology-based activities in language classrooms.

Challenging Paradigms

Pedagogical approach to incorporating technology in language classrooms in the 1960s and 70s was based on the behaviorist model that equated computer-assisted instruction (CAI) with language drills and practices. The 1980s and 1990s turned attention to the cognitive and language proficiency needs of ESL students that further led to an emphasis on content-based teaching. The last decade, however, has ushered in a constructivist approach to incorporate technology in language classrooms, which entails that learning is an active process that requires the teacher to move from a sage to a backstage guide (Wang, 2005). It is a break away from the simple interaction paradigm in which technology supports the study of language instruction for the instructor to one in which technology is the instrument for the students to experience first-hand and apply the target language in authentic, context-embedded social scenarios (Davis, 2000).

Authenticity and Validity

Technology-based assessments are becoming common (Bahrani, 2011). An important struggle with computer-adapted tests is that they are not individualized enough. Test developers and teachers, thus have to be cautious of adopting them without alterations. Self-assessments and short screening tests so far have been the recent techniques used to tailor tests. However, individualizing questions to assess the speaking proficiency of students through multiple-choice based questions is not basing them in authentic, real world activities that can prepare students in using the language (Jameison, 2005). For a language assessment to be valid, it must be based on the student's communicative competence in the language in relation to its functionality in a social environment and community and not on the student's ability to guess the best answer based on the test maker's worldview.

Task-based Teaching

Lai (2011) states that in order for a teacher to incorporate task-based activities using technology, it is important that they first redefine what task means. Usually, teachers are of the opinion that task-based activity is the accomplishment of a task that will allow the student to fulfill a requirement for the successful completion of the coursework and be promoted. Lai argues that that does not guarantee the holistic absorption of language in all its forms and the capability to develop on it after the course ends. The author, thus, redefines task-based language teaching as a holistic activity which assists the student in succeeding in displaying cultural competence rather than linguistic perfection outside the classroom. The aim is to encourage and assess student's language learning through their reflective engagement in the process, rather than their performance on a language exam. What it automatically calls for is a less structured learning environment in which inquiry is based on student agency, rather than teacher-ordained

tasks that mirror an abstract ideal of proficiency that students reactively and blindly follow the syllabus rules to achieve. Lee (2006) argues that once students are made in charge of their learning and in doing it their own way, cyber activities can really help provide different learning mediums. His team's experiment with students using technology demonstrated that exchanges between native and non-native speakers through emails, simultaneous text-based online chatting and voice chatting showed positive results in syntax, vocabulary, speaking, writing, and intercultural competency.

Peters et al. (2011) noted that French language students at five different Canadian universities use the web to maintain and improve their language skills, that is, for goal-oriented purposes, to check and gather information, that is, for action-oriented purposes, to receive, search and share knowledge with other French learning students (that is, collaborate and socialize), and to learn about the French culture (that is, to improve their cross-cultural competency skills). Thus, a teacher can aim towards raising a topic in the classroom every week that is selected based on the student's language proficiency level and interest, and ask students to join different chat rooms and exchange ideas with their classmates or other students in the institution.

Constructive Learning Goals and Meta-Communication

Constructive learning involves learning that satisfies one's social and personal needs. Mitchell (2012) conducted a study of the use of Facebook by ESL students to conclude that they do not make friends on interacting with native speakers to fulfill classroom assignments so much as by making friends and sharing information in English on Facebook. Fakebook, is a social networking site that imitates Facebook with privacy settings that allow students to use it for educational purpose, while being able to control the community of outsiders who can view it. Sites like Fakebook allow teachers to help students relate their social lives outside of class to their language goals without running into privacy issues. Language learners create profiles, express what they feel in status updates (similar to maintaining daily dairies), subscribe to group pages that connect them with their research and social interests, and similar activities in the foreign language that acculturate them to its culture and train them to use language critically and effectively for a specific purpose without feeling the pressure of performing successfully on a class assignment.

Istifci (2011) adds to the argument by stating that meta-communication, communication about communication, is an important process through which language is practiced. However, if the information in the communication is only commented upon by the teacher, then it is not constructive learning, but simply students learning the worldview of the teacher. As interaction online is focused on the spontaneity of response as well as reflection on one's own and other's responses, using online forums help develop the meta-communicative skills of ESL students.

One of the problems in the kind of language students learn in the classroom, specifically adult and content-specific ESL classrooms, is that it is too academic to prepare students for everyday, colloquial usage and the abbreviations with which the cyber culture is inundated. Taking cue from Istifci, incorporating chat room, Twitter like micro-blogging platforms allow students to master the colloquial as well as the standard dialect, while the community of users speaking that language from various cultural and linguistic backgrounds that they put students in touch with simultaneously builds their cross-cultural competence. Since internet language is three-dimensional, it has the immediacy of speaking, is a forum for both formal and academic writing, and a medium to engage in the creation, reception, and blending of visual symbolism through videos, images, and presentation software. A child learns his/her first language by constantly receiving and filtering oral, visual, verbal and written stimuli. Whether a student enters a chat room or begins adding to or editing a previously authored Wiki entry, or simply discusses a college subject, he/she is simultaneously receiving and filtering information and developing a stance towards it (Crystal, 2011). This ensures that the student's cultural competency in knowing how to appropriately use a language is being developed as much as his/her traditional language skills; reading, writing, speaking, and listening (Corbett, 2003). Finally, a large component of meta-communication involves non-verbal

communication, a skill that is rarely emphasized in language classrooms, but available through the language of emoticons, heightened use of exclamations, and graphics in internet forums.

Lee's experiment (2006) with second and fourth graders to improve their writing skills seconds Istifci's argument. He used e-text because the fact that it is available in a variety of forms such as, games, simulations, educational software, talking books, and telecommunications, allows teachers to create the various contexts, audio-visual, spatial, sensory, and motory skills in the students that they unconsciously absorb growing up in their first language. This way, Lee argues, teachers were able to develop the students' visual, audio, and textual comprehension of the language in context, rather than provide them textbook lesson examples that have them imagine scenarios without making them a part of them. Lee argues that technology infused with such constructivist pedagogy also allows students to work collaboratively and autonomously. This style of working in which students create and disseminate knowledge on their own dismantles the teacher-student hierarchy in which students only strive to perform better to impress their teachers. With hands-on activities like that offering real world experience, students take interest in and responsibility for their own learning and take their cohorts as resources, not competitors. Teachers can utilize mediums like internet chat to allow students to discuss assignments with their peers through conferencing, or use chat room forums to conduct book discussions. The presence of the transcript in a chat room can allow them to see syntax and reflect on how they should frame their own and respond to others' statements. Dozens of free and easily purchasable discussion boards and web page services, such as eslcafe.com/forums/student, <http://amazingforum.com>, quicktopic.com, and others exist online that teachers can introduce to the students to create their own collaborative, learning environment (Lacina, 2004/2005).

Context-embedded Learning: Experiments across Cultures and Student Populations

Sharing their experiment in an ESL classroom in Japan, Hinkelman et al. (2012) note that blended classroom environment reduced student anxieties and encouraged teachers to use more locally-authored multimedia materials instead of using internationally published course books that do not speak to the cultural sensibilities of the language learners. Using a Language Management Software (LMS) in this experiment, one teacher at Kita University called response papers as Lecture-feedback Module. Students entered responses each week after class by going to the class website in one of the computer labs. The LMS became a record of the course, allowed for student-authored comments, access to the teacher's summary, and tracked individual participation. Hinkelman et al. thus, conclude that power and hegemony become subject to mediation in virtual space as production and ownership of teaching materials is passed on from the teacher to the students. In the same vein, I would like to draw attention to how technology use in the classroom can improve student-teacher relation and students' socialization patterns in general outside the classroom, thereby returning to the idea that incorporating technology in language teaching builds students' inter-cultural communication competency (Corbett, 2003).

Visual reinforcement is an essential element for any special population. Deaf and hearing students with limited English proficiency require three-dimensional language. Cambridge and team (1998) initiated a sharing Shakespeare project in which students used software to link original text fields to images found on the World Wide Web, images scanned in from research discovered in books on Elizabethan times, and "frame grabbed" from their play on videotape. Students videotaped the vocabulary of King Lear translated into American Sign Language. They then connected the camera to an audiovisual computer and "digitized" the video sign clips. As a result, they collected more than 100 digital Shakespearean Signs and stored them for later. This hands-on activity engaged them beyond classroom hours and made the language project part of their lifelong memory.

Tanner and co-researchers (2004) debated the idea of intelligibility and challenged the usefulness of Computer-aided pronunciation (CAP) that show pronunciation accuracy for isolated words or phrases. The immediate feedback on the accuracy of the utterance is a great way to lessen the teachers' burden of grading student pronunciation work, but it does not guarantee that the student is going to have a vision of the words in context to use them correctly in sentences, phrases and conversations in the future. Tanner

upholds that intelligibility of utterance for second language learners should be based on criteria that make native speakers decide whether non-native speaker's speech is intelligible or not in terms of stress, rhythm, intonation, and pauses. For example, even the most perfect conversation, if not accompanied by the right duration of pauses at the right points in a sentence can disrupt the immediate comprehension of the meaning the speaker intends to communicate. Tanner thus suggests that podcasts are a better solution to CAPs. His experiment involved using recorded podcasts of native speakers on various topics in ESL classrooms. Students were asked to put stress and pause markers after listening to podcasts and then making their own podcasts following that model. Students then shared it with the class to see how close they were in passing for native intonation and rhythm in delivering complete ideas. In phonology, stress factor in intonation must be learned because native speakers do not hear a word completely; they hear the primary stress and determine what the rest of the word is. For example, simply hearing RE in record will tell a native speaker that the noun form is being used, whereas hearing CORD in reCORD will tell that the verb form is being used. Tanner's experiment can be used to blend traditional writing exercises in similar experiments at the early stage. Students can write the text of their podcasts with stress and pause markers and then record them, until they no longer need them for spontaneous speech.

Yakimchuk (2010) highlights that technology can help students with reading and writing challenges. In a study conducted on English language learners (ELL) and non-English language learning international students at a Canadian university, the participating group of ELL students showed 9% academic improvement through screen-reading software use and the non-ELL students showed 3% improvement. Whether the effect is significant or not, it highlights the enhancement that technology-based activities can bring to ELL's learning experiences.

Limitations and Recommendations

There are at least five main challenges to incorporating technology in language teaching. First, is training the teachers who can be overwhelmed with reviewing and managing RSS feeds related to multiple projects for overlapping individual and communal/collaborative projects (Akinwamide, 2012). Hassanzadeh et al. ran an experiment on 102 teachers to understand if technology use requires a different kind of pedagogical disposition. They found a direct correlation between the quotient of agreeableness, conscientiousness, extroversion, neurotism, and openness in teachers who were enthusiastic about incorporating information and communications technology (ICT), such as internet, email, presentation, word processing and office work in their language classrooms. However, they still demonstrated low levels of ICT usage for specialized software applications such as authoring, graphics, and simulations, which demonstrated the importance of not just pre-training, but on-going training of teachers in CALL. The researchers highlight that even in cases where teachers were more prepared to incorporate ICT, the curriculum planners, teacher educators, and policy makers were slow in catching up with the ideas teachers had to incorporate technology-based projects in the classroom. They, therefore, pointed to the need to synchronize these intentions at both the curriculum development level and the pedagogical level.

The second challenge is related to the first one; the class size must be controlled to allow proper attention and time to each student. The third challenge is training the students because equal participation requires and assumes that all students will be availing technology for individual learning and for contributing to group projects and if some students learn it slower than others, then their performance will be affected, they may get tense about falling short of receiving good evaluation from their teacher, and fall short of making the most of the class projects for their language development. The fourth challenge is ensuring that the class duration is long enough for students with varying learning paces to completely immerse in interactive learning. The fifth challenge is that a teacher who incorporates RSS and other technological tools can only hope that students will continue to use them after completing the course, especially because the next teacher, say at the next proficiency level at an ESL institute, may not use them in teaching. Therefore the fifth challenge of convincing enough teachers to incorporate RSS, Weblogs, and other constructive learning tools and of ensuring that students continue to use surf, research, and socialize in the foreign language only.

Oxford and team (2006) measured the effects and benefits of weekly/structured, in-class computer-assisted grammar drill and practice on the composition quality and quantity of intermediate university Spanish learners. The result showed that the student group that received weekly, structured computer grammar and vocabulary practice had higher scores for composition quality and quantity. However, it must be remembered that technology use must continue to aid students' long-term engagement with the language and that performance in a composition test focused on how many words a student can write in a given time cannot measure their immersion in the language. Rather, technology use must be incorporated into the processual stages of writing, rather than the assessment of the final product.

Technology in language teaching should aim at not only teaching cultural diversity, but also cultural complexity, discuss issues of technological imperialism and engender a wider view of the language in them through critical thinking of web-based content (Lear, 2003). Lear notes that Spanish language students cannot use technology as effectively for multi-context based learning because everything in the World Wide Web is mostly in English. Thus, incorporating newspaper columns for reading and summary-based writing is not enough. Students should be allowed to critique biases in this and other technology-transmitted mediums, so as to discriminate bad information from good information, and deconstruct linguistic, cultural, and discourse hegemonies on the web.

Conclusions and Future Trends

Technology-based language learning involves contesting the traditional notion of linear, unidimensional literacy and opening up to the idea of various social and intellectual literacies that the world-wide web can help students develop on their own with some teacher guidance (Murray, 2005). Reading information on the web is not the only important factor in literacy. Being able to code and decode it, to contribute to the shared corpus of knowledge on the web and use it for one's own creative and personal enrichment is also important. In electronic blog and wiki activities, print literacy, the ability to analyze the what, who, and why in reading, to take positions in writing and argue for and against a point of view, and to discuss controversial subjects in a cultured and academic manner remains the overarching paradigm of literacy (Pegrum, 2010). Teachers simply need to provide scaffolding to allow students to use this multi-dimensional mode of literacy to improve their cultural competence and proficiency in the language.

Neville (2010) argues for using 3D digital games in second language classrooms, which allows students to do something that accentuates their outside classroom life, see language embedded in conditions and behaviors, and a narrative they can all experience and share together. However, he warns that such experiments cannot simply mean putting students in a computer lab and having them play the game. It involves understanding the environment of the particular game, the social contexts implied in it, which might challenge many second language learners, and the incidental information that the game is meant to expose students to, the role of the players, the particular language skills that the game will be used to teach, etc. Similarly, Cobb and Horst (2011) studied that the use of an integrated suite of vocabulary training games for Nintendo called My Word Coach by French speaking ESL students at a school in Montreal led to much higher levels of recognition of vocabulary, longer oral productions, reduced code-switching, and a better sense of lexicon than before.

Little research has been done on learner control with advisement in computer-assisted language learning. Wang and Sutton (2002) took two student groups in Taiwan and advised one to demonstrate that advisement improved the English vocabulary of that group in comparison to the other group. More studies highlighting the quantitative and qualitative effects of CALL with advisement control are needed. More broadly, studies are needed on the effects of CALL on student proficiency and teacher's pedagogical success.

This paper was an attempt to highlight how technology use in language classrooms calls for a dialogic approach to student learning and one in which students construct knowledge rather than passively receive it from the teacher. As the experiments highlighted, technology-based activities must be context-driven, culturally sensitive, and accompany teaching scaffolding in terms of goals and use. Technology-

based language building activities ensure that students are individually and collectively critically analyzing the discourse, that is the context and the positioning of the speaker when reading, they are developing reflective writing skills, they are filtering information for quality and their needs like native speakers do on a daily basis, they are at once a part of speech acts, they are role-playing, and they are negotiating their positionalities, in relation to varying social communities and situations. It is, therefore, crucial for teachers to incorporate and celebrate this medium and to redefine their role, their pedagogical approach, the learning outcomes of the course, and their teaching tools in ways that ensure that their students can relate language learned in class to their experiences outside the classroom.

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