Contexts for Teacher Education

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The Significance of Content and Pedagogic Knowledge

By

Bengi Sonyel

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CHAPTER 1

ONLINE LEARNING

Introduction

Online learning is a method of delivering educational information without needing to participate in classes on campus. It is nothing new, but the technologies used in online classes are relatively new. Distance learning was born many years ago when the instructor sent lessons and received students completed assignments by mail. Nowadays, online courses are modern versions of their predecessors. Over the last decade, online education has become a way for students and faculty to utilize new media and tools to learn and deliver courses. Online educational options offer endless benefits, necessary to accommodate learners for the future. Twenty-first-century learners should improve their skills offered through Web. 2.0, which is a new version of the web, to succeed. Nowadays, due to the changes in lifestyles, some people who are time-restricted by work requirements cannot participate in physical classrooms, and online education provides them access to higher education. Consequently, the demand for online classes is increasing, and most universities are offering online courses to deliver their courses in instructional design. Online learning has become the greatest revolution in contemporary education. Some advantages of online learning include:

- More comfortable learning environment
- Convenience and flexibility
- Improves technical skills
- Lower total costs
- Variety of programs and courses
- Self-paced learning
- Variety of available sources around the world

The differences between instruction in online courses and traditional classes are evident: the methods of delivering information, the type of interactions, and the evaluating the results can be very different in the virtual environment

compared to traditional classes. However, online courses are designed to transmit the same knowledge and skills as traditional courses; therefore, instructors use the same instructional methods for the online teaching environment. Some of the instructional methods are used in online courses include:

- Lectures
- Discussions
- Demonstrations
- Simulations
- Case studies
- Problem-based learning projects

In recent years, online learning has become a major part of the educational world. Because of the increase in the demand for online classes and the effects of teaching methods on the quality of instruction, an investigation of the instructional design methods is an essential part of the educational world. Due to the importance of the teaching methods teachers use in online classes, discovering potential problems in the implementation of the existing methods is important. The main issue for online educators is creating effective teaching methods for an online environment that foster actual learning, and how to teach with curiosity, energy, creativity, and problem-solving skills. Nowadays, advanced communication tools give both teachers and students a real chance to make their learning experience as close to regular face-to-face conditions as possible. Therefore, teachers should adopt their teaching methods to create a more effective learning environment.

Another point to consider is examining the degree of interaction in online classes. One of the major challenges for today's online instructor is creating a high level of interaction to develop real learning and promote students' abilities to work in the real world. Meyer (2002) examined the amount of interaction in online environments and the effectiveness of some types of interaction in the learning process and concluded that increasing interaction in online classes has significantly positive effects on student learning. Some of the instructional methods that can enhance interaction and authentic educational experiences are:

- Promote critical thinking
- Relevant and engaging lectures
- Integrate stories into the class discussion
- Provide students with flexibility

Another point to consider is different learning styles. According to studies, students who have some specific characteristics are more successful in their online learning experiences. According to Vrasidas and Glass (2002), these characteristics are an internal locus of control, self-motivation, and independence. Furthermore, the level of student engagement in the learning activities is also very significant. The issues of learners' engagement in activities and the best methods to use in online classes bring some questions to mind. For instance, what are the best methods for supporting learners? How can we apply traditional methods in new settings? What types of interaction should be enhanced to provide the best educational experiences for students? How to facilitate student collaboration? What types of educational practices can create positive communications within the class?

The aim of this research is to explore the existing teaching methods for two online courses — Banking and Finance master's program at the Department of Business and Finance (B&F), and the Hotel Management master's program at the Faculty of Tourism Hospitality and Management (TH&M) — and to investigate learners' perceptions of the teachers' use of instructional methods for online learning at Eastern Mediterranean University (EMU). The aims of this research can be listed as follows:

 To reveal which teaching methods teachers use for online courses at the Department of B&F and Faculty of TH&M
 To reveal the perceptions of students' regarding their online learning experiences
 To assess the students' needs and their preferences in the online learning environment
 To find the limitations and problems of the teaching methods used by teachers for online courses
 To suggest a more effective teaching method to teachers to help them to deliver their information easily and to help students have better online learning experiences

Online learning approaches

Online learning can be fully online or blended learning. Fully online is a form of online learning in which all the instructional activities, including the presentation of materials and assessment, take place through the internet. However, the blended or hybrid learning approach is made up of face-to-face interaction and online learning. Moreover, the two approaches to online learning include asynchronous and synchronous methods. In the synchronous learning approach, the participants interact and collaborate at the same time

and in the same virtual space. Participants are involved in direct interaction by asking and answering questions in real time. Asynchronous learning takes place anytime and anywhere. Participants are not expected to engage in instruction in real time and learning is not scheduled, unlike the synchronous approach. It is a flexible and convenient method for people who are combining their education with other commitments.

Benefits of online learning

Web-based learning provides a significant scientific environment in which students and teachers can exchange information more easily. The web increases opportunities for learning because students have access to diverse conventional information and topics. It helps students develop their knowledge and improve their 21st-century skills. Online learning, the latest and newest version of distance education, plays a significant role in the world of education today. The number of students enrolling in distance education courses is increasing. There are many advantages and uses of online learning.

Cost-effectiveness

The cost of education, especially postsecondary education, is increasing faster than the inflation rate, and the issue of education cost has been a big challenge for students. As Nguyen (2015) noted, "as of 2014, the total national student loan debt is over one trillion dollars." Educators believe that online learning can decrease the cost of education because the cost of the class is spread over a much larger number students compared to the traditional classroom. However, it can also be said that the large number of students can affect the quality of education, but teachers can solve this problem by using appropriate tools and teaching methods. In the same way, the marginal cost of studying, including the cost of transportation and the requirements for the physical classroom, are negligible compared to a traditional classroom.

Effectiveness in educational outcomes

Riffell and Sibley (2005) proposed that the most significant benefit of the online format of education is the effectiveness in educating students. It has been found that students who had online classes gained better results compared to face-to-face classes. Results include higher scores, student engagement in learning activities, and having more meaningful learning and

a deeper understanding of courses. Nguyen (2015) found out that "students who learned in a blended format have a stronger sense of community and better outcomes compared to the traditional format."

Providing a world-class education

According to Nguyen (2015), providing a world-class education is the most attractive aspect of online learning. Students who have different skills, information, languages, and cultures come to study, and it's a valuable training experience for them. Online education eliminates restrictions and borders. Students from anywhere at any time who have a problem because of their geographic situation or time limitations can attend online classes.

Rich feedback and evaluation

Easy communication in the online learning environment means students receive feedback from their classmates and teachers more easily. Teachers use tools to record test and homework results on a web page, and this provides each student immediate feedback. Student can also access the grades of their classmates and so can assess their own performance. Additionally, online courses enhance the teachers' ability to measure the results through specific tools and techniques. As Appana (2008) mentioned, the existing effective software and meaningful application have promoted the reality in evaluation.

Student interaction and satisfaction

The results of much previous research have shown that online learning can provide a student-centred learning environment and enhance the interaction between students. Appana (2008) believes that the level of interaction in the learning environment defines the course quality and satisfaction. Roblyer and Ekhaml (2001) explained that student satisfaction is positively impacted by ensuring three main conditions are met: (a) using convenient technologies, (b) designing the course to support learner-centred instructional technology, and (c) determining the role of the instructor as a facilitator in class. Furthermore, the online environment provides rich resources for online learners. Students have access to a wide variety of resources related to their knowledge area, including online journals, relevant websites, and online libraries (Thurmond, 2003). Instructors can use different tools, such as specific software designed for an online environment. Yerk-Zwickl (2003) explained that Centra Symposium is a collaboration software used in

distance teaching and learning. This software provides a web-based environment that can support live instructions, presentations and meetings, and it can be used for creating a suitable and ideal environment for "highly interactive team collaboration, virtual classroom and hands on training applications."

Disadvantages of online learning

The lack of control

According to Smaldino, Lowther, & Russell (2008), unfortunately, there is no organization or agency to control the individual activities, discussed topics, and websites that are added to the internet daily. Control is in the hand of individuals. Everything is posted on the internet without restrictions. Therefore, students might access information that is too advanced for their understanding and for which they are too young. In addition, many new websites are added to the internet daily. This can cause risk of information overload. Students might feel attacked by the high volume of information on the internet. Consequently, finding relevant information can be difficult since there is no teacher in online classes to filter information. Diversity in online data might truly confuse young students. Another point to consider is verifying an online program's accreditation. Due to the lack of control on the internet, the number of accredited schools is increasing which earn money illegally and involve fraud. Students must check the validity of online program by using accrediting agency.

Copyright

Copyright is one of the main legal issues that can cause trouble in online education. Because accessing and downloading information is easy, individuals can illegally appropriate files with minor changes in the concept and pass if off as their own work.

Ability to access course materials

Online courses need to design their offerings by considering the availability of software and hardware to students. Students without access to adequate technology, who perhaps live in smaller countries, may not to be able afford new computer equipment. Flye, Gibson, Seemann, & Wilkinson (2002) found that although people are making an effort to put computers in college classrooms, the number of computers is not sufficient. Many learners don't

have access to computers in their classrooms or in their homes. Electronic equipment is limited for many learners, and this creates competition between students who have access to technologies and those who don't.

Time-consuming

Bartolic-Zlomislic and Bates (1999) found that online learning and teaching can be time-consuming because of large amount of reading (discussion forums) and writing required. Instructors need more time to provide materials and respond to students. Online education is not ideal for individuals who are not particularly good at time management, and they should stay away from web-based learning.

Technical support

An online environment needs technological expertise to be readily available. Someone needs to provide web server access, necessary hardware, and run software before online courses can be held. Any kind of problem/s on a network can shut down online classes, therefore probable technical problems should be estimated by educators in advance. Probable technical problems might occur during the classes. These problems are troublesome in the case of video conferencing and virtual meeting. Issues such as internet speed and limited bandwidth which affect the quality of video and sound are of concern in online classes. Consequently, establishing high quality equipment before starting an online course by technical expertise is very significant. For instance, limited bandwidth means slower performance. Delivering educational materials such as video, sound and large graphics through the internet needs high speed and high bandwidth.

Reflective practice

The terms "reflection" and "critical reflection" have increasingly appeared in descriptions of approaches to teacher education. It is a method of developing training skills and competencies. Lieberman & Miller (2000), cited in Sandhya Reddy (2014), pointed out that reflective teaching, reflective inquiry, and reflection-on-practice help teachers improve their professional skills, which are very important to teach effectively. Every teacher has their own way of teaching according to their experiences or their beliefs. Reflecting on teaching practice helps teachers evaluate their own teaching methods and make them stronger and more effective. Copeland et al. (1993) identified twelve critical attributes of a reflective practitioner.

These include attributes relating to the identification of problems, the generation of solutions, the testing of solutions, and learning from reflective practice. Teachers use this process to develop and reconstruct their understanding of an aspect of professional practice. Other attributes of the reflective practitioner have been identified as viewing oneself as a resource, using relationships with other teachers as resources, and being aware of different kinds of knowledge from which to seek assistance. One idea that consistently emerges from the various definitions of reflective practice is the notion that students must be aware of and able to monitor their own thinking, understanding, and knowledge about teaching to be a reflective practitioner. Reflective practitioners can identify a problem in their practice, the term 'problem' here meaning a situation/issue where there is some doubt about how to proceed (Parsons & Stephenson, 2005).

Distinguishing between the qualitative and quantitative research approach is a methodological issue, and choosing a specific methodology depends on the research questions. Both qualitative and quantitative approaches were used in this research. A case study approach was used to explore the online teaching methods used for online courses and to reveal students' perceptions regarding online programs in EMU (Eastern Mediterranean University). EMU was chosen in order to examine the significance of online learning and teaching in depth. Choosing the case study research strategy could be attributed to several reasons. As Yin (2003) proposed, a case study is an effective method when our questions include "how" or "why," and when researchers don't have control over current phenomena. Considering the use and application of teaching methods and techniques, instructors were interviewed to explain their teaching methods and the techniques they used in detail and to describe the advantages and limitations of online courses; students were also surveyed. Examining both students' and teachers' perceptions in depth helped suggest an alternative way to alter the current existing teaching and learning methods used for online courses at EMU.

In terms of instructional methods, more than half of the students from both departments agreed that instructors should use similar methods in online classes and traditional classes, whereas 35.4% of students from the Department of B&F and 6.4% of students from the Faculty of TH&M claimed that instructors might use different teaching methods in online classes and regular classes. According to statistical data analysis, students believed that a variety of instructional methods, such as presenting case studies and articles on web pages, online lecturing, using discussion forms, and creating small group works, should be utilized in online classes by instructors. Another significant issue that could be considered was the

interaction and collaboration between students in online classes. Results from both departments indicated that more than 60.4% of students from B&F and 64.5% from TH&M believed that existing instructional methods create adequate collaboration and interaction between students. In contrast, 43.8% of students from B&F and 29% from TH&M reported that online courses didn't engage students in discussions, collaborative work, and problem solving. Finally, regarding the various technology tools on the online environment, statistical results showed that most of the students in both departments believed that appropriateness of technology tools in online classes was very significant.

Moreover, instructors believed that the existing online system in the university was not actually interactive. One of the teachers said that the online programs were not actually online, and they would categorize it as distance learning but not interactive. Another one said these online classes were a type of self-study and you needed to guide the students very well. Additionally, existing problems and limitations, such as the lack of sophisticated tools and techniques, meant that instructors were unable to apply latest type of teaching methods in online classes. They claimed that basically their communication method was via email. There were not many other methods available and, unfortunately, they had not applied the methods they used in everyday classes to their online classes.

Regarding the application of teachers' teaching methods in online classes, it could be said that instructors were using the lecturing method for online courses in both departments. Instructors prepared the instructional materials and then sent them to the students. Students were expected to download and read the materials and do the assignments. According to Partlow and Gibbs (2003), online instructors should not deliver instructional material to students; rather the students must actively look for the material. In addition, Partlow and Gibbs (2003) noted that teaching is a "process of helping learners construct or create their own meaning by providing them with authentic learning experiences and guiding them through the meaning making process." However, collected data presents a misuse of the effective teaching methods for online classes.

Teachers revealed that each week they put updated information on the module system in which they write in detail their expectations for the assignments. They asked students to prepare some assignments so they could follow the lectures. These assignments were a combination of reading materials and then searching for related up-to-date information. Students were expected to read the concepts, understand them, and then find some

examples and prepare an assignment to submit. Instructors were asked a question about the tools and technologies that should be used in online classes. It could be said that, overall, teachers believed that there were plenty of tools and technologies for online environments they could use, such as Module, online instructional websites, email, Skype, the phone, and more in both departments. However, they also said that many of them had not been established in their university yet. On the other hand, some instructors claimed that sometimes they used interactive tools such as Skype. Skype was the main tool for online classes, plus if students needed some more explanation related with the lecture, they used the recorder to record their explanation and then sent it to them. Seventy percent of their communications with the students were through the module system, and sometimes these communications were on the phone as well. Overall, it could be said that only some instructors could use the current technologies in their classes due to the lack of strong supervision and infrastructure for online courses.

To optimize online learning outcomes, using a reflective practice in online programs instead of traditional lecturing methods could be more effective in the teaching and learning process. In EMU's case, the lecturing method was the teachers' main teaching method for online courses, which is the traditional method of teaching in regular classes. Without using appropriate communication tools and technologies, implementing effective teaching methods and techniques was not possible. Students thought that the appropriateness of technology tools to deliver course materials was the most important criterion of an effective teaching method. A student-centred curriculum for the online programs, using suitable communication tools and technologies in online classes, attending in-service training programs, and the degree of collaboration and interaction were major issues that should be considered in online classes.

Furthermore, the lack of strong supervision and insufficient infrastructure were lacking in the online programs in the EMU case study. Most of the teachers claimed that they couldn't implement their ideal teaching methods. In fact, without a fundamental infrastructure for online learning and without using appropriate tools and technologies, the implementation of the latest and most effective teaching methods was not possible. They used the traditional teaching method, which is just delivering information and assessing students based on their exam grades. Continual career-long professional development is necessary for all educators to keep pace with change and review and renew their knowledge, skills, and visions for good teaching. The way educators behave as professionals is fundamental to the quality of classroom teaching and learning and is at the core of much

research. Educators need to strive to find newer, better, and more efficient techniques, which is known as continuing professional development. Continuing professional development is a commitment to ongoing lifelong learning. We all learn by doing, creating, thinking, and reflectively practising. As Freire (1996) said: "I cannot teach clearly unless I recognize my own ignorance, unless I identify what I do not know, what I have not mastered."

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CHAPTER 2

SIGNIFICANCE OF INFORMATION COMMUNICATION TECHNOLOGY (ICT)

Nowadays, computers are the potential deliverers of the educational system since they can be used to personalize learning; that is, to design learning according to the learners' knowledge and needs. The attention of educators has over time been attracted by the development of the internet and internet-based computerized learning (i.e., e-learning). Academic studies in this area have found that the process of obtaining web technology for the purpose of learning and teaching is quickly becoming an important tool in these fields. In accordance with the latest requirements, many institutions and individuals prefer to provide education/training via the internet, and this has sparked a remarkable increase in web-based education institutions. As such, there has been a rise in the usage of personal/informal as well as institutional/formal web-based learning platforms. Therefore, the web, with its wide range of functions, has become such a highly invaluable source of, and the tool to acquire, learning, research development that in all honesty without its learning process. Owing to this, the major purpose of this study is to analyse the perceptions of EMU students through a web-based learning platform. This research is a case study, and a mixed approach is used (both quantitative and qualitative) as a methodology. The findings revealed that web-based learning potentially has many advantages; however, the lack of experience and computer literacy as well as infrastructure problems while using such a system could build a barrier to the way students learn.

Keywords: e-learning applications; multimedia technologies; research; the educational system; teaching tool

Introduction

For teaching purposes, the utilization of technologies available in information communication technology (ICT) advancement has generated interest among many educators (Sivapalan & Wan Fatimah, 2010).

Information and technological tools and resources are used in communication, creation, dissemination, and storage of information. This includes (but is not limited to) computer facilities, the World Wide Web (WWW), and ICTs, which means information is managed through broadcaster technologies such as television, telephony, and radio (Hendriks, 1999). Recently, among the above-mentioned technologies, there has been increased attention to utilizing computers and WWW efficiently and effectively in all levels of education. However, ICT is not only limited to such technologies but also covers the older requirements (e.g., television, radio, and telephone) despite their usage fading out. In the last four decades before the invention of the internet, television and radio were used for delivering distance and open education (Tinio, 2003).

In developing countries, due to insufficient infrastructure, using the internet and computers is in its early stages. A couple of systems use a combination of technologies rather than only one. In some countries, the use of radio broadcasting, computers, and the internet simultaneously provide adequate access to communities living in urban and rural regions. Printed materials are still used as well as television and radio broadcasting, although online technologies have been recently provided. Moreover, the Indira Gandhi National Open University utilizes print, audio/video, tele-broadcasting, and audio-conferencing equipment altogether (Tinio, 2003). ICT, in all aspects, is now an important and inevitable part of the education process. It has been proven that integrating ICT with the pedagogical system can significantly increase not only students' and educators' technological skills but also the social and cognitive ones necessary to respond, i.e., a critical and creative manner, to the requirements of society (Anastasiades & Zaranis, 2016).

Have a closer look at ICT. The most important role in the integration of ICT belongs to educators despite the existence of a variety of policies and frameworks. The attitude of educators to technologies such as computers and the web should be studied and developed before integrating ICT into the pedagogical system can succeed. It has been found that training educators is not an easy process and needs constant effort over a long period of time. It is, therefore, desirable to mention that this does not mean that students do not have any role, but the role of educators is much more important (Anastasiades & Zaranis, 2016).

Moreover, modern educational methods try to provide equal quality of service for all the students, including those who need special attention and those with a degree of disability. This principle is also true for the application of ICT in education, despite its rapid development. There are

creative approaches and tools to support both groups in the education environment, such as classrooms and laboratories, and the aim is to preserve an equal quality of learning as well as student participation no matter their abilities (Anastasiades & Zaranis, 2016). The gap is between the skills and knowledge learned in schools and the emerging demands of society, which is now a big challenge for educators. In other words, traditional problem-solving skills are just part of the overall skill set that students should learn. Knowing how to communicate, share, and solve problems in groups are others. The challenge is migrating from the teaching and learning methods that were designed in the 20th century to the ones suitable for the students of the 21st century. This migration includes applying innovative approaches that concentrate on focus and creative problem solving.

The objectives of the study are as follows:

1. Effect of WBLP (web-based learning platform) on the students' learning outcome regarding their grades.
2. The students' perceptions of WBLP on their learning outcomes hinge on its learning interface, teaching material, learning tool, and instructional strategy.
3. The students' perceptions of WBLP on their learning outcomes regarding their age.
4. The students' perceptions of WBLP on their learning outcomes considering their experience.
5. The students' perceptions on WBLP on their learning outcomes regarding their computer literacy.

The present study contributes to the literature by providing further evidence of the web-based learning platform in the context of e-Learning setting with data from undergraduates enrolled in the Department of Information and Communication Technologies in Education, Eastern Mediterranean University, North Cyprus. The paper is structured as follows. First, we provide a review of the literature on WBLP. Then, the research methodology. Thereafter, the results and findings of the collected data. Finally, the conclusion along with the acknowledgement is presented.

Learning

In this regard, the process of learning can no longer be considered as just some instructional formula but should be studied and researched constantly as combining both practical and theoretical aspects of solving problems. "Electronic learning" (so-called e-Learning) is defined by Paulsen (2004)

as “the provision of automatic feedback to the student’s learning activities in which the learning content is available and accessible online.” Although e-Learning has common features with computer-based training (CBT) and computer-aided teaching (CAT), the major difference in using the internet as the main medium is to provide materials and supervise student's activities. Moreover, in e-Learning, communication between educators and students is also done via the internet; however, it is considered a side activity. The main concentration is on organizing and providing proper access.

One should keep in mind that “learning” is not the same as “education”; it is only one component of it. Hence, web-based education (WBE) is much more comprehensive than e-Learning as it provides more services. While e-Learning providers mostly concentrate on the content and form of learning materials and content, the companies and institutions delivering WBE try to offer a wider variety of support and educational services. However, in the literature it may be found that WBE and e-Learning are used interchangeably. As written in Kaplan-Leiserson (2000): “E-learning consists of a broader number of processes and applications including and not limited to digital collaborations, virtual classrooms, computer-based learning, and web-based learning.” It covers facilitating the delivery of information via the internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive TV, and CD-ROMs.

One of the most significant and critical challenges in web classrooms is to know the real evaluation of the learning environment and the students’ activities. To overcome this issue, it is suggested to periodically ask students to fill out evaluation forms and get a clear insight into any changes to their attitudes toward the program during that time. Moreover, there are monitoring systems that provide complementary feedback on the acceptance rate of the web classroom. For instance, the system can track the number of online students, logins and logouts, time of being online for each student, amount of contribution of each student, and so on. All these factors can be used to discover the degree of students’ eagerness and the strong and weak points of the system. By using such systems in the long-term, a comparison between the different runs of the same programs is possible. For example, teachers can compare the exam grades and submitted assignments to find out which runs were more successful than the others, helping to improve the quality of the education service (Devedžic, 2006). Distance education that can be set up on a “point-to-point” or “point-to-multipoint” basis is a kind of planned educational experience in which learners from all around the world can participate. Distance education can be delivered in the form of

individual participation, teleseminars, teleconferences, web conferences, electronic classrooms, and so on (Devedžic, 2006).

Web-based learning

Based on various research and developments, academia, industry, and technology have adopted web-based E-learning (WEL) after it extended its capabilities and flexibility in both training and education.

Walk through a typical learning environment on the web that uses some or all of the following properties of learning: learning material presentation, learner assessment, internet recourse, instructional support, and technical support. Nonetheless, limited studies and research have developed standard research criteria and tools of measurement and have been involved in the evaluation of components of web-based learning platforms (Ateş, 2013; Hsu et al., 2009).

Hsu et al. (2009) proposed a learning platform on the web with an evaluation scale for the determination of web-based learning platforms and design criteria consisting of learning facets that include instructional design, learning theories, interface design, and learning tools.

Recently, the benefits of WWW and the internet to education have gained a lot of attention. These technological tools let students and instructors cooperate and communicate much more effectively than before. They are not only efficiently applicable in individual practices but also inherently support collaboration, communication, interaction, exchange and reflection. Although many educational systems have adopted these technologies, work still needs to be done to discover their complete potential and how to reach the aim of utilizing them fully.

Advantages and disadvantages of WBLP

To provide a contextualized situation, this research needs to consider several advantages and disadvantages of using the web as a learning environment. An example of a web-based learning environment advantage is the increase in accessibility and the promotion of location independence. This, however, is of no use in a case where a learner does not have any access to the internet. The way the system is used also determines the advantages and disadvantages of WBLP. When the existing distance learning materials are replaced and learners have internet access, web-based learning becomes an advantage. If there's an intention to continue using the

traditional face-to-face classroom-based learning model and the web-based learning environment is developed for a particular group of learners, then this means the time and effort incorporated in the development of the web-based environment may no longer be advantageous. Learning can be instantly delivered to almost anywhere that is connected to the internet or network, updating and upgrading are simply done and instantly reachable, the whole internet can be used as the companion material for the lectures, students' activities and progress feedback can be monitored and delivered to the educators to analyze, and communication between formal and informal groups can be established and used (Jolliffe et al., 2012).

The technical limitations associated with computers and the internet are one disadvantage of using web-based learning. Since materials are static and interactivity is controlled by the forward arrow, many learning environments reflect the early days of computer-based learning and this is fueled by technical limitations. In order to design an effective environment for learning, the designer needs to possess knowledge about computer-based learning. A limited bandwidth, for example, creates problems when graphic-intense materials are downloaded so both learners and facilitators need to be provided with training (Jolliffe et al., 2012).

The relationship between e-Learning and web-based learning systems

Today, web-based learning systems are undetachable elements of e-Learning frameworks. Recently, much higher education institutions have adopted the latest web-based learning system for their online and e-Learning programs (Ngai et al., 2007). These systems, which are delivered by the internet, include Smile (System for Multimedia Integrated Learning), WebCT (Web Course Tools (WebCT), BLS (Blackboard Learning System), and WebCT (Web Course Tools). The new definition of e-Learning emphasizes the role of the internet and web-based technologies that can overcome space and time obstacles (Ngai et al., 2007). These technologies include those that facilitate communications, convey knowledge and multimedia, and provide virtual collaborative environments and training tools to keep the learning process active and effective. To continuously engage learners in the learning process, active learning is one of the pillars of the new E-learning definition, so students should be asked to do aimful learning tasks frequently. A VLE (virtual learning environment) or WBLS (web-based learning system) is a platform designed for providing a web-based communicative environment that does not put any restrictions on the

time and location of learners. The platform provides facilities for easy access to the course curriculum, contents, multimedia sharing, discussion rooms, resources, and effective instructor help (Raaij & Schepers, 2008).

Instructors' adoption of web-based learning systems

Users' contributions, satisfaction, and attitudes play a major role in the success of an information system (Wang & Wang, 2009). Designing, implementing, and maintaining an information system is expensive and is sometimes unsuccessful; however, they are vital for contemporary enterprises (Yuanquan, Jiayin, & Huaying, 2008). As investment in e-Learning technologies and management systems increases, user satisfaction becomes a much more important issue. The majority of e-Learners are students who determine the success of the specific technologies used in e-Learning (Teo, Lee, Chai, & Wong, 2009); hence, as also shown in studies, successful e-Learning technologies are those that have been accepted and embraced by large groups of students (Sanchez-Franco, 2009; Yuen & Ma, 2008). Therefore, institutes planning to use effective e-Learning technologies in their programs should first track student satisfaction of the online learning technologies (Wang & Wang, 2009).

There are some studies on the instructors' acceptance of online and web-based learning technologies (Hu et al., 2003; Ma et al., 2005; Pynoo et al., 2011; Sanchez-Franco, 2009; Wang & Wang, 2009; Yuen & Ma, 2008). The research done by Ma et al.' (2005) showed that "perceived ease of use" and "perceived usefulness" are the two most effective factors when considering adopting computer technologies. In the study conducted by Yuen and Ma (2008), subjective norm, perceived usefulness, and computer self-efficacy were not effective motivators for reusing e-Learning technology. However, perceived ease of use was highly positively correlated with motivation. For Likewise, Wang, and Wang, 2009, subjective norm and perceived usefulness were found as effective factors in instructors' intentions to apply online learning technologies. Wang & Wang (2009) found that despite existing studies considering the instructors' adoption of e-learning systems, few studies have monitored the instructors' attitude from the viewpoints of user willingness and successfulness of the system used. The studies on technology embracement have evaluated user happiness by attitude and intention to apply (Pynoo et al., 2011).

Methods

According to the literature, the mixed method approach (questionnaire and interview) provides a way to investigate WBLP from all aspects and with a smarter insight. As emphasized by Johnson et al. (2007), "Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches for the broad purposes of breadth and depth of understanding and collaboration." A scale proposed by Hu et. al (2009) was used to analyze the students' perceptions of the effects of WBLP on their learning outcomes. The questionnaire was distributed to all 2nd, 3rd, and 4th-year undergraduate students at EMU who were registered in the Department of Information and Communication Technologies in Education, Eastern Mediterranean University, North Cyprus and had completed at least one WBLP course. The data was collected using 40 survey questions for the quantitative part; and five open-ended semi-structured interview questions for the qualitative part. For the analysis of the qualitative part of the research, SPSS 24 was used, and the significant point rate and average mean was taken as 0.05 level value spot. Content analysis is a qualitative research tool that is widely used to analyze content and its features.

Sample characteristics

Three hundred EMU students participated in the survey (Male, n=170; Female, n=130). Additionally, five semi-structured interview questions were used with twenty randomly selected volunteer students. The age of the students is normally distributed, with the median age being between 18 and 39 years. The questionnaires were handed out in the class and were completed voluntarily. All 300 questionnaires were retrieved.

Results and findings

Descriptive Statistics

Tables 1, 2, and 3 below detail the students' perceptions of WBLS. For the assessment of validity of the scale proposed by Hu et. al. (2009), piloting of the instrument was used, and to determine the inter-rater reliability, an independent coder was trained to use the coding systems. Comparisons were made between the survey responses made by the independent coder and the author. The inter-reliability for the coding scheme was found to be about 90%.

Students' perceptions of WBLP assessment

This part of the questionnaire focused on students' grades for a specific course taught by WBLP in EMU. According to Table 1, 32.6% of students got A or A- for their WBLP course; 36.8% of students got B, B-, or B+ in their course; and 28.4% of students got C, C+, or C. Only 2.1% of participants scored an unsatisfactory D, D-, or D+ in their courses. None of the students failed or got an F.

Table 1: Students course grade

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D +D D-	4	2.1	2.1	2.1
	C+ C C-	54	28.4	28.4	30.5
	B +B B -	70	36.8	36.8	67.4
	A A -	62	32.6	32.6	100.0
	Total	190	100.0	100.0	

Source: From PhD research data

The students' perceptions of WBLP

According to the statistical analysis regarding the usefulness of WBLP from the students' perceptions, "Q6. It applies various learning facilitation medias" had the maximum mean (M=4.14, SD=3.102). Moreover "Q33. The teaching material paragraph is clear" (M=4.11, SD=1.046); "Q8. The presented content is correct in its instructional goal" (M=4.11, SD=0.968); "Q18. The provides quick error instruction" (M=4.08, SD=1.035); "Q19. The provides the mechanism to ask for systematic manager help" (M=4.04, SD=1.09); "Q30. The interface design is creative" (M=4.04, SD=1.049); "Q31. The teaching material is accurate" (M=4.04, SD=1.049); "Q34. The teaching material induces learning motivation" (M=4.04, SD=1.076); "Q3. It assigns evaluation practice for the class" (M=4.04, SD=1.095); "Q2. It indicates the knowledge and techniques to be learned" (M=4.03, SD=1.105); "Q16. The category is appropriate" (M=4.02, SD=1.084); and "Q40. The interface design is creative" (M=4.02, SD=1.031) (M=4.01, SD=1.057) all had a mean higher than the average mean (M=3.952). On the other hand, participants were not satisfied with the learning tools since "Q11. It provides practical learning tools (e.g., online notebook)" got the lowest mean (M=3.77, SD=1.077). But overall, the results reflected their satisfaction with the usefulness of WBLP.