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Integrating Technology within the Higher Education System in Lebanon

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Abstract

The Lebanese University still adapt a traditional system ofEducation and there is still a lack of adequate research funding, shortage of student accommodation, grants and loans. Besides the impersonal culture of many universities, with large classes,a lack of candidate competency is the main problem according to owners of private companies, besides language, information and skills barriers. This article undertakes integrating technology in the educational system to improve thepublic education in the Lebanese University. A qualitative study has been done and secondary data were used. The aim of this is article is to highlight on the Lebanese Highereducation and to give a glance about the latest practices of technology in education, as well on the latest successful practices of the field.

Higher Education System

The Ministry of Education and Higher Education governs the Lebanese Higher Education. HEI counted around 195,000 students in 2007-2008, or 43% of the total national enrollments (Khalaf & Sulman, 2007; Sahyoun, 2004). The gross enrollment for ages 20 to 24 was 30%. Two types of educational institutions exist that provide higher education: the public Lebanese University (LU) and the private universities. The LU has its own regulations and an independent structure (Khalaf & Sulman, 2007). The private sector follows the main law issued in 1961, whereby a council for HEI was initiated via licensing. Leaders of HEIs usually follow and adopt their own quality standards with some of these institutions acquiring accreditation by external educational organizations from the United States and Europe (Saleh, 2007).

Nearly everyone who discussed the higher education issues in Lebanon has mentioned that no proper quality assurance or national accreditation system exist (Khalaf& Sulman, 2007; Sahyoun, 2004; Saleh, 2007). In addition, there was no official student organization at the national level. Students were to be represented in all committees governing their institutions (Jammal, 2012).

The funds allocated for the Lebanese university in 2013 was 310 billion with a 4500000 student cost per year. Besides the cost of public Higher education, the university 's share of the total student population in higher education increased to 126%. While the number of LU graduates grown to 38.7%. Noting that a large number of graduatestudents in higher education, the Lebanese job market cannot employ it, andeventually an unemployment and emigration problems are arising.

Among many of the reasons, a lack of candidate competency is the main problem according to owners of private companies(The Monthly,2014). These companies mentioned in the same article, language, information and skills

barriers. Speaking of that,the quality assurance question rises over. This article undertakes integrating technology in the educational system to improve thepublic education in the Lebanese University.

French Education System Adopted

The Lebanese University stilladapt the French system which considered "the Cinderella" of the Education System. The country spends less than many of the richer countries of Europe and U.S.A. has over 3500 different institutions and offer higher education studies to over 2 million. There is still a lack of adequate research funding, shortage of student accommodation, grants and loans.Besides the impersonal culture of many universities, with large classes. The OECD placed France 19th out of 26 for the quality of higher education an it barely figures in the list of the best universities in the world.Only 40 % of young French people pursue higher education and 59%only complete their studies.

Technology in Education

Technology is a stage that follows innovation to complete the design of innovation concept (Manolia, 2012). Manolia added that technology transfer can be created by the research, innovation, and development activities. Technology has a big role in innovation at higher education institutions. In a 2007 study, Saleh considered innovation within the technology as related to the international technological pace. Saleh added that the technology has continually transformed every aspect in our daily life and directed all forms of education. Online learning, because of technological innovation, became an important aspect in the process of teaching and learning in higher education (Saleh, 2007).

Almobarazz (2008) addressed the importance of onlinetechnology. Almobarazz agreed that the technology is highly integrated with the process of learning delivery. Faculty is expected to complete routine tasks such as the preparation of their syllabus while becoming adaptive to new technology, such as receiving homework, answering emails, and using Internet technology (Almobarraz, 2008).

Students, as well, are supposed to use this technology in a similar manner to prepare educational and work research. Despite these advancements in technology, faculty still resists this change in favor of the traditional style (Saleh, 2008). However, at some point, faculty must consider that their education technology is inefficient and incompatible with learning.

E-Learning

The onset of e- learning created an explosion of interest from many disciplines such as business engineering, computer sciences, and government agency. The implementation of online learning has promoted and facilitated students with enrollment (Chari & Haughey, 2006). Conducted at the YCMOU University, Chari and Haughey found that in India, traditional universities also have added to this expansion because of the insufficient places and entrepreneurial companies that have formed virtual institutions to offer computer based programs. Moreover, these university officials found themselves under pressure because of the high competition.

Within the U.S. Department of Education's report (2009 a), *The Power of E–Learning,* online education was given significant credibility for potential effectiveness for the following statement:

> The Internet is a powerful new mean of communication. It is global, it is fast, and it is growing rapidly. Reaching the far corners of the earth, the Internet is making the world at once smaller and more connected, transmitting information at nearly real time speed. (p. 9)

The World Wide Web has brought rapid and radical change into our lives. Within the education spectrum, according to the U.S. Department of Education (2009a), the Internet is rarely used for in-class research (despite the prevalence of computing systems). In the enhancement of academic operations, many issues remain as related to online learning, school experiencing growing enrollment, critical shortages of teachers, overcrowding, decaying buildings, and responding to demands for higher standards (U.S. Department of Education, 2009a).

The authors of the report emphasized the role the Internet played in this matter and said the Internet could address the educational challenges. The heightened role of the Internet defends the report's argument on online learning whereby it brings students to learning instead of bringing the learning to the student. The officials at the U.S. Department of Education also manage online learning programs and coordinate the development of learning communities with no restraints or limits as it provides access to knowledge.

Thus, the report concluded that legislators and community leaders are responsible for developing such policies and such decisions to ensure that new technologies will enhance, and not discourage teaching (U.S. Department of Education, 2009a). As an educator and student, I always heard negative judgments toward online learning. The report by U.S. Department of Education (2009a) served as evidence on the effectiveness of this learning style.

Ruiz, Mintzer, and Leipzig (2006) considered technology in education a hope that would enhance teaching and learning. The Higher Education Funding Council of England (HEFCE) implemented a 10-years strategic plan to embed online learning within higher education to provide students with better educational opportunities across United Kingdom colleges and universities (HEFCE, 2005).

Online learning is the use of technology in education as defined by Galbaith (1967). This type of learning uses systematically an application of scientific or other organized knowledge. Davies (1978) identified three major conceptions of educational technology: Educational Technology One (ET1), Educational Technology Two (ET2), and Educational Technology Three (ET3). Educational Technology One: ET1 is the concept that emphasizes the use of machines, equipment, and any other aids in instruction (Davies, 1978).

As identified by Januszewski and Molenda (2008), "Educational technology is the study and ethical practice of facilitating learning and improving performance by creating, using, and managing appropriate technological processes and resources" (p. 1). These machinery aids or the Audio-Visual Archetype are the concepts used to perform such functions as classroom presentations, demonstrations through reality access or simulations of reality, which cannot be provided by lecturing (Jackson 2008).

Types of Educational Technology

Educational Technology Two: ET2 is the concept used to emphasize the behavioral science principles to improve learning (Davies, 1978). Researchers use this concept to focus more on the learner, as Davies defined this stage technology in education as a means of providing necessary knowhow for new designs, or renews worthwhile learning experiences. Machines and automated devices are considered instruments of transmission. Researchers first applied this approach through learning designs, curriculum, and course development. This approach called is The Engineering Archetype (Davies, 1978).

Educational Technology Three: ET3 combined ET1 and ET2 and are the concepts used to keep high devotion to a fixed sequence of the procedural characteristic. Researchers use this approach to focus on the process as well on the products of teaching and learning (Davies, 1978). This approach is called the Problem Solving Archetype, a systematic approach attempting to define the boundaries of the educational aspects at all levels, taking account of all the factors involved. Researchers consider this an integrated approach; this approach is said to be total and human in factor (Davies, 1978).

Educational technology has evolved through different development stages. ET2 represents the progress of the technology respect in education since it is more systematic and explicit on learning than on teaching (Davis, 1978; Philips, 2001). Problem Solving Archetype, ET3, represents a progress of the situation, which focuses on identifying the context of the problem. Researchers use ET3 to provide a wide range of educational options and bring diversity of skills (Philips, 2001).

The use of Internet activities, multimedia, and dynamic classrooms raise the need of the ET4, a combination of the ET1, ET2 ET3 called Technology-based Learning Environment Archetype. This type of learning depends on a global network of multimedia information and on creating online learning communities (Philips, 2001). ET4 will successfully help learning and education especially when used for strategic purposes.Comparing TBLE with the existing teaching method is somehow useless because of the wide difference between TBLE process and the traditional situation (Davies, 1978).

Online Learning via Face-to-Face Learning

According to Haidar (2012), when online distance learning started at the beginning of the 1990s, a new learning style faced major criticism based on the idea that online learning did not exceed the traditional processes of learning (Diaz & Entonado, 2009). According to what it offers, the conventionality that encounters distance learning makes this learning style equal to and as effective as much of the formal learning style.

Regardless if the same methods are employed, the student probably is getting the required education (Diaz & Entonado, 2009). Diaz and Entonado emphasized the adult learning theory that should be adapted at online and the formal learning styles. Within this theory, Diaz and Entonado suggested that common learning environments are designed wherein directed learning is encouraged, as well as the opportunity of learning (Diaz and Entonado, 2009).

When looking at the difference between online and traditional courses, I found previous studies had emphasized the teaching difference to determine student learning. Diaz and

Entonado (2009) did not find any major difference in online and traditional courses other than the teacher's role within both learning styles; however, the level of student commitment and involvement should be considered. These factors may differ in the same style within the same institution as well as in different face-to-face courses. Involvement will surely vary from one teacher to another. Teaching methods are variable and knowledge is attainable in both online and face-to-face learning styles; therefore, online learning can be an opportunity to experiment with new teaching methods and prove the validity for both types of teaching (Diaz & Entonado, 2009).

The previous suggestion does not imply the use of the same methods and techniques in both styles; such as using the online teachers' techniques in the classroom; however, it suggests taking advantage of the various manifestations of potential for online teaching (Diaz & Entonado, 2009). Reviewing the designs of online courses, activities, contents interaction, and tool evaluations, researchers found all were similar within both learning styles. Studies and research presumably equally improved both styles (Diaz & Entonado, 2009). However, teaching differs from undergraduate and graduate levels; therefore, instruction could be easy within online courses for certain advanced courses, but harder in an undergraduate class. In 2014, online learning remained within the early stages of its format evolution. The development of comparative research will lead to an improvement in teaching and learning in both styles (Diaz & Entonado, 2009).

The face-to face learning style considered teacher's role major wherein it relies on the real or live presence of the teacher in the classroom. While I considered the teacher a facilitator that helps and directs class activity, online learning left a wide space for the student to self-direct their learning and not simply rely on the teacher.

Adult learning emphasizes student experience wherein adult learners must work in a collaborative environment; consequently, using the aforementioned logic, learning can happen anywhere, anytime, and from any professional instructor. Online instruction makes this form of learning more available through a flexible learning environment whereby the student's opportunities increase, to achieve more learning.

A student's absence in a face-to-face course will have detrimental effects related to his or her knowledge, even if they later reach out to colleagues or instructors. However, within an online course, absence is less critical as information is continually available. It would be difficult to miss any single conversation that could have happened during an online class. Therefore, student has considered online learning more flexible to student than face-to-face instruction.

Tools used in Higher Education

In 2014, online leaders at HEIs have used different technology tools such as synchronous, asynchronous, or Web 2.0. These tools could be used as either as standalone or mixed tools. Theorists have distinguished between the synchronous and asynchronous online learning communication. Dabbagh and Bannan-Ritland (2005) disclaimed the synchronous system and said that this type of technology was not able to give the student time to reflect on any of the questions creating off the cuff responses.

Woodman (2003) found asynchronous forms enabling and reflected more the student responses. Note that leaders of higher education universities often combine both forms of communication in one environment (Clark & Kwinn, 2007).

The Web 2.0 tools are commonly used for online higher education. However, Prensky (2001) mentioned the idea of using computer games. Prensky posited that these games have become the student's familiar language of communication. Antonacci and Modaress (2008) supported Prensky's ideas and considered that almost all college students are familiar with, and have experience with computer games. Noting that, these games have to be serious and inventive to stimulate all types of students and different types of learning styles.

Another online environment, Second Life, requires clear understanding, structure, and imagination. The use of this type of environment increases social interaction, collaboration, and creativity. It raises awareness and creates simple simulation in the learning environment. The virtual online system engages learning by seeing, listening, and applying (Weatherwax, Baranski, & Pietras, 2008). This learning style is supposed to increase collaboration and create in-depth discussions.

Jennings and Collins (2007) considered that the net users who have grown up with online technology will surely be the future faculty themselves. These users will become adopters and innovators. This will allow them to build knowledge within the virtual environments because of the different types of experiences that they will bring in the virtual environments. Conversely, statistical analysis was conducted on students' satisfaction whereby self-evaluation was used to test these premises (Karatas & Simsek, 2009). Karatas and Simsekattempted to measure the level of satisfaction of students at different types of education: the onsite, hybrid, and online. Karatas and Simsek's findings were opposite to expectations; the results were highest at the onsite course offering than at an online or hybrid (Karatas & Simsek, 2009). As found in the study, students who registered a low desire to get engaged in an online course referred this desire to their preference to communicate with classmates and instructors.

The results of Karatas and Simsek's (2009) study denied or contradicted the researcher's beliefs and perspectives; however, Karatas and Simsek were not dissuaded by the results. They found that these findings will improve the future of online courses. The self-assessment showed that the success of online learning is connected to student satisfaction or student demand. The primary result of the study was that students scored highest for onsite learning at both levels: the undergraduate and graduate level rather than hybrid.

In addition, Karatas and Simsek (2009) mentioned other findings that distinguished between undergraduate and graduate students whereby graduate students tended to prefer online and hybrid style; undergraduate tended to prefer hybrid and online. Online students depend on the students' learning level whereby students at the graduate level have more responsibilities and online courses are convenient. Often, online courses are the only way to maintain an education. While at the undergraduate level, students typically can find the time to attend face-to-face classes. I believe this is the primary reason that undergraduate students need to be directed or guided and controlled from the

teacher. Students at the undergraduate level, and even at lower levels, are usually more agreeable to control. They prefer being guided rather than being self-controlled as at the graduate level.

Ferguson and DeFelice (2010) conducted a study to measure student satisfaction among students taking an online course on both shortened and full-length format. Ferguson and DeFelice found significant differences in satisfaction between student-student and student-instructor communications at both formats. Ferguson and DeFelice recommended using a different approach when designing an intensive, or a full-term online course. Moreover, Keller (2010) considered motivational design to be an important factor for promoting the learning experience.

Conclusion and Recommendation

This paper addressed a major problem at the higher Lebanese education and specially at the public sector the Lebanese University. The paper presented a glance about this sector and the situation of the Lebanese university, wherebystudents aregraduating lacking of the needed skills requested by the 21 century's employer. The article aimed to highlight and emphasize on the role of technology in improving the HE public sector at the LU.

Integrating Technology into the Lebanese public sector is an effective way to change the current learning system. It will give students and faculty the ability to developtheir citizenship skills, if used correctly technology will prepare students for their future careers. The traditional educational model adopted has failed and with technology student will become more responsible and up-to-date. Technology has transformed education and improved the student learning experience by accessing a huge amount of opportunities. Technology is more suitable for current generation and workplace; it empowers students to be more creative and more connected. Technology will benefit student, teachers and administrators and without it the Lebanese system is loosing the opportunity.

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