Online Learning and Contribution to Future Work Skills

Charlette Padilla
University of Arizona
United States of America
chareltp@email.arizona.edu

Abstract: The paper is a review of literature on online learning and how it prepares the digital learners into the future work force. Factors contributing to the growth in online education are linked to changing social and economic structures. The College Board Commission on Access, Admissions and Success issued a call for 55% of America's youth to obtain a postsecondary education credential by 2025 (Bonk, 2015). This is to support and strengthen the position of the United States to be more competitive in a global economy (Burnette & Conley, 2011). There are current questions about student success, open education, informal learning, online plagiarism and principally whether online learning successfully prepare the online student for the future work skills.
Keywords: online learning, workforce, digital learners, future jobs

Leading scientists from Harvard, Stanford and Massachusetts Institute of Technology (MIT) started three companies to provide Massive Open Online Courses or MOOCS to anyone with an internet connection in 2012. The courses were free. Millions of students signed up. However, MOOCS did not disrupt higher education even though it provided classes for free and access to top notch professors. Along the same idea of open education, the MIT announced that it will create MITx- self-service learning system to learners. The MITx provides the MIT students the ability to take online tests and earn certificates. The MIT students will be provided with free lecture, discussion forums and upon completion earn certificate. Mozilla, designed a framework to let anyone with a Web page (colleges, businesses, individuals) issue education badges. Students using Mozilla's planned badge system will have the opportunity to exhibit hundreds of merit badges on their online resume describing what they studied. The expansion of the Web and open data systems increasingly makes available knowledge in an informal education setting (Facer, 2010). It is no longer the resources available only from an accredited university that an individual will need to gain access and earn a verification of learned knowledge and skills.

The options of the future of education remain unknown. There are many different roles in the development of the future of education. Some educators are actively committed to promoting visions of a technology-rich future knowledge. While some traditional educators' critique and challenge the educational technology or online learning whereas, the more advance online educators are involved in building new models of educational institutions as templates for the pedagogy future. Others, want to examine the empirical data on current practices to provide insight into how such models are successful over the long term and how will it affect future jobs.

The purpose of this paper is to discuss if the online learning whether paid or free will it support today's student in succeeding in future career versus traditional learning? What does 'work' mean in 2025 and beyond? – In what way might 'work' change over the next 18 years – both in terms of wider changes and more specifically, the role that digital technologies might play in establishing such developments.

Introduction

The digital society requires individuals to develop technological skills over their lifespan. Technological skills combined with personal skills and acquired knowledge should apply toward an active working life with various careers (Silva, Lourtie & Aires, 2013). Getting a job and succeeding at work are different circumstances; some specific aspects of work may not be reasonably addressed in higher education. Employability is influenced by the ability to be fluent and flexible with learned knowledge (Zulauf, 2006).

From 2000 to 2008, the percentage of undergraduates enrolled in at least one distance education class expanded from 8% to 20 % and the percentage enrolled in a distant education degree program rose from two to four

percent with the same period (US Department of Education, 2011). Factors contributing to the growth in online education are linked to changing social and economic structures. The College Board Commission on Access, Admissions, and Success issued a call for 55% of America's youth to obtain a postsecondary education credential by 2025 (Bonk, 2015). This is to support and strengthen the position of the United States to be more competitive in a global economy (Burnette & Conley, 2011). While the United States ranks ninth in the world in young adults enrolled in college, the percentage of adults ages 25 – 34 earning a postsecondary education credential lags behind other developed countries (Burnette & Conley, 2011). Because of the flexibility needed to balance the competing demands of career, family and educational responsibilities, online and distance education is the preferred choice to traditional education.

Some research has stated that once a prospective student has taken the role of a student; the study goal has changed as part of their social life and is viewed through the lens of online forums, group discussions and other collaborative activities (Alt, 2015). This suggests that not only are student perceptions of distance learning changed, but that online interactions outside of the higher education may well be responsible for the feeling that social interaction plays a great part in full online learning. The Higher Education Academy (2010, 2011) suggests that the expectations of students who study online are changing partially to the ability to initiate and sustain online relationships with other online students. For some students this is a motivating factor, and address the feelings of exclusion .The inability to successfully form online friendships may be a significant reason in terms of why distance learning has failed in the past (Baxter, 2012).

A continuous argument against the quality of online learning is in concern of academic cheating in an online classroom (Stuber-McEwen, 2009). Instructors who have never taught online protest against online teaching describing widespread cheating from an online students. Research suggests that students who feel disconnected from others are prone to engage in dishonest behaviors (Baxter, 2012). Therefore, cheating is more likely to occur in distance learning than face-to-face classroom. On the contrary, other studies showed that the flexibility, as to the time and place of distance instruction, creates a fundamentally motivated student than the traditional setting, in which reduces the tendency toward cheating (Stuber-McEwen, 2009). Other online research results showed a positive connection between online classes that contains constructivist practices (constructivist theory will be explained later on in this paper under the heading, Online Learning and employment share the same objectives) and students having the ability to recognize their own self-efficacy, in turn reduce the tendency toward justifying academic cheating (Alt, 2015). Other findings indicated that meta-cognitive and reflective learning could bolster students' confidence in their ability to accomplish a task. Moreover, such skills could enhance academic honesty though self-efficacy beliefs, engaging students in more active learning. Other research maintains that interpersonal connections shared by students could enhance feelings of trust and willingness to share information and resources in an online environment. This adds to positive contribution of such activities to self –efficacy for learning and tendency toward academic honesty.

Why is Online Learning Important to Employment?

Students increasingly place a relationship of learning requirements in universities to the requirements of employment. Currently, universities have the pressured responsibility for providing educational classes in current technical skills besides subject matter. Today's businesses uses advanced analytics, on transactions, and technology to improve the firm's profitability and effectiveness. While, government spending continues to be cut from higher education budgets. Some business organizations will invest or sponsor education in replacing the resources that were cut by state legislators. However, these business organizations that invest in education will only fund programs beneficial to the organizations' objectives. Creating a formal education system and work skills which will fill the needs of the sponsored business workplace (Facer, 2010). Therefore, these organizations are in a position to demand from educators the learning objectives that will strengthen and profit their organization. Hence, students are given, rather than discover, their talent or passion (Dixon, 2009).

The growth of self-selected learning through digital media, increasing access to informal education changes the relationship between the higher education and its local community thereby creates an educational experience

(Facer & Stanford, 2009). Through online interaction with community, local businesses, and civic society, the curriculum of the school can be enriched. Education is no longer disconnected from local concerns about social, economic and technological futures. This empowers the school to 'join the world of communities, families and students' and, over the longer term, places the foundations of young people, teachers and businesses together (Alt, 2015). One example is OpenStudy which runs MIT online study groups and awards   online badges. The major push for online badges is coming from industry rather than from traditional educational institutions. Microsoft and other companies developed certification programs to allow employees through online learning demonstrate that they have mastered certain computer systems (Young, 2012).

A definition of employability by educational researcher Yorke, is "the set of achievement –skills and understandings and personal attributes - that make graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy." (Yorke, 2006, p. 26) One of the main issues with defining learning goals is how to identify the skills that truly prepare the individual to enter into the labor market.

Knight& Yorke (2003) highlights the three following:
1.   Employability is problematic because it is related to the uncertainty of external factors, social economic/ demand for employability skills.
2.   Getting a job and succeeding at work are different situations; some specific aspects of work are not legitimately addressed in higher education.
3.   The first job does not reflect the occupation students are looking for. Nor would this encourage their skills development; in situations of shortage of employment, graduates accept the jobs available under the circumstances.

Employability is part of the lifelong learning paradigm, which emphasizes the continuous learning process individual's develop through their lives and takes place in formal, informal contexts. Distance online, learning are seen as key in preparing adults to fulfill the individual for the expectations of the labor market. In Europe online learning is an integral part of the European Higher Education – and part of the policies with regard to lifelong learning and employability (Silva, Lourtie and Aires, 2009)

Employment and Online Learning Share the Same Objectives

 A key element of student retention and motivation of the individual is linked with performance and job satisfaction (Baxter, 2012). Studies about identities in professional and working characteristics imply that strong working identities are key to individual self-satisfaction, feeling of belonging, following the right path and the ability to develop higher levels of professionalism (Baxter, 2012). Student identities are working identities developed by the students and are learned identities molded from personal biographies, interaction with communities and within their students' lives (Burnette & Conley, 2012).

Flexibility, accessibility, personalization, and collaboration, priorities dimensions in employability are also principles in online leaning (Silva, Lourtie & Aires, 2013). Collaboration an activity that is used in online classes also prepares students for multidisciplinary teams and how to develop the combined creation of knowledge .Online learning should develop critical skills in students through lifelong learning, which means that employability is a subset of online learning. The online student develops a critical approach to new challenge. Empirical data establishes that the online student receiving proper instructions by the online facilitator and utilizes the learned online skills enables them to solve problems and make choices independently (Silva, Lourtie & Aires, 2013). Currently most higher education instruction is focused on consumption and assessment of knowledge, not on the generation of it. Online training to faculty could offer more example of how to successfully embed creative and generative online tasks and activities (Bonk, 2015).

The need to develop problem solving skills is recognized in self-directed learning. Based on Vygotsky's (1978) socio-cultural theory, meaning socially constructed shared ideas and beliefs in which students learn while being encountered with real problems. The interpretation of Vygotsky, constructivist, learning, and philosophy in general is described as students having the freedom to "construct" their own sense of the world. It encourages the integration and construction of new knowledge. The student assumes responsibility for constructive meaning. They are actively involved in shaping the learning process (Armstorng, 1993). The challenge is to monitor and adapt

student behavior and this can be achieved by sustained two-way communication which is a component of online learning (York, 2006). Vygotsky's belief that social collaboration about ideas leads to incorporating and recognizing the ideas within oneself. Therefore, when students experience significant concepts by thinking on their own and in daily circumstances, they absorb and remember more about those concepts than they would if a teacher presented identical concepts in a specific course. Online learning places emphasis on student –centered pedagogy, in which students learn the course materials through self –directed learning and online discussions (Alt, 2015). Studies have found generally positive connections between student perceptions and Vygotsky's constructivist practices and affective learning outcomes (Burnette & Conley, 2012) Engaged learners use a constructivist approach to solve their tasks. Online learning with the help of technology has the ability to engage the learner in a wide variety of activities, which merges with learning and on-the–job training (Alt, 2015).

The workforce and consumers will need to build their skills and proficiencies in using information technology. Currently this includes:

- The ability to use basic desktop technologies, including web portals, email, social management applications, document management and similar tools
- Online chats, discussion forums, information security and maintain the available information and tools
- In manual occupation how to use devices such as payment authorization, package tracking (Dixon,2009)

The tools mentioned above are utilized in various online learning environments and classrooms.

Modernization of Education

Education offers many opportunities for networking and making new connections. Technology is used to extend experience and enable the extension (Bonk, 2015). Technology empowers us to increase the velocity and increase it to the masses as education moves online. Groups like DonorsChoose.org, a nonprofit organization which provides donors to choose educational projects they want to support. DonorsChoose.org engages the public in public schools by giving people a simple, accountable and personal way to address educational inequity. The Internet, increasingly affordable computing and bandwidth, open licensing, open access journals, and open educational resources (OER) offer the groundwork for a place in which a higher education will be open to the masses. Public and private foundations are supporting this shift with a move to open policies (Facer, 2010). As more online organizations like Donors Choose, Open Education Resources and Open Textbooks will continue to build education communities and have the open tools needed for an online education.

The current literature about technology and modernization of education states concerns about inadequate teacher motivation training and supportive infrastructure within the learning institution environment. The digital world is organized around a collective understanding between people, individuals and computers. Research has stated that education will be modernized and a distinct education systems will emerge. One system proposed is the 'Integrated experience' – an education system that is embedded in society, economy and community, in which learners learn through ongoing participation of all three (Baxter, 2012).

 The modernized education system is likely to view the occurrence of new intellectual divisions of labor in which machines/computers will be co-operating with human beings. The cooperation will take on high level tasks, each according to either humans or machines particular strengths. The participation in networks includes both technical and social elements. The socio-technical networks become important means of gaining, sharing and generating knowledge. Even today the online students are dependent on computers and internet connections to complete course discussions, assignments and collaborative work (Facer, 2010).

Over the next 20 years, the digital natives need to learn to use technological devices throughout their lives and this will present an obligation towards lifelong education. Education will be seen as a continuous factor of everything people do and a commitment to lifelong learning. Substantial changes to distribution of educational resources will develop. Consequently, the historic reasons for attending formal educational institutions (places where you could access the information and lecture) will shrink (Facer & Stanford, 2009) . The 'university' campus

as the sole sites of education may be challenged, leading to an analysis of what it means to be an educational institution.

Research by Beyond Current Horizon Program (2008), a future lab project funded by the Department for Children, Schools and Families provided a set of long-term scenarios introduced by leading social scientists providing insights into the dissimilar possibilities that might face education and learning in the future. The Beyond Current Horizons Program introduced the importance placed on collective rather than individual students. Education in the future will be collaborative. The form of group assessment is closer to the ways in which the majority of people find themselves assess in the work place. Sometimes, the system of group work is open to abuse by "slackers" the less motivated. However, learners in the upcoming era who prefer to study and have individual accreditation as validation will be unrepresented in future education. Employers even today would rather see evidence of group achievement than a form of personal achievement which is at times in the work place seen as an individual vanity of achievement (Facer & Stanford, 2009).

Historically the teacher's role is to instruct. This roll will be a reduced. Today's modern role of the instructor is to nurture a social and moral conscience. Teachers will inspire learners to view themselves as members of a group and to direct their energies towards the success of the group. Learners will engage with a skilled practitioner through the internet, and technology for self-instruction. The traditional thought of the teacher will be modified as a consultant, facilitator, coach or trainer (Facer & Stanford, 2009).

Conclusion

The changing environment of the workforce, employee relationships, and the combination of information and communication technology is creating and strengthening trends toward virtual income streams or businesses. The digital natives are the next-generation workforce. There will be an increase importance of technical skills and a social, collaborative digital environment. The digital natives request technology–intensive products and services which raised the mandate for progressive analytic, design and information skills in which are employ in online learning- (Dixon, 2009).

Higher education will need to evaluate the specialized and diverse skill set that is needed by the instructors to provide effective teaching with online learning (Burnette & Conley, 2011). Historically retention rates for online education has lagged behind traditional classes. There is a need for faculty training to improve pedagogy and services to support online learners. Despite faculty criticism, online education is no longer a fad, but will become a traditional channel for formal education and play a strategic part in the educational operation of colleges and universities.

In the fast-paced, competitive workplace, traditional school models are not proficient in meeting the requirements of the 21st century student or employer. Technology in education will expand student learning, feature student center instruction and educate employee success (Burnette & Conley, 2011).

Digital natives have grown up with technology and have become skilled with social media. However, developing with technology is not the same as knowing how to implement it successfully on a critical thinking scale. The future workforce will need to develop technical skills so that they can create answers that enterprise demands, support commercial levels of security, and have the necessary flexibility to respond to market changes (Dixon, 2009).

Will MOOCs transform student learning, reduce higher education's costs? Will employers prefer a creation of badges to the current education system? There is tremendous growth in online certifications, as well as some associate's, bachelor's, master's degree programs. One study revealed high interest in wireless technologies, simulations, and digital libraries therefore; learning today and more in the future will take place on a bus, plane or commuting to and from work (Bonk, 2015).

As a lecturer in higher education I hope to continue to find answers to whether or not online education will be able to help meet the nation's goal of addressing efficacy in student success, and preparing the 21st century student into entering a changing workforce. Continued research is necessary on how to shape and measure education

institutions, funding, training of educators, which are predictable needs to meet the future generations learning and successes.

References

Armstrong, T. (1993). *7 kinds of smart: Identifying and developing your many intelligences.* New York: Plume

Alt, D. (2015) Assessing the connection between self-efficacy for learning and justifying academic cheating in higher education learning environments. *Springer Science+Business Media Dordrecht 13,*doi:10.1007/s10805-5015-9227-5.

Baxter, J. (2012).Who am I and what keeps me going? Profiling the distance learning student in higher education*. International Review of Research in Open and Distance Learning*, *13* (4), 107-129.

Bonk, C.J.(2015) The future of online teaching and learning in higher education: the survey says.*Educausereviewonline,*.Retrieved from http//www.educause.edu/ero/rticle/future-online-teaching-and-learning.

Burnette, D. & Conley, M.A., (2011). Thirteen years of the online journal for distance learning administration: 1998 -2011. *Online Journal of Distance Learning Administration*, *16,* (2),.Retrieved from http://www.westga.edu/~distance/ojdla.

Dixon, M., (2009). Information and communication technology, work and employment. *SKOPE, University of Oxford*, Retrieved from http://www.beyondcurrenthorizons.org.uk/

Facer, K., (2010). The next 25 years? *Journal of Computer Assisted* Living .*25,*(1). 85 -93

Facer, K., & Sandford, R., (2009). The next 25 years? : Future scenarios and future directions for education and technology. *Education and Social Research Institute*, Manchester Metropolitan University and Futurelab, UK. Retrieved from http://www.beyondcurrenthorizons.org.uk/scenarios/world-2

HEA (2011) .Higher education academy what works? Student retention and success Retrieved from http:// www.heacademy.ac.uk/retention-and-sucess

Knight, T. P. & Yorke M. (2003).Assessment learning and employability. England. SRHE and Open University Press Imprint.

Silva,A.P., Lourtie,P., & Aires,L., (2013).Employability in online higher education: A Case Study. *International Review of Research in Open and Distance Learning, 14,* (2), 107-124.

Stuber-McEwen,D., (2009) Point ,click and cheat: frequency and type of academic dishonesty in the virtual classroom. *Online Journal of Distance Learning Admiration 12* (3) .Retrieved from http:// www.westga.edu/~distance/ojla/fall23/stuber123.html.

Taylor, C.L., (2008), Developing online peer-to-peer mentoring programs for distance degree programs. TCC 2008 Proceedings?

Yorke, M. (2006) Employability in higher education: what it is not. United Kingdom. *The Higher education Academy.14* (1).

Young , J. R. (2012), Badges earned online pose challenge to traditional college diplomas. Chronicle of Higher Education. Retrieved from http://eric.ed.gov/?id=EJ972721

Zeng,H.L.,(2008), Developing online peer-to-peer mentoring programs for distance degree programs. TCC 2008 Proceedings?

Zulauf, M. (2006) Ensino superior e desenvolvimento de habildades para empregabildade: Explorando a visao dos estudantes. Sociologias. *Porto Alegre*, *16*, 126 -155