Editor's Note: The global impact of e-learning is changing pedagogy and making learning more widely accessible. Academic institutions have to sort through the research and publications to determine what aspects of distance learning will best serve their needs and develop plans for implementation and teacher training. This is a very detailed study with an extensive bibliography.

The role of e-learning, advantages and disadvantages of its adoption in higher education.

Valentina Arkorful and Nelly Abaidoo
Ghana

Abstract

This study investigates the effectiveness of using e-learning in teaching in tertiary institutions. In institutions of higher education, the issue of utilizing modern information and communication technologies for teaching and learning is very important. This study reviews literature and gives a scholarly background to the study by reviewing some contributions made by various researchers and institutions on the concept of e-learning, particularly its usage in teaching and learning in higher educational institutions. It unveils some views that people and institutions have shared globally on the adoption and integration of e-learning technologies in education through surveys and other observations.

It looks at the meaning or definitions of e-learning as given by different researchers and the role that e-learning plays in higher educational institutions in relation to teaching and learning processes, and the advantages and disadvantages of its adoption and implementation.

Keywords: elearning, information and communication technologies, higher education.

The concept and definition of e-learning

The Internet has become one of the vital ways to make available resources for research and learning for both teachers and students to share and acquire information (Richard and Haya 2009). Technology-based e-learning encompasses the use of the internet and other important technologies to produce materials for learning, teach learners, and also regulate courses in an organization (Fry, 2001). There has been extensive debate about a common definition of the term e-learning. Existing definitions according to Dublin (2003) tend to reveal the specialization and interest of the researchers. E-learning as a concept covers a range of applications, learning methods and processes (Rossi, 2009). It is therefore difficult to find a commonly accepted definition for the term e-learning, and according to Oblinger and Hawkins (2005) and Dublin (2003), there is even no common definition for the term. Holmes and Gardner (2006) also made a comment on these inconsistencies by saying that there may be as many definitions of the term e-learning as there are academic papers on the subject Dublin (2003) in trying to find a common meaning of the term e-learning went on to ask the following questions: Is e-learning an on-line coursework for students at a distance? Does it mean using a virtual learning environment to support the provision of campus-based education? Does it refer to an on-line tool to enrich, extend and enhance collaboration? OR is it a totally on-line learning or part of blended learning? (Dublin, 2005). Some of the definitions of the term e-learning as given by different researchers and institutions are reviewed below.

In some definitions e-Learning encompasses more than just the offering of wholly on-line courses. For instance Oblinger and Hawkins (2005) noted that e-Learning has transformed from a fully-online course to using technology to deliver part or all of a course independent of permanent time and place. Also the European Commission (2001) describes, e-Learning as the use of new multimedia technologies and the Internet to increase learning quality by easing access to facilities

and services as well as distant exchanges and collaboration. The following are also different definitions of e-learning.

E-learning refers to the use of information and communication technologies to enable the access to online learning/teaching resources. In its broadest sense, Abbad et al (2009), defined E-learning to mean any learning that is enabled electronically. They however narrowed this definition down to mean learning that is empowered by the use of digital technologies. This definition is further narrowed by some researchers as any learning that is internet-enabled or web-based (LaRose et al, 1998; Keller and Cernerud, 2002).

According to Maltz et al (2005), the term 'e-learning' is applied in different perspectives, including distributed learning, online-distance learning, as well as hybrid learning. E-learning, according to OECD (2005) is defined as the use of information and communication technologies in diverse processes of education to support and enhance learning in institutions of higher education, and includes the usage of information and communication technology as a complement to traditional classrooms, online learning or mixing the two modes. Also according to Wentling et al (2000) the term e-learning refers to the attainment and use of knowledge that are predominantly facilitated and distributed by electronic means. To them, the e-learning depends on computers and networks, but it is likely it will progress into systems comprising of a variety of channels such as wireless and satellite, and technologies such as cellular phones (Wentling et al., 2000). In their literature review on definitions for e-learning, Liu and Wang (2009) found that the features of e-learning process are chiefly centered on the internet; global sharing and learning resources; information broadcasts and knowledge flow by way of network courses, and lastly flexibility of learning as computer-generated environment for learning is created to overcome issues of distance and time (Liu and Wang, 2009). Gotschall (2000) argues that the concept of e-learning is proposed based on distance learning, thus a transmission of lectures to distant locations by way of video presentations. Liu and Wang (2009) however claims that the progression of communications technologies, particularly the internet, did transform distance learning into e-learning.

Other researchers also defined e-learning as a revolutionary approach (Jennex, 2005; Twigg, 2002) to enable a workforce with the knowledge and skills needed to turn change into benefit (Jennex, 2005). For instance Twigg (2002) described the e-learning approach as centered on the learner as well as its design as involving a system that is interactive, repetitious, self-paced, and customizable. Welsh et al. (2003) also referred to the term as the use of computer network technology, principally through the internet, to provide information and instruction to individuals.

Liaw and Huang (2003) defined e-learning based on the summaries of its characteristics. In the first place, they propose a multimedia environment. Secondly, they incorporate several kinds of information. Thirdly e-learning systems support collaborative communication, whereby users have total control over their own situations of learning. In the fourth place, e-learning support networks for accessing information. And fifth, e-learning allows for the systems to be implemented freely on various kinds of computer operating systems.

According to Tao et al (2006), this new environment for learning that is centered on electronic networks has allowed learners in universities to receive individualized support and also to have learning schedules that is more suitable to them as well as separate from other learners. This facilitates a high interaction and collaboration level between instructors or teachers and peers than traditional environment for learning. E-learning in academics which is characterized by the use of multimedia constructs made the process of learning more active, interesting and enjoyable (Liaw et al, 2007). The main constructs that have made e-learning the most promising educational technology according to Hammer and Champy (2001) and Liaw et al (2007) include service, cost, quality, and speed. It is apparent that e-learning can empower students at higher educational

levels to acquire their education in while at the same time perusing their personal objectives as well as maintaining their own careers, with no need to attend be subjected to rigid schedule (Borstorff and Lowe. 2007). Kartha (2006) in support of this thought reported that the number of courses online has vividly increased as a result of the attained benefits for both learners and universities.

Algahtani (2011) in his evaluation of the effectiveness of the e-learning experience in Saudi Arabia categorized the definitions of e-learning from three different perspectives: the distance learning perspective (Perraton, 2002; Alarifi, 2003; Holmes and Gardner, 2006), the technological perspective (Wentling et al. 2000; Nichols, 2003) and also from the perspective of e-learning as pedagogy (Khan, 2005; Schank, 2000).

It can therefore be concluded from the above that it is difficult to identify a common definition for e-learning. Some of the authors refer to e-learning as providing complete on-line courses only whereas comprise web-supplemented and web-dependent services for the provision of educational and support processes

Types of e-learning

There are diverse ways of classifying the types of e-learning. According to Algahtani (2011), there have been some classifications based on the extent of their engagement in education. Some classifications are also based on the timing of interaction. Algahtani (2011) divided e-learning into two basic types, consisting of computer-based and the internet based e-learning.

According to Algahtani (2011), the computer-based learning comprises the use of a full range of hardware and software generally that are available for the use of Information and Communication Technology and also each component can be used in either of two ways: computer-managed instruction and computer-assisted-learning. In computer assisted- learning, to him, computers are used instead of the traditional methods by providing interactive software as a support tool within the class or as a tool for self-learning outside the class. In the computer-managed-instruction, however, computers are employed for the purpose of storing and retrieving information to aid in the management of education.

The internet-based learning according to Almosa (2001) is a further improvement of the computer-based learning, and it makes the content available on the internet, with the readiness of links to related knowledge sources, for examples e-mail services and references which could be used by learners at any time and place as well as the availability or absence of teachers or instructors (Almosa, 2001). Zeitoun (2008) classified this by the extent of such features use in education, mixed or blended more, assistant mode, and completely online mode. The assistant mode supplements the traditional method as needed. Mixed or blended mode offers a short-term degree for a partly traditional method. The completely online mode, which is the most complete improvement, involves the exclusive use of the network for learning (Zeitoun, 2008).

Algahtani (2011) described the completely online mode as “synchronous” or “asynchronous” by the application of applying optional timing of interaction. The synchronous timing comprises alternate on-line access between teachers or instructors and learners, or between leaners, and the asynchronous, to him allows all participants to post communications to any other participant over the internet (Algahtani, 2011; Almosa and Almubarak, 2005). The synchronous type allows learners to discuss with the instructors and also among themselves via the internet at the same time with the use of tools such as the videoconference and chat rooms. This type according to Almosa and Almubarak (2005) offers the advantage of instantaneous feedback. The asynchronous mode also allows learners to discuss with the instructors or teachers as well as among themselves over the internet at different times. It is therefore not interaction at the same moment but later, with the use of tools such as thread discussion and emails (Almosa and Almubarak, 2005;

Algahtani, 2011), with an advantage that learners are able to learn at a time that suits them whilst a disadvantage is that the learners will not be able to receive instant feedback from instructors as well as their colleague learners (Almosa and Almubarak, 2005).

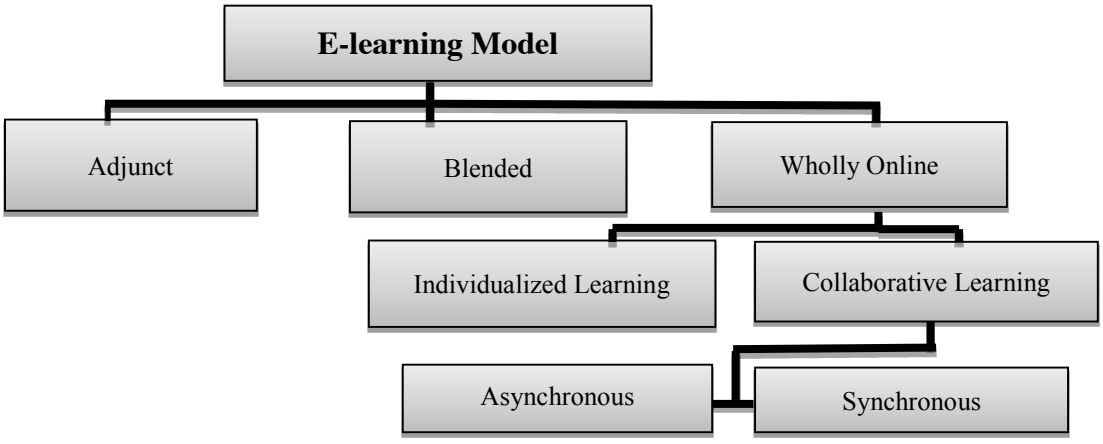
The use of e-learning in education

The development of multimedia and information technologies, as well as the use internet as a new technique of teaching, has made radical changes in the traditional process of teaching (Wang et al. 2007). Development in information technology, According to Yang and Arjomand (1999), has generated more choices for today's education. Agendas of schools and educational institutions have recognized e-Learning as having the prospect to transform people, knowledge, skills and performance (Henry, 2001). Also according to Love and Fry (2006), colleges, universities, and other institutions of higher learning race to advance online course capability in a speedily developing cyber education market. E-learning, has come to be more and more important in institutions of higher education. The introduction and expansion of a range of e-Learning tools has been initiating several changes in higher education institutions, particularly when it comes to their educational delivery and support processes (Dublin, 2003).

Just as there are different types of e- Learning, there are also different ways of employing the technique in education. Algahtani, (2011), in his evaluation of E-learning effectiveness and experience in Saudi Arabia, discovered three distinct models of using e-learning in education including the "adjunct, blended e-Learning and online". The three ways of using e-Learning technologies as discovered by Algahtani (2011) are described below.

The "adjunct e-Learning is the situation which e-Learning is employed as an assistant in the traditional classroom providing relative independence to the learners or students (Algahtani, 2011). In the blended e-Learning, Algahtani (2011) and Zeitoun (2008) explained that, in this way of using e-Learning, the delivery of course materials and explanations is shared between traditional learning method and e-learning method in the classroom setting. The third one which is the online is devoid of the traditional learning participation or classroom participation. In this form of usage, the e-Learning is total so that there is maximum independence of the learners or students (Algahtani, 2011; Zeitoun, 2008). Zeitoun (2008) has gone further to explain that the online model is divided into the individual and collaborative learning, where the collaborative learning also consist of the synchronous and asynchronous learning (Zeitoun, 2008).

A model for using e-learning in education



Adapted from Algahtani (2011)

Advantages and disadvantages of adopting e-learning in higher education

Advantages or benefits of e-learning

The adoption of e-learning in education, especially for higher educational institutions has several benefits, and given its several advantages and benefits, e-learning is considered among the best methods of education. Several studies and authors have provided benefits and advantages derived from the adoption of e-learning technologies into schools (Klein and Ware, 2003; Algahtani, 2011; Hameed et al, 2008; Marc, 2002; Wentling et al. 2000; Nichols, 2003).

Some studies give advantage of e-learning as its ability to focus on the needs of individual learners. For example Marc (2000) in his book review on e-learning strategies for delivering knowledge in digital age noted that one of the advantages of e-learning in education is its focus on the needs of individual learners as an important factor in the process of education (rather than on the instructors' or educational institutions' needs). These are some advantages of adoption of e-learning in education obtained from review of literature:

1. It is flexible when issues of time and place are taken into consideration. Every student has the luxury of choosing the place and time that suits him/her. According to Smedley (2010), the adoption of e-learning provides the institutions as well as their students or learners the much flexibility of time and place of delivery or receipt of according to learning information.
2. E-learning enhances the efficacy of knowledge and qualifications via ease of access to a huge amount of information.
3. It is able to provide opportunities for relations between learners by the use of discussion forums. Through this, e-learning helps eliminate barriers that have the potential of hindering participation including the fear of talking to other learners. E-learning motivates students to interact with other, as well as exchange and respect different point of views. E-learning eases communication and also improves the relationships that sustain learning. Wagner et al (2008) note that e-Learning makes available extra prospects for interactivity between students and teachers during content delivery.
4. E-learning is cost effective in the sense that there is no need for the students or learners to travel. It is also cost effective in the sense that it offers opportunities for learning for maximum number of learners with no need for many buildings.
5. E-learning always takes into consideration the individual learners differences. Some learners, for instance prefer to concentrate on certain parts of the course, while others are prepared to review the entire course.
6. E-learning helps compensate for scarcities of academic staff, including instructors or teachers as well as facilitators, lab technicians etc.
7. The use of e-Learning allows self-pacing. For instance the asynchronous way permits each student to study at his or her own pace and speed whether slow or quick. It therefore increases satisfaction and decreases stress (Codone, 2001; Amer, 2007; Urdan and Weggen, 2000; Algahtani, 2011; Marc, 2002; Klein and Ware, 2003)

The above-mentioned advantages of e-learning were summed up by Holmes and Gardner (2006) by noting that the ability of e-learning to assess the students and their learning as they learn, and at the same time enhance their educational experiences interactivity through collaborative learning, cultural diversity, globalization, and eradicating boundaries of place and time. The most vital characteristic, as well as the advantage of e-learning in education, is that it centers on students or learners (Holmes and Gardner, 2006).

Through e-learning, according to Raba (2005), objectives can be accomplished in the shortest time with least amount of effort. Both learners and instructors are able to accomplish and keep up

with development as they obtain experience provided by numerous specialists in the various fields of knowledge. According to Khan (2005), the impact of e-learning on educational ethics are ensured. This is because environments for e-learning are tolerant, with good ways of offering equal access to information irrespective of the locations of the users, their ages, ethnic origins, and races (Khan, 2005). The environment for e-learning also encourages learners to depend on themselves for the reason that instructors are no longer the solitary source of knowledge. They instead become advisors and guides (Alsalem, 2004). E-learning also aids in preparing society to globally communicate and to dialogue with others (Zeitoun, 2008). However, according to Algahtani (2011), the likely benefits of e-learning are greater than the benefits of traditional learning if e-learning is used and applied in proper ways.

Authors such as Zhang et al (2006) and Judahil et al (2007) observed the positive impacts of e-learning from the perspectives of the students or learners. Zhang et al (2006) stressed that e-learning permits the exploration and flexible learning and reduce the need for travel to go to classes. E-learning, according to Zhang et al (2006), permits learners to watch activities conducted in the classroom via interactive video, and when recorded, to watch and listen to lessons as many times as needed. According to Brown et al (2008) and Judahil et al (2007), this offers teachers several ways of interacting with learners and to give them instantaneous feedback. However, according to Judahil et al (2007), it is essential for those who embrace the advanced technology during the process of teaching and learning to have a variety of skills in Information and Communication Technology (ICT).

Other studies (Singh, 2001; Hemsley, 2002; and Sadler-Smith 2000) suggest other advantages and benefits of e-learning to students. For instance, according to Singh (2001), e-learning systems enable improved communication between and among students and between students and faculty or instructors. Hemsley (2002) noted that full time and part time students can participate in their chosen degree courses from any place or location, offering people who are relocated or travel, an easily accessible resource to experience learning (Hemsley, 2002). Sadler-Smith (2000) and Brown et al (2001) observed that adoption and implementation of e-learning provides disabled people with the chance to further their education from any location.

Disadvantages of e-learning

E-learning, in spite of advantages it has when adopted in education, also has some disadvantages. Studies that identify disadvantages of e-learning include (Collins et al. 1997; Klein and Ware, 2003; Hameed et al, 2008; Almosa, 2002; Akkoyuklu and Soylu, 2006; Lewis, 2000; Scott et al. 1999; Marc, 2002; Dowling et al, 2003; Mayes, 2002). For example, despite claims that e-learning can improve the quality of education, Dowling et al. (2003) argue that making learning materials available online improves learning only for specific forms of collective assessment. Also Mayes (2002) questioned whether e-learning is simply a support device for existing methods of learning. The most frequent condemnation of e-learning is the complete absence of vital personal interactions, not only between learners and instructors, but also among colleague learners (Young, 1997; Burdman, 1998). According to Almosa (2002), regardless of all the disadvantages of e-learning, there are a lot of benefits that inspire its use and encourage search for ways to reduce its disadvantages. Disadvantages of e-learning listed in various studies include:

1. E-learning as a method of education makes the learners undergo contemplation, remoteness, as well as lack of interaction or relation. It therefore requires a very strong motivation and time management skills in order to reduce such effects.
2. With respect to clarifications, explanations, and interpretations, the e-learning method may be less effective that traditional methods of learning. The learning process is much easier face-to-face with instructors or teachers.

3. When it comes to improvement of learner's communication skills, e-learning may have a negative effect. Though learners might have an excellent academic knowledge, they may not possess the needed skills to deliver their acquired knowledge to others.
4. Since tests and assessments in e-learning are frequently supervised by proxy, it may be difficult, if not impossible, to control or regulate activities such as cheating.
5. E-learning may also be subject to piracy, plagiarism, cheating, inadequate selection skills, and inappropriate use of of copy and paste.
6. E-learning may negatively impact socialization skills and limit the role of instructors as directors of the educational process.
7. Not all disciplines can effectively use e-learning in education. For instance, scientific fields that require hands-on practical experiences may be more difficult to study through e-learning. Researchers have argued that e-learning is more appropriate in social science and humanities than the fields such as medical science and engineering where there is the need to develop practical skills.
8. E-learning may also lead to congestion or heavy use of some websites. This may bring about unanticipated costs both in time and money (Collins et al. 1997; Klein and Ware, 2003; Hameed et al, 2008; Almosa, 2002; Akkoyuklu & Soylu, 2006; Lewis, 2000; Scott et al. 1999; Marc, 2002)

General conclusions of the review

E-learning involves the use of digital tools for teaching and learning. It makes use of technological tools to enable learners study anytime and anywhere. It involves training, delivery of knowledge and feedback. It motivates students to interact with each other, exchange and respect different point of views. It eases communication and improves the relationships that sustain learning. Despite some challenges discussed above, the literature has sought to explain the role of e-learning in particular and how e-learning has made a strong impact in teaching and learning. Its adoption in some institutions has increased faculty and learner access to information. A rich environment for collaboration among students can improve academic standards. The overall literature which explains the advantages and disadvantages of e-learning suggests the need for its implementation in higher education for faculty, administrators and students to enjoy the full benefits that come with its adoption and implementation.

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About the authors

Valentina Arkorful is from the College of Distance Education, University of Cape Coast, Ghana

email: valentinaabaarkorful@yahoo.com

Nelly Abaidoo is from the College of Distance Education, University of Cape Coast, Ghana

e-mail: nellymenz@yahoo.com

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Editor's Note: This is a substantial, well-designed, and carefully implemented study to ensure successful adoption of information and communication technologies into higher education in Saudi Arabia. It focuses on faculty readiness, performance, and training requirements.

Enriching professional practice with digital technologies: faculty performance indicators and training needs in Saudi higher education

Abdulrahman M Al-Zahrani
Saudi Arabia

Abstract

The goal of this research is threefold: first, to identify the faculty performance with regard to the use of information and communication technologies (ICTs); second, to investigate factors that may influence faculty performance, including gender, position, teaching experience, Internet and computer experience, and workload; and third, to identify the training needs of faculty based on their actual practice. Thus, a triangulated approach with the use of an online survey questionnaire (n= 188) and follow-up semi-structured interviews (n= 3) was implemented. The participants were instructors affiliated with higher education institutions in Saudi Arabia. The descriptive statistics indicated moderate performances of the faculty in terms of the five performance indicators developed by the ISTE (2008). Further, MANOVA results showed no statistically significant impact of the independent variables on the five performance indicators. Qualitative investigation revealed that there is increasing global pressure to effectively integrate technology in higher education. Therefore, faculty showed high awareness of the importance and usefulness of technology and tended to apply some technology-based pedagogical approaches. However, these seem to be hindered by traditionalism in terms of curriculum and teaching, as well as the high cost of follow-up with technology. Accordingly, relevant implications in terms of policy and practice were proposed.

Keywords: ISTE standards, faculty performance, training needs, ICT, higher education, Saudi Arabia

Research context and background

With the rapid development of information and communication technologies (ICTs), it is difficult for the current educational paradigms to remain unchallenged. ICTs have become "well integrated into the fabric of everyday life" (Robertson & Al-Zahrani, 2012: 1138). As a matter of fact, "ICT innovation may be occurring faster than our understanding of its use in practice" (Muflih & Jawarneh, 2011: 51).

An important sector that ICTs should be effectively integrated in is higher education. The current literature highlights the fact that the use of ICTs in higher education systems has significantly increased (Ajuwon & Rhine, 2008; Keengwe, Kidd & Kyei-Blankson, 2009; Lareki, de Morentin & Amenabar, 2010; Luck & McQuiggan, 2006; Muflih & Jawarneh, 2011). In contrast, "there is general resistance to the adoption and integration of computer tools into instruction" (Keengwe et al., 2009: 23). One possible cause of such a drop back is that "faculty may develop increased apprehension when the pressure to integrate technology within the curriculum encounters a lack of familiarity with technology" (Crews, Brown & Miller, 2009: para. 6). Many faculty who are willing to integrate ICTs into their teaching usually lack knowledge and necessary training on ICTs to fulfill this desire (Muflih & Jawarneh, 2011). Although some faculty members have the potential to be self-learners, others may require formal and systematic guidance and encouragement (Crews et al., 2009). For that reason, "faculty need training and assistance to make the transition from teaching in the traditional face-to-face classroom to teaching online" (Luck & McQuiggan, 2006: 1).

In terms of the take-up rate of technology, the current study context is a mirror image of global trends. In this regard, it can be argued that "ultimately, international competitiveness is likely to impact significantly and possibly irrevocably on Saudi cultural traditions and religion norms" (Onsman, 2011, p. 1). On the other hand, "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" (Onsman, 2011, p. 1). The philosophy of Saudi higher education seems unable to maintain alignment or harmony between social, cultural identity, and globalization (Al-Issa, 2009, 2010; Krieger, 2007; Onsman, 2011; Robertson & Al-Zahrani, 2012). However, although traditional approaches in pedagogy are still widely accepted and practiced in Saudi Arabia (Al-Issa, 2009, 2010; Krieger, 2007; Robertson & Al-Zahrani, 2012), the hypothesis is that the content and teaching approaches in Saudi higher education in general are not keeping pace with more generic global and societal trends (Krieger, 2007; Onsman, 2011; Robertson & Al-Zahrani, 2012).

To frame the current research, two key concepts were used: performance indicators for faculty members and training needs that are necessary to meet the global demands for teaching and learning in the 21st century.

Performance indicators

Faculty performance contributes to quality education and may promote meaningful teaching and learning in the current era. In the context of Saudi higher education, there is a clear absence of performance standards for either faculty or students. Al-Hattami, Muammar, and Elmahdi (2013) pointed out: "While the Saudi National Qualifications Framework for higher education provided strong measures to assure programs' quality, it stopped short of specifying competency standards for faculty members" (p. 40). In other words, the evaluation process in Saudi higher education is far from satisfactory, "as there are no standards or performance indicators against which to evaluate" (Al-Ghamdi, Al-Gaied & Abu-Rasain, 2012: 85).

Globally, higher education systems devote serious efforts to ensuring the quality of education through the provision of appropriate policies and strategies for teaching and learning in the current century. In this respect, the most relevant key performance indicators for teachers, including faculty and instructors in higher education, were developed by the International Society for Technology in Education (ISTE, 2008). The initial aim of these standards is to encourage teachers to "design, implement, and assess learning experiences to engage students and improve learning; enrich professional practice; and provide positive models for students, colleagues, and the community" (ISTE, 2008: 1). The ISTE (2008) proposed five main performance indicators. Each indicator has four relevant standards. Table 1 summarizes these performance indicators and their practical standards.

Table 1
ISTE performance indicators and standards for teachers (2008)

Standards	Indicators
Facilitate and inspire student learning and creativity	Promote creative and innovative thinking and inventiveness
	Engage students in exploring real-world issues
	Promote student reflection using collaborative tools
	Model collaborative knowledge construction
Design and develop digital age learning experiences and assessments	Design or adapt relevant learning experiences that incorporate digital tools
	Develop technology-enriched learning environments
	Customize learning activities to address students' diverse learning styles
	Provide students with varied formative and summative assessments

Standards	Indicators
Model digital age work and learning	Demonstrate fluency in technology systems
	Collaborate with others using digital tools
	Communicate relevant information effectively to others
	Model and facilitate effective use of current and emerging digital tools
Promote and model digital citizenship and responsibility	Advocate, model, and teach safe, legal, and ethical use of digital information
	Address the diverse needs of all learners by using learner-centered strategies
	Promote and model digital etiquette and responsible social interactions
	Develop and model cultural understanding and global awareness

Faculty Training Needs on ICTs

Faculty training on ICTs is a modern necessity for quality education in the 21st century. This encourages faculty to keep abreast of the developments in the field of educational technology and enables them to provide a meaningful education for the current digital learners. Lareki et al. (2010) explained: "The introduction of information and communication technologies (ICTs) and the expansion of their use in the educational field have forced the creation of training programs for faculty on the use of ICTs" (p. 492). Such courses should address the faculty's "professional development needs, the format in which their professional development events should be offered, and the incentives that would encourage them to participate in such events" (Luck & McQuiggan, 2006: 1). As such, Keengwe et al. (2009) argued that it is important for the administration to "facilitate an environment that helps faculty to familiarize with technology and its potential uses, and to learn and use technology effectively… Make sure the training is relevant and current, to the needs of the faculty" (p. 27). Similarly, "Faculty training initiatives should be framed as an avenue to empower educators with a wider range of pedagogical options" (Muflih & Jawarneh, 2011: 51).

Although faculty training on the emergent educational ICTs seems critical, many higher education institutions do not seem to perform their tasks and appear to lack this vision. For example, Ajuwon & Rhine (2008) found that the majority of faculty did not receive formal training on ICTs and noted that self-training was their alternative to learn about ICTs. Lareki et al. (2010) reported:

> We observed that a great majority of the consulted faculty are self-taught in the use of new technologies. On many occasions, this autodidactic training has been completed with the collaboration of colleagues when there is a need to use a specific technology. (p. 496)

A number of studies, despite their paucity, have been conducted with regard to the training needs of faculty members and have specifically identified weaknesses in terms of tools and resources that faculty need assistance with. For instance, Luck and McQuiggan (2006) used a survey questionnaire to investigate the professional development needs of faculty involved in online education at Penn State in the United States. The training needs that were identified in terms of online teaching included technical support, instructional design, and access to experienced colleagues with online teaching.

Another study was conducted by Crews et al. (2009) at the University of South Carolina in the United States. This study used an online survey to identify faculty training needs toward implementing ICT tools for instruction. The identified needs were categorized into three groups. The first group was online tools, such as survey tools, e-portfolios, wikis, social networking, and blogs. The second was classroom tools, such as interactive whiteboards, classroom response

systems, and tablet computers. The third was software tools, including Web page design, screen and voice capture, and access to databases.

A third study, which used a survey questionnaire, was conducted by Lareki et al. (2010) to establish guidelines for training opportunities on ICTs at the University of the Basque in Spain. The authors came up with two main modules directed toward teaching skills and research tasks. The teaching skills that need improvement included basic computer skills, such as hardware, software, advanced computer, and Internet-related skills, including the use of Web 2.0 applications and management content systems. The research tasks covered training on the management of bibliographic programs and computer applications for research.

Research problem, aim, scope, and key questions

In the context of Saudi higher education, the measurement of faculty performance with regard to the skills necessary for the 21st century, especially in terms of ICTs, is unsatisfactory, taking into consideration the clear absence of performance standards for faculty (Al-Ghamdi et al., 2012; Al-Hattami et al., 2013), and thus requires further investigation. Further, research on "how best to prepare faculty to teach in an online environment" is limited, hence the need for more studies applying qualitative and quantitative approaches (Luck & McQuiggan, 2006: 1).

Accordingly, the aim of the current study is to determine the ICT training needs of faculty members in Saudi higher education through studying their actual performance by using the teachers' standards developed by the ISTE (2008). The study also aims to identify factors that may impact on faculty practices, such as gender, position, teaching experience, Internet and computer experience, and workload. The key questions in this study are:

1. Do faculty meet the requirement of teaching and learning in the 21st century based on the ISTE Standards for Teachers?
2. This key question has derived the following five sub-questions:
    a. Do faculty facilitate and inspire student learning and creativity?
    b. Do faculty design and develop digital age learning experiences and assessments?
    c. Do faculty model digital age work and learning?
    d. Do faculty promote and model digital citizenship and responsibility?
    e. Do faculty engage in professional growth and leadership?
3. Is there a statistically significant difference in faculty performance based on gender, position, teaching experience, computer and Internet experience, and workload?
4. What are the faculty training needs necessary for teaching and learning in the 21st century?

Methodology

To answer the research questions, a triangulated research approach was implemented by using an online survey questionnaire and semi-structured interviews. Triangulation refers to the use of two or more methods in a study to investigate certain issues (Mertens, 2005). Regarding this, Mertens (2005) stated that "the intent may be to seek a common understanding through triangulating data from multiple methods, or to use multiple lenses simultaneously to achieve alternative perspectives that are not reduced to a single understanding" (p. 293).

Questionnaire design

The survey design included two major sections. The first section aimed at collecting general information about possible factors that may impact faculty performance, including gender,

position, teaching experience, Internet and computer experience, and workload. The second section consisted of the performance indicators scale that was developed based on the standards for teachers published by the ISTE (2008). The scale includes 37 items distributed among five subscales. Each subscale corresponds to a five-point Likert-type response format (5 = Strongly agree to 1 = Strongly disagree).

Interview protocol

In-depth (follow-up) semi-structured interviews were conducted with instructors based on the findings obtained from the survey questionnaires. For the purpose of the current study, a semi-structured interview was determined to be the most appropriate because it provides flexibility, balance, structure, and data of high quality (Gillham, 2005).

Interview participants were selected based on their willingness to participate in the audio-recorded interviews. Probing was one of the main strategies used in the semi-structured interview to encourage participants to reflect on the issue under investigation. Gillham (2005) described "prompts" and "probes" as supplementary questions or "modes of exploration" (p. 24).

Sampling

The strategy used in the study was probability sampling, in which there is a possibility for every member of the population to participate (Mertens, 2005). Because the study context was higher education universities in Saudi Arabia, instructors were contacted through 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 was built by using Google Forms to allow participants to easily access the online survey and to review or edit their responses. This format also provided the participants with more flexibility of time and the choice of tool for recording their responses, such as computers or handheld devices.

More than 200 instructors showed willingness to participate in the current study. After the deadline to fill in the online survey, the responses were checked and saved in an Excel sheet. Then the data were transformed to SPSS format for quality analysis. After excluding questionnaires with incomplete responses, the final number of participants included in the survey was 188.

After the initial analysis of the survey questionnaires, a random sample of three instructors from among those who showed willingness to participate in the follow-up semi-structured interviews were contacted for the actual interviews.

Validity and reliability

The vast majority of the participants speak the Arabic language. Because the ISTE (2008) Standards for Teachers was in English, the survey was first designed in English and then translated into Arabic before distribution. The researcher, whose mother tongue is Arabic, translated the questionnaire from English to Arabic 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 in terms of accuracy and clarity to ensure its validity. Further, the survey validity was enhanced through piloting, in which three experts in the field of educational technology and higher education reviewed and edited the questionnaire.

Because the vast majority of the participants speak the Arabic language, which could be a barrier during interviews conducted in English (Mertens, 2005), the participants were given the option to use the language they preferred (Arabic or English). Hence, the data obtained from the participants were first transcribed into Arabic and then carefully reviewed to ensure that the transcription was accurate and no points were missed. To avoid misinterpretation of the interview

results, some participants were contacted to clarify certain points that they had made. Finally, three Arabic native speakers were asked to review the translations to ensure their validity and accuracy.

The reliability of the performance indicators scale was tested by using the Cronbach's alpha coefficient (Pallant, 2007). The reliability statistics indicate high levels of internal consistency. Table 2 shows the Cronbach's alpha scores for the total scale and its subscales.

Table 2
Reliability Statistics (N = 188)

Subscale	No.	Cronbach's alpha
Facilitate and inspire student learning and creativity	9	.92
Design and develop digital age learning experiences and assessments	10	.94
Model digital age work and learning	6	.92
Promote and model digital citizenship and responsibility	6	.91
Engage in professional growth and leadership	6	.91
Total Scale	37	**.98**

Procedure for data analysis

The current study used quantitative and qualitative approaches; thus, different sets of data were generated. For the quantitative data, the SPSS software (version 20) was used to conduct factor analysis, report on issues relevant to the research questions, and test possible relationships between variables (Pallant, 2007).

With regard to the semi-structured interviews, thematic analysis, which "should be seen as a foundational method for qualitative analysis" (Braun & Clarke, 2006: p. 4), was applied. Thematic analysis stresses the recording and examination of themes within a set of qualitative data that are important to understand the phenomenon under investigation. Braun and Clarke's (2006) guide to thematic analysis was followed. This guide consists of six phases, as shown in Table 3.

Table 3
Procedure for Interview Analysis ((Braun & Clarke, 2006)

Phase	Procedure
Becoming familiar with the data	To enhance familiarity with the data: Interviews were first transcribed into Arabic and then reviewed. The Arabic manuscripts were translated into English and then piloted by three Arabic-English professional speakers to enhance the validity of the translation. The English manuscripts were read several times to uncover issues and possible hidden intents.
Generating initial codes	Through reading the interview manuscripts, several codes that were relevant to the study aim, scope, and questions were identified. The codes included words such as performance, perform, teach, use, training, needs, etc.

Phase	Procedure
Searching for themes	The codes identified in the manuscripts were sorted into two main categories: The real practices of faculty members The difficulties that faculty face and associated issues
Reviewing themes	The two themes were reviewed to check the relevance of the codes and the consistency of the ideas included in each theme.
Defining and naming themes	The two themes were named: Performance indicators, and Faculty training needs
Producing the report	A report on each theme was written to present the main ideas and findings.

Factor analysis

Considering that the performance indicators scale was developed specifically for the purpose of the current study, it was important to conduct factor analysis, which is "often used when developing scales and measures, to identify the underlying structure" (Pallant, 2007: 96).

In addition, because the scale items were theoretically distributed into five subscales (ISTE, 2008), it was also important to test the intercorrelations between the items included in each subscale. By using factor analysis, researchers "can refine and reduce these items to form a smaller number of coherent subscales" (Pallant, 2007: 172).

The extraction method used to study the communality values of the scale items was principal component analysis. No items with a communality value lower than 3 were found; therefore, no items were removed (Pallant, 2007). The number of items eligible for analysis was 37.

Because the theoretical approach of the ISTE (2008) included five main themes, the five-factor solution was suggested to match the existing theory. However, the results of this solution indicated that the items were strongly correlated and could be included in one scale. This finding is supported by the scree plot shown in Figure 1.

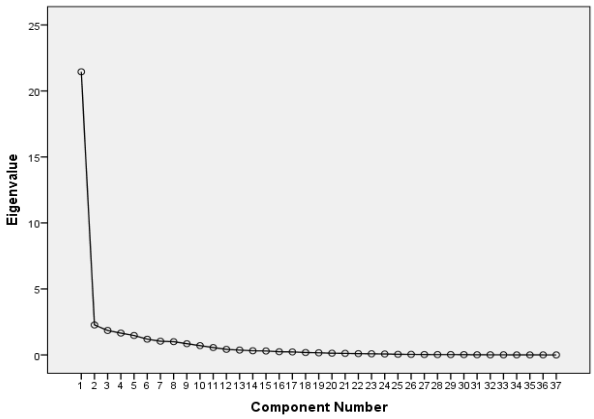

Figure 1: Screen plot for component extraction

On this basis, the current study adopted the theoretical approach of ISTE (2008); reports on each subscale are provided in the following subsections.

Results

Participants' profile and descriptive information

Most of the participants in the survey were male (about 52%, n = 97). Nearly half of the participants were professors (49.5%); the rest were lecturers (36.7%) and teaching assistants (13.8%). With regard to teaching experience, very few of the participants had more than 21 years of experience (3.2%). Most of the instructors (53.2%) had been teaching for about 10 years, and 43.6% had between 11 to 20 years of teaching experience. In terms of computer and Internet experience, the majority of participants were experts (64.9%), whereas others had intermediate experience (30.9%). Finally, most of the instructors reported that they both teach and hold other administrative responsibilities (68.6%), as shown in Table 4.

Table 4
Participants' Descriptive Information (N = 188)

	Group	N	%
Gender	Female	91	48.4
	Male	97	51.6
Position	Teaching assistant	26	13.8
	Lecturer	69	36.7
	Professor	93	49.5
Teaching Experience	Up to 10 years	100	53.2
	From 11 to 20 years	82	43.6
	More than 21 years	6	3.2
Internet Experience	Beginner	8	4.3
	Intermediate	58	30.9
	Expert	122	64.9
Workload	Teaching only	59	31.4
	Teaching with administrative work	129	68.6

Table 5 shows the profiles of and relevant information on the instructors who participated in the semi-structured interviews.

Table 5
Profiles of the Interview Participants (N = 3)

Instructor	Age	Education	Position	Duration	Time
Inst. 1	45	PhD in Arts	Associate Professor	35 min.	11 am
Inst. 2	38	PhD in Education	Assistant Professor	47 min.	1 pm
Inst. 3	42	PhD in Science	Associate Professor	29 min.	7 pm

Performance indicators

Table 6 shows the instructors' performance in terms of each subscale. Most of the instructors' responses were "agree" (i.e., 4). However, the highest scores were obtained in the subscale engage in professional growth and leadership ($M = 4$, $SD = .76$). This was followed by promote

and model digital citizenship and responsibility (M = 3.93, SD = .86) and then by facilitate and inspire student learning and creativity (M = 3.92, SD = .68). Design and develop digital age learning experiences and assessments (M = 3.85, SD = .75) and model digital age work and learning (M = 3.70, SD = .74), respectively, came in last.

Table 6
Performance Indicators

Subscale	*M*	*SD*
Facilitate and inspire student learning and creativity	3.92	.68
Design and develop digital age learning experiences and assessments	3.85	.75
Model digital age work and learning	3.70	.74
Promote and model digital citizenship and responsibility	3.93	.86
Engage in professional growth and leadership	4.00	.76
Total Scale	3.93	.69

Results of multivariate analysis of variance

A one-way between-groups multivariate analysis of variance (MANOVA) was done to investigate the impact of the participants' gender, position, teaching experience, computer and internet experience, and workload, as independent variables, on the performance indicators, including facilitate and inspire student learning and creativity, design and develop digital age learning experiences and assessments, model digital age work and learning, promote and model digital citizenship and responsibility, and engage in professional growth and leadership (dependent variables). The MANOVA results showed that the proposed independent variables had no statistically significant impact on the dependent variables.

Issues surrounding faculty performance

The semi-structured interviews revealed five main issues relevant to teaching and learning in the 21st century, as shown in Table 7.

Table 7
Issues Surrounding Faculty Performance

Issue	Examples	Conclusion
The global pressure of technology	Inst. 1: *The world has become a global small village.* Inst. 2: *Our students can be considered as a digital generation. Therefore, technology for the new generation is absolutely significant.* Inst. 3: *The use of technology became a must. The whole world is evolving around technology nowadays.*	There is increasing global pressure to effectively integrate technology in higher education.
Technology awareness	Inst. 1: *Globally, most educational trends are now about technology.* Inst. 2: *Digital technology provides more interaction, flexibility, and richer information. Also, technology may help teach the huge number of students in our education.*	There is high awareness of the importance and usefulness of technology.

Issue	Examples	Conclusion
	Inst. 3: *Technology significantly helps instructors to communicate, deliver information, and facilitate the students' understanding.*	
Cost vs. value	Inst. 1: *The provision of contemporary technology is very expensive.* Inst. 2: *It is difficult to have every single technology available, but I try as much as we can.*	There is awareness of the high cost of technology and the difficulties of keeping pace with its developments.
The use of technology	Inst. 1: *I used to fetch my laptop with me and prepare some PowerPoint presentations. Computer, Internet, and networks are currently the tools of education.* Inst. 2: *I do ask for some technology-based assignments from my students.* Inst. 3: *I require assignments that are Internet-based. They must not be handwritten. Why not use technology or search Google?*	There are signs of technology use in teaching and learning activities.
The prevalence of traditionalism	Inst. 1: *Many faculty members embrace the traditional way of teaching because the curriculum that they teach does not provide any goals or objectives related to the integration of technology.* Inst. 2: *The use of advanced technology is very weak among instructors. Further, the existing curriculum is inappropriate for the technology era.* Inst. 3: *Some instructors continue to teach in a traditional way; they think that the use of technology is an extra effort.*	There is a tendency toward traditionalism. The current curriculum is irrelevant to the digital era.

Faculty training needs

Table 8 presents issues surrounding training opportunities for faculty members.

Table 8
Faculty Training Needs

Issue	Examples	Conclusion
The need for training	Inst. 1: *Instructors must possess the skills that enable them to effectively use technology in their teaching approaches.* Inst. 2: *Many people use technology very well without having professional training.* Inst. 3: *Training courses for both faculty members are very few and lack quality.*	Training on technology is important.
Type of training	Inst. 1: *We need training in terms of using advanced technologies, such as social networking, for educational purposes.* Inst. 2: *Training on certain technologies, such as the interactive white board, is necessary.*	There is a need for training on: Teaching-related hardware and software

	Inst. 3: *Personally, I need training on research-related software, such as SPSS and EndNote.*	Research-related tools
Channels for training	Inst. 1: *The University should provide short-course training, conferences, seminars, and workshops on the use of new technologies.*	A variety of training courses are required, given through:
	Inst. 2: *I usually consult expert colleagues to teach my about the issues that I face when I use technology.*	Group training
		Individual training
	Inst. 3: *I depend on myself. Google has all the answers about technology.*	Self-training

Discussion, conclusions, and implications

The goal of this research was threefold: first, to identify the faculty performance with regard to the use of ICTs based on the standards developed by the ISTE (2008); second, to investigate factors that may influence faculty performance, including gender, position, teaching experience, Internet and computer experience, and workload; and third, to identify the training needs of faculty based on their actual practice. Thus, a triangulated approach with the use of an online survey questionnaire and follow-up semi-structured interviews was implemented. Participation was limited to instructors affiliated in higher education institutions and universities in Saudi Arabia.

The quantitative results generally indicated moderated performances in terms of the standards engage in professional growth and leadership, promote and model digital citizenship and responsibility, facilitate and inspire student learning and creativity, design and develop digital age learning experiences and assessments, and model digital age work and learning. Further, the MANOVA results showed no statistically significant impact of the independent variables (gender, position, teaching experience, computer and internet experience, and workload) on the dependent variables (the five performance indicators).

Qualitative investigation through semi-structured interviews revealed that there is increasing global pressure to effectively integrate technology in Saudi higher education. Therefore, faculty showed high awareness of the importance and usefulness of technology and tended to apply some technology-based pedagogical approaches. However, these seem to be hindered by the existing traditional curriculum, the prevailing traditionalism in teaching and learning, and the high cost of follow-up with contemporary technology.

These results confirm the gap between policy and practice in Saudi higher education, in which there is a clear absence of performance standards on technology for either faculty members or students (Al-Ghamdi et al., 2012; Al-Hattami et al., 2013). The findings also confirm that Saudi higher education is still dominated by traditional approaches to teaching and learning (Al-Issa, 2009, 2010; Krieger, 2007; Onsman, 2011; Robertson & Al-Zahrani, 2012).

With respect to training needs, the semi-structured interviews showed that the faculty believe in the importance of professional training on technology, which may play a critical role in advancing their pedagogical approaches. This result reflects the global trend that stresses the importance of training toward achieving meaningful education in the 21st century (Keengwe et al., 2009; Lareki et al., 2010; Luck & McQuiggan, 2006; Muflih & Jawarneh, 2011).

The results of the current study also revealed that training opportunities in terms of ICTs were insufficient and inadequate. This is in line with the findings of Ajuwon & Rhine (2008), who

reported that the majority of faculty did not receive formal professional training on ICTs and mainly depended on self-learning strategies.

The training needs identified in the present study involved teaching-related hardware and software and research-related tools. Professional training was suggested to be done through group training, individual training, and self-training. Many researchers (e.g., Crews et al., 2009; Lareki et al., 2010; Luck & McQuiggan, 2006) have reported almost the same findings, stressing the importance of providing faculty with necessary training on software and hardware relevant to both teaching and research approaches.

Based on the above discussion, this study restates the need for continued training on the use of ICT for faculty members. Further, the present work suggests that professional training on ICT should be systematically integrated into the faculty work routine and should not be seen as an extra load or as a form of extravagancy. Training on ICT is necessary for the professional development of faculty in the 21st century. Therefore, we propose a model for effective training on ICT, as shown in Figure 2.

Figure 2: Proposed Model for Meaningful Training on ICT

The model shown in Fig. 2 includes four main domains, as follows:

1. Providing logistic support: In this domain, universities and higher education institutions should sustain adequate access to contemporary technology and related tools, hardware, software, and resources. Universities and higher education institutions should also provide sustainable systems for professional support to advance the use of ICT in their systems. Further, faculty use of technology should be facilitated through proper financial incentives and psychological support to raise awareness about the importance and usefulness of ICT in education.
2. Providing needs analysis-based training: If universities and higher education institutions want to provide meaningful training on ICT, faculty members' needs and training preferences should be carefully addressed through needs analysis. This will enable universities and higher education institutions to provide relevant training courses that really meet the needs of faculty and address their individual differences. To achieve this, training courses should be provided according to carefully developed instructional designs, which may help enhance their efficiency.

3. Providing profession-related training: Universities and higher education institutions should provide faculty with the training that is most relevant to their profession. This includes training on hardware and software that are relevant to teaching and research activities. Training on both aspects is critical to the advancement of faculty in both teaching and research.
4. Providing time- and space-appropriate training: Many faculty members may view training as time-consuming and as requiring extra effort. Therefore, it is important to facilitate their training, make it more accessible, and provide it through various channels. Providing face-to-face training through small-group and individual sessions is suggested. Also, training can be given through online courses, which may provide faculty with easier access to the course materials and resources. Online training may also offer faculty with more flexibility in terms of time and space for learning. Moreover, faculty members who are experts in ICT can help by sharing their knowledge and successful experiences with their colleagues.

Research limitations and further directions

One limitation of the present study is that it is based on a relatively small sample from Saudi Arabia. Thus, the results may not be generalizable to other parts of the world. However, the findings may provide insights for future research on faculty professional development and the factors that contribute to the enhancement of 21st century education, especially in developing countries like Saudi Arabia. Further research is necessary to confirm the current research findings with larger samples. More studies with the use of various research methods, including observations, are also needed.

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About the author

Dr. Abdulrahman M Al-Zahrani is Assistant Professor of Educational Technology in the Department of Educational Technology, Faculty of Education at King Abdulaziz University, Jeddah, Saudi Arabia.

His primary research interests include e-Learning, Flipped Classroom, Virtual Reality, Distance Learning, Instructional Design, Digital Citizenship, Professional Development, and Technology Integration in Higher Education. So far, he has several published research papers and a number of other under review research in international journals related to his field of specialization. Also, he delivered many oral presentations at international educational conferences, and conducted several training sessions including faculty development, digital citizenship, ICT skills, and instructional design strategies.

Dr. Al-Zahrani received a Master degree in Educational Technology from King Saud University, Riyadh, Saudi Arabia and a PhD. in Educational Technology from La Trobe University, Melbourne, Australia.

Email: ammzahrani@kau.edu.sa ammz2@hotmail.com

Webpage: http://www.kau.edu.sa/DRS-0008887.aspx

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Editor's Note: Branding enables institutions to differentiate themselves, their products and services, from other institutions. Although common in the business world, it is a new issue for education to attract students, donors, and community support.

Branding in Education

William Callister, Katherine Blevins, Ryan Kier and Isaac Pettway
USA

Abstract

Branding is not a new concept, but it is new to the realm of education. While colleges and universities have already started to pay attention to their brands, it is equally important to consider the effect that brand has on general education institutions and the technology manufacturers that produce products for education. Branding is about more than a logo or an image. It is about the whole of the product and the company, and how individuals connect to it. Those who find themselves in the realm of academia need to understand the role that branding plays in their educational institution, and their own lives.

Keywords: education, technology, branding, college, university, general education, higher education, homeschooling, distance learning, online learning, community

Introduction

Branding is a concept with a significant history. For decades, and maybe centuries, animal husbandry practitioners would mark their animals, often cattle and horses, by burning their brand, or logo, into its flesh. While this may seem cruel, it was critical in establishing ownership of the animal. In modern times, branding has entered the commercial and education world, albeit in a less painful fashion. Companies like Coca-Cola have established a business with a value in the billions of dollars, by creating a brand for itself (Anselmsson & Anders, 2013). They created a solid product, but more than that they developed a brand that the consumer connected to.

The American Marketing Association (2014) defines a brand as a "name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers." However, branding is about more than just a logo or image. Brand comes down to three criteria. The image that customers have of the product or service; the level of positive opinion individuals have of the product; and the value the product or service provides to the company or individual that owns it (Anselmsson & Anders, 2013). It is only in the last decade or so that the idea of branding has begun to creep into the world of education; specifically, in the grade-school categories. Colleges and universities have already been attentive to their brand, as it impacts their ability to attract new students and donors. This has not typically been the challenge for grade-school academia, as attendance is generally mandatory and options are often limited. Branding has also become a point of discussion in academia as more companies are developing technology for the classroom, and competing to get their piece of the market secured.

Defining a Brand

The professionals at *Entrepreneur Magazine* define branding as "the marketing practice of creating a name, symbol or design that identifies and differentiates a product from other products" (Entrepreneur Magazine). As discussed above, this is a very basic understanding of the concept, but one can begin to understand how branding in education and technology will assist in its growth and ability to sustain in a growing market. Education in itself has been around for many millennia, but the rapid growth in modern technology has created some new dynamics in the industry. Apple, Google, Facebook, Amazon and other technological firms offer the ability to

connect like never before. Real time data, feedback, and communications are now available at the click of a button or even a voice command. Learning institutions will need to adapt their traditions and curriculum in order to survive this technological mammoth. Allan Collins and Richard Halverson (2009) point out that these "[n]ew technologies are transforming every aspect of work; reading and interacting with the web; writing memos and sending e-mail; computing with spreadsheets and statistical analysis programs;" (p. 9) and much more. This is true in the world of education as well, and it is creating a competitive market that has not previously existed, especially in the general education category. It is for this reason that branding has become an important issue for educators and administrators.

Creating a brand

In order to create and market a successful brand, an institution will need to find its consumer insight, or focus point. Major companies are successful due to their brand's ability to cater to the various demographics. All aspects are taken into consideration; age, sex, income, culture, and location of the consumer is just as imperative to the success of a brand as the actual product. Coca-Cola has many different flavors and type of beverages that cater to their target customer. While they have a corporate brand, they also have sub-groupings of brands that may cater to different consumer groups. After the customer base has been identified, a platform idea needs to be created. It needs to be a statement that sums up the brand (logo, name, products offered, opportunity, and consumer target). Following the platform idea is "how to attract the consumer", this encompasses various marketing techniques. This is about informing the potential customer about the product in a way that will move them from an informed consumer to an engaged (actually purchasing the product) consumer. This stage of the process employs a principle that the branding industry calls the "Four P's: *product*, *promotion*, *price*, and *people*… [which are] the cornerstone for this step" (Harris, 2014).

Branding in the world of academia

Education technology and branding is still in relative infancy, but the growth of academic applications for technology necessitates new strategies. In order to be successful in education and technology, the school or institution will need to create an effective brand to entice people to enroll in their program. Nita Paden and Roxanne Stell (2006) suggest that universities must ensure "that (a) there is a clear understanding of the university's brand image and the elements contributing to that image; (b) the university ensures that the distance program maintains/improves the image of the university; or (c) the university makes a decision to develop a separate identity/brand for the distance program that will stand on its own merit and not harm the university's image if it malfunctions or fails" (Paden & Stell, 2006, p. 46).

Motivations to brand in education

Branding in education carries a variety of motivations. Robert Williams, Jr., Collins Osei, and Maktoba Omar (2012) offer some important insights into these motivations in their paper on branding efforts in Ghana. They point out that a university's (or any institution) brand can play an important role in several areas. First, a positive brand image can draw in more students and donors. Second, it can be effective in retaining better teaching talent. Finally, it also plays a significant role in the brand image of the country the institution is in. Branding in education is not solely about boosting the financial position of the entity, though that is important. It can also play a critical role in building up the community it operates in, and even in developing a positive impression of the nation on the world market.

Higher Education

As discussed above, branding is often used as a tool to draw in potential customers. In higher education, branding can help build the reputation of an institution and attract potential students. Making connections between educational services and the perception of a school can set one college apart from another and make it more attractive to prospective students (Iqbal, Rasli, & Hassan, 2012). Universities are different from K-12 schools in that students have a choice of which college they would like to attend, so these institutions must compete for students. Higher education institutions provide a service to customers, and schools can utilize brands to advertise to stakeholders. In recent years, the competition for students has increased and colleges are looking for ways to grow student enrollment (Joseph, Mullen, & Spake, 2012). Many universities are now using brands to market their services more strategically to potential students (Pinar, Trapp, Girard, & Boyt, 2010).

Many universities who venture into the task of developing their brand have found significant effects, simply by changing their name. Several universities in West Virginia from 1996 to 2005 rebranded their schools as universities, instead of colleges. Interestingly, many of the schools were already technically universities, but their names did not include university in the title. Most of these schools did not change organizationally, but instead updated their names to reflect their university status. The results of the rebranding in this instance were mixed. Stakeholders, including students and parents, liked the change since it made the school appear more prestigious (Owston, 2009). Alumni, on the other hand, who had a personal connection with the previous school name, did not appreciate the change and in some cases fought to prevent the name change. Also, in the case of West Virginia, re-branding of school names did not have a significant effect on enrollment.

Researchers have suggested that it will take more than name recognition to increase enrollments in universities. According to Mullen and Spake (2012), college brands are becoming more complex and are more closely tied with a university's identity as it relates to athletics, academics, and other opportunities the institution has to offer. In addition, parents and students view different criteria when choosing colleges. Students tend to focus on social aspects of a school such as school culture, while parents are more interested in financial aid and the degree programs that are offered (Joseph, Mullen, & Spake, 2012). Attempting to brand a university can be more complex than a business, because of the variety of its target market. How a college may advertise to the parent of a student may be significantly different than how a college may advertise to a student. The difficulty of creating a brand for a university may be why branding is less prominent in higher education (Pinar, Trapp, Girard, & Boyt, 2010).

To create an effective brand, universities must understand the needs of their market and the factors that play a role in the attributes students consider when choosing a college (Iqbal, Rasli, & Hassan, 2012). Perceptions of educational quality play an important role when students are contemplating which college they want to attend. In order for a brand to influence student decisions, it must include more than a motto or mascot and focus on the quality of education offered to prospective students. As Iqbal, Rasli, and Hassan (2012) state, the perceived quality of services offered by a university is more important than objective quality. This means that students are more interested in the perception of the school as opposed to the actual education they would receive from the school. Supporting the premise that perceptions are more important to students, in their study,

Iqbal, Rasli, and Hassan (2012) also concluded that after perceived quality, prestige of a school was the second biggest influence on student choice of a college.

Many different educational services are offered at universities. With differences in majors, in financial aid, and in athletic programs, one school may have the potential to attract many different types of students. Due to these discrepancies, Trapp, Girard, and Boyt (2010) present a framework for universities to use to effectively brand their schools to increase student enrollment. Based on the assumption that universities are heterogeneous in nature, branding services for colleges is a complex process that must be viewed within a framework that considers the major aspects that attract potential students. Pinar et al. (2010) argue that for branding to be effective, the focus needs to move away from logos, mascots, and mottos and focus on a more systematic approach that will affect student perceptions. Branding a college requires consideration of several aspects of the brand that are interrelated and have an overall effect on the value of the brand. For example, academics, sports, student life, and community all play a part in the student experience and all of those topics must be measured when developing a brand for a school.

Universities have an opportunity to communicate their core values and services to students through branding. Branding has been used effectively in business for many years (Pinar, Trapp, Girard, & Boyt, 2010) and can be used in higher education to attract new students by elevating the university's image. Various branding focal points, including name recognition, student perceptions, and student experiences, are being used by colleges to advertise to prospective students. In the digital age, the options for branding in higher education are considerable.

K-12 schools

Branding is found in perhaps every institution or industry in some form or fashion. Therefore, it only makes sense to take advantage by building a brand strategy for K-12 schools that would contribute to and continue to build upon the overall learning process. Restaurants like McDonalds and Burger King have enjoyed much success with their Golden Arches and the King, respectively. K-12 schools can also build a brand that speaks to the 21st century student living in the digital age.

As with all brands, there has to be a clear cut understanding of what a school is all about, as well as what that school stands for, in order to get everyone to buy into the concept. While concerned with image management, organizations in the public, private and non-profit sector want to control their images to create brand equity and loyalty (Zavattaro, 2013, p. 511). The digital student is a catchy slogan that says the students of this school will learn in a more technological way by using technology tools such as the Internet, wireless devices, Promethean boards, and the like. The digital student will also have an email address, a school social media account, and may even be allowed to bring his or her own device to the classroom.

An academic brand must also have a clear vision that attempts to address the issue of being prepared for the next five years or the next big leap in education technology. To do so requires a great deal of due diligence in researching the latest and greatest tools, such as what Apple, Android and Microsoft offers. There also has to be a great deal of ongoing training for the educator that will use these tools in the classroom. Students today focus their attention to gadgets like these because they are fun, Internet capable, convenient because of the wireless capabilities, and filled with all kinds of applications. With that being said, students are already digitally connected, and educational facilities need to catch up to remain relevant in their lives.

As different companies compete for the best software package for education, the focus is also on whether their product meets or exceeds current and future technological standards. Additionally, parents and educators want to know that necessary steps are taken to ensure the privacy of students. As such, when it comes to protecting privacy, one might consider using legislative efforts to tie privacy promises to trademarks and brands; this approach is called branded privacy (Ohm, 2013, p. 943). Educators are at the forefront of something that is truly great; and that is the opportunity to offer an education to students that is state of the art while at the same time, equipping students with the pertinent tools needed to succeed in the new world of technology. The digital student will be given a package of tech tools and will be allowed to use them in every class in place of the textbook.

Distance learning

As recently as a couple decades ago, the thought of taking classes online was met with great scepticism and the fear of wasting time and money were common reasons for rejecting the prospect of distance education. But as technology has improved and become more mainstream, distance learning has become a significant force in education, which accommodates students throughout the United States and other countries. Students of different cultures can now take classes online with other students, and collaborate with different learning styles, all thanks to the Internet. As with all education formats, the digital student plays a big role in the effectiveness of distance learning.

Public/charter schools

When it comes to the digital student brand, the need to develop a technological educational package is paramount in keeping up with the latest and most effective technology tools. In public and charter schools, the digital student will be able to do lessons from home and access the school library anywhere-anytime, rather than needing to make the journey to the school library and waiting to use the shared computer to do research. If students get sick, coursework can still be completed, even from the doctor's office or hospital. Unlike public schools, charter schools are not governed by the same laws, which allow for more flexibility and manoeuvring in creating a total digital student brand.

Education is about more than simply transferring information, it is about preparing the student for the real world (Rowland, 1966). For this reason distance learning, and technology in general, need to be carefully considered in the brand image of an educational institution. Technology must become a critical component in the education process; this must happen, considering that society "needs and uses technology at [the] pace [seen] today" (Starkweather, 2011, p. 36).

Private homeschooling

Without much being said, private home-schooling is very similar to distance learning. Both occur where the student is located, rather than where the classroom is located. This is a great opportunity for the concept of the digital student brand where resources are unlimited, the availability to technology is right at the fingertips, and mom's cookies are baking in the oven. While technology continues to advance, educators are charged with the task of equipping students with the tools of tomorrow. Best practices of the past definitely have a place in this process but the diligence to find and use more technological means of delivering instruction is paramount.

Technology branding in the education market

Branding, as discussed above, plays a significant role in the academic world of schools. It also is a critical component of the technology manufacturers who seek to position their products in the academic realm. In the past decade or so, companies developing educational technologies have discovered a need for branding. This was often focused more on the overall cost than which piece of technology was better than the other. A quick look at the blog *Edudemic* (Dunn, 2011)

provides some insight into the changes in education technology over the last several decades and centuries. Recent changes in technology have created something of a glut on the market, requiring manufacturers to pay closer attention to their branding and for educators to focus on their specific needs.

Branding for the schools

When marketing a given product, companies must consider the way that the product is perceived by their target market: schools. A decade or two ago, there were few technologies in widespread use in the average school. Often, there were only a couple of companies making these products and the resulting competition was a focus on value and quality. This could be done in the form of statistical analysis and flyers sent to the schools.

Today, there are many companies making very similar products. Within the tablet market alone, educators must choose from Apple, Android, and Microsoft, with a large number of different manufacturers making the Android and Microsoft tablets. With the dramatic range that these devices cover in features and quality, a simple statistical analysis and flyer is not going to be enough. Manufacturers must consider how their product is positioned in front of the school's technology decision-maker. In order to do this, the manufacturer must also understand the dynamics of the schools' technology needs.

Branding for the educators

Educators have a lot to do. Their plates are constantly being piled high with extra helpings of homework to be graded, individualized education plans (IEPs) to be annotated, extra-curricular activities to sponsor, and many more responsibilities. Technology manufacturers must create a brand that meets some of the needs of a teacher. *Jupiter iO* (Jupiter Ed, Inc., 2014) is a good example of this principle. In an ad placed on the *eSchool News* website, they portray a woman in a superhero costume with a comic book style title of "One for All & All In One" and a speech bubble with the teacher saying "I have the POWER to grade with super speed" (Stransbury, 2013). They have created an image for their brand that connects with a teacher's desire for more time, or at least more efficient use of their time. They are seeking to connect to their desired market on a personal level.

Branding for the community

Schools are often most concerned with the benefit/cost analysis of a product, while teachers are often primarily focused on how it will benefit their workload. One other factor that must be considered is the community in which the academic institution operates. In grade-school programs, the community's tax dollars are often a significant portion of the school's budget. It is for this reason that schools need to consider how the community will perceive a technology purchase. Large expenditures for technology may result in negative pushback from the community unless they also perceive value in the product. Branding must take this into consideration in its efforts. The branding efforts can no longer be primarily focused on the administrators of educational programs, but must also consider the image that is portrayed to the potential patrons of the institution. Branding at the general education level builds more than just a connection to the school, it can also develop a sense of pride within the community (Jones, 2014).

Conclusion

Brand is more than just a logo on a product. It is more than the quality of the product. In fact, it is greater than the sum of all of the components: image, strength, impression. A brand's strength, or weakness, is found in the level of connection that the product has with the consumer. An example of this can be found in the rebranding efforts of the Lowes chain of grocery stores. They have sought to do a complete overhaul of their brand. They have reformatted the way their stores look, sought to offer higher quality products, and engaged their customers in novel, and entertaining

ways. Some have described the shopping experience at the new Lowes stores to be similar to going to Disney (Carlock, 2014). This is an example of a retail outlet that is seeking to connect with their customers in an engaging and entertaining way. This will stick with a customer long after they leave, even though the product may be similar or better elsewhere. That personal connection will likely mean more to their continued patronage than anything else.

This reality can be found in the realm of branding at the higher education level. While the quality of the education, value of the cost, and similar factors have always been important, and remain so, there are other factors. Increasingly, students are equally concerned with what student life is like on campus. Education facilities, at every level, must remember that the experiential factors need to be included in branding efforts, as those are likely to be the memories that stick with potential students or donors (Joseph, Mullen, & Spake, 2012). This is equally true with educational technology manufacturers. Quality and value are critical components of the product's brand, but the experience is what most often sticks out in the consumer's memory. It is time for product designers, marketers, and educational institutions to keep this in mind in the process of developing their brand.

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About the authors

William Callister is a student at Liberty University; he is completing his Master of Education degree, with an emphasis on Technology and Distance Learning. He has been involved in numerous camps and organizations, and has helped in the organization of their outreach and brand development efforts.
E-Mail: wncallister@liberty.edu

Katherine Blevins is a middle school math and science teacher who is completing her Master of Education degree in Technology and Online Instruction at Liberty University. She hopes to pursue a leadership role in technology at her county office after graduation. She has taught for the last ten years in a large urban school district and has over eleven years of business experience prior to becoming a teacher. She has been involved in various leadership projects at her local school and within her school district regarding technology integration. She is currently the lead of her cluster's math vertical team which is currently in the process of implementing innovative technological strategies to address math fluency and number sense.
E-Mail: kblevins13@liberty.edu

Ryan Kier is a student at Liberty University; he is working towards his Master of Education degree. He is concentrating on general education with hopes to teach at the college level in social studies. He is currently doing volunteer work for The Staunton Valley Mission.
E-Mail: ryan.kier@gmail.com

Isaac Pettway is a student at Liberty University; he is completing his Graduate Certificate in Educational Technology and Online Instruction. He is currently a member of AECT and he has been instrumental in providing feedback on literature reviews.
E-Mail: pettway1000@gmail.com

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Editor's Note: This study is concerned with successful engagement to enhance learning. It deals with strategies such as: build trust, create a social presence, encourage collaboration, focus on personal contact, and integration of e-learning technologies.

Student engagement, e-connectivity, and creating relationships in the online classroom: emerging themes

Andree Swanson, Bill Davis, Omar Parks, Stan Atkinson, Brenda Forde, and Kunsoo Choi
USA

Abstract

As complex as it is for traditional on ground students to return to school, online adult learners have difficulty in engaging with other students, faculty, and administrators. With an emphasis on anytime, anywhere learning, some students tend to isolate themselves and do not reach out for assistance. As more and more students take online courses, curriculum could be designed with the student in mind when it comes to learning, objectives, and outcomes of the objectives. Considering all the factors of student engagement (points to engage students) is difficult, yet, the researchers engaged in a deep review of peer-reviewed literature on the topic.

Keywords: classroom relationships, online classroom, e-connectivity, student engagement

Introduction

Communicating in the online learning environment is difficult at best. To feel connected to faculty and fellow students is almost impossible. Interpersonal exchanges are "more difficult for online students to engage in the kinds of collaborative peer interactions that often result in the construction of meaning and achievement of learning goals" (Slagter van Tryon & Bishop, 2012, p. 347).

Swanson, Hutkin, Babb and Howell (2010) stated, "online students face challenges with communication and socialization in the asynchronous distance-learning classroom because of a missing face-to-face, nonverbal communications" (p. 1). Swanson et al. (2010) found that students did not feel connected with their faculty. Drs. Parks, Washington, and Swanson looked into this lack of student engagement, e-connectivity, and creating relationships in the online classroom.

Literature review

An in-depth dive into the EBSCOHost, ProQuest databases, and Google Scholar was conducted to identify literature related to e-connectivity or the concept of building relationship and student engagement with students in an online classroom.

Review of online learning

Watson, McIntyre and McArthur (2010) conducted two studies that examined various applications of online learning in both design and context. The results of this study highlighted two areas: 1) "the impact that fostering positive, interpersonal, interdisciplinary", and 2) "transcultural relationships between students and online design education can have upon their levels of trust and the effectiveness and outcomes of their online collaborative assets" (Watson et al., 2010, p. 1).

Encouraging trust through pedagogy.

Lack of face-to-face interaction and the prospect of never having the opportunity can bring anxiety to some students. Disciplinary differences, variance in online learning experience(s) and differences in features of online learning are all "potential barriers" to creating "effective collaborative relationships" in the online environment (Watson et al., 2010). Strong interactive skills and the confidence to take risks are essential factors for "effective" and worthwhile "learning experiences" (Watson et al.).

New students registered for a fully online master's program orientation. Students created individual profiles and visual essays to share themselves with others in the class. Completing the profiles and essays allowed them to open up to one another which increased their sense of intrinsic motivation (Watson et al.).

The visual essays created an initial discussion point and assisted students to identify common interests and goals. This initial task also helped students to practice their technical skills in the learning environment and helped them become comfortable with navigating the platform. Lastly, students had the opportunity to personally connect and create allegiances while building trust (Watson et al.).

If the technology limited communication opportunities, in turn it could wear down opportunities to build trust. The limitation of communication impacted the ability (or lack thereof) to build collaboration through teamwork. Asynchronous learning environments, specifically discussion boards, can serve as a point of connection for students who are located in various places around the world, but also can create unique issues. The lack of "facial expressions and body language" sometimes made it difficult for recipients to accurately interpret messages, especially if a student is involved in a "high-pressure discussion or teamwork situation" (Watson et al., p. 1). A breakdown in trust can also result when students are put in teams that fail to communicate on a regular basis. When this occurs, students within the group cannot accurately gauge other members' commitment to the group (Watson et al.).

Promotion and engagement in collaborative opportunities create situations where students can communicate regularly and provide a foundation to circumvent conflict and increase the chances of building trust among students. Students were given the opportunity to participate in reflective end-of-course evaluations to express their experiences and challenges with learning materials and the learning environment. Providing this opportunity provides both students and researchers with an opportunity to modify the necessary details and include revisions as required.

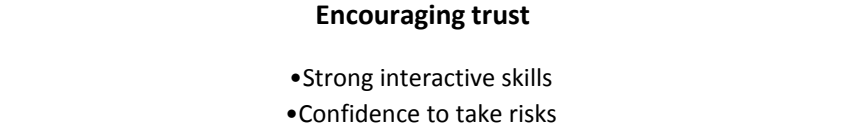

Figure 1: Watson, McIntyre and McArthur's review of case study one

This figure identifies the two components identified to encourage trust in the online classroom (Watson et al., 2010).

Online learning in a new blended learning program.

Administrators at a fine arts college introduced a blended learning program that included online learning. Administrators, faculty, and students felt distrust as this effort was designed to reduce costs and not enhance the learning experience. The stakeholders were concerned that the online learning component would lead to isolation. Faculty were concerned about a surge in contact hours with the online element (Watson et al., 2010).

Administrators acknowledged their concerns and focused on the online resources. Moving lectures to an online format could provide several benefits for learners. Students could review the online lectures at their own pace and as many times as they need to retain the information. Foreign students could also benefit from online lectures, especially if English was not their first language. Foreign students could also feel more comfortable asking questions in the online environment (Watson et al.).

Administrators created a blended online community by introducing online galleries that allowed students to upload their work and peer review others. These components were critical for the art and design programs. Students used the platform to periodically upload their work throughout the design process. Administrators successfully managed (controlled) the mistrust issues and apprehension. The researchers acknowledged that mistrust should be addressed appropriately providing the rational for the change, specifically highlighting the pedagogical advantages that the change brings to everyone involved (Watson et al.).

Actively build trust

- Address issue upfront
- Share class information
- Enables learners to bond with one another

Figure 2: Watson, McIntyre and McArthur's review of case study two

This figure identifies the elements of distrust that arose in the online classroom (Watson et al., 2010).

Student retention in distance education

Naidu (2011) addressed the issue of online student retention. Educators need to address the needs of the many instead of the needs of the few, which is a change from decades ago when higher education was a prized achievement of the rich and bright. Many methods to influence positive student retention exist including a process where students can assess their readiness to engage in the rigors of distance education, in synchronous and asynchronous environments, and develop needed computer and research skills before starting a program. Alternative learning strategies were recommended by Naidu (2011), but these were not specified. Social presence can be enhanced by rich discussion threads on topics of interest to the students, team assignments, and web-based synchronous teleconferences. One limitation of technological advancements in distance education is that global students who live in remote areas may have limited access to technology. It was not clear on whether Naidu focused on instructor social presence or student social presence or both.

Create a social presence

- Rich discussion threads improved social presence

Figure 3: Naidu's Findings on Student Retention in the Online Classroom

This figure shows the two areas that Naidu discussed in distance education (Naidu, 2011).

Student engagement in online courses

Robinson and Hullinger (2008) linked student engagement in online courses to the amount of effort students exert in learning synthesizing the material. Using the National Survey of Student Engagement (NSSE) the researchers measured the engagement of 201 undergraduate students from several universities and several different classes. NSSE measured "level of academic challenge, active and collaborative learning, student interaction with faculty members, enriching educational experience, and a supportive campus environment" (p. 102).

Findings were mixed. The levels of academic challenge in the online classroom were gratifying as students reported the amount of effort to be successful in the class was more than they expected. Advantages of online learning included having more time to deliberate on theories and their application, various modes of stimulation with multimedia, and meeting high expectations set by the course and the instructor (Robinson & Hullinger). While many higher level critical thinking and technology skills were enhanced, speaking skills were not improved, which was not a surprise.

Student faculty interaction mostly consisted of faculty feedback on assignments. Technology, according to Robinson and Hullinger (2008), offered several communication tools to stimulate interaction. Discussion on reading assignments and career advice from faculty were lower than expected, however, and thus could be improved.

Active and collaborative learning had positive results with most of the participants indicating peer reviews and working with other students on projects. Most of the students accessed the online library often to complete assignments. This is a measurement of active engagement, according to NSSE (Robinson & Hullinger, 2008).

Part of an enriching educational experience is learning new technology skills, acquiring learning techniques to use in life challenges, and using social interaction to solve problems. The findings showed men more engaged in memorization, quantitative analysis, and technology while the women were more engaged in synthesis, writing, and collaboration with peers. The higher achievers of A and B students were more engaged than those students of lower achievement. The younger students (less than 25 years old) were more socially active in online discussions and had to work harder to complete the class successfully. The older students, by contrast, limited their discussions to assignment completion and used more higher-order critical thinking skills.

While many of the outcomes of this study were positive, challenges and potential for improvement included: more discussions on the class readings and career advice, using technology to enhance speaking skills, requiring more synthesis of course material over memorization, and more online presentations and peer reviews. The NSSE was found to be valid in measuring engagement, and university leaders could use this instrument to gauge the level of student engagement in their online classes.

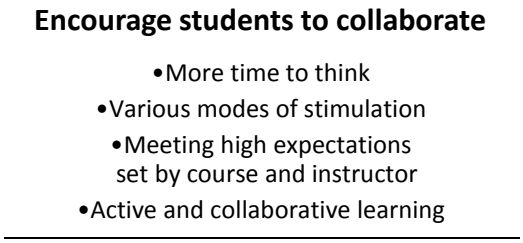

Figure 4: Robinson and Hullinger (2008) review on student engagement in online courses

This figure illustrates the highlights of the Robinson and Hullinger study.

Using community development theory to improve student engagement in online discussion: a case study

Skinner (2009) studied a real-life case where on-line discussion questions, particularly the first introductory question, did not engage students and inspire them to actively participate and become engaged. The study found that a large percentage of students were late in the discussion and did not fully participate. This was due to a lack of motivation. Skinner explored some reasons for lack of motivation and discussed the difference between active and passive participation. Results showed that instructors need to reach each student and make personal

contact. The key is to build questions that truly interest students and entice them. This will in turn motivate students and get them engaged.

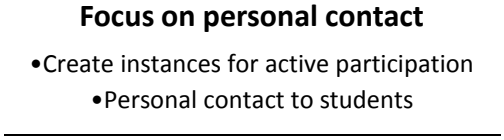

Figure 5: Skinner's (2009) using community development theory to increase student engagement

This figure illustrates the highlights of the Skinner study.

Student engagement in pharmacology courses using online learning tools

Karaksha, Grant, Anoopkumar-Dukie, Nirthanan, and Davey (2013) defined engagement in great length and discussed how the term has emerged. Karaksha et al. (2013) performed a study on the use of various e-tools including animation and what impact this would have on student engagement. In general, students like the added e-tools but did not find the e-tools could replace the traditional lecture information but only supplement it. In the first study, the students did not use the extra e-tools very often. During the second study, the e-tools were promoted through a marketing strategy with reminders and encouragement. The use of the e-tools went up dramatically. The students found the e-tools engaging and said it help to reinforce the material. The study concluded that if e-tools are properly promoted student engagement can increase.

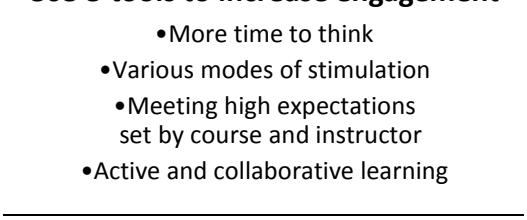

Figure 6: Karaksha, Grant, Anoopkumar-Dukie, Nirthanan, and Davey (2013) Review on student engagement in pharmacology courses using online learning tools

This figure illustrates the highlights of the Karaaksha et al. (2013) study.

Concept of agentic engagement

Reeve and Tseng (2011) original work "proposed the concept of agentic engagement … defined as "students' constructive contribution into the flow of the instruction they receive" (p. 258) as cited in Reeve (2013, p. 579). Reeve's conducted a series of three studies. The first study produced an Agentic Engagement Scale, the second study measures the validity of the scale in the form of associated scores with assessment of agentic engagement, and the third presents evidence that agentically engaged students possess a perchance to produce an impelling, supportive learning environment for one another. Agentic engagement focused on "The role and function of the teacher in supporting the learner's motivation and academic progress" (Ryan & Deci, 2000 as cited in Reeve, 2013, p. 591).

Agentically engaged students work transactionally with the teacher to create learning conditions that can vitalize their otherwise latent inner motivational resources" (e.g., autonomy-supportive teaching) (Ryan & Deci, 2000 as cited in Reeve, 2013, p. 591). In completing the three studies there was an indication that agentically engaged student experiences were more positive than those students who were not agentically engaged. The study provided insight into the connection between student autonomy, the most advantageous learning approaches and the ability to motivate students in a supportive environment.

Consider agentic engagement

•Student autonomy
•Different learning approaches
•Motivate in a supportive manner

Figure 7: Reeve and Tseng (2011) Review on concept of agentic engagement

This figure illustrates the highlights of the Reeve and Tseng (2011) study.

Concluding comments and further research

In this essay, the researchers reviewed literature on student engagement, e-connectivity, and creating relationships. Although there seems to be many studies reported that document specific situations, no validated instrument exists to measure engagement and e-connectivity in the online classroom. The researchers determined that the key to successful engagement is to: 1) build trust, 2) create a social presence, 3) encourage collaboration, and 4) focus on personal contact. Themes that emerged from the literature review are shown below in Figure 8:

Themes of Engagement	
Building trust	Strong interactive skills Confidence to take risks
Actively build trust	Address issue upfront Share class information Enable learners to bond with one another
Create a social presence	Create rich discussion threads improved social presence
Encourage students to collaborate	More time to think Various modes of stimulation Meeting high expectations set by the course and the instructor Active and collaborative learning
Focus on personal contact	Create instances for active participation Personal contact to students
Use e-tools to increase engagement	More time to think Various modes of stimulation Meeting high expectations set by the course and the instructor Active and collaborative learning
Consider agentic engagement	Student autonomy Different learning approaches Motivate in a supportive manner

Figure 8: Themes of engagement

This figure illustrates the themes of engagement that emerged from the researchers' literature review.

Future research could take place in the online educational setting. Researchers can explore a set of underpinning variables used to build trust (for example, creating a social presence, encouraging collaboration, encouraging personal contact). Exploration could also take place to create a validated assessment to evaluate the levels of connectivity in a particular classroom or program.

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About the authors

Dr. Andree Swanson is a full-time Assistant Professor in the Forbes School of Business at Ashford University. She earned a Bachelor's degree in Business Administration and Management from the University of Maryland European Division, a Masters of Human Relations from the University of Oklahoma, a Masters of Arts in Organizational Management from the University of Phoenix, and a Doctorate in Educational Leadership from the University of Phoenix. andree.swanson@ashford.edu

Bill Davis is an Instructor in the Forbes School of Business at Ashford University. He holds a Master's degree in Organizational Leadership from St. Ambrose University, a Bachelor of Arts in Business Administration from Lewis University, and a Certified Manager Certification from The Institute for Professional Managers. Davis completed sales, human relations, and leadership courses at Dale Carnegie Training. He has over three decades experience working in the beverage industry, specifically for PepsiCo. He worked as a consultant for many organizations, advising in subjects like strategic planning, leadership, professional selling, and organizational change. Davis' teaching career began in 2004 and aside from Ashford he has instructed at Blackhawk College and St. Ambrose.

Dr. Omar Parks is an Assistant Professor in the Forbes School of Business at Ashford University. He holds a Doctorate of Business Administration in Management from Argosy University, a Master of Arts in Education in Adult Education and Distance Learning from the University of Phoenix, and a Bachelor of Fine Arts in Theatre and Dance from the University of Wyoming.

Dr. Vanessa Washington is an Assistant Professor in the Forbes School of Business at Ashford University. She has a PhD in Organization and Management from Capella University, a Master of Business Administration from Bellevue University, and a Bachelor's degree in Business Education from the University of Nebraska.

Brenda Forde, MPA, CPA, is an Instructor in the Forbes School of Business at Ashford University, where she teaches courses in accounting and auditing. She is a Certified Public Accountant and holds a Master of Business Administration from Arizona State University. Before coming to Ashford, Forde served as a Vice President of Finance at American Express. She has many years of experience from working in the corporate world. She lives in Phoenix, AZ with her husband and son. They enjoy hiking and staying active together.

Dr. Kunsoo Paul Choi is an Assistant Professor in the Forbes School of Business at Ashford University. He holds two Doctor of Philosophy degrees. The first is in economics, from University of Virginia, and the other is in biblical studies from Drew University in Madison, NJ. His undergraduate work was completed in economics at Sungkyunkwan University in Korea. He has served as an ordained pastor for almost 20 years, having served two Korean churches: one in Manchester, CT and the other one in Tucson, AZ. Professionally, he has worked for Merrill Lynch and Prudential as a financial advisor.

Dr. Stanley Atkinson is an Assistant Professor in the Forbes School of Business at Ashford University, where his areas of concentration are Finance, Economics, and Statistics. He holds a DBA in Finance from Mississippi State University in Starkville and an MBA as well as a Bachelor of Arts in Business Administration from The University of Mississippi. He taught at The University of Mississippi from 1977-1981 and the University of Central Florida from 1981-2004, and, after quickly boring of retirement, began teaching at several schools in Orlando before joining Ashford's faculty in 2010. With over 70 published articles and an award from the Journal of Accountancy in 2005 for the paper of the year,

The Forbes School of Business at Ashford University, Denver, CO

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Editor's Note: In this study, mandated use of a technology did not backfire, probably because the teachers and students were already familiar with Kindle books and accepted the need and value of this technology.

Kindles in the classroom:
A survey of teachers and their perceptions of a mandated high school Kindle initiative

Erin Margarella and Matthew Ulyesses Blankenship
USA

Abstract

This study presents results from a mixed-methods survey that investigated the effects of a mandated Kindle initiative on teachers at a large suburban high school in West Central Florida. The focus of this study targeted teachers' perceptions of technology as well as their desire to incorporate additional forms of technology into their instruction based on the mandated initiative. Substantive findings demonstrate a positive attitude toward other forms of technology and an increased desire to integrate technology.

Keywords: technology, survey, literacy, e book, professional development, mandated

Introduction

This study presents results from a mixed-methods survey that investigated the effects of a mandated Kindle initiative on teachers at a large suburban high school in West Central Florida. The focus of this study targeted teachers' perceptions of technology as well as their desire to incorporate additional forms of technology into their instruction based on the mandated initiative. Substantive findings demonstrate a positive attitude toward other forms of technology and an increased desire to integrate technology. The purpose is to measure the effects of a mandated Kindle Initiative on teachers at a large suburban high school and their perceptions of technology integration in their classrooms. Specifically, we sought to answer the following questions:

1. Does the implementation of a mandated school-based Kindle Initiative impact teachers' perceptions of additional forms of technology?
2. Does a mandated school-based Kindle Initiative affect teachers' likelihood of integrating additional forms of technology in their classrooms?

Perspectives

Founded within cognitive constructivist theory, the New Literacies perspective (Leu, Kinzer, Coiro, & Cammack, 2004) acknowledges that new literacies are steadily developing and challenges teachers to adjust reading instruction in response to emerging technologies. While the research regarding the effectiveness of e-books is emerging, the potential for advancement and improvement is reassuring. As students become increasingly independent with technology, educators must determine methods for incorporating it in meaningful ways and supporting students throughout personal explorations. E-books may provide an effective method for accomplishing this, but, prior to supporting school-wide technology initiatives, school leaders and educators must first develop methods for ensuring equitable access to learning opportunities.

Accommodating a technologically evolving population is more challenging now than ever before. As Facebook, Twitter, YouTube, iPhones, iPads and other technologies become increasingly popular, so too do the ways in which people communicate and exchange information. Reading, writing, and sharing have evolved into a new, more social and easily accessible, format (Bromley,

2010). Students have access to a wide variety of technologies at their fingertips and are utilizing them to systematically perfect their ability to multitask (Carrier, Cheever, Rosen, Benitez & Chang, 2009; Williams, 2008) diversify learning opportunities, and strengthen their efferent and aesthetic responses (Larson, 2009) to texts. In an effort to accommodate the changing needs of students and the general population, some schools are opting to revamp their curricula and utilize the latest trends including Smartboards, blogs, e-books, portable e-readers, and, in some cases, fully online learning opportunities. In a few instances, this initiative includes replacing all traditional textbooks with new and unique interactive e-books (Fasimpaur, 2004) including the Kindle, Nook, and iPad.

The features afforded by e-book technology, when accessible through the Internet, support literacy development and personalized transactions (Rosenblatt, 1978) and opportunities for increased engagement with a given text (Larson, 2009). E-books (electronic books) support learning through scaffolding, interactive activities, sound, and animation. Rhodes (2007) posits that electronic books will enhance a strong print-based literacy curriculum. Through their use, many students can master skills they would not have otherwise been able to (Rhodes, 2007). Often, e-books can replicate traditional storybooks, but enhance them through the addition of multimedia effects (Shamir & Korat, 2006). Although a reader cannot effectively change the text of a particular passage within an e-book, they can transact (Rosenlbatt, 1978) with it, while utilizing digital tools (Eafleton & Dobler, 2007) and transform the text into something more personally relevant than would be possible with a traditional print text. Pricer (2010) articulates that e-books can utilize "metaphysical elements" (p. 56). Students could, "imagine . . . jumping in the book and running with the dinosaurs or flying with a flock of birds, or . . . actually think [they are] listening to a concert being given by Bach or Beethoven" (Pricer, 2010, p. 56). Learning, as a result, can become more relevant, meaningful, and multidimensional.

Recent studies of e-book reading and response behaviors suggested that e-book reading supports comprehension and strengthens both aesthetic and efferent reader response (Larson, 2008, 2009). These responses can result from the presence of "multimedia, interactive effects, written text, oral reading, oral discourse, music, sound effects, and animations" (Shamir, 2009, p. 82). Although multimodal features (animation, sounds etc.) of interactive e-books may also potentially distract readers as they comprehend and attempt to make sense of the story (Burrel & Trushell, 1997). Reading motivation appears higher after children interact with multimodal texts, especially among children with reading difficulties (Glasgow, 1996).

Methods

In order to accurately gauge the teachers' perceptions of technology and to measure any teacher perceived increase in implementing technology in the classroom after the mandated technology initiative, we set out to construct a survey. The survey was developed through a series of steps to ensure the accuracy and reliability of measure. Survey methodology was used in order to have as little impact on teacher time as possible and the preserve anonymity of teachers responding. This improved the accuracy of the results.

To begin, the primary investigator created a rough set of survey questions following a review of the literature on e-books and technology. These questions were then presented to the research team for comment, review and revision. This primarily took place in a committee format where each question was first reviewed independently and then as a set for content validity.

Following this meeting, each member of the research team reviewed the questions again offering final grammatical and substance suggestions and the primary researcher formulated the final survey. The final survey was uploaded into a commercial survey tool, surveymonkey.com, and sent to the research team for a final review.

Following small changes in formatting for ease of reading and clarity, the primary researcher contacted the Assistant Principal of Kindle High School in order to relay the survey to teachers. The survey was sent to all 95 of the teachers employed at Kindle High School via an email. Participants were informed about the purpose and goals of the research project and informed that anonymity would be protected. Participants self-reported their responses and no identifiable information was collected. Participants were not coerced or compensated in any way.

Data sources

Our population included 119 teachers employed at a large suburban high school in Florida. Known within this study as "Kindle High School," this school is the first of its kind in Florida to replace all traditional textbooks with Kindle e-readers. The 119 teachers represented all content areas, but did not include non-instructional positions such as media specialists, administrators, or guidance counselors. The instructional staff consisted of five first-year teachers, 33 with 1 - 5 years of experience, 33 with 6 - 14 years of experience and 48 with 15 or more years of experience (Kindle High School Improvement Plan). Fifty-three teachers held an advanced degree and four were Nationally Board Certified.

Results

Our survey had a response rate of 21.8% (N=26). Of the respondents, 96.2% (N=25) viewed technology as a priority in the classroom and 88% (N=22) used technology on at least a weekly basis in the classroom. The form of technologies often reported were document cameras, computers and mobile computer labs. With this information, it was not surprising that 100% of respondents (N=25, one respondent skipped this question) felt somewhat comfortable or very comfortable using technology prior to the Kindle Initiative.

Following the mandated Kindle Initiative, 57.7% (N=15) of respondents utilized the Kindle in the classroom on a weekly or daily basis and 70.8% of respondents (N=17, two respondents skipped this question) reported receiving monthly professional development concerning utilization of technology in the classroom. After the mandated Kindle Initiative, 79.2% (N=18) of respondents reported a meaningful effect on his or her desire to incorporate technology in the classroom. Finally, as a direct result of the Kindle Initiative, 79.2% (N=18) of respondents reported they are very or extremely likely to seek out other forms of technology for instructional purposes. These included smartboards, laptops, moodle and online submission websites. With these results, the mandated Kindle Initiative had a meaningful effect on teachers' probability to use other forms of technology for instructional purposes. Many respondents reported an "increase in engagement" among students and one respondent said students have "more energy [and interest] in research."

Conclusions

In today's classrooms, reading instruction, along with the broader notion of literacy instruction, is undergoing a tremendous transformation as new technologies demand new literacy skills (Leu, Kinzer, Coiro, & Cammack, 2004). The International Reading Association (IRA 2009) has emphasized the importance of integrating information and communication technologies into current literacy programs. As devices such as the Kindle become increasingly popular, it seems logical that such technologies should, then, be promoted in content high school classrooms. This study has demonstrated the overwhelmingly positive impact of such an initiative on teachers' perceptions of technology integration in high school content classrooms. Using technology in the classroom is an important aspect of a 21st Century Education. This study measured and analyzed the increased technology use at one Florida High School that implemented a Kindle Initiative for all students and classes.

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About the authors

Erin Margarella, M.Ed., M.A., is a Doctoral Candidate at the University of South Florida, Tampa. Her research interests include literacy, technology, and policy.

erinmargarel@usf.edu

Matthew Ulyesses Blankenship, M.Ed., is a Doctoral Candidate at the University of South Florida, Tampa. His research interests include adolescent literacy, policy and curriculum development.

mublanke@mail.usf.edu

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