Improving Online Readiness in Higher Education: A Case Study

Amber Judge, Concordia University (eConcordia), Canada
Jihan Rabah, Concordia University (eConcordia), Canada

The IAFOR International Conference on Education – Hawaii 2018
Official Conference Proceedings

Abstract
eLearning is becoming the *sine qua non* of higher education due to its increasing popularity and numerous Learning Experience (Lx), sociological, and ecological benefits. eLearning can increase self-directed, active, social, and personalized learning opportunities. It reduces physical limitations, which can lead to higher student enrolment and more diverse, accessible, sustainable, and scalable educational opportunities. University students are increasingly into technology but digital literacy, online readiness, and completion rates do not follow this upward trend. To truly benefit from eLearning, we must increase students' desire and ability to learn and perform in this environment. This case study discusses the course eConcordia created for enhancing students' self-regulated learning, self-motivation, study skills, and technological self-efficacy. Students complete a self-assessment based on the Online Learning Readiness Scale and are given best practices, tools, and techniques grounded in educational psychology and educational technology. Optimizing eLearning design for online readiness while preparing students to be autonomous self-directed learners is central to successful eLearning. This case study will benefit faculty, instructional designers, and educational technologists in preparing students to succeed and in designing better online courses.

Keywords: Online Readiness, Online Learning, eLearning, Higher Education, Student Success Online

Introduction

eLearning is broadly defined as technology-enabled teaching and learning. All forms of learning that occur through digital or electronic media or Information and Communication Technologies (ICT) (Gibbs & Gosper, 2006; Guri-Rosenblit, 2005; Wilson, 2012). Historically, eLearning referred to a full spectrum from technology-enhanced learning where students use software stored on computers, CD-ROMs or on the web during or between classes, to blended or hybrid courses with in-class and online elements, to distance learning and fully online web-based learning over the internet (Moore, Dickson-Deane & Galyen, 2010; Wilson, 2012). The web technology and the internet has changed the delivery of distance education from correspondence courses, and radio or video-based courses, to online courses (Okinda, 2014). For the purposes of this paper, we refer to eLearning in the context of online learning in higher education as courses or self-directed learning experiences designed and developed for delivery via the internet, where students are required to use an electronic device to access their courses in a web-based Learning Management System (LMS). This type of eLearning course may include any combination of synchronous or asynchronous student-student, student-content and student-professor interactions with different tools depending on the learning needs. Course components can include various combinations of interactive or video-based lectures, discussions, simulations, as well as branching scenarios, assessments, and the like.

The inherent affordance(s) of current technological tools used for online learning changes the learning experience (Lx). It increases connectivity, flexibility, content management, and structure thereby creating more diversity in interactions (Moore, Dickson-Deane & Galyen, 2010; Rasouli, Rahbania & Attaran, 2016). In doing so, it can also increase self-directed, active, social, and personalized learning opportunities for students (Gros & Garcia-Penalvo, 2016; Phillips, 2005; Zhang, 2003).

Given the human-computer interactions and technological interfacing involved in learning online, there is a potential for increased flexibility of the learning space and a reduction in physical limitations depending on the design and the technology used (Gros & Garcia-Penalvo, 2016). These factors can lead to higher enrolment and more diverse, accessible, sustainable and scalable educational opportunities for a wider spectrum of prospective students. It can increase inclusion and allow for an equality of opportunity on a sociological level for learners who may have psychological, physical, and/or other barriers that hinder their actual presence in face-to-face classes (Forman, Nyatanga & Rich, 2002; O'Neill, Singh & O'Donoghue, 2004; Zhang, 2003). The potential for servicing these students can dramatically increase the diversity of participants taking online courses and that variety can spill into what students learn from one another online (O'Neill, Singh & O'Donoghue, 2004; Zhang, 2003).

The Challenge

Despite university students being increasingly into technology, we cannot assume that they 1) are motivated to use it for learning purposes and 2) are comfortable using it to learn. In fact, digital literacy, online readiness and completion rates for online courses are not following an upward trend (Bowers & Kumar, 2017; Doe, Castillo & Musyoka, 2017; Kennedy, Judd, Churchward, Gray & Krause, 2008). This poses a

huge problem, until we increase students' desire and ability to learn and perform online, we cannot fully benefit from what online education has to offer.

To truly leverage the advantages of eLearning and what it offers to students and teachers in higher education, we must increase students' desire and ability to learn and perform in this environment. This means we must increase students' online readiness.

What Is Online Readiness?

A multitude of online readiness definitions and models exist in the current literature that address different aspects of online readiness from a national level, organizational or strategic level, to the technological, teacher or learner-centered models (Bakry, Khalid & Adbulmohsen, 2007; Chai & Poh, 2009; Chapnick, 2000; Engholm, 2002; Haney, 2002; Okinda, 2014).

In this paper, we focus on the student-focused definition of online readiness. Warner, Christie, and Choy (1998) define online learning readiness as students' preferences for taking online courses compared to classroom-based courses and students' perceived levels of confidence and competence in learning autonomously and in using the Internet and computer-mediated communication for learning purposes. Following the definition, the core dimensions to be gained in students are self-directed learning, motivation for learning, computer and internet self-efficacy, learner control, and online communication self-efficacy (Hung, Chou, Chen & Own, 2010).

Self-directed learning. Self-directed learning occurs when learners are autonomous, responsible and able to self-monitor their learning process (Garrison, 1997). This means students would accurately identify their own learning goals, refer to resources they need in order to learn (i.e., materials, people, and the like), use effective learning strategies to reach their goals, and finally evaluate whether they have reached their learning goals (Garrison, 1997; Knowles, 1975; Hung, Chou, Chen & Own, 2010). If students do not reach their goals, they are able to return to the appropriate resources available and try again.

Motivation for learning. It is known that extrinsic or external motivators can undermine students' intrinsic motivation and perceived autonomy or self-determination (Ryan & Deci, 2000). Intrinsic motivation for learning is required for online readiness because it goes hand-in-hand with self-directed learning. Students who are self-motivated have curiosity, interest, desire for competence or mastery and enjoyment of learning (Ryan & Deci, 2000). If they are not self-motivated, they will not self-regulate their learning process as effectively (Hung, Chou, Chen & Own, 2010; Zimmerman, 2002). This type of motivation also relates to how they give meaning and importance to what they are learning and how it aligns with their projected future self-identity (Hung, Chou, Chen & Own, 2010).

Computer and internet self-efficacy. Computer and internet self-efficacy is critical because it is a requirement for effectively using the technology and interface that students must use to access online courses. It is a dual construct made up of both student' self-perceived ability to use computers in general, and self-perceived ability to access and use the internet or web browsers for predetermined ends (Compeau & Higgins, 1995; Eastin & LaRose, 2000; Hung, Chou, Chen & Own, 2010).

Learner control. Learner control is the self-perceived ability students have of accessing, navigating, sequencing, and revisiting relevant online learning content to reach their own learning goals (Hung, Chou, Chen & Own, 2010; Chou & Chien-Hung, 2005). This sense of learner control is made possible by and is required because of the built-in flexibility of the technology and the frequently asynchronous, non-linear nature of online courses.

Online communication self-efficacy. Online communication self-efficacy relates to how comfortable learners feel about human-computer interactions, and communicating and collaborating with other people over the internet (Hung, Chou, Chen & Own, 2010). This is critical for deeper learning online where social learning, group work, discussions and online participation are required, and for course design models that include peer-to-peer feedback, instruction, or evaluation components.

eConcordia's Pilot Course on Online Readiness

To increase online student success at eConcordia, we designed a non-credit optional online course specifically to address common issues university students face with learning online. These issues are generalizable and not unique to eConcordia; as the literature discusses the same challenges related to completion rates, communication skills, technology skills, digital literacy, engagement, and self-directed and autonomous learning online (Bowers & Kumar, 2017; Doe, Castillo & Musyoka, 2017; Kennedy, Judd, Churchward, Gray & Krause, 2008). Therefore, the primary aim of the course is to dispel misunderstandings concerning online learning and provide students with a comprehensive overview of the knowledge, skills, and strategies that they need to succeed. Students are given easy-to-implement best practices, tools, and techniques grounded in educational psychology and educational technology.

Due to our focus on increasing student online readiness, we chose to base our constructs on the Online Learning Readiness Scale (OLRS) developed by Hung, Chou, Chen and Own in 2010. The OLRS test measures five dimensions in learners: self-directed learning, motivation for learning, technological self-efficacy, learner control, and online communication self-efficacy. Students would use this as a self-assessment tool to personalize the learning experience and identify what they need to focus on.

The content selected for the course covers high-impact online readiness factors, based on the OLRS and current literature, which affect student success online. These include professors' and students' roles online; benefits and pitfalls of learning online; how to stay motivated and avoid falling behind. Creating physical and technological learning environments that are conducive to learning outside of the classroom also require appropriate planning and study skills; setting realistic goals and monitoring own progress. Last but not least, we also included procedural knowledge relating to our Learning Management System and course sites; academic integrity rules at the university; getting academic and technical support; avoiding isolation and increasing peer engagement online. Together, this action-oriented content is meant to target students' confidence and self-efficacy related to identifying, monitoring, controlling

and directing their own learning efforts, developing technical skills needed for online learning, communicating online and staying motivated.

eConcordia Steps and Approaches

The process we used for this project follows an iterative backward design and ADDIE approach (Analysis, Design, Development, Implementation and Evaluation) from instructional design best practices (Allen, 2006; Davidovich, 2013). This project starts as a pilot project, which will be updated and refined based on feedback and results.

To create the first iteration of the course, the initial step we took is to conduct an in-depth analysis to identify learners' needs and potential solutions and content needed in the course. The analysis involved reviewing the current literature on online student success and current challenges, reviewing and analysing documentation from similar past initiatives, and gathering lessons learned from professors and students related to giving and taking online courses.

Afterwards, we organized the information and content we had and mapped it to the objectives of the course, identifying gaps and gathering missing content from credible evidence-based sources. The process of identifying gaps and organizing content was always in light of the OLRS constructs for online readiness. We also retained and emphasized content and strategies with the biggest returns for students' success: tips and strategies that are easy to remember, implement, and have the biggest impact on their performance.

Following the analysis is the design and development stage of creating this pilot course. We must openly state that we are fully aware of the apparent circularity of "creating an online course about succeeding in online courses." We were faced with three important factors that made this choice the only viable one to make: 1) the only way we can ensure that we reach our online students is online in the portal of the Learning Management System; 2) the solutions we're offering them is in close proximity to the problems they may face and they can access it on their own time whenever they need to; and 3) the analytics we can gather about its use will help us create more effective and relevant content in future iterations of the course.

In the design of the course, we also tried to remove all possible obstacles and objections for students to access and use the course. We decided to make it a free non-credit optional course that is available right in the portal of the Learning Management System. We conserve learner control over their navigation of the content by giving them a self-assessment based on the OLRS and recommending specific content for their needs, making the content modular and flexible. To keep motivation and engagement high, we opted for giving them short video-based segments and downloadable tools, using humorous everyday language that connects with students.

Implications and Future Considerations

While analysing students' needs and designing this pilot course, we concurred that best practices in instructional design must be maintained while simultaneously taking into consideration the online readiness of the professor and the students (Okinda, 2014). Since eConcordia already trains and supports professors in giving their online

courses, this pilot allows us to focus our attention on student readiness and support for taking online courses. We have examined that beyond great course design in general, there are two major factors required for increasing online learning and student success: 1) preparing students for self-directed autonomous learning prior to starting their online courses and; 2) optimizing course design for students who are not autonomous self-directed learners. This second point means that we should include self-assessments, prompts, reminders, tools and strategies inside online courses specifically aimed at scaffolding or increasing their online readiness while they take online courses. Therefore, optimizing eLearning design for online readiness while preparing students to be autonomous self-directed learners is central to successful eLearning.

Generally, we must stress the importance of questioning our assumptions about digital natives and the new generation of learners arriving at university. Let us not assume that just because they are into technology and gaming that it means that they want to use technology to learn. We should not assume that they are motivated and ready to learn online, nor have the technological, social, motivational and other skills required. Assuming that students have the prerequisite knowledge, skills, and abilities to succeed online puts at risk everything we are trying to build with online education. We must ask ourselves: Are our assumptions about our learners wrong? If so, it increases the risk that our course designs might not be tailored towards realistic learner personas with all their difficulties and challenges in mind. Furthermore, students do not only need the knowledge, skills, and abilities to succeed online; they also need the motivation, the peer, and faculty support any in-person student typically needs to succeed.

In conclusion, we highly recommend equipping students with stronger self-directed learning skills, digital literacy, and intrinsic motivation for learning (Bowers & Kumar, 2017; Doe, Castillo & Musyoka, 2017; Kennedy, Judd, Churchward, Gray & Krause, 2008), while optimizing learning experience or course design to support and bridge the online readiness gap. We hope that this case study will benefit faculty, students, instructional designers, and educational technologists in preparing students to succeed and in designing effective online courses.

References

Allen, C. (2006). Overview and Evolution of the ADDIE Training System. Advances in Developing Human Resources, 8(4), November 2006, pp. 430-441. DOI: 10.1177/1523422306292942

Bakry, S. H., Khalid A., & Abdulmohsen, A. (2007). STOPE-based Approach for e-Readiness Assessment Case Studies: Department of Electrical Engineering, King Saud University, Riyad, Saudi Arabia. International Journal of Network Management, 18, 65–75.

Bowers, J., & Kumar, P. (2017). Students' Perceptions of Teaching and Social Presence: A Comparative Analysis of Face-to-Face and Online Learning Environments. In I. Management Association (Ed.), Blended Learning: Concepts, Methodologies, Tools, and Applications (pp. 1532-1550). Hershey, PA: IGI Global. doi:10.4018/978-1-5225-0783-3.ch073

Chai, L. G., & Poh, Y. N. (2009). E-learning in Malaysia: Success Factors in Implementing E-learning Program, Curtin University of Technology. International Journal of Teaching and Learning in Higher Education, 20(2), 237- 246.

Chapnick, S. (November, 2000). Are you ready for e-Learning? Retrieved from http://blog.uny.ac.id/nurhadi/files/2010/08/are_you_ready_for_elearning.pdf

Chou, S. & Chien-Hung, L. (2005). Learning Effectiveness in a Web-based Virtual Learning Environment: A Learner Control Perspective. Journal of Computer Assisted Learning, 21, 65-76.

Compeau, D. R. & Higgins, C. A. (1995). Computer Self-Efficacy: Development of a Measure and Initial Test. MIS Quarterly, 19(2), 189-211.

Davidovich, N. (2013). Learning-Centered Teaching and Backward Course Design – From Transferring Knowledge to Teaching Skills. Journal of International Education Research, 9(4), 329-338.

Doe, R., Castillo, M. S. & Musyoka, M. M. (2017). Assessing Online Readiness of Students. Online Journal of Distance Learning Administration, 20(1), Spring 2017.

Eastin, M. S. & LaRose, R. (2000). Internet Self-Efficacy and the Psychology of the Digital Divide. Journal of Computer-Mediated Communication, 6(1).

Engholm, P. (2002). What determines an organisation's readiness for e-learning? E-business in Australia: Concepts and cases. Pearson Education Australia.

Forman, D., Nyatanga, L. & Rich, T. (2002). E-learning and Educational Diversity. Nurse Education Today (2002), 22, 76-82.

Garrison, D. R. (1997). Self-Directed Learning: Toward a Comprehensive Model. Adult Education Quarterly, 48(1), 18-33.

Gibbs, D., Gosper, M. (2006). The upside-down-world of e-learning. Journal of Learning Design, 1(2), 46-54. http://www.jld.qut.edu.au/

Gros, B. & García-Peñalvo, F. J. (2016). Future trends in the design strategies and technological affordances of e-learning. In M. Spector, B. B. Lockee, & M. D. Childress (Eds.), Learning, Design, and Technology. An International Compendium of Theory, Research, Practice, and Policy (pp. 1-23). Switzerland: Springer International Publishing. doi:10.1007/978-3-319-17727-4_67-1

Guglielmino, P., & Guglielmino, L. (2003) Are Your Learners Ready for e-Learning? In G. Piskurich (Ed.), The AMA handbook of e-learning. New York: American Management Association.

Guri-Rosenblit, S. (2005). 'Distance education' and 'e-learning': Not the same thing. Higher Education (2005), 49: 467-493. DOI: 10.1007/s10734-004-0040-0

Haney, D. (2002). Assessing Organizational Readiness for e-Learning: 70 Questions to Ask. Performance Improvement, 41(4), 8-13.

Hung, M., Chou, C., Chen, C. & Own, Z. (2010). Learner Readiness for Online Learning: Scale Development and Student Perceptions. Computers & Education, 55(2010), 1080-1090. doi: 10.1016/j.compedu.2010.05.004

Kennedy, G. E., Judd, T. S., Churchward, A., Gray, K. & Krause, K. (2008). First year students' experiences with technology: Are they really digital natives? Austrailian Journal of Educational Technology, 24(1). doi: 10.14742/ajet.1233. Retrieved from: https://ajet.org.au/index.php/AJET/article/view/1233

Knowles, M. S. (1975). Self-Directed Learning. New York: Association Press.

Moore, J. L., Dickson-Deane, C., Galyen, K. (2010). e-Learning, online learning, and distance learning environments: Are they the same?, Internet and Higher Education (2010), doi:10.1016/j.iheduc.2010.10.001

Okinda, R. A. (2014). Assessing e-learning readiness at the Kenya Technical Teachers College. Journal of Learning and Development – JL4D, 1(3).

O'Neill, K., Singh, G. & O'Donoghue, J. (2004). Implementing eLearning Programmes for Higher Education: A Review of the Literature. Journal of Information Technology Education, 3.

Phillips, J. (2005). Strategies for Active Learning in Online Continuing Education. The Journal of Continuing Education in Nursing. March/April 2005, 36(2).

Rasouli, A., Rahbania, Z. & Attaran, M. (2016). Students' Readiness for e-learning application in higher education. Malaysian Online Journal of Educational Technology, 4(3).

Ryan, R. M., Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. American Psychologist, 55(1), 68-78. DOI: 10.1037//0003-066X.55.1.68

Warner, D., Christie, G., & Choy, S. (1998). Readiness of VET clients for flexible delivery including on-line learning. Brisbane: Australian National Training Authority

Wilson, A. D. (2012). Categorizing eLearning. Journal of Open, Flexible, and Distance Learning, 16(1). pp. 156–165].

Zhang, D. (2003). Powering E-Learning In the New Millennium: An Overview of E-Learning and Enabling Technology. Information Systems Frontiers, 5(2), 201-212.

Zimmerman, B. J. (2002). Becoming a Self-Regulated Learner: An Overview. Theory into Practice, 41(2).

Contact email: amber.judge@econcordia.com