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Technology-Enhanced Instruction in a Saudi EFL Classroom

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Abstract
This study assesses students' reactions to the integration of technology into the traditional EFL classroom. It draws on the general assumption that technology not only accommodates students' multiple intelligences, but also empowers them so that they can effectively take responsibility for their learning, both inside and outside the classroom. In that connection, a post-course questionnaire was administered to fifty male and female students of different academic backgrounds (humanities and applied sciences). They were attending English classes at Majma'ah University (MU) and King Abdul Aziz University (KAU). This questionnaire was used to elicit data to answers to three research questions, which focused on the students' attitude towards the use of technology in the traditional classroom, and tried to determine the attitudinal differences given rise by the students' genders and specialties. The findings have shown positive attitudes towards the use of technology to support traditional teaching. They have also shown no attitudinal differences attributable to the students' genders or specialties.
Keywords: technology, learner-centred teaching, e-leaning, Edugate.

Introduction

Recently, Saudi tertiary education has been tremendously revolutionized by the application of quality assurance standards to all academic and administrative activities. Where teaching is concerned, the old system of course description consisting of single paragraphs has been replaced by lengthy course specifications that detail content, objectives, and learning outcomes. A course specification also indicates knowledge and skills to be acquired, along with the methods to teach and assess them. At the end of each term, a satisfaction survey is conducted among students to measure a faculty's commitment to the implementation of all the course activities. Such pedagogical developments are argued to foster more transparency in the classroom and, thus, empower the students so that they not only access course plans, but also actively affect teaching styles and strategies (Al-Dahash et al, 2010).

Using proper educational discourse, such a form of student empowerment emanates from the theory of learner-centered teaching (LCT), which is generally understood to produce autonomous learners. Apparently, LCT has been reinforced by the integration of information and communication technology (ICT) in the classroom, given the general assumption that the new generation of learners are digitally literate and, thus, can access courseware richer than the textbooks prescribed by their teachers. Fortunately, most Saudi universities currently employ three web-based systems to perform a variety of academic transactions*: jusur* (an e-learning system), *Edugate* (a system to control students' registration, timetables and exam results), and faculty websites, on which course materials are posted. In addition to these (official) educational avenues, the students considered in this study were also trained in authoring systems (to create both online and offline educational materials and assignments), and were guided to employ their smart phones, YouTube, and (Google) document sharing systems to enhance their understanding of relevant course materials and gain new skills as autonomous learners.

Thus, this collaborative action research reports on the students' reaction to the integration of these web-based activities into the mainstream teaching at Majma'ah University (MU) and King Abdulaziz University (KAU) during the first term of the academic year 2012/2013. In so doing, it will attempt to answer the following questions:

i. How do students perceive the use of technology in the classroom?
ii. Does gender affect students' attitudes toward the use of technology in the classroom?
iii. Do the students' specialties affect their attitude toward the use of technology in the classroom?

Conceptual Background

Ever since modern technology was employed in education, it has become a productive subject matter in pedagogical research. Generally speaking, the late 1960s and early 1970s witnessed a research trend that was predictive in nature. This research trend focused on possible changes in a teacher's role that might be brought about by the forthcoming integration of technology into education. For instance, Hansen and Harvey (1969, p. 5) foresaw that "teachers will play a less informational presentational function presently found in our classrooms."This expectation was made explicit by Heinich (1970), as cited in Hyer (1972, p. 36), who predicted that "technologies of instruction can be assigned the burden of direct teaching and decisions concerning method, materials and content." Toward the early 1980s there was a shift in research focus to consider the view of teachers on the use of computers in language teaching. For instance, Olsen (1980), as cited in Bush & Terry (1996, para. 4), surveyed foreign language departments regarding computer-assisted language instruction (CAI), which resulted in such reactions as: *"My advice is*

to stay out. Computers can teach computer language, not a living language,", "CAI is a waste of time, energy and money should be used to buy library books,", "A waste of time; you are dehumanizing language instruction ...", etc.

The huge proliferation of digital technologies in academia in the last two decades has resulted in a third research paradigm that focuses primarily on the learner. In that connection, Prensky (2001) postulates a generational divide where people who were born after 1983 are referred to as "digital natives," owing to their ability to "speak the digital language of computers, videogames and the Internet" (p. 1). Research suggests that these technologies richly improve the student performance and positively influence their attitudes toward the material being taught (Fairman, 2004; Ololube, 2006; Khirwadkar, 2007).

But what is LCT, and how can it be reinforced by the integration of ICT in the traditional classroom? In an attempt to answer the first part of this question, Henson (2003. P. 5) points out that LCT is an interdisciplinary concept that emanates from the works of the Russian sociologist Lev Vygotsky, the Swiss psychologist Jean Piaget, and the American educational philosopher John Dewey, owing to the emphasis that they placed on the learner and the learning process. It couples a focus on the heredity, experiences, perspectives, backgrounds, talents, interests, capacities, and needs of individual learners, with a focus on the best teaching practices that that promote "the highest levels of motivation, learning and achievement for all learners…" (McCombs and Whisler, 1997, as cited in McCombs and Vakili (2005, p. 1584). What is more, learner-centered teaching is thought to represent a cultural shift in a competitive educational environment, characterized by critical thinking, effective communication, collaboration with others, and analysis of information (Alliance for Excellent Education, 2012, p. 1).

Weimer (2002, p. 13-17) contends that pedagogy should change in five key areas to provide grounds for the application of LCT principles: balance of power, function of content, role of teacher, responsibility for learning, and evaluation purpose and processes. Below is a brief review of each of these proposed changes:

- Balance of Power**:** this concept emanates from feminist pedagogical theory that depicts traditional teaching as a male-dominated, authoritarian practice. As such, it negatively affects learning outcomes, especially for women. Also, since hierarchical power structures typically protect male teachers, learning is both limited and inhibited. Therefore, Weimer questions this pedagogical structure and proposes an alternative educational approach that is more democratic and egalitarian to enhance student engagement and learning.
- Function of Content: Weimer argues that learning content should lead to a qualitative change in the way learners see, experience, understand, and conceptualize real world phenomena as an alternative to the quantitative change in the amount of knowledge learners possess. In so doing, learners actively construct their own knowledge, instead of receiving it passively from a teacher or textbook.
- Role of the Teacher: once again, this proposed change derives from feminist pedagogy that criticizes male authoritarian pedagogical structures.
- Responsibility for Learning: challenging teachers' power and authority results in more independence for the students who can take responsibility for their own learning. However, learning skills need to be explicitly taught for autonomous learning to take place.
- Evaluation Purpose and Processes**:** since evaluation primarily determines learning outcomes, practices involved in this process should sufficiently inform students of its purpose. LCT places more emphasis on evaluation as an effective tool to promote learning than just a means to generate grades.

As to the ways in which ICT enhances LCT, it can be argued that, by far, technology is the clearest indicator of an LCT educational environment and for a number of reasons. First, it has just been reported above that the use of technology in education has become a generational requirement (Prensky, 2001). It is the only relevant educational medium to serve a generation of learners who speak a digital language. On the other hand, this same advantage can be argued to be a source of students empowerment, as digital literacy enables them to access course materials that could be more valuable than textbooks. In fact, research suggests that many teachers across the globe started rethinking their classroom role as the result of their students' digital literacy (Keblowaska, 2002; Fairman, 2004; Ezza, 2012). Second, technology best serves the needs of individual learners in that it integrates texts, pictures and sounds to facilitate learning for students with visual, auditory, kinesthetic, or textual intelligences (Al-Jarf, 2005). Third, technology-related learning is highly flexible in that it can take place anywhere and anytime. Even in traditional classrooms, students can access missing classes from a teacher's website or the e-system used by their institution. This e-service is particularly useful in the Saudi context, where male professors are not allowed to be physically present on female campuses (Alebaikan, 2011). Fourth, technology promotes both active and collaborative learning through online authoring systems and course-related discussion forums.

Method

Instrument

A questionnaire was designed to collect data for this study. It comprised twenty-five likert-type, five-point questions, ranging from "strongly agree" to "strongly disagree." It focused on a number of uses that were perceived to develop students' personal, interpersonal, interactive, critical, collaborative, and analytical skills needed for academic success. The instrument validity was verified by seven ICT-literate EFL faculty at MU and KAU. They proposed some amendments in the content of the questionnaire and the structure of some statements to which the researchers adhered. Cronbach's Alpha was used to calculate the reliability of the instrument. The result showed that the alpha coefficient for all the items is .917, indicating a high internal consistency.

Participants

The study participants were 50 Saudi EFL students who were attending the English classes at Community College of MU (20 male students) and ELI of KAU (30 female students). MU participants were second, third, and fourth level students majoring in English while KAU participants were first and second level students studying humanities and applied sciences (15 students each).

Procedure

A bilingual version of the questionnaire was distributed to participants to ensure that they understood its content. They were allowed to answer it inside or outside the classroom. The English statements, along with their Arabic translations seemed straightforward for the majority of the subjects who answered it in 30 minutes.

Results

The participants' responses to the questionnaire were analyzed on the basis of the three research questions listed in tables (1), (2), and (3) below:

i. How do students perceive the use of technology in the classroom?

Descriptive statistics were used to measure the students' perception of the use of technology in the classroom. Table (1) shows that the vast majority of students (i.e. 78%) indicated that they agree with tendency to integrate technology in the classroom, thus, indicating a positive attitude toward educational technology.

Table 1. ***Participants' perception of the use of technology***

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	1	2.0	2.0	2.0
	Disagree	2	4.0	4.0	6.0
	Agree	36	72.0	72.0	78.0
	Strongly agree	11	22.0	22.0	100.0
	Total	50	100.0	100.0	

ii. Does the students' gender affect their attitude toward the use of technology in the classroom?

The Mann-Whitney test was used to calculate the effect of the participants' gender on their attitude toward the use of technology in the classroom. Table (2) indicate no significant difference based on gender (i.e. alpha is more than 0.05).

Table 2. ***The effect of the participants' gender on their attitude towards technology***

Test Statistics[a]

	MEAN
Mann-Whitney U	227.000
Wilcoxon W	692.000
Z	-1.841-
Asymp. Sig. (2-tailed)	.066

iii. Do the participants' specialties affect their attitude toward the use of technology in the classroom?

The Mann-Whitney test was used to calculate the effect of the participants' specialty on their attitude toward the use of technology in the classroom. Table (3) shows no significant specialty

difference in the participants' attitude toward the use of technology in the classroom (i.e. alpha is *more than 0.05).*

Table 3. ***The effect of the participants' specialty on their attitude towards technology***

Test Statistics	
	MEANRES
Mann-Whitney U	202.500
Wilcoxon W	322.500
Z	-1.618-
Asymp. Sig. (2-tailed)	.106

Discussion

This section gives a detailed interpretation of the findings reported in (4, above) under three subheadings corresponding to them: the participants' perception of the use of technology, the effect of the participants' gender, and the effect of participants' specialty on their perception of the use of technology in teaching and learning.

i. Participants' perception of the use of technology in the classroom

The four reasons mentioned in (2, above) regarding the rationale for the use of technology in teaching and learning provide strong justifications for the students' preference for the integration of technology in language education. That technology is advantageous to language education rests on the innovation that it brings to the classroom as well as its potential to empower students. In fact, technology seems to be particularly unique to language education (cf. Ezza, a manuscript). Indeed, a number of institutions have been established across the globe to teach language through technological media, including Asia-Pacific Association for CALL (APACALL), European Computer-Assisted Language Learning (EUROCALL), The American Computer-Assisted Language Instruction Consortium (CALICO). Apart from the institutional e-learning forms required of faculty to enhance teaching (e.g. Edugate, faculty websites and *jusur* systems), the students considered in this study were also encouraged to employ additional technologies as venues for language learning, such as the smart phone, YouTube, authoring systems, and Google drive, which are believed to have positively influenced the participants' attitude towards the use of technology in facilitating their comprehension of the relevant course content. Although smart phones have posed problems for teachers, they were actively employed in the course underlying this study to enhance the teaching of many language components that formed the backbone of this study. For instance, students were encouraged to download dictionaries to provide a variety of lexical information, including pronunciation, meaning, and grammatical information. It was also used to access English classes on YouTube.

ii. The effect of the participants' gender on their perception of the use of technology in the classroom

Table (3) shows no significant gender difference in participants' attitudes toward the use of technology in language teaching and learning. Needless to say, this is a corollary of the result pertaining to the main research question just discussed. In other words, participants, regardless of gender, showed positive attitudes toward the use of technology in the classroom. This finding

seems to contradict the universal ICT female perspective. In other words, ICT is universally conceived to be a masculine preserve that limits or excludes female access. As a result, a number of advocacies have been established across the globe to empower women in the use of ICT (Grumurthy, 2004). The discourse of these advocacies abounds in concepts such as integrating gender perspectives into ICT policies, raising awareness about the importance of ICT plans for gender equality, promoting women's roles in the ICT economy, among others. This ICT female perspective has subsequently been confirmed by research findings. For instance, male students were found to dominate "on the frequency of use of computers, low computer anxiety, and more positive computer-related self efficacy than girls" (Tomte and Hatlevik, 2011, p.1418). Research also indicates that "girls tend to have less positive beliefs about the value of ICT…" (Vekiri, 2010, p.17). However, there are at least two reasons to explain gender equality regarding their attitude toward the use of technology in classrooms in the Saudi institutions involved in this study. First, most Saudi public universities post a variety of academic and administrative transactions online so that stakeholders (both male and female) can go virtual to perform them. Second, blended educational (combining e-learning and traditional learning) systems were proposed to solve problems arising from the physical presence of male/female professors in male/female campuses (the educational system does not allow the physical presence of male professors in female campuses and vice-versa) (Alebaikan, 2011). Implicit in this proposal is the fact that female students are not only digitally competent but also ready to embrace web-based learning.

iii. The effect of the participants' specialties on their perception of the use of technology in the classroom

Data analysis has shown no significant difference in the attitudes of participants studying humanities and those studying applied sciences regarding the use of technology in teaching and learning. The need to investigate this variable emanates from the general assumption that technology is a branch of applied sciences. This assumption is further motivated by the frequently used phrase, "sciences and technology." Such dualism might tempt some people to argue that technology is peculiar to hard sciences and that there is no point, therefore, in investigating its relevance to humanities. This argument can be rejected on three grounds. First, the relationship between technology and language education led to the foundation of world organizations such as APACALL, EUROCALL, etc. to promote the use of technology in language education. Second, this argument implies that hard sciences and humanities are mutually exclusive. But there is evidence to prove that this reasoning is invalid. Awadul Karim (2012) informs that since the beginning of the twenty first century disciplinary subjects have been increasingly attacked for their shortcomings and limitations given impetus by the dividing lines they draw between academic fields. This thinking has led to the introduction of interdisciplinary studies in many Western universities "for the sake of accommodating the huge developments inside, between, across and beyond the traditional disciplines" (p. 23). Apparently, there is no rigid dividing line to dichotomize hard and soft sciences to warrant such disciplinary claims and, thus, to deprive the latters of the huge educational possibilities associated with technology. Third, on practical level a number of ICT affordances such as language laps, smart technology a variety of e-learning systems have been put in place to serve all disciplines. Fortunately, the findings of this study have shown high awareness on the part of all participants, regardless disciplinary track, of the vital role that technology plays in their academic lives.

Conclusion

The internet World Stat (2012) places Saudi Arabia as the top Arab country in Asia in terms of the number of Internet users (13 million users), indicating a high digital literacy among Saudi citizens. The huge proliferation of the Internet in Saudi Arabia culminated (educationally) in the establishment of the National Center of E-learning, an e-university and e-learning deanships in all public tertiary institutions. This widespread digital culture provides natural justification for the study participants' positive attitude towards the integration of the Internet in the Saudi academia. Needless to say, this technology-driven attitude was given impetus by innovation and consideration of the students' multiple intelligences that characterize such an educational environment. There are two implications that the study reports in the light of its findings. First, it is apparent that digital environments are highly preferable educational venues. Therefore, the study calls on the educational authorities in both institutions to provide language teaching with more suitable affordances to accommodate student interest in ICT-mediated learning. Second, the study has shown that web-based teaching in both institutions is a supplementary component that teachers might choose to integrate into the mainstream teaching. Thus, the study recommends that EFL faculty should be encouraged to integrate educational technology in all teaching practices.

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Appendix
Questionnaire
Technology-enhanced Instruction in a Saudi EFL Classroom

Demographic information:

1. **Gender:**
   a. Male ☐ b. Female ☐

2. **Academic Field:**
   a. Humanities ☐ b. Applied Scienc☐

Dear student, please tick the box that best describes what your opinion, where:
5 = strongly agree; 4 = agree; 3 = undecided; 2 = disagree; 1 = strongly disagree

No.	Statement	5	4	3	2	1
1	Technology increases my motivation to learn English.					
2	Technology helps me find out about my needs in learning English.					
3	Technology equips me with the skills I need to learn English on my own.					
4	Technology improves the quality of the learning materials.					
5	Technology improves my interpersonal skills.					
6	Technology helps me assess and reflect on my English learning.					
7	Technology enhances communicative tasks such as pair, group and project works.					
8	Technology improves my collaboration skills					
9	Technology helps me understand complex language items like difficult grammar points and vocabulary.					
10	Technology is excellent in finding the information I need to improve my English.					
11	Technology increases my class participation.					
12	Technology increases group Learning.					
13	Technology helps me improve my communication with the teachers.					
14	Technology helps me to be more focused on my course.					
15	Technology helps me speak my mind in the classroom.					
16	Technology makes language learning more exciting for me					
17	Technology improves my performance in the classroom.					
18	Technology improves my language learning outside the classroom					
19	Technology improves my cognitive skills					
20	Technology improves my critical thinking skills					

21	Technology provides richer learning sources than libraries.					
22	Technology helps me work on my own to perform classroom activities.					
23	Technology helps me to improve my reading in English.					
24	Technology helps me to improve my writing in English					
25	Technology helps me to improve my listening and speaking skills in English					