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Editorial

Privatization, Creative Commons and Open Source

Donald G. Perrin

This is a follow up to the editorial on *Knowledge Ownership and Access* published in April 2010. This month's editorial addresses threats and advantages of privatized vs. open systems for research, education and economic development.

Privatization is the process of transferring intellectual property in the public domain from the public sector to the private sector. Privatization may also mean ownership of patents, trademarks, or copyrights for intellectual property created or discovered by a group or individual. These can be commoditized, sold, franchised, or licensed by the owner.

> **Intellectual property** is a legal term that refers to creations of the mind including music, literature, and other artistic works; discoveries and inventions; and words, phrases, symbols, and designs.
>
> **Public domain** includes all works not protected by patents, trademarks, or copyrights, or where intellectual property rights are expired, forfeited, or inapplicable. Examples include the works of Shakespeare, formulae of Newtonian physics, and all common knowledge.
>
> **Patent** is a government authority or license conferring a right or title for a set period for the inventor, especially the sole right to exclude others from making, using, or selling an invention.
>
> **Franchise** is an authorization granted by a government or company to an individual or group enabling them to carry out specified commercial activities, e.g., providing a broadcasting service or acting as an agent for a company's products.
>
> **Trade·mark** is a symbol, word, or words legally registered or established by use as representing a company or product.

Creative commons licenses, like open source, allow intellectual property to be shared and re-used under terms that are flexible and legally sound. Creators retain copyright while allowing other parties to copy, distribute, and make some use of the work when not for profit. It ensures that licensors receive credit for their work, and the licenses are valid all around the world and last as long as applicable copyright lasts.

> **Open source** was initiated by computer programmers to share source code so others can modify, augment, and redistribute it. An example is the Linux operating system. Open source is a loosely organized consumer cooperative to eliminate access costs for consumers and the creators of derivative works by reducing the restrictions of copyright. Lower cost leads to higher consumption and also more frequent creation of derivative works. The Wikipedia is an excellent example of open source and creative commons copyright.

Privatization of tax-payer funded research has been widely protested by advocacy groups. According to Cozzi and Galli, "prior to 1980, universities undertook research using an exogenous stock of researchers motivated by "curiosity." After 1980, universities patent their research and behave as private firms. This move, in a context of two-stage inventions (basic and applied research) has an *a priori* ambiguous effect on innovation and welfare."

On the Commons (onthecommons.org) with other advocacy groups petitioned to make the research findings accessible, and in 2009, a huge reservoir of federally funded medical research ws opened to the public domain. The new policy assures that 100 percent of taxpayer-funded National Institutes of Health (NIH) research will be available for free to the public. The NIH is the world's largest funder of scientific research (not counting classified military research). Its budget in 2007 was $28 billion, larger than the gross domestic product of 142 nations. Other government funding agencies are expected to follow.

Bollinger, quoted in an article from *On the Commons,* notes:

> Over-patenting of knowledge sometimes results in property rights for a given field of research so numerous and fragmented that it becomes very difficult to conduct research. For example, there are thirty-four "patent families" for a single malarial antigen, and those rights, applying to different pieces of the research agenda, are owned by different parties in many different countries.
>
> Openness, sharing and the public domain do not harm the market. Quite the contrary. They invigorate it. … When everyone can participate in the design commons, the result is a more robust, innovative and competitive marketplace. This is exactly the effect that Linux, the open-source computer operating system, had on the software sector. It has opened up new opportunities for value-added innovation and competition in a marketplace dominated by Microsoft.
>
> Yale Professor Yochai Benkler argues in his magisterial book, *The Wealth of Networks*, that a great deal of knowledge production is more effectively pursued through a commons than through markets. Questions of ethics aside, why doesn't money succeed at simply "buying" the knowledge it needs? Because money tends to subvert the social dynamics that make the knowledge commons work. It can sabotage self-directed inquiry. It undermines the social trust, candor and ethics that are essential to creativity and good research.

Elon Musk recently opened Tesla patents to stimulate development of the electric car industry:

> "We felt compelled to create patents out of concern that the big car companies would copy our technology and then use their massive manufacturing, sales and marketing power to overwhelm Tesla. We couldn't have been more wrong. The unfortunate reality is the opposite: electric car programs (or programs for any vehicle that doesn't burn hydrocarbons) at the major manufacturers are small to non-existent, constituting an average of far less than 1% of their total vehicle sales."

Musk says that the new open source policy's goal is to help stem climate change. He writes: "It is impossible for Tesla to build electric cars fast enough to address the carbon crisis."

> Of course, there may also be a silver lining for Tesla. Musk says "the world would all benefit from a common, rapidly-evolving technology platform." This may be true — but it could also aide Tesla's rate of adoption. It may encourage other companies to start building charging stations and other products that would support Tesla's growth.

Bollinger sees a promising future for the commons as an ageless paradigm of cooperation and fairness that is remaking our world.

> In our age of predatory markets and make-believe democracy, our troubled political institutions have lost sight of real people and practical realities. But if you look at the edges, ordinary people are reinventing governance and provisioning in their own terms. The commoms is arising as a serious, practical alternative to the corrupt Market/State.
>
> The beauty of commons is that we can build them ourselves, right now. But the bigger challenge is, Can we learn to *see* the commons and … to *think* like a commoner.

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On the Commons: A major victory for open Access http://onthecommons.org/major-victory-open-access

On the Commons. The plot to privatize Common Knowledge. http://onthecommons.org/magazine/the-plot-to-privatize-common-knowledge

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Editor's Note: This paper is a comprehensive analysis of education options made available in Web 2.0 media. Hyperlinks in everyday software and interactive features in social media have made dialog easy, and largely eliminated the isolation factor common with Web 1.0. Friendly interfaces on tablets and mobile phones have made Web 2.0 media successful outside the classroom and prepared the way for educational use.

The impact of Web 2.0 in Education and its potential for language learning and teaching

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Abstract

The arrival of technology has transited the path for an increased use of the Web, allowing for access to diverse kinds of information and materials. With this advent of technology, a significant number of technologies have been introduced to assist in human communication and interaction. Since the genesis of Web 2.0 technologies, people all over the world now have the Internet at their fingertips, and can execute communicative acts with little or no difficulty. In educational contexts, Web 2.0 is making great in-roads, being used in education delivery, even though its full effectiveness still needs to be further researched. The plethora of didactic technologies offers new and exciting opportunities for students and teachers. Since Web 2.0 is having a profound impact in educational contexts, and is yielding promising results, then there is a very strong possibility that it has the potential to impact significantly on the language learning and teaching process. Bearing in mind the afore-mentioned, this paper seeks to discuss the *impact of the Web 2.0 in education and its potential for language learning and teaching*. The first section of this paper deals with Web 2.0 in education, while the second part looks at its potential impact for language pedagogy. Concluding remarks are then given, based on the discussions.

Keywords: web 2.0, web 2.0 technologies, web 2.0 tools, education, language learning and teaching, language teaching, language learning, technology, information and communication technologies (ICTs), computer mediated communication (CMC), computer-assisted language learning (CALL), mobile-assisted language learning (MALL).

Introduction

Decades ago, all learning and teaching was centred on the traditional approach which espoused teacher-directed pedagogical practices (Smith, 2000). In this scenario, a body of academic, theoretical and discipline-specific knowledge was provided for students to learn. Such pedagogy did not lend itself to innovation. With the passage of time, there were fervent calls for educators to rethink their pedagogical methods used to maximise student learning, since there was a growing concern that students were not adopting deep approaches to learning (Biggs & Tang, 2011). There was consensus that the traditional approach was no longer adequate (Prevedel, 2003) to effectively address and improve student learning outcomes. As a result, a number of dramatic changes began to occur in education, beginning from the year 2000.

To this end, Biggs and Tang (2011) reveal that "Since 2000 there have been dramatic changes in the nature of higher education. It is not just that participation rates are higher than ever [...], but that these and other factors have altered the main mission of higher education and modes of delivery" (p. 3). Since then, there has been a clamour for teaching and learning effectiveness, which has gained momentum over the years. It is felt that learning and teaching must move away from teacher-centred strategies and embrace *student-centred approaches*, due to the increased number of students entering educational institutions who possess different learning abilities.

With the arrival of technology, one of the educational resources to have materialised is *Information and Communication Technologies (ICTs)*. In Education, ICTs are one significant way to cater for diverse learning styles (Laurillard 2007, 2008). It is all about getting students to move away from the full F2F modality, in favour of a virtual modality where they would be able to work at their own pace, and where the degree of autonomy, independence, collaboration, interaction and communication would be optimal. Brown (2005) purports that since the advent of technology-based education, there has been a steady improvement in student learning outcomes.

In the language education arena, using computers in the language learning and teaching process has caused key changes in the way that languages should be taught and learnt: better learning in a shorter period of time, lasting learning experiences, and improved students' communicative competence, among others (Levy, 1997; Warschauer, 2000; Chapelle 2001, 2003). The use of the computer and its tools has become a new means for shaping communication processes. Since multimedia technology has paved the way for fresher and more authentic communicative opportunities between teachers and students, many language teachers are now cognizant of the potential impact of language learning through Computer Mediated Communication (CMC) (Levy, 1998; Warschauer & Healey, 1998; Warschauer & Kern, 2000).

Due to the continued experimentation with, and development of, technology, Web 2.0 technologies emerged, paving the way for the use of the social web and its networks as an integral part of the learning-teaching process.

The impact of Web 2.0 in education

The advent of technology has paved the way for an increased use of the World Wide Web (WWW), and for greater accessibility to information and materials. Since this time, there has been an introduction of various kinds of technologies to aid human interaction and communication. Due to this development, millions of people now have the privilege to navigate the Web, on a daily basis, for their own specific and personal purposes. In the field of Education, Internet-based education has come of age and is now being used for educational delivery (Raturi, Hogan & Thaman 2011a, 2011b; Lai, 2011; Laurillard, 2012; Livingstone & Raturi, 2015). In fact, the wide range of teaching technologies for technology-based education offers fresh and stimulating opportunities for both teaching faculty and students.

Over the last decade, there has been much talk of a specific kind of learning technologies, *Web 2.0 Technologies*, which has formed the basis for the social web systems, and which has the potential to improve student learning outcomes (OEDb Staff Writers, 2003; O'Reilly, 2005a; Anderson, 2007). So what really is 'Web 2.0 Technologies'? How did it come into being? What are some of the kinds of Web 2.0 technologies/tools that have the capacity to aid the pedagogical process? How important is it in (technology-based) education? The discussion below will strive to answer these questions.

The advent of the concept 'Web 2.0'

According to O'Reilly (2003, 2005a, 2005b), the concept of 'Web 2.0' germinated during a conference session between O'Reilly and MediaLive International, after the collapse of the 'dot-com' fever in the fall of 2001, which signalled a turning point for the WWW. The term was made popular by Dale Doherty, a web pioneer and Vice President (VP) of the publishing and consulting firm, O'Reilly Media Inc. (the company famous for its technology-related conferences and high-quality books). Doherty noted that the Web was now far "[…] more important than ever before, with new and exciting applications and sites popping up with surprising regularity" O'Reilly (2005a, p. 1). As noted by O'Reilly (2005a), "Could it be that the dot-com collapse marked some

kind of new turning point for the web, such that a call to action such as Web 2.0 might make sense?" (p. 1). It is from this session that the *Web 2.0 Conference* emerged. Anderson (2007) pointed out that the team wanted to capture the feeling that despite the rise and subsequent collapse of 'dot-com', there was still hope for the Web to survive. It has been noted that since the coining of the Web 2.0 term, it has firmly taken root in the world of technology, with more than '9.5 million citations in Google' (O'Reilly, 2005a; Anderson, 2007).

Defining Web 2.0

While Web 2.0 originally came into existence, outside of the educational context, the term has taken root in pedagogical vocabularies for online instruction. Web 2.0 refers to a new version or generation of web technology which came about due to cumulative changes in how the web is used and designed (O'Reilly, 2005a, 2005b; Anderson, 2007). Unlike the static pages of earlier systems, Web 2.0 functions as a platform for the sharing and networking of interactive and user-generated content (O'Reilly, 2006a). Anderson (2007, p. 4) establishes that "Web 2.0 is a more socially connected web where everyone is able to add to and edit the information space". Web 2.0 offer a novel, more social, and engaging, collaborative approach to interaction. It is the new response to its previous version, Web 1.0, which only offered limited communication. Gaffar and Singh (2013, p. 66) reveal that "Ever since, Internet users have come to rely heavily on this 'new web' for their communication and social needs. Web 1.0, previous 'version' of the web, provided largely a 'one-way' communication channel between authors and consumers of web content".

The advent of Web 2.0 has resulted in a new dimension of the WWW. Internet users have now become quite active in the online world (Collins, 2009). As noted by O'Reilly (2005a), Web 2.0 does not mean the same thing for everyone; in fact, depending on individual interpretation, it can either be used to bolster personal and professional development, or it can be used mainly as a tool for socialisation purposes. Some authors even postulate that Web 2.0 caters for interaction and interactivity, while allowing users to control their own data and information (Madden & Fox, 2006; Maloney, 2007). Others authors see Web 2.0 as a set of tools that demand active participation from its users (Pence, 2007; Collins, 2009; Mason & Rennie, 2010). Notions like 'sharing', 'collaborating', and 'socialising' have emerged from the Web 2.0 concept and have taken priority in its discourse. From the above, it is not unjust to assume, from the recognition and attention that Web 2.0 is receiving, that it will be the defining technology to lead us into this century and beyond.

Web 2.0 and the social web

Since the emergence of Web 2.0, the use of online social networks has intensified, allowing users newer and efficient ways to maintain contact with family, friends, and work, among other things. A phenomenal growth in the number of online networks has been evidenced, with more than 200 such tools that are quickly becoming popular, particularly among the younger generation (OEDb Staff Writers, 2003; Pence, 2007; Chan-Meetoo & Rathacharen, 2011). As noted by Mazman and Usluel (2010), the use of these social sites is more ubiquitous than ever; in fact, users are extremely diverse, coming from different educational and social backgrounds, and from extremely diversified demographics.

Given the features that the social web possesses, young people are continually being attracted to it. In the educational context, based on research done, social networking systems (SNS) have been proven to be very useful, based on sound pedagogical practices and proper supervision by teachers (Anderson, 2007; Gaffar, Singh & Thomas, 2011; Laurillard, 2012). The fact that social networks seem to have taken over the world by storm, and its increasing use in educational contexts (Collins, 2009; Lai, 2011; Gaffar & Singh, 2012), is indicative of the fact that it does have potential for success in learning and teaching.

Examples of these SNS include Facebook, Twitter, My Space, Tagged, Google Plus, and Hi5, among others. All these networks are as a result of the advent of Web 2.0 technologies. These sites possess a number of features including walls, instant messaging, groups, photo uploads, online profiles and news feeds. Facebook seems to have dominated the social web, having some 1.35 billion active users as of December 2014 (Facebook Press Room, 2014). YouTube, Skype, Twitter and Instant Messaging are also quickly gaining momentum. Bearing this in mind, it would not be unfair to say that these social networks have the potential to be very useful for executing educational purposes and for supporting learning and teaching, by facilitating high levels of student-teacher interaction. This is an avenue that needs to be further explored.

It is important to note that Web 2.0 cannot be separated from the social web. The social web and SNS exist only because of the advent of Web 2.0 technologies. Web 2.0, as has been established, has the primary objective of fostering interaction and interactivity through social networks and connections that were not possible before. It would not be unfair to say that without Web 2.0, there would be no social web, since Web 1.0, as has already been highlighted, was mainly for one-way communication between users.

Web 2.0 tools

Web 2.0 also presents a number of tools that can be used in the learning-teaching process. As espoused by OEDb Staff Writers (2003), online tools and resources greatly facilitate the instructional process since they allow for interaction and collaboration between learners, content, and teacher. These tools take up very little space on the computer; in fact, since some of these applications are Internet-based, learners can access them from any computer, anytime and anywhere, at their own convenience.

OEDb Staff Writers (2003) present 101 Web 2.0 teaching tools, divided into various classes. Examples of some of these different classes of tools, along with some examples of tools from each class, are as follows: (1) *Aggregators* help you to stay up-to-date with latest news and events: *Blog lines*, *Feed Reader*, and *Wiki News*, among others; (2) *Bookmark Managers* allow for the construction of personal directories where information can be saved, accessed, and shared: *Facebook*, *Flickr*, *Tagged*, *Google Plus*, *LinkedIn*, *Twitter*, *Hi5*, and *My Space*, among others; (3) *Collaboration Tools*, as the name suggests, aid collaboration, interaction and communication: Edmondo, *Skype*, *Chat*, and *Instant Messaging*, among others; (5) *Course Management Tools* are those that allow for a multiplicity of functions in the pedagogical process: ATutor, Merlot, and *Moodle*, among others; (4) *Office Suites* are free, commercial applications: *Google Docs*, Apache Open Office, and ZOHO, among others; (5) *Office Tools* include file converters, presentations tools, file managers, and so on: Cute *PDF*, *Email*, and Document Converter eXpress, among others; (6) *Public Content Management Tools* are blogs used to teach, to build classroom community, to create class projects, and more: EduBlog, Geeklog, and *WordPress*, among others; (7) *Storage Tools* are those used for backing up files and documents for subsequent retrieval: 4Shared, Flip Drive, and *Scribd*, among others.

To further establish the importance of these tools in the learning-teaching process, Anderson (2007) highlights the "Key Web 2.0 services/applications" (p. 7). These are (1) Blogs; (2) Wikis; (3) Tagging and Social Bookmarking; (4) Multimedia Sharing; (5) Audio Blogging and Podcasting; (6) Rich Site Summary (RSS) and Syndication; (7) Newer Web 2.0 Services and Applications which include Social Networking, Aggregation Services, Data 'Mash-ups', Tracking and Filtering Content, Collaborating, Replicating Office-Style Software in the Browser, and Source Ideas or Work from the Crowd. Anderson (2007) points out that these names that have been used merely to describe the functions of these tools.

As can be seen from examples presented by both OEDb Staff Writers (2003) and Anderson (2007), there is a plethora of tools from which to choose to enhance the learning-teaching

process. Choosing the specific set of tools to use must be done thoughtfully in conjunction with learners' needs. Web 2.0 tools are here to stay, so it is wise for all stakeholders to take advantage of them, carefully selecting those that would benefit their respective educational contexts.

The importance of Web 2.0 technologies in education

Initially, Web 2.0 was not devised for educational contexts. The design of the tools, however, seemed to cater for pedagogical settings. "Web 2.0 technologies have gained increased popularity over the last decade. They have transformed user management on the WWW and have made inroads in Education" (Gaffar, Singh & Thomas 2011, p. 129). Evidence from research is beginning to establish the potential benefits of Web 2.0 to support authentic learning experiences. In educational contexts, stakeholders are beginning to realise the necessity of incorporating Web 2.0 technologies into the didactic process to ensure students of a more emancipatory approach to learning (Carlson, 2005; Oblinger & Oblinger, 2005). Further, proponents of this new technology affirm that "[…] the central principle behind Web 2.0 is its power to harness and disseminate collective intelligence through networking, user engagement and blogging" (O'Reilly 2006c, p. 1). Web 2.0 technologies afford more socially connected experience by enabling active engagement with others, to create and contribute content in great magnitudes (Anderson, 2007). These authors all point out that Web 2.0 allows for meaningful interaction and communication with its users where they are allowed to be *active participants* in learning, rather than passive learners, as in the case of Web 1.0. Such a situation does present promise for educational institutions, teaching faculties and students all across the world.

Educational experts debate the role of Web 2.0 in instructional practices and learning strategies. Regarding the role of education in this age of 'network society' and 'digital culture' (O'Reilly 2006b, 2006a), some scholars highlight the value of teaching creativity and innovation through 21st century skills (OEDb Staff Writers, 2003; Rudd, Sutch & Facer, 2006; Owen, Grants, Sayers, and Facer, 2006). They agree that some potential benefits of Web 2.0 include the (1) provision of flexible 'anytime/anywhere' learning; (2) freedom for students to self-publish and construct knowledge; (3) granting of access to large amounts of information, and (4) extension of learning to traditionally excluded groups (Owen et al., 2006; Mason & Rennie, 2010). In support of the relevance of Web 2.0 in Education, Gaffar, Singh and Thomas (2011) reveal that it has caused a revolution in pedagogical practices around the world; in fact, educators are now joining the bandwagon and endorsing Web 2.0 since they feel that the interactive nature of these technologies is apt for learning and teaching.

Other advocates affirm that user-generated content and *learning networks* support constructivist theories of learning (Davis, 2011; Orlando, 2011). Davis (2011) cites Mason and Rennie (2010) who affirm that "Web 2.0 tools provide students with the opportunity to collaboratively negotiate knowledge and to contextualise learning within an emergent situation" (p. 3). Still, other specialists also agree that Web 2.0 tools support pedagogical models which accentuate learning as an active process of knowledge construction. Web 2.0 is inherently participative and encourages learners to be interactive (Carlson, 2005; Rudd, Sutch, & Facer, 2006; Owen et al., 2006; Laurillard, 2012; Livingstone & Raturi, 2015).

From the discussion above, it is quite clear that Web 2.0 hinges heavily on collaboration, interaction, interactivity and social networking. It seems to embrace the social constructivist theory of Vygostky (1978). To further add credence to the constructivist approach, and in support of the relevance of learning networks in the pedagogical process, Rudd, Sutch, and Facer (2006) emphasise that learning networks are important in the learning process because: (1) social, technical and leisure life is increasingly organised around networks; (2) learning, in most cases, is already about networks, collaboration and connection; (3) social mobility and social capital are achieved through building and mobilising networks of expertise and, (4) full personalisation cannot be achieved through schools disconnected from communities. In relation to the interaction

and interactivity that Web 2.0 affords, there is also slowly increasing research on the experimentation with Mobile Learning (ML) (Crescente & Lee, 2011; Crompton, 2013) in educational contexts. Since the use of mobile devices is on the increase, this is an area to be further explored, with regard to learning and teaching.

Just as there are advocates of Web 2.0, there are also experts who have shown some amount of skepticism to its use in Education. Meyer (2010a, 2010b) conducted a study in which he investigated the use of Web 2.0 with some doctoral students using a number of Web 2.0 tools like Wiki, Blogs and Online Discussions to assist them in writing their research papers. Based on the findings, many students were able to manipulate the tools, confirming that they were able to interact meaningfully with each other. Unfortunately, however, some students did not at all share some of those views as they felt uncomfortable with these new tools. Another study was executed by Kumar (2009), in which students were exposed to blogs, podcasts, sharing, and so forth. The results highlighted that students had difficulties in understanding the use of Web 2.0. Even thought they felt that the tools did promote diversified learning and teaching, some of them felt that it should be relegated only to social communication and not be used in educational environments.

A study conducted by Levy and Hadar (2008) seem to confirm the tendencies highlighted above. In yet another study, Tzeng, Liu, and Lin (2009) introduced an educational model using Web 2.0 which included 'website users, content, virtual community and tools'. While Tzeng et al. (2009) purport that Web 2.0 will exert a massive, positive influence in the field of Education, they also note some potential challenges that educators may face in technology-based environments, including (1) premature hardware development and (2) deficiency in basic computer skills. They contend that Web 2.0 technologies have proven to be somewhat difficult for juveniles and senior students.

The issues raised are not superficial, since teething problems with always arise with any new educational initiative or any new technology software. This does not mean that Web 2.0 is not effective for educational purposes. In fact, many proponents have done research using Web 2.0 tools, as has been earlier established in this discussion, and the results are very encouraging. This success can only come about if it is properly harnessed and channeled to engender significant educational experiences. For this to happen, further research needs to be done to ascertain its full impact and effectiveness in Education.

The potential impact of Web 2.0 for language learning and teaching

Language Learning and Teaching (LLT) over the years has transformed significantly. Many decades ago, LLT was firmly rooted in the *Grammar-Translation Method*, the learning of grammatical rules to complete translation exercises. The only tool being used at that time was the blackboard, the perfect vehicle for the one-way information transmission method. With time, the overhead projector came into play, another excellent medium for teacher-dominated sessions, followed by earlier versions of computer software programmes of 'drill and practice' exercises. Subsequently, the audio-lingual method came to the fore, however this method also did not do much for LLT. There were clamours for more effective language teaching methods, methods that would engage students actively in authentic and meaningful interaction. Consequently, the 1980's saw the birth of the Communicative Language Teaching (CLT) method which sought to enable students to attain a certain level of communicative competence in the language (Ellis, 2003; Willis & Willis, 2007; Livingstone & Ferreira, 2009). With CLT came many other effective teaching approaches like Task-Based Language Teaching (TBLT), Cooperative Language Learning (CLL), and Computer-Assisted Language Learning (CALL), among others, all with a view to empowering the students to take control of their own learning, while providing them with rich, authentic linguistic input (Krashen, 1987).

Since technology was becoming the buzz, CALL began to exert a powerful influence in LLT, since it was felt that this method could indeed optimise linguistic and communicative competence. Many phases of CALL emerged, like *Behaviorist CALL* (Chapelle, 2001 & 2003; Levy, 1997; Warschauer, 2000; Taylor 1980) which focused on the development of language skills, *Communicative CALL* (Underwood, 1984; Warschauer, 1996; Levy, 1998) which hinged on creativity of expression and meaning negotiation, and finally *Interactive and Integrative CALL* (Pennington, 1989; Garrett, 1991; Warschauer, 1996), which concentrated on the use of computers with multimedia technology and the Internet. This type of CALL generated, and continues to generate, a large number of advantages for LLT. Many studies have been done using some form of CALL for learning (Warschauer, 2000; Chapelle, 2003; Kern, Ware & Warschauer, 2004; Morales & Ferreira, 2008; Ferreira & Kotz, 2010), highlighting its effectiveness and the need for further research in the area.

With the increased use of Web 2.0 technologies and its tools in the last decade, LLT is now faced with the challenge of integrating these new set of tools to enhance the learning-teaching process. The challenge is to how to combine these new features with CALL to make pedagogical practices more effective. As seen from the discussions above, the social web, through Web 2.0, has been making many in-roads into the educational context. Language teachers, especially those who really do want to do everything to improve their students' learning experiences, are availing themselves to trying these new tools (Kenning, 2007; Zhang, 2012).

There are those language teachers who still have issues with technology, as they prefer to remain with the traditional approach to LLT. From personal experience and observation, many feel uncomfortable with experimenting with technology in the classroom and many see it as a form of relinquishing control of the classroom, a position not too well accepted. In this age of technology, many young people are very well au-fait with these new technologies and the social web. As noted by Facebook News Room (2014), the majority of Facebook users are young people. It would not be unfair to say that were a study to be done on the age ranges of social web users, it would be established that young people are in the majority. Such a tendency should encourage language teachers to get involved, with the view of using these tools for effective LLT.

It is also understandable that some teachers find these technologies difficult. Setting up a blog, for example, is relatively easy. However, after setting it up, the teacher may be confronted with difficult technical terms, such as RSS. Those teachers having difficulties with the concept of RSS, and the supporting technologies involved in its use, may not be able to appreciate its potential in language learning. To this end, it is important to understand that for many teachers, Web 2.0 may seem to be another technological innovation which will quickly pass into oblivion. Despite these issues, the fact cannot be ignored that the very nature of Web 2.0 is its features that promote collaboration, active engagement and interaction, interactivity, and user-generated content. There is research evidence that highlights the slowly increasing use and benefits of key Web 2.0 technologies (wiki, blog, podcast, instant messaging) in language education (Kenning, 2007; Chang & Kuo, 2009; Evans, 2009; Thomas & Reinders, 2010; Zheng, 2012).

From the discussions above, and based on the need to provide students with a greater autonomy over their learning, and with significant educational experiences, Web 2.0 tools seem to offer language teachers what they would need, to be able to support learners' language development: (1) learning can be distributed, allowing students to be regularly connected with a wide community of learners; (2) an easier connection can be fostered between the classroom and the 'real' world; (3) learning would be autonomous, making students protagonists of the learning process, making use of exciting tools that they use daily; (4) active engagement is emphasised with the use of these tools; (5) engaging learners, through these very tools, to take their discourses from the actual classroom to the virtual classroom.

Based on literature reviewed, it is just to purport that the nature and potential of Web 2.0 in LLT hasn't been extensively investigated. Most of the existing literature is in the field of Education, and it focuses mainly on the digital generation and tertiary education (Oblinger, & Oblinger 2005; Bryant, 2006; Gaffar & Singh, 2012; Livingstone & Raturi, 2015). Despite this fact, the potential of these tools is being continuously acknowledged. As highlighted by Kern, Ware and Warschauer (2004), these can allow students to be exposed to, and consequently to produce, authentic language from real life socio-cultural Internet contexts. Additionally, these tools offer language learners opportunities to use language as it is used on the WWW, thus exposing them to different varieties of emerging language use. Such opportunities for rich language input (Krashen, 1987), noticing, and negotiation of meaning (Ellis, 2003) are indicative of how second language acquisition (SLA) occurs.

In LLT, Web 2.0 tools seem to be included in the umbrella terms CALL and CMC. However, it is important to point out that Web 2.0 technologies ought not to be separated entirely from CALL, and its achievements to date, just as Web 2.0 is seen as a development of Web 1.0, possessing some of its features. In fact, CALL, over the years, has been promoting the widespread use of technologies to foster language learning, making use of an extensive number of tools to achieve this purpose (Pennington, 1989; Garrett, 1991; Levy, 1997; Warschauer & Kern, 2000; Chapelle, 2003; Kern, Ware & Warschauer, 2004). The defining difference between Web 2.0 technologies and CALL is the way in which the learners more easily manage Web 2.0 tools and generate materials.

Text editing features, for example, are integrated into Blogs, Wikis and Discussion Forums. These features can help learners to "correct linguistic output and engage in target language interaction whose structure can be modified for negotiation of meaning" (Chapelle 1998, p. 23). Bearing in mind these opportunities for superior levels of real, autonomous language engagement, the language teacher will have to place more emphasis on the development of learners' metacognitive skills. The good thing about Web 2.0 tools is that most of them possess these integral features. In light of that, it would not be thoughtless to say that Web 2.0 may offer the most authentic medium yet for tearing down walls between the classroom and real-world contexts, since not only is the language learner able to use the language in a genuine medium, but also that very medium offers him the tools necessary for focusing on authentic language use.

In this regard, there is slowly increasing research and experimentation with Mobile-Assisted Language Learning (MALL) (Zhang, 2012). MALL, channeled by mobile devices, and one of its primary features being *Instant Messaging* (IM), is apt for the LLT process, since this is one of the tools that most young people use with skilful ease. It would not be unfair to suggest to some of these young people are language learners. This being the case, this technology could be harnessed to contribute fresh, rich and novel learning experiences for language learners.

Web 2.0 allows for *synchronous* communication (*Skype*, *Google Hangout*, and *Chat*, among others) and *asynchronous* communication (Online Discussion Groups, Forums, Wikis and Blogs, among others). These technologies have the ability to engage language learners, teachers and content in a teacher-teacher interaction, content-content interaction, student-teacher interaction, student-student interaction, student-content interaction and teacher-content interaction (Anderson, 2004; Lee & McLoughlin, 2010). Language teachers, in collaboration with their students, can create discussion groups and forms for the free exchange of ideas and information. As endorsed by Raturi et al., (2011a, 2011b), such groups foster learning communities and encourage knowledge construction and meaning negotiation among students. Added to this, language teachers can even create forums where they themselves exchange ideas on pedagogical practices, promoting professional development and the need to continually be engaged in transformative reflection, with a view to maintaining best practices in LLT.

For these tools to be effective in LLT, they must be harnessed in a particular way, relevant to the learning-teaching context, since they offer teachers a flexible medium for moulding learner development. The way in which the instructor designs and scaffolds tasks and activities, through these tools, will have a defining effect on the extent of how learners participate. It is the teacher's understanding of how best to use the medium that will determine its efficacy in the language context. In other words, it is absolutely necessary for the processes and tools to be applied in the appropriate contexts, supported by suitable facilitating systems, to ensure that they have the desired impact on the learning-teaching situation. While technology may not be the solution to correcting educational problems, it must be visualised as a tool and useful resource for effecting change in the language learning-teaching process.

For Web 2.0 to have a profound impact on language learning, relevant training and support for both language teachers and students will be required (Illinois Online Network, 2010; Livingstone, 2013). It is not right to assume that because students use these technologies, that they will necessarily know how to use them for educational purposes. The same applies for teachers. More support would be needed for those teachers who are apprehensive towards the use of technology in their classrooms. This therefore means that training and support will have to be a continual process, so that both students and teachers can become confident and proficient in the use of these tools for LLT. Further to this, many other issues will have to be addressed like administrative and developmental issues and organisational and leadership issues (Livingstone, 2013). Said differently, teachers' and students' conception and perception of these technologies, and their utility in fostering instruction, learning and communication, will have to be studied, in order to experience the profound impact that these technologies can have on the LLT process.

Bearing in mind the discussions above, it is just to claim that since Web 2.0 is having such an impact in Education, even though there is more investigation to be done in the area, the literature reviewed and research done thus far are primary indicators that Web 2.0 can have the same impact on language didactics.

Concluding remarks

"One of the strongest arguments for bringing new digital technologies into schools and other educational institutions is that, by doing so, we would trigger pedagogical innovation" (Laurillard, Oliver, Wasson & Hoppe 2009, p. 290). This paper has sought to discuss *the impact of Web 2.0 in Education and its potential for language pedagogy* in this era and beyond.

Over the past two decades, technological innovations have allowed for exploration of various approaches in educational contexts, with respect to the design, delivery and evaluation of the learning-teaching process. With the arrival of Web 2.0 technologies, the way has been transited for a movement from the mere delivery of content to the creation and facilitation of rich and diverse kinds of interactions between student, teacher and course content (Anderson, 2004; Lee & McLoughlin, 2010). Bearing this in mind, as has been made evident from the discussion in this paper, the development of more innovative learning technologies has been engendered, due to the mounting interest in their use in educational contexts. Both students and teachers are now faced with a range of possibilities and tools that cater for pedagogically diverse approaches, with the principal objective of allowing students to be autonomous, motivated, and actively engaged in the learning process, vital components absent from the traditional approach to learning and teaching.

It must be noted that Education has a role in preparing people for work, and that must affect both what and how students learn. Web 2.0 environments can provide alternative ways of offering a more authentic learning context. Web 2.0 in education has paved the way for a reformation of pedagogical practices in learning and teaching. Research done (Williams & Williams, 2010; Livingstone & Raturi, 2015) has established that it is a powerful means for students to engender

significant educational experiences. One of the principal uses of digital technologies in educational practices is to enhance intellectual expressiveness and creativity. It is oriented towards the role of technology to enable new types of learning experiences and to enrich existing learning scenarios.

Language education is another area that could certainly use this fresh infusion of Web 2.0 technologies and the corresponding tools. As already discussed in this paper, while there have been some attempts made to use them in language pedagogy, and research carried out to observe its effectiveness, its true impact is yet to be experienced in the LLT process. The fact that it is gaining momentum in education signals that it can also gain momentum in LLT. It is important to recognise in the LLT process, however, that the mere use of these technologies will not foster significant learning experiences. These technologies and tools need to be used wisely. These tools, in themselves, cannot cause learning to take place, since they are only mediums. The quality of the learning experience can be improved, if these technologies are used as participatory, communicative tools to foster knowledge construction, through interaction and collaboration. In other words, the emphasis should be placed on the delivery of the right material, to the right students, and with the appropriate technological support.

Since this Web 2.0 phenomenon is still relatively new to language learning and teaching, it would be wise to gradually introduce its use, so that both students and teachers can familiarise themselves with it. This will certainly allow them to be comfortable with these new tools and will undoubtedly boost their confidence and motivation with their continued use. It is important to note that language learners are being prepared for a world in which technology is increasing the speed of innovation and change, but they are being prepared by education systems that are not necessarily oriented towards rapid change in the way they are managed and operated. Web 2.0 technologies, used correctly, could help the LLT process adapt to a world that is rapidly changing in response to technology.

Training of language teachers to use Web 2.0 in their classrooms is of paramount importance. As already highlighted in this paper, necessary training to use Web 2.0 tools for the LLT context may very well accelerate its adoption, while, at the same time, the ever vital technical and pedagogical support should be given. In this regard, there is also need for a paradigm shift, a consciousness raising among language teachers as to the need to do everything in their power to improve their didactic practices, with a view to ensuring that their students' learning experiences are significant and optimum.

The Web 2.0 phenomenon is a reality that none can escape. These technologies are inserting themselves in our everyday lives, whether deliberately or accidentally. Young people are using them with great ease; in fact, it is always amazing to see how they operate these tools and gadgets with agility and skill. These are the kinds of technologies that should be used in the learning process, since the young people seem to have an affinity to them. After all, they are 'digital natives' (Prensky, 2001).

That being said, personal experience with Web 2.0 technologies in educational contexts, coupled with rising evidence and theoretical perspectives from the literature, suggest that their impact will continue to be experienced in the pedagogical arena. The impetus is now for language teachers to move forward and upward, by embracing these technologies, recognising them as indispensable tools for their pedagogical practices. They must do so, in order to ensure that their students get the most effective teaching possible, so that effective learning could be engendered. These new technologies can definitely help to improve the LLT process, as has been highlighted in this discourse. Language teachers need to feel confident, knowing that, while these technologies can certainly enrich students' language learning experiences, in no case can these technologies become a replacement for them.

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Editor'sNote: Contrinuous quality improvement is essential to the success of an innovation. Data from research is needed to track progress and to identify areas for improvement. Faculty support is based on satisfaction with working conditions, administrative support, student response, and overall success of the program.

Faculty satisfaction with online teaching in Saudi Arabia's higher education institutions

Abdulrahman M Al-Zahrani
Saudi Arabia

Abstract

The purpose of this study was to examine faculty satisfaction with online teaching using the Online Instructor Satisfaction Measure (OISM) developed by Bolliger et al., (2014). The aim was also to investigate factors that may influence faculty satisfaction including gender, position, teaching experience, Internet experience, and workload. Thus, a quantitative approach using a survey questionnaire was implemented. The participants were 104 instructors affiliated in higher education institutions in Saudi Arabia. The descriptive statistics show that the instructors' satisfaction with online teaching was generally neutral. The instructors' high levels of satisfaction with online teaching were in terms of student-to-student interaction, instructor-to-student interaction, affordances, and course design, development, and teaching. In contrast, the instructors were less satisfied with institutional support. While the results indicate a clear gap between policy and practice, especially with regard to technology, educational institutions should faithfully consider the educational demands of the 21st century. These demands include faculty satisfaction with online teaching in terms of access, training, support, and include consideration of instructors' professional and psychological needs as well.

Keywords: OISM, Online Instructor Satisfaction Measure, faculty satisfaction, higher education, online teaching, Saudi Arabia

Introduction

For the last few decades, Saudi Arabia (SA) has boomed economically and has willingly partaken in global digital technology developments. Largely through earnings linked with the petroleum industry, this wealth has aided public education, higher education, and levels of consumption of technology (Al-Issa, 2009; Joseph & Lunt, 2006; Nelson, 2010; Onsman, 2011; Ramady, 2010). Despite the fact that SA has been considered a mono-cultural and conservative society, it provides significant insights into cultural change associated with the global competitiveness of the digital age (Onsman, 2011).

In SA, there is strong public policy that supports the development of new technologies. In releasing its Eighth Development Plan (EDP) 2005–2009, the Saudi government brought into focus the nation's challenges in the current era. In particular, the Saudi Ministry of Economy and Planning (MoEP) in the EDP has stressed four important demands, namely, improving and expanding the current digital technology infrastructure, expanding Arabic online content, bridging the digital gap among all segments of the nation, and applying the concept of e-government (MoEP, 2005).

With regard to higher education in SA, Onsman (2011) argues, Saudi's higher education, as reflected by massive expenditure in this sector, is experiencing rapid growth in terms of student population as well as infrastructure. However, quantitative expansion in higher education will have minimal influence, unless it meets the need to improve the quality of Saudi's tertiary education. According to Onsman (2011), 'the main concern for KSA's Higher Education

development is to maintain its Arabian base whilst striving to become internationally relevant, the funds are applied in a centrally controlled manner that aims to balance the two ambitions' (p. 1). It seems that the philosophy of Saudi higher education is unable to maintain alignment or harmony among social, cultural and religious identity, and globalization (Al-Issa, 2009, 2010; Onsman, 2011). Therefore, previous obstacles have collectively caused Saudi's higher education to have a limited impact on global academia (Onsman, 2011).

In relation to technology implementation in Saudi's higher education, Al-Jarf (2003) found that less than 4% of female students in tertiary education in SA could search electronic databases. Al-Jarf (2007) also conducted another study to investigate the status quo of online learning in Saudi's tertiary education. She found that only six universities (43%) use WebCT or Blackboard for online courses. This use was not cost-effective due to a lack of motivation, poor online teaching skills, inadequate professional support and training, insufficient infrastructure, and lack of funds.

Theoretical background

Online teaching

Online teaching has become an important demand for higher education institutions in the 21st century (American Distance Education Consortium [ADEC]; Fish & Gill, 2009; Hogan & McKnight, 2007; Kearsley, 2010; Shea, Pickett & Li, 2005; Sher, 2009). Mandernach, Dailey-Hebert and Donnelli-Sallee (2007) argue that 'with the continued growth of distance education, as well as the movement of traditional institutions to supplement face-to-face offerings with online and hybrid courses, an increasing number of faculty are transitioning to the online teaching environment' (p. 1).

Online teaching not only eliminates 'the constraints of time and location, but it also incorporates interactive communication that is unique to face-to-face classroom-based instruction' (Sher, 2009: 102). Through online teaching, students can access quality education 24/7 in which they 'can receive instruction, compose and submit assignments, and ask questions for their instructors and fellow students. They can actively participate in class discussion from home, office, or any nearest computer lab' (Sher, 2009: 102).

According to the ADEC (n.d.), a number of principles should be considered to achieve effective online teaching. One main principle addresses faculty satisfaction. The ADEC (n.d.) emphasized the following:

- 'The institution provides faculty support services specifically related to teaching online.
- The institution ensures appropriate training for faculty who teach using technology.
- The institution provides faculty with adequate equipment, software and communications for interaction with students, institutions and other faculty.
- The course or program provides for appropriate interaction between faculty and students and among students.
- Qualified faculty should provide appropriate supervision and control of the online program and course.
- Policies for faculty evaluation include appropriate recognition of teaching and scholarly activities related to programs or courses offered electronically' (para 4).

Faculty satisfaction

Faculty satisfaction is a key component for quality online education (Moore, 2002). However, it is 'a complex issue that is difficult to describe and predict' (Bolliger & Wasilik, 2009: 105). It

can be defined as 'the perception that the process of teaching in the online environment is efficient, effective, and beneficial for the individual' (Bolliger, Inan & Wasilik, 2014: 184).Simply, it 'means that faculty find online teaching effective and professionally beneficial' (ADEC, n.d.: para 11).

Faculty satisfaction reflects the value of teaching in online environments to achieve desirable outcomes. Considering online education as a system, faculty satisfaction is one of the factors 'that affects usability of the system which also directly affects instructors' performance' (Yengin, Karahoca & Karahoca, 2011: 1396). Accordingly, 'the educational institutions and policy makers should consider faculty satisfaction in order to succeed in their activities and operations such as succeeding in e-learning systems' (Yengin et al., 2011: 1397).

Several studies were conducted on faculty satisfaction with online teaching. For example, Bolliger et al. (2014) found that instructors teaching online courses were generally satisfied with their approaches. They also found that the instructors were highly satisfied with the affordances of technologies implemented in their online courses. The instructors' lowest levels of satisfaction were in terms of interaction whether between instructors and their students or between students themselves. Further, their levels of satisfaction with support provided by the institution were not high. In another study conducted by Bolliger and Wasilik (2009) using the Online Faculty Satisfaction Survey (OFSS) at a small university in the USA, results indicated three factors impacting faculty satisfaction with online teaching. First, the most significant factor was the student-related factor. Second, it was the instructor-related factor, which had a direct impact on faculty satisfaction. Third, the institution-related factor was also found to impact on faculty satisfaction. Another exploratory study was conducted by Fish and Gill (2009) and investigated whether online teaching is valued by university instructors. They found that instructors' level of satisfaction was influenced by their experience with online teaching. However, most of the instructors generally value online teaching to enhance the current traditional educational paradigms.An earlier study was conducted by Shea et al. (2005) who investigated potential barriers to the adoption of online teaching in higher education. Based on a large sample of online instructors (N= 913), they categorized four factors that have significantly positive correlations with faculty satisfaction. These factors include 'levels of interaction in their online course, technical support, a positive learning experience in developing and teaching the course, and the discipline area in which they taught' (p. 1).

Based on the assumptions of Bolliger et al. (2014), faculty satisfaction consists of five elements. These elements are:

1. Instructor-to-student interaction (ISI)
2. Student-to-student interaction (SSI)
3. Affordances (A)
4. Institutional support (IS)
5. Course design/development/teaching (CDT)

Instructor-to-student interaction

Effective two way communication between online instructors and students contributes to the quality of online teaching (Bolliger et al., 2014; Bolliger & Wasilik, 2009; Kearsley, 2010; Mandernach et al., 2007; Shea et al., 2005; Sher, 2009; Swan, 2003). Bearing this in mind, it can be argued that 'no matter what learning theories we hold - behaviorist, constructivist, cognitivist, or social - reciprocal events and mutual response in some form must be integral to our notions of how we learn' (Swan, 2003: 4). However, facilitating student interaction 'is usually the most

difficult skill for faculty to learn since it's not an element of traditional classroom instruction' (Kearsley, 2010: 88).

Effective instructor-to-student interaction can be better described as a '*live* interaction that demands ongoing instructor participation and course facilitation' (Mandernach et al., 2007: 2). Regarding the role of online instructors, Swan (2003) explains that 'the instructor serves as an expert who plans instruction to stimulate students' interests, motivates their participation in the learning process, and facilitates their learning' (p. 10).

Instructor-to-student interaction 'can take the form of instructor delivering information, encouraging the learner, or providing feedback' (Sher, 2009: 104). Therefore, 'students expect to get timely and substantive feedback from their instructors on their assignments and they also expect instructors to participate actively in discussion forums, chat sessions or whatever form of interaction exists in the class' (Kearsley, 2010: 87).

Student-to-student interaction

Effective communication between learners can facilitate effective learning (Bolliger et al., 2014; Bolliger & Wasilik, 2009; Mandernach et al., 2007; Shea et al., 2005; Sher, 2009; Swan, 2003). Faculty who teach online courses 'like to see their students share ideas, viewpoints, and experiences' (Bolliger et al., 2014: 185). Effective student-to-student interaction through collaboration and knowledge sharing significantly contributes to their learning and satisfaction with online learning (Sher, 2009; Swan, 2003).

Student-to-student interaction can take many forms such as group projects (Sher, 2009),'debate, collaboration, discussion, peer review, as well as informal and incidental learning among classmates' (Swan, 2003: 4). Online interaction among peer students 'affords participants the opportunity to reflect on their classmates' contributions while creating their own, and on their own writing before posting it' (Swan, 2003: 13).

Affordances

Digital technologies provide new atmospheres for online learning and teaching. Online courses can provide flexibility and convenience for both faculty and students (Bolliger et al., 2014; Bolliger & Wasilik, 2009; Fish & Gill, 2009; Shea et al., 2005; Sher, 2009). Online communication tools can 'bridge both physical and time dimensions to bring the faculty and students together as a virtual community' (Sher, 2009: 114). In online courses, instructors 'have the opportunity to integrate a variety of resources in online courses such as external links, tutorials, audio or video files' (Bolliger et al., 2014: 185). Further, online courses provide access to more student populations that have limited access to traditional forms of education (Bolliger et al., 2014; Shea et al., 2005; Sher, 2009). For many online instructors, 'the ability to reach out to students anywhere in the world, and to draw on the global database of resources is exciting' (Kearsley, 2010: 87).

More importantly, online learning tools may support student-centered paradigms. Bolliger et al. (2014) argue that 'online instructors can provide pedagogically effective learning environments where the instruction is highly interactive, supportive, communicative, and social' (p. 185). Consequently, students usually prefer 'to use communication tools if they facilitate their learning efficiently and allow them to learn at anytime and anywhere' (Sher, 2009: 114).

Institutional support

Institutional support can be a catalyst to the effective integration of technology. Instructors teaching online courses can be highly satisfied 'when the institution values online teaching and has policies in place that support the faculty' (Bolliger & Wasilik, 2009: 106). Institutions that provide online education are required to 'monitor the progress of classes to ensure that faculty are participating fully and being responsive to students' (Kearsley, 2010: 88). The role of institutional

support includes 'release time, fair compensation, and rewards in general; adequate tools, training, and technical support; and institutional policies' (Bolliger et al., 2014: 185). Higher education institutions should also provide faculty with significant technical support, access to quality systems, training, assessment and supportive policies (Kearsley, 2010; Shea et al., 2005; Yengin et al., 2011).

Without the necessary institutional support, 'this reality could create inconvenient situations for faculties and lower their satisfactions on the e-learning systems' (Yengin et al., 2011: 1399). Online instructors are 'unlikely to teach well unless they are quite comfortable with the technology involved' (Kearsley, 2010: 88). Therefore, it is necessary for higher education institutions to establish 'professional expectations and the communication of concrete strategies for instructors' visibility in the online classroom' (Mandernach et al., 2007: 6).

Course design/development/teaching

One major concern for online instructors that influences their satisfaction is the workload required for designing and teaching quality online courses (Bolliger et al., 2014; Bolliger & Wasilik, 2009; Hislop & Ellis, 2004; Kearsley, 2010; Mandernach et al., 2007; Sher, 2009; Yengin et al., 2011). Online courses can be more time-consuming due to extra work required than the traditional courses (Bolliger & Wasilik, 2009; Hislop & Ellis, 2004; Kearsley, 2010; Shea et al., 2005; Sher, 2009).

More time is required for the preparation of online courses than the equivalent face-to-face courses (Bolliger & Wasilik, 2009; Mandernach et al., 2007; Sher, 2009; Yengin et al., 2011). The time factor is necessary for 'the preplanning involved in online course development as well as the instruction and mastery of necessary technological skills' (Mandernach et al., 2007: 1). Accordingly, 'it is critical for faculty with more experienced in online teaching to share information and best practices from the field' (Mandernach et al., 2007: 7).

Research problem, aim, scope and key questions

Most of the contemporary research on online instruction has focused too much on learners with limited scope on instructors' characteristics such as ability, personality, and readiness (McLawhon & Cutright, 2012). As Yengin et al. (2011) stated, 'there are limited research studies that clearly identify faculty satisfaction for e-learning systems and no model showing the role of the instructors' satisfaction in the e-learning success models' (p. 1397).

According to Yengin et al. (2011), 'the factors affecting the faculty satisfaction should be investigated in more detail' (1397).The current study, therefore, aims at understanding the faculty satisfaction with online teaching. It also aims at identifying factors that may have an impact on the level of faculty satisfaction.

The context of the study is higher education institutions and universities in SA. Relevant questions are given below.

- What is the level of faculty satisfaction with online teaching?
- Is there a statistically significant difference in faculty satisfaction levels based on gender, position, teaching experience, Internet experience, and workload?

Methodology

To answer the research questions, a quantitative approach was implemented using a survey questionnaire. Quantitative approach can be defined as a systematic investigation of a social phenomenon via statistical techniques (Mertens, 2005).

Questionnaire design

The survey design included two major sections. The first section aims at collecting general information about possible factors that may impact faculty satisfaction. It includes gender, qualification, teaching experience, Internet experience, and workload.

The second section is the OISM. The OISM was adopted from Bolliger et al. (2014). The scale includes 27 items distributed in five sub-scales (ISI, SSI, A, IS, and CDT). Each sub-scale has a five-point Likert scale (5 = Strongly agree to 1 = Strongly disagree).

Sampling

The strategy used in the current study is the probable sampling in which there is a possibility for every member of the population to participate (Mertens, 2005).

As the study context was higher education universities in SA, instructors teaching online were contacted via email and social networking tools such as Twitter, Facebook, and LinkedIn. Instructors who showed willingness to participate were provided with the link to the online survey, which is built using Google Forms. The intention to use Google Forms is to allow participants to easily access the online survey and to review or edit their responses. It also provides them with more flexibility with regard to time and the tool used to record their responses such as computers or handheld devices.

More than 120 instructors showed willingness to participate in the current study. After the deadline to fill in the online survey, responses were checked and saved in an Excel sheet. Then the Excel sheet was transformed to SPSS to be able to produce quality analysis. After excluding the incomplete surveys, the final number of participants included in the current study was 104 instructors.

Validity and reliability

The vast majority of the participants speak the Arabic language. Having the OISM in English, it was first translated into Arabic before distribution. As the Arabic language is the researcher's mother tongue, the researcher translated the questionnaire to ensure its accuracy. According to Mertens (2005), 'because survey research uses decontextualized words through its very nature, the researcher must be careful to interpret the words in light of the particular cultural circumstances' (p. 185). Hence, three Arabic language specialists and native speakers reviewed the translations to ensure its validity in terms of accuracy and clarity.

The OISM reliability was originally tested by Bolliger et al. (2014) using Cronbach's alpha coefficient (Pallant, 2007). In this regard, Bolliger et al. (2014) pointed out that:

The developed instrument, OISM, is a valid and reliable instrument that can be used by administrators and researchers to gauge faculty satisfaction. It can be used to assess effects of course participants' interaction, existing institutional support, and affordances of technologies integrated in online teaching. (p. 192)

Reliability statistics indicate acceptable levels of internal consistencies. **Error! Reference source not found.** shows Cronbach's alpha scores established from Bolliger et al. (2014) as well as from the current study.

Table 1
Reliability statistics

Subscale	No	Cronbach's alpha (N = 168) *Bolliger et al. (2014)*	Cronbach's alpha (N = 104) *Current Study*
1. ISI	6	.82	.94
2. A	5	.80	.80
3. IS	6	.75	.96
4. SSI	5	.77	.80
5. CDT	5	.64	.63
Total OISM	**27**	**.87**	**.76**

Results

Demographic information

Most of the participants were male instructors (about 65%). Nearly 63% of the total participants were professors (PhD holders). Other participants (8.7%) were instructors with more than 21 years of teaching experience. Only two instructors show that they have low levels of Internet experience, yielding about 2%. Finally, most of the instructors indicated that they are teaching and have administrative work (72%). See **Error! Reference source not found.**.

Table 2
Participants' demographic information (N = 104)

	Group	N	%
Gender	Male	68	65.4
	Female	36	34.6
Position	Teaching assistant	8	7.7
	Lecturer	31	29.8
	Professor	65	62.5
Teaching Experience	Up to 10 years	49	47.1
	From 11 to 20 years	46	44.2
	More than 21 years	9	8.7
Internet Experience	Beginner	2	1.9
	Intermediate	45	43.3
	Expert	57	54.8
Workload	Teaching only	29	27.9
	Teaching with administrative work	75	72.1

The level of faculty satisfaction with online teaching

Levels of faculty satisfaction with online teaching are presented in Table 3.

Table 3
Levels of faculty satisfaction with online teaching (N = 104)

	M	*SD*
IS	2.43	1.23
Total OIS	3.42	0.40
CDT	3.64	0.76
A	3.70	0.78
ISI	3.73	0.82
SSI	3.75	0.60

The instructors' level of satisfaction with online teaching was found to be generally neutral (M = 3.42, SD = 0.40). However, the instructors were apparently more satisfied in terms of student-to-student interaction (M = 3.75, SD = 0.60), instructor-to-student interaction (M = 3.73, SD = 0.82), affordances (M = 3.70, SD = 0.78), and course design/development/teaching (M = 3.64, SD = 0.76). Interestingly, the instructors seem to be unsatisfied with institutional support (M = 2.43, SD = 1.23).

Factors impacting faculty satisfaction

A one-way between-groups multivariate analysis of variance (MANOVA) was performed to investigate the impact of the demographic information on the instructors' satisfaction with online teaching. Six dependent variables were used: ISI, SSI, A, IS, CDT, and the total of the instructors' satisfaction with online teaching (OIS). The independent variables were gender, position, teaching experience, and workload.

Preliminary assumption testing was conducted to check for data normality and results indicated a slight violation. Table 4 shows that three dependent variables have violated the assumption of Levene's Test of Equality of Error Variances with values less than .05 (Pallant, 2007).

Table 4
Levene's test of equality of error variances

	F	df1	df2	Sig.
ISI	4.16	22	81	.000
A	2.25	22	81	.005
IS	1.73	22	81	.040
SSI	1.55	22	81	.080
CDT	1.08	22	81	.381
Total OIS	0.70	22	81	.831

Having this slight violation, a more restricted Bonferroni alpha level is suggested by Pallant (2007). To do so, the conventional alpha level of .05 is divided by the number of the dependent variables (N=6). The Bonferroni adjusted alpha level is .008.

As shown in Table 5, there was a statistically significant impact of the Internet experience on the instructors' satisfaction with online teaching: F (10, 154)= 2.08, p=.03; Wilks' Lambda=.78; partial eta squared= .12.

Table 5
Multivariate Tests

Effect		Value	*F*	Hypothesis df	Error df	Sig.	Partial Eta Squared
Internet Experience	Wilks' Lambda	.78	2.076	10.00	154.00	.03	.12

When the results for the dependent variables were considered separately, Internet experience, using the Bonferroni adjusted alpha level of .008, was found to significantly impact on the instructors' satisfaction in terms of affordances: F (2, 104)= 6.82, p=.002, partial eta squared=.14 (see Table 6).

An inspection of the mean scores indicated that instructors with low Internet experience or who are beginners (M = 1.40) appreciate technology affordances less than both groups of intermediate (M = 3.91) and experts (M = 3.64).

Table 6
Tests of between-subjects effects

Source	DV	Type III Sum of Squares	df	Mean Square	*F*	Sig.	Partial Eta Squared
Internet Experience	ISI	.548	2	.274	.43	.66	.010
	A	7.20	2	3.60	6.82	.002	.144
	IS	1.69	2	.85	.53	.59	.013
	SSI	2.30	2	1.15	3.23	.045	.074
	CDT	.000	2	.000	.00	1.00	.000
	Total OIS	.76	2	.38	2.37	.100	.055

While only two instructors have low levels of Internet experience (1.9%), the statistically significant difference mentioned above may have less value due to the lack of generalization ability.

Conclusion, discussion and implications

The aim of the current study was to examine faculty satisfaction with online teaching using the Online Instructor Satisfaction Measure (OISM) that was developed by Bolliger et al., (2014). The aim was also to investigate factors that may influence faculty satisfaction including gender, position, teaching experience, Internet experience, and workload.

The main results show that the instructors' level of satisfaction with online teaching was generally neutral. The instructors' high levels of satisfaction with online teaching were in terms of student-to-student interaction, instructor-to-student interaction, affordances, and course design, development, and teaching. In contrast, the instructors were less satisfied with institutional support.

In comparison with other studies conducted on faculty satisfaction with online teaching, the instructors in the current study were generally less satisfied with their online experiences than the instructors were in the study of Bolliger et al. (2014). Further, the current study found that the instructors were less satisfied with the institutional support than the other factors, which are student-to-student interaction, instructor-to-student interaction, affordances, and course design, development, and teaching. This result is consistent with the findings of Bolliger et al. (2014) and Bolliger and Wasilik (2009).

As the current study found no significant correlations between the instructors' levels of satisfaction and the suggested factors including gender, position, teaching experience, Internet experience, and workload, it contradicts the findings from the study of Fish and Gill (2009) who found that instructors' level of satisfaction was influenced by their experience of online teaching. This also contradicts the findings of Shea et al. (2005) who indicated that levels of interaction, support, learning experience in teaching online, and the discipline area have positive correlations with faculty satisfaction with online teaching.

In general, the results indicate a clear gap between policy and practice. While the instructors have the potential to adopt and integrate contemporary teaching methodologies such as online teaching, traditional educational institutions, especially in developing countries such as SA, may slow the process. As there are strong public (MCIT, 2007; MoEP, 2005) and educational policies (Onsman, 2011) that support the integration of new technologies, less implementation of technology is found on the ground. This proves that Saudi's higher education is still conditional upon traditional teaching methodologies and unable to maintain harmony between cultural originality and the needs of teaching and learning in the 21st century (Al-Issa, 2009, 2010; Onsman, 2011). This also agrees with previous Saudi-based literature, which indicates a lack of technology implementation in tertiary education (Al-Jarf, 2003, 2007).

Institutional support plays a vital role in the process of effective integration of technology (Bolliger & Wasilik, 2009; Bolliger et al., 2014; Kearsley, 2010; Shea et al., 2005; Yengin et al., 2011). Therefore, higher education institutions in developing countries such as SA must facilitate the implementation of technology to promote quality of higher education systems. They should maintain alignment between national and educational policies with regard to the effective integration of technology. They should further provide policies in place that respond to the major questions of why use technology, how to use technology, and when to use technology. The role of educational institutions should include access to technology and tools, fair rewards, adequate infrastructure, training, and professional support (Bolliger et al., 2014; Kearsley, 2010; Shea et al., 2005; Yengin et al., 2011). Without professional institutional support, traditional methodologies of teaching and learning are more likely to be prevailing, even though the instructors and students have the potential, ability, and ambition to effectively integrate technology in their approaches (Kearsley, 2010; Yengin et al., 2011).

The current study emphasizes the important role of institutional support to achieve the instructors' satisfaction with online teaching. It may give insights to the policymakers and educators in developing countries such as SA. The current study concludes that to achieve quality education, educational institutions should faithfully consider the educational demands of the 21st century. One important demand is faculty satisfaction with online teaching, especially in terms of access, training, support, and meeting professional and psychological needs.

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Editor's Note: This paper identifies critical factors in transitioning from a traditional system of teaching and learning to one where computers and the Internet play a significant role.

Critical success factors for implementing classless e-learning systems in the Egyptian higher education

Tamer Abdel-Gawad and John Woollard
Egypt

Abstract

E-learning has become everyday and commonplace within higher education across the world yet in some institutions the opportunities and affordances of technology have yet to be fully utilised. To better enable the initial exploitation of e-learning, this paper describes the development of a theoretical construct, based on original research, describing the characteristics associated with the successful deployment of technology evidenced in Egyptian higher education supported by the concepts of a technology acceptance model. The theoretical construct is designed to both, reflect the research findings and, support developments in e-learning. It is presented as a pyramid of critical success factors based around the quadrant of curriculum, tutors, learners and technology. Further, a discussion of "the classless e-learning" terminology is presented. Findings illustrate the importance of curriculum content nature (theoretical, pragmatic); tutor characteristics (attitude towards e-learning, proficiency of the technology, and support); learners' characteristics (computer competency, English language proficiency, and learning style); and technology (usability, affordances and infrastructure) for successful e-learning implementations.

It is concluded that by systematically considering these factors the implementation of e-learning and blended learning can be made more effective and efficient.

Keywords: e-learning, quality in e-learning, critical success factors, Egyptian higher education, e-learning in higher education.

Introduction

The Arab countries have been witnessing, a remarkable trend to enrol into higher education sector driven by the increasing population, and the rise of unemployment in the Arabian countries such as Egypt. Thus, huge demands on education as an enabling factor for obtaining better employment opportunities have generated; motivated by the government's commitment to increase the accessibility to higher education (UNESCO, 2003).

The context

The challenge is that Egyptian educational institutions do not have sufficient financial resources to expand their physical capacity to be able to accommodate the increasing numbers of learners. Moreover, the expectation of providing flexible and lifelong learning opportunities have spread the perception that Egyptian higher education institution are not capable of coping with these new demands of the society. As a result, Arab countries have adopted radically new visions in order to enhance their educational systems. One of these visions is e-learning. These initiatives face many challenges and restrictions that could prevent the hoped for successful integration of new technologies into the educational system. Hence, it is understandable why the level of quality in the e-learning systems in the Egyptian higher education is not as high as expected or necessitated by a developing education service.

Leggett & Persichitte (1998) identified five categories of barriers to technology integration (TEARS): "T" time (to plan, collaborate with peers, prepare lessons & materials, explore,

practice, evaluate, develop, maintain and expand skills); “E” expertise (technology training must be: available, hands-on, systematic, on-going); “A” access (must have uninterrupted, on-demand—inside & outside classroom); “R” resources (to purchase, maintain, upgrade technology, training, support); “S” support (administrative & technical). In addition, Antonacci (2002) added promoting self-efficacy to the features of good teaching through technology of integrating modern technologies into learning.

The Egyptian learning environment has the same challenges and more, which many researchers have identified including: over-population; large class sizes; the severe shortage in number of teachers; poorly trained teachers with low wages and status; and a centralised, test-driven curriculum focusing on rote memorisation of unimportant material (NCERD, 2001; Warschauer, 2003) . There is an increasing learner expectation regarding the use of e-learning driven in their courses.

Academics’ utilisation of technology is a critical issue in higher education; Administrators and students are expecting faculty instructors and lecturers to incorporate technology in to their teaching and administration. This represents another challenge to the developing countries like Egypt; many instructors have insufficient perquisite skills to utilise technology in teaching.

Current research identifies some of the challenges that face the developing countries and their causes; for instance, Yaghoubi et al. (2008: p. 90) defined critical problems which face the development from traditional education into a modern one in Iranian society which could be summarised as following: lack of realistic comprehension concerning the process of learning; ambiguous understanding about students' educational needs in different levels; defective implementation of computer hardware and software; weak IT education; no realistic point of view or strategic programme for higher education; budget and equipment shortages; influential atmosphere of political, social and economic situations; lack of digital literacy in tutors and learners.

These factors formed the starting point for considering the issues arising in the context of this research in Egypt.

Towards classless e-learning

The researchers’ suggestion is to identify “classless e-learning” as a means to facilitate the smooth integration of modern technologies inside the Egyptian higher education.

“Classless e-learning” is an idea that came to mind during prayer time. The talking was about the pilgrims and their standing over the mountain ‘Arafaat’ wearing the same two simple sheets that cover their body without any discrimination between poor and rich or educated and ignorant. The idea of equality among the Muslims that has driven ideas about e-learning as a possible method of delivering learning to all learners without any distinctions, regardless of their learning style and preferences, or background and perceptions. To be able to address all the possible audiences, this is the origin of the name “classless learning” The Authors (2010: p. 1). The concept of ‘classless e-learning’ is built around concepts that are fully developed in western education: egalitarian, equality, equality of opportunity, regardless of: race; creed; colour; gender; physical ability, special education need, finance or location. (Baker, 2009; Ball, 2012; Calo-Blanco, 2009; Frio, 2012; Lazin, 2010; UNESCO, 2012)

This research explores the critical success factors arising from the Egyptian higher education learners’ views and identifies the pertinent factors inside the Egyptian higher education learning environment are and identifies those that are missing.

Egyptian higher education does not embrace e-learning as an official learning delivery method Beckstrom et al (2004) explained that the Supreme Council of Universities provided no

accreditation for any educational programmes supported or delivered through e-learning. This official non-recognition of e-learning as a supported learning delivery method inside the Egyptian higher education does not reflect the full picture inside Egypt. In order to understand the implementation of e-learning in the Egyptian higher education, a closer insight has to be taken to the historical development in the higher education learning sector. The Egyptian learning environment witnessed remarkable developments since the beginning of 1994 the Ministry of Education established "Technology Development Centre" (TDC) which has grown since then to include more than 600 full-time staff by 1999. (Warschauer, 2003) The awareness of the importance of technology integration into the educational environment was accompanied by the gradually growth of Internet users in the Egyptian society. In its report regarding the number of Internet users in Egypt, the Ministry of Information and Communications reported in its Indicators Bulletin that the Internet users have arisen from 16.6 in 2009 to 30.90 million users in the first quarter of 2012. (Ministry, 2012)

The increased level of Internet users in Egypt gives hope that Egypt will be capable of adapting e-learning as a delivery method, and it gives an indication that Egyptian education has the capacity to effectively engage with the e-learning once it has decided to be an official method to deliver Egyptian higher education curriculum.

As a result of these potentials, The Ministry of Communications and Information Technology (2010) showed that in addition to, providing quality and equality education for all, preparing young people to the global market, developing competitive skills geared towards exporting services, the Egyptian Education Initiative (EEI) higher education track plan is implemented across 17 public universities complementing the efforts of the Ministry of Higher Education to accomplish the next objectives: to increase access to technology; to qualify university staff, and administrators to use Information Technology efficiently; to promote e-learning as a basic component in the higher educational process to overcome the challenges related to large numbers, diversity and special needs; to integrate and activate the ICT aspect of the reform of faculties of education. The Ministry of Communications and Information Technology (2010). Abdel-Wahab (2008: p. 157) stated, "In order to provide the growing population of Egypt with quality, accessible, and abundant educational opportunities, both the government and the private sector are eager to develop alternative programmes and delivery methods." He cites an example of e-learning implementation established in 2005 to promote and encourage the use of e-learning in teaching, and learning, and other scholarly pursuits through a variety of academic activities.

E-learning in Egypt is in its developmental stage. Government conferences, educational organisations and educators have noted that more research that is systematic is needed to develop the best theory and practice of this system according to the Egyptian circumstances. Despite impressive advances in hardware and software functionality, the problem of under-utilised new technologies continues. Thus, it is important to understand the conditions under which the educational institutions and their learners will embrace new technologies remains a high-priority research issue. Because of this, an accelerating movement toward theorising the adoption of new technologies appeared. In particular, theoretical and empirical support has been given to the Technology Acceptance Model (TAM) (Davis, 1989).

The TAM model identifies that an individual's behavioural intention to use a system is determined by two beliefs:

1. Perceived usefulness, defined as the extent to which a person believes that using this new technology will enhance his/her job performance and will increase their opportunities to find better jobs;
2. Perceived ease of use, defined as the extent to which a person believes that using the system will be free of effort (Davis, 1989: p. 320).

It is arguable that the effects of external variables such as: system characteristics, development process or training on "intention to use" are influenced by perceived usefulness and perceived ease of use. The attitudes of both teachers and learners to the use of technology are possible critical success factors. The abilities to do computing using your own knowledge, skills and motivations could be called "computer self-efficacy", and it could be argued that a higher level of computer self-efficacy increases the use of e-learning.(Wu, 2010) moreover, Lee (2010) explained that there are factors that indirectly effect the use of e-learning systems such as perceived enjoyment.

Methods

The research adopts a wide context, multi-variant case-study approach Yin (2003: p. xi) (participants in the fourth year of an educational technology teacher training course in a provincial University in Egypt) using questionnaire (Q N=65), focus group (FG N=4) (Bloor et al. (2001: p. 19); Cohen et al. (2007:p. 228)) and in-depth semi-structured interviews (I N=5) including 3 university lecturers. The aim of all is to identify the learners' views regarding classless e-learning and lecturers' opinions regarding the design and implementation of the e-learning system. Current literature formed the basis for making decisions about VLE structure and the methods of investigation. Expert evaluation of the translation from English to Arabic of questionnaires and schedules was made by Arabic-speaking e-learning experts. There was similar scrutiny of the translation of Arabic responses before the open and thematic coding analysis process conducted in English.

Learners were given the opportunity to construct their learning groups based on social preferences and circumstance giving them, in the spirit of e-learning, the freedom to learn when, where, and how they like. . The open coding analysis process identified broad themes and then patterns including "the nature of the curriculum" and "tutors' characteristics". The second more detailed process of classification identified nodes, sub-nodes, tree nodes and utilised a data analysis program to identify the emerging themes. All these procedures followed the principles of grounded methods in the qualitative research (Corbin, 1998; Glaser, 1967).

The following abbreviations are used: ―FG - instead of ―Focus Group- followed by the number of the group e.g. FG1, FG2, etc… (first, third, fourth, and seventh groups of learners inside the VLE), then the number given to each learner instead of his/her name (as a pseudonym). – Q - instead of ―Questionnaire - followed by the number of the respondent. ―I - instead of ―Interview- followed by the number of the interviewee e.g. I1, I2, etc...

Critical success factors for e-learning

The adoption of e-learning systems is a complicated process of establishing, implementing and developing entire array of factors to guarantee the successful integration of modern technology into the educational systems. As a result of analysing the data collected this research, specified numbers of e-learning Critical Success Factors (CSF) based on stakeholders' perceptions and experiences. This term has been used by many researchers to define the elements that can assist educational institutions to efficiently and effectively adopt e-learning and guarantee the implementation of quality into these e-learning systems.(Papp, 2000; Selim, 2007)

E-learning has been viewed as synonymous with web-based learning (WBL), Internet-based training (IBT), advanced distributed learning (ADL), web-based instruction (WBI), online learning (OL) and open/flexible learning (OFL) (Khan, 2001). Moreover, using the Internet in distance learning looks synonymous to e-learning. This synonymy is reflected in the critical success factors for both distance learning and e-learning. For instance; Papp (2000) investigated distance learning and suggested some critical success factors (CSFs) that can assist educational

institutions in developing e-learning systems. They included intellectual property, suitability of the course for e-learning environment, building the e-learning course, e-learning course content, e-learning course maintenance, e-learning platform, and measuring the success of an e-learning course.

Benigno and Trentin (2000) suggested a framework for evaluating e-leaning courses focusing on evaluating the learning, and students' performance. They have considered factors such as student characteristics, student–student interaction, effective support, learning materials, learning environment, and information technology.

Discussion of the results

The analysis of the data identified a number of emerging themes (critical success factors) for implementing e-learning. (See Figure 1)

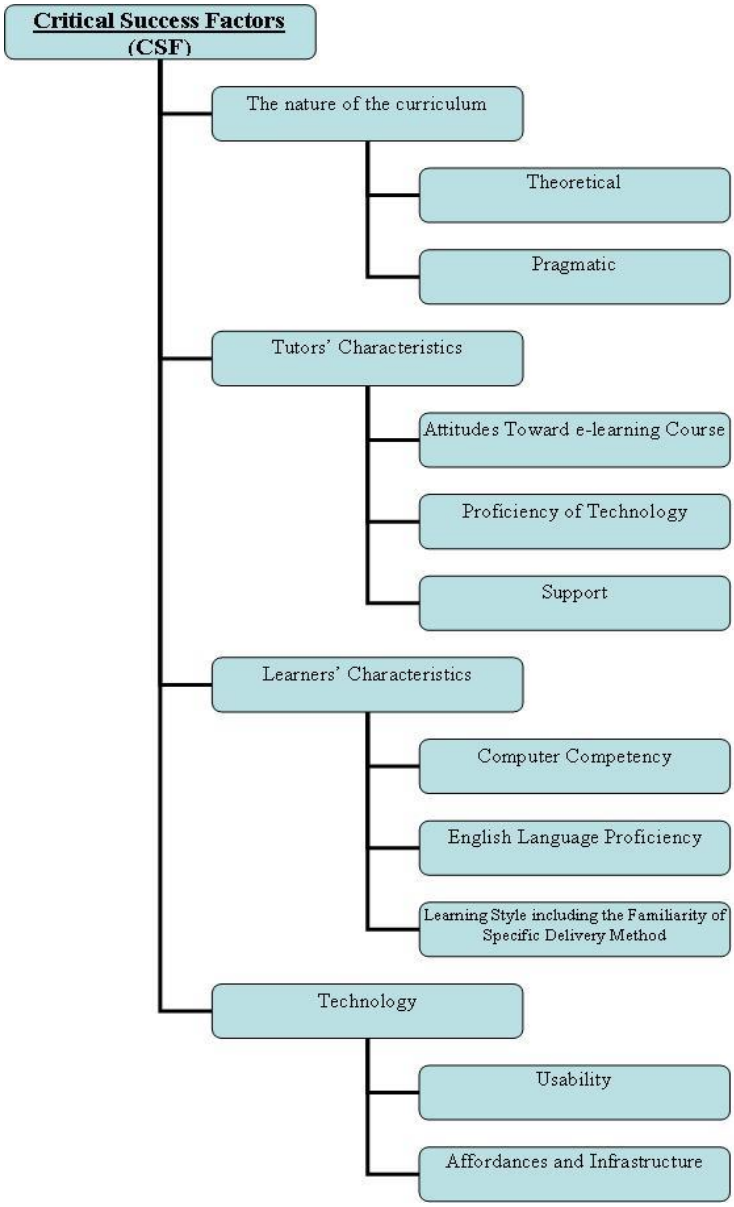

Figure 1: Critical Success Factors (CSF)

The nature of the curriculum

Analysing the data indicated that participants have a great consideration to the nature of the curriculum as one the main factors to generate a successful e-learning system.

> "At the beginning, there has to be an adaptation for curriculum to fit with e-learning; not all curriculum are suitable for teaching with e-learning."

This was the statement of the participant FG4-1 when she answered a question regarding the factors that guarantee successful e-learning systems. She explained her views regarding the necessity of making an adaptation processes for any curriculum that needed to be taught with e-learning. Her opinion is that "*e-learning is not a suitable suit for everybody*"; it cannot adopt any curriculum, without developing and deploying in a way that fits with the e-learning suit.

The participants meant by the nature of the curriculum to concentrate on the content of the curriculum - whether to be theoretical or pragmatic content.

The participants views regarding the best curriculum nature to fit with the e-learning systems was contradictory; many of them saw that e-learning - from their opinions - is fitting more with the pragmatic curriculum contents, while others declare that they think e-learning courses fit easily with the theoretical curriculum contents.

The participant FG4-2 saw that theoretical curricula are more likely to be hosted by e-learning systems. As she puts it:

> "…On the contrary, theoretical will be easier, there will be no need for a lot of explanations and it will be easier to read and learn."

In addition, the participant FG7-4 stated that theoretical curriculum would be much better in learning or as she stated:

> "Theoretical curriculum will be much, much, much more convenience in e-learning systems."

On the contrary, many learners have indicated that the pragmatic curriculum will be easier to implement in e-learning systems. As the participant FG4-3 puts it:

> "Indeed, the theoretical curriculum cannot be implemented in e-learning systems; It does not have but one way to be understood and that is the book way. Thus, I cannot understand it unless I listen to the tutor's explanation face-to-face because I will need to ask him/her a question every five minutes. On the contrary, in pragmatic curriculum I can learn with many different methods and tools."

In addition, participant FG4-3 refers the preference of learning pragmatic curriculum through e-learning to the lack of affordances inside the educational institutions, which makes her go to e-learning systems to overcome the insufficient materials challenge. As she puts it:

> "E-learning enables us to see some elements that we cannot afford to see them with our own eyes in the faculty. Thus, it will be available in the e-learning resources as video, which enable us to see and know about them."

The nature of the curriculum contents from the participants' point of views is a basic factor for successfully implement e-learning. Along with the adaptation process, which should be performed to transform any curriculum in to the electronic format, are critical success factors for implementing e-learning inside higher education.

Tutors' characteristics

Learners emphasised tutor's expertise in the successful implementation of e-learning courses. Compared to ordinary classroom instruction, e-learning tutors are faced with additional tasks such as: they have to develop coherent and well-structured resources that are also technically well

designed (In case of they will design the system as well as the content); provide challenging opportunities for e-learning activities whether it is personalised or collaborative activities.

The participant FG3-2 explained the tutors' characteristics in:

> "The tutor who designed an e-learning course must be skilful in this curriculum, understanding the learners' nature in a profound way, and considering for the learners' circumstances."

While her colleague the participant FG3-4 added another characteristic of successful e-learning tutor, which; loves the curriculum s/he teaches. As she puts it:

> "One of the boundaries of a successful tutor is the possibility that a tutor could teach a curriculum that s/he does not like because s/he is forced by the authorities."

At the same time, the participant I3 added another important characteristic for the successful tutor as he stated:

> "Unfortunately, communication in e-learning is far more difficult than in the FTF learning. Thus, if the tutor is a failure communicator in FTF learning I suspect s/he will be more failure in e-learning. This is from experience with both methods of delivery."

In addition, the participant I5 provided a specific description for the successful e-learning tutor in:

> "The successful e-learning tutors have to believe in e-learning as a delivery method and s/he has to obtain certain characteristics such as: understanding; realising his/her part in the learning process using e-learning systems; and fully aware of the cons and pros of e-learning systems."

These points could highlight some of the main characteristics for the successful e-learning tutors, which emerged from the participants' views and opinions.

Learner characteristics

Egyptian higher education learners have their own characteristics, which represent a serious threat to successful implementation of e-learning. The first factor in the learners' characteristics was the deficiency of English language levels amongst learners. That could be recognised from the participant's FG4-3 complains from the video files which were in English:

> "The English video was difficult to understand; there were talks with very difficult accent to understand."

Additionally, the participant FG4-1 stated:

> "The English explanations needs someone experience in English language; it is not just someone knows a little bit of English could understand them. It needs someone his native tongue is English."

This could show that some of the participants from Egyptian higher education learners are facing challenge with their English language levels, which need attention in order to implement successful e-learning systems inside the Egyptian higher education.

The participant FG7-2 explained another critical success factor - in the learners' characteristics - for implementing e-learning into higher education. As she puts it:

> "I have been studying with FTF for 12 year right now, and all of sudden I found a tutor is telling me that I am going to learn by e-learning. I cannot learn like this."

In the last statement the participant has identified a critical factor and it is the familiarity with a certain learning delivery method that generates from using such method for long times without giving learners any chances to experience other methods of delivery.

Thus, it is a good advice to address this factor before involving in implementing e-learning inside the Egyptian higher education by giving e-learning training courses to the learners from their beginnings (primary schools) trying to eliminate the unfamiliarity factor from e-learning and in order for the learners to get accustom with the new e-learning method of delivery.

Another dimension added to the learners' characteristics critical success factor is the learners' computer and Internet competency. It becomes clear that the Egyptian learners suffer from insufficient computer skills and the disconnection from the Internet revolutionary usage in learning. As the participant I5 puts it:

> "E-learning needs time and efforts to teach the learners the required skills to success in using it in what is called "pre-required skills" because the Egyptian learners do not know basically the required skills to operate computers. Thus, they need a training course to gain them the required skills to interact with computers and e-learning environments."

The last statement of the participant I5 clearly shows that in order for e-learning to be successfully implemented in the Egyptian higher education sector, the problem of learners' incompetency in computer and Internet needs to be taken care of.

The last dimension in the learners' characteristics success factor is learning style for the learners or their preferences in learning. Whether the learner is dependent or independent could make a difference in making an e-learning system successful or not. As the participant FG7-2 explained her preferences to learn depending on her tutor in:

> "I used to learn through the Internet just when I am forced to do so. For instance, when our tutor asks us to do a research on the Internet; in such cases I am forced to use the Internet to do the research but not for learning by myself."

In addition, the participant FG1-2 reinforced the effect of learning style as she puts it:

> "Nevertheless, there are certain topics I could not understand by my own; someone has to explain them for me because I will not understand everything alone."

The last citation was clearly showing that learners have variety of learning styles including depending learning style (where learners are only learning the whole spectrum of information with the support of others such as tutor). This is not a lack of learning competence (learning to learn) because predispositions towards learning in a certain way or settings are included in the next learning styles definition.

Learning style includes three main parts, which defined in the following points:

- information processing – habitual modes of perceiving, storing and organising information (for example, pictorially or verbally)
- instructional preferences – predispositions towards learning in a certain way (for example, collaboratively or independently) or in a certain setting (for example, time of day, environment)
- learning strategies – adaptive responses to learning specific subject matter in a particular context.(CIPD, 2008)

The last statement could show that the learner's learning style has interfered with her ability to fully learn using e-learning system. Although some of the participants have referred this to the unfamiliarity with e-learning as a new method of delivery.

The participant FG1-2 gives a suggestion for the unfamiliarity with e-learning systems as she puts it:

> "There should be educational courses to learners to get them to know how to learn with e-learning and how to interact with the computer alone without anyone beside him to help."

From the previous citations, it becomes clear that the learning style could be an important element to push the learner either to use the e-learning system or to ignore it. With regard to the familiarity with the e-learning systems, it is quite easy to overcome this problem; either by giving preparatory courses for the learners as the participant FG1-2 suggested or by any other means.

Technology

> "The only boundary for successful e-learning is that there are no affordances for it in the first place. The problem is not relating to whether we want to use it in learning or not. It is all about affordances."

These were the words of the participant FG7-4 in respond to a question about what have represented a boundary in front of her learning with the "computer-maintenance" VLE.

In addition, the participant FG7-1 defined some elements to be addressed if a successful e-learning system is wanted in:

> "Affordances, we are shortage in affordances, the fresher to study Internet & the principals of e-learning, and of course the computers; you can see only two or three devices are working. Or should we afford our own devices?!!!"

This simply shows that financial and technical affordances from the participants' point of views represent a critical success factor for the implementation of e-learning into the Egyptian higher education. In fact, this could be the case in many countries' higher education sectors not just the Egyptian ones. Many countries all over the world now suffer from the lack of financial and technical affordances, which affects the learners' abilities of efficiently interact with e-learning systems.

Summary and conclusions

This research addresses the challenge currently besetting higher education in Egypt and although the study focuses upon just one of 16 provisional universities, the results can be generalised (Cohen et al (2007) over the other similar provisions and the reflection on the model of critical success factors has implications for e-learning developments in the more developed countries. The TEARS model (Leggett & Persichitte, (1998) identifies areas of concern but the developing themes arising from the grounded analysis of qualitative data suggests the conceptual quadrant of curriculum, tutors, learners and technology and leads to the discussion of "the classless e-learning".

The respondents identify important factors that they see as crucial to the successful implementation of e-learning. (See figure 1) Through analysis of their responses the research identifies a number of e-learning critical success factors (CSF) a term used by many researchers to define the elements that can assist higher education institutions to efficiently and effectively adopt e-learning and guarantee the implementation of quality in to these e-learning systems. (Papp, 2000; Selim, 2007)

The specified success factors, based on stakeholders' perceptions and experiences, include: the nature of the curriculum content; tutors' characteristics (attitude towards e-learning, proficiency of the technology, and support); learners' characteristics (computer competency, English language proficiency, and learning styles); and technology (usability, affordances and

infrastructure). These identified factors are supported by the literature. For example, Papp (2000) investigated distance learning and suggested some critical success factors (CSFs) that can assist Educational institutions in developing e-learning systems. They included intellectual property, suitability of the course for e-learning environment, building the e-learning course, e-learning course content, e-learning course maintenance, e-learning platform, and measuring the success of an e-learning course. While, Benigno and Trentin (2000) considered factors such as student characteristics, student–student interaction, effective support, learning materials, learning environment and information technology. Additionally, Yaghoubi et al. (2008: p. 90) defined many critical problems, which face The transaction process from traditional education into a modern one including defective implementation of computer hardware and software, weak IT infrastructure, the absence of the realistic point of view or strategic programme for higher education, moreover, Selim (2010: p. 338) stated that "the instructor's attitude toward e-learning, learners, and his/her mastery of the technology is motivating the learners to accept e-learning.

The further factors that the participants identify are supported by literature that suggested other factors and explained their importance for the successful implementation of e-learning systems (Ali, 2008; Coman, 2002; Jara, 2009; McPherson, 2008; New Zealand Council for Educational Research, 2004).

The participants, through questionnaire, interview and focus group, have identified, discussed and explained a number of important factors needs to be addressed in order to successfully implement e-learning including the nature of the curriculum content (theoretical, pragmatic); tutor characteristics (attitude towards e-learning, proficiency of the technology, and support); learners' characteristics (computer competency, English language proficiency, and learning style); and technology (usability, affordances and infrastructure).

It is concluded that by systematically considering these factors the implementation of e-learning and blended learning can be made more effective and efficient.

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Editor's Note: This is a beginning study of the role of audio feedback in distance learning. It could save instructor time, improve rapport with learners, and reduce the student's feelings of isolation. Read on!

Effectiveness of audio feedback in distance education

Gusman Edouard
USA

Abstract

Feedback is invaluable in the assessment process, but giving effective feedback in education remains challenging. In fact, in the UK, the National Union of Students (NUS) Survey of 2008 showed that graduate learners have not been satisfied with the feedback process. With the growth in distance learning, feedback has been key to creating effective online learning experiences. Consequently, the proponents of audio feedback claim that it is superior to written comments in many ways. The key questions in this paper are: 1) Is there enough research to support the claim? 2) Does audio feedback improve learning? And 3) Can it help to save time? This paper explores and analyzes existing literature on audio feedback, addresses some related questions and implications, and proposes additional areas of research that can better prove the value of audio feedback in distance education.

Keywords: audio feedback, distance learning, distance education, instructional design, e-learning, online education

Introduction

Audio feedback seems to have been a useful teaching technique for many instructors (Glover & Brown, 2006; Weaver, 2006). As a matter of fact, the proponents of audio feedback claim it can help teachers save time, increase teachers' presence, students' satisfaction, and therefore increase students' engagement in distance education. Arguably, audio feedback might be effective in some contexts, but scholars in the field are yet to address some key questions on its effectiveness and efficiency, expressly: 1) Is there enough research to support the proponents' claim? 2) Does audio feedback improve learning in online education? And 3) Can it help to save time? This paper summarizes the existing literature on asynchronous audio feedback, addresses some related questions and implications, and proposes new areas of study for the development of audio feedback in the field of online education.

The need for better types of feedback

The literature shows that underestimating the importance of feedback and its ineffective use is found both among teachers and students. Instructors often complain about the lack of engagement on the learners' part, while students feel the same way about the timeliness and relevance of feedback received from teachers (Alan, 2014). Researchers in the field have conflicting points of view on the value that students associate with feedback (Hartley, Skelton & Higgin, 2002). Even the best types of feedback can be misinterpreted and neglected by students (Mutch, 2003). On the other hand, students claimed that they received their feedback too late. To illustrate, the NUS Survey 2008 related that only about 30% of the learners said they got immediate feedback.

When it comes to considering teachers' opinions on giving feedback, most of them consider that the process takes too much of their time (Carless, Joughin, & Liu, 2006). Some teachers do not provide learners with feedback during the current term, but rather, due to a lack of time, wait until the next one (Heywood, 2000), provoking anxiety in students. Things are not different on the students' side. Most of them do not pick up their feedback (Jollands, McCallum, & Bondy, 2009) and those who do, pay no attention to it (Buswell & Matthews, 2004). The reason appears to be that most learners care mainly about their scores (Winter & Dye, 2004). Another reason might be

students found that written feedback does not make sense for them and is hard to interpret. Helpful feedback should be more understandable and should contain significant suggestions for bettering future work (Clements, 2006). Can audio feedback add more value to the feedback process? Or can it be a viable alternative in the e-learning arena?

Influence of audio feedback on the feedback process

The supporters of audio feedback claim that audio feedback can offer some solutions to the lack of timely and quality feedback use distance education. Several scholars in the field of instructional design and technology supported the idea that learners are more open to receiving audio feedback than written comments. For instance, Lunt and Curran (2010) found that students are ten times more inclined to listen to their audio feedback than to reading a written one. Audio feedback adds some emotional value to distance education. Similarly, it adds a personal touch to the teacher-student interactions according to the research done on the issue (Gould & Day, 2012; King, McGugan, & Bunyan, 2008; Merry & Orsmond, 2008). Using audio to provide comments sounds encouraging to learners (Lizzio & Wilson, 2008). Research has proved that audio feedback can be more engaging because learners believe that through the use of audio comments teachers are giving more importance to students (Ice, Curtis, Phillips, & Wells, 2007). However, like written feedback, audio comments should be given the right way, using the right strategies and timing. That is to say, good strategies can streamline the giving and receiving process for both teachers and students respectively. For example, audio feedback is more effective when given apart from return scores, because students tend to pay more attention to scores than feedback content and recommendations (Black & Wiliam, 1998). As a result, Alan (2014) suggested the following steps for an effective and engaging feedback process:

- Deliver feedback before marks
- Use a reasonable quality microphone
- Keep recordings short
- Begin audio recordings with the student's first name to engage from the outset.
- Praise good points of the work submitted.
- Include suggestions for future improvement.
- Finish with an open question to prompt the student to engage in dialogue about the assessment.
- Include in both the audio file and the email notification an invitation to contact the marker for further discussion.
- Test to make sure the recording is accessible via mobile devices if you want students to use it!
- Use email to send student's links to their audio feedback file online, do not send the file itself (p. 39).

Alan (2014) added that audio feedback, when given the right way, leads to dialogue and better understanding. Besides technologies should be used as an instructional tool and remain neutral in the feedback process (Hepplestone, Holden, Irwin, Parkin, & Thorpe, 2011) because the most critical aspect of the process should be the rapport established between the learners and the teachers.

Students' satisfaction and motivation

Formative assessment guided by effective feedback is critical for effective learning (Gibbs & Simpson, 2004; Hattie & Timperley, 2007). However, feedback should mirror students' learning and lead to performance improvement (Nicol & Macfarlane-Dick, 2006). Unlike written feedback that students consider to be broad and incomprehensible (Glover & Brown 2006, Weaver 2006), audio feedback brings a sense of satisfaction to learners who believe the audio comments provide better explanation and as a result better motivate them. Instead of fixing mistakes, as is done in written feedback, most audio feedback provides guidelines for improvement. In a study conducted in 2006, Weather found that learners have a preference for explanatory comments that identify mistakes and propose how to avoid repeating them in the future. In other words, learners care more about the quality than the length of the feedback. The study emphasized that effective audio feedback should not be the reading of a written feedback (King, McGugan, & Bunyan, 2008); rather it should be different due to the way it is presented. Tutors and instructors who have used audio feedback agreed that it impacted their experiences in a positive way (Dixon, 2009; King et al., 2008). They concluded that audio feedback can definitely improve the distance learning experience, but the literature does not advance evidence to prove that audio comments promote better educational achievement.

Audio feedback and teacher's presence in distance learning

Unlike traditional students, online learners can feel isolated in their virtual learning community and this isolation can lower students' engagement in their classes. Effective and constant feedback, especially quality audio feedback can make learners feel more connected to their learning community. In fact, teachers' presence in online learning can be increased with the use of audio feedback (Clements, 2006) and audio comments are seen to be immediate, more authentic, and friendlier (King et al., 2008). As a result, teachers' social presence, according to Duvall, Brooks, and Foster-Turpen (2003), has greatly influenced learners' opinions of distance learning. In support of the same claim, Abdullah (1999) and Rourke, Anderson, Garrison, and Archer (2001) came up with a list of eight factors in audio feedback that can promote a sense of a stronger teachers' presence in the online learning environment: "humor, emotions, self-disclosure, support or agreement for an idea, addressing people by name, greetings, complementing one another's ideas" (p. 6). The literature review shows teachers' presence as having an impact on students' opinions of online learning, but it does not demonstrate how it has affected learning outcomes.

The time factor in preparing audio feedback

Audio feedback can simplify or complicate online teaching, depending on how the process is carried out. Its benefits rely greatly on the capacity of the practitioners who want to use it and the technologies used to prepare and deliver it. Gibbs (1992) argued that audio feedback can significantly reduce the workload because, in his context, a sixty second audio equates to about six minutes of written comments. Furthermore, West Virginia University has recently conducted a study on the time issue and found out that audio feedback is quicker than written comments. A 3.81 minute-audio corresponds to 13.43 minutes in written feedback (Ice et al., 2007). According to Rotheram (2007), audio feedback can help teachers save time, especially when they use it to replace lengthy feedback on students' written work. The research mentioned above claimed that audio feedback helps save time; however, King et al. (2008) have proved the contrary. For example, teachers spend 14.77 minutes on giving feedback every week in face-to-face classes whereas online instructors dedicated 48.72 minutes to the same activity (Van de Vord & Pogue, 2012). In addition, Mathieson (2012) argued that audio feedback requires twice the time needed to evaluate an assignment using the written format. Based on the literature, the time factor is an issue that needs more attention. Also, one important aspect that the literature left out is the teaching context, in which audio feedback has proven to be more and less time consuming.

Analysis and implications

Audio feedback might be of interest to practitioners in the field of Learning Design and Technology; nonetheless, it comes with its disadvantages and should be used with caution. First, there have not been a significant number of studies on the issue. Most studies conducted on this technique have involved mainly individuals who agreed to volunteer in small numbers.

Secondly, the comparison between audio and written comments has not used exactly the same work samples (King et al., 2008; Merry & Orsmond, 2008), which indicates a level of weakness in their results. There is not enough data on the use of this technique neither in graduate education nor in the context where English is used as a second language. Therefore, the technique is still a work in progress.

Thirdly, audio feedback does not necessarily stand by its claim in terms of reducing the feedback process time. Several studies have shown that it helps save time (Lunt & Curran, 2010) and findings from others show the contrary (McFarlane & Wakeman, 2011). The effectiveness of the techniques, in this regard, lies in the hands of the practitioners and depends on the technology they have at their disposal.

Fourth, it is true that audio feedback can bring more satisfaction to learners, but there is no evidence it has improved learning and performance on their coursework. For example, Gould and Day (2012) and Merry and Orsmond (2008) in their research only mentioned that audio feedback can have an impact on learning, but it is not clear what that impact looks like. Does the impact affect the learning experience or does it lead to better learning gains? On the other hand, some research shows that recipients of audio feedback do not necessarily make more learning gains than their counterparts who received only written comments (Macgregor, Spiers, & Taylor, 2011). Lastly, the literature review on the issue does not provide any information on how to accommodate the needs of students who have hearing challenges.

Conclusion

It is true that audio feedback in online learning is still at an early stage. However, one must admit it has had a positive impact on distance education so far. As a matter of fact, it has been seen to be effective in increasing learners' engagement (Lizzio & Wilson, 2008), improving students' retention (Tinto, 2002) and satisfaction (Glover & Brown, 2006; Weaver 2006), increasing teachers' presence in the solitary environment, and building a sense of connection in the distance learning community (Clements, 2006). However, the literature does not prove the effectiveness of audio feedback in several aspects that are critical to its implementation, such as: accommodating learners with hearing challenges, its potential to improve learning outcomes and help distance education practitioners save time. It is obvious that more research, with a more significant number of participants and at different educational levels, is needed on these aspects. It would also be interesting if future studies could consider the impact of the age factor, learning styles, and teaching and learning context have on the effectiveness and efficiency of audio feedback. With the advancements and new developments in technology the process of giving and receiving audio feedback might improve. Then again, scholars in the field will need to prove whether or not it is worth using it over written comments to improve learning outcomes and show better evidence to support the claims. Finally, given the importance of feedback in learning facilitation, exploring audio feedback might critical for the improvement of distance education. More research on audio feedback can affect online learning in such a way that the findings might revolutionize and maximize the distance learning experience.

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Editor's Note: Games like Kahout! may be helpful to integrate technology into instructional practices. The author of this article has been using the program in the classroom with good results.

Kahoot! A digital game resource for learning

Ryan Dellos
South Korea

Abstract

Game-based learning is considered a best practice in education. Research and empirical data support game learning as an effective tool for educators to use in the classroom because it engages students in problem solving, critical thinking and review of content knowledge. Digital games are the modern version of game-based learning educators are using to engage their students in meaningful and fun activities. This paper reviews Kahoot! as a digital game resource that provides teachers an opportunity to create quizzes, surveys and discussions that engage students in content knowledge in a competitive game play format.

Keywords Kahoot, digital games, game-based, learning, technology, integration, instruction, critical thinking, informal, engaging, quick, easy, feedback, innovators, competitive, fun, quiz, discussion, survey.

Introduction

Icard (2014) stated that game-based learning has been used as a best practice to engage students for reviewing class content. Creating an atmosphere where students are critically thinking and engaged is essential for student's learning (Icard, 2014). All students are capable of learning and have different learning styles, which means educators need to vary instruction to create learning experiences for each student. With the growing push for technology in classrooms, educators need to consider all of the possibilities and benefits that can be gained through using different resources during their classroom instruction. It can be a daunting and challenging task for educators to find effective, competitive learning games that engage students (Chien-Hung, Yu-Chang, Bin-Shyan, & Yen-Teh, 2014). Therefore, technology innovators have sought to merge both content knowledge and fun.

Icard (2014) suggested that students should be enticed by the competitive nature of the game if it is going to be a valuable learning experience for the students. According to Icard (2014) students benefit from using digital games in the classroom by learning how to handle success and failure as well as how to use critical thinking and problem-solving skills. Thus, Kahoot! is a digital game that can be used in classrooms to engage students in content in a fun way. Kahoot! not only fosters a fun learning environment, but also challenges students in the learning process.

Kahoot!

Kahoot! is a student response system that engages students through game-like pre-made or impromptu quizzes, discussions and surveys (Byrne, 2013; Cross, 2014; Kahoot!, 2014; Thomas, 2014). Students do not need a Kahoot! account to access the quiz and can access the quiz through any device with a web browser, such as an iPad, Android device, or Chromebook (Byrne, 2013). However, teachers do need an account to create quizzes (Thomas, 2014). Creating a quiz, discussion or survey is quick and easy. Each option is similar in how it is set up; therefore, the quiz will be used to explain how to set up one of these three options.

In order to create a quiz, the teacher logs into their account and selects from the quiz, discussion, or survey options displayed under "Create new Kahoot!." By selecting the quiz option marked by

a question mark, the teacher will be asked to enter a name for the quiz. Once a name is chosen for the quiz, the teacher selects "Go!" and is provided with the option to write the first question of the quiz.

There are a variety of options available when writing questions for the quiz. Options include uploading videos, pictures and music in order to encourage students with their thinking or to simply provide upbeat energy to the quiz. A drag and drop option is provided to add pictures. Another option for uploading an image is selecting "choose file" and choosing a specific file to use. A YouTube video can be played during a specific question by placing a URL address in the box requiring a website ID. Including the exact amount of time in seconds can be added in order to play only a portion of the video.

Once the question is added, and the teacher has added any other multimedia features, the teacher can include up to four answers for the students to choose from. A correct answer needs to be identified and selected as the correct option before the teacher can add a new question to the quiz. Both the questions and the answers have character limits. Questions are limited to 80 characters, while the answers to questions are limited to 60 characters.

Another feature the teacher can adjust is the amount of time the students have to answer each question and how many points each question is worth. The presets for each question are set at 30 seconds and the worth of each question is set at 1,000 points. Once the teacher has completed the question, they select "+ Add question" at the bottom of the page. By selecting this option, the teacher can add another question and continue to add questions until they have completed their quiz. After adding the last question to the quiz, the teacher selects "Save & continue" and will be asked about language, privacy settings and the primary audience. There is also an option to include a description of the quiz as well as the difficulty level of the quiz.

After the steps are completed, the teacher can include an image or video to display when the quiz is presented to the class by either the drop and drag option of an image or adding a URL YouTube video link in the box at the bottom of the page. The YouTube video will play while students are signing in to play the quiz. By selecting "Done," the teacher now has the option of playing the game with their students, previewing the quiz or editing the quiz. A URL address is provided for the quiz to be shared on Facebook, Twitter, Pinterest, GooglePlus or in an E-mail. The quiz can also be shared on the community page for other Kahoot! users. Educators can access public Kahoots on the menu bar and search for quizzes that match their needs.

After creating the quiz, teachers log into their account and retrieve their created quizzes under "My Kahoots." Teachers receive a PIN code after logging into their Kahoot! account and "launching" the quiz (Kahoot!, 2014). The PIN code is displayed on the screen and students join the activity/quiz by visiting Kahoot! and entering the PIN code and a "name" they will use for the quiz (Byrne, 2013; Thomas, 2014).

Teachers control the pace of the quiz and whether or not each student has the full time to answer the question before moving on to the next question. Questions are displayed on the board with answer options that the students can select from their devices. Students will see a color and symbol that matches the color and symbol of the possible answers displayed on the board (Thomas, 2014). Students choose their answer by selecting the color option that matches the color option on the board. Once students make their selections, the correct answer is displayed along with a graph that shows how many students selected each of the possible answers. Points are awarded by how quickly the student responds to the question as well as for answering the question correctly. Students can earn up to 1,000 points per question. The names of the top five performers are displayed on the board, while each player receives their ranking on their own device. Students are awarded points based on their timeliness of their response as well as

answering the question correctly (Byrne, 2013). The winner's total number of answers is displayed at the end (Thomas, 2014).

According to Thomas (2014) fast and easy access makes Kahoot! beneficial for both students and educators. Thomas (2014) suggested that educators benefit from Kahoot! by engaging students in their introduction of new content or reviewing old content. Data can be collected and reviewed as an Excel document to gauge student's understanding of content (Thomas, 2014). Kahoot! can be used for a variety of assessments and projects including formative assessments, diagnostic assessments, research projects and presentations (Thomas, 2014).

My experience

My experience with Kahoot! has been fantastic. I have used Kahoot! in each one of my three classes. When I first introduced the game, students in each of the three grade levels were excited about playing. Students picked up the format of the game very quickly. I have many English Language Learners (ELL) students in my classes, so being able to create quizzes with pictures and music to prompt students thinking was very helpful. Each of the quizzes included questions covering broad concepts as well as small details regarding the content from the units. The link to participate in the game was posted on the class communication platform page for easy convenient access.

Receiving immediate feedback on the Excel document at end of the quiz as well as seeing how many students answered the questions correctly was very helpful. Feedback is critical in the learning process, therefore creating an environment where students are comfortable receiving feedback is necessary. Kahoot! encourages student curiosity and involvement, which provides the opportunity for the educator to identify "gaps" or areas of weaknesses in content understanding. Students in my classes were curious when they answered a question incorrectly, which allowed me to encourage them to research questions where they had difficulty.

Not only have I used Kahoot! for game-like quizzes, but I turned it over to the students to create their own quizzes. My senior students chose a topic to research in order to create a quiz they would use to test their peers' knowledge. The students worked diligently in creating their quizzes and were actively involved taking the quizzes their peers had created. Due to the non-traditional format of the quiz, surprising students emerged as some of the most successful participants in the class-wide activity. This was encouraging for me the educator, and the student because the student was able to demonstrate their knowledge and understanding without the pressure of speaking out loud in class. Students are able to flourish using this technology as a means to demonstrate their abilities.

This safe, competitive, engaging and fun environment created by Kahoot! is valuable not only for academic purposes, but also psychological purposes. Students can grow in confidence by doing well on the quiz as well as by being recognized by their teachers and peers. The benefits of learning, boosting student's and instant feedback, outweigh any possible challenges with the program. All of the feedback about Kahoot! I have received from my students has been positive. Students come to class excited about playing Kahoot!. I look forward to continuing to connect to students through this learning format.

Conclusion

Kahoot! is amazing! It is user friendly and benefits both educators and students. Students need to be engaged if they are going to learn. Game-based learning is a best practice in education and finding ways to integrate competitive games in the classroom that promote learning is essential for educators in the twenty first century. Kahoot! creates a fun and competitive environment that promotes learning. Educators can use it for assessment purposes or challenge students to use

inquiry research methods to create their own quiz. I will continue using Kahoot! and encourage other educators to give it a try.

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