

eLearners, A Special Breed of Learners with Implicit Learning Characteristics

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Abstract

This paper looks at the emergence of eLearning in the knowledge economy and the implications this has for the theory and practice of learning. New technologies have transformed the way we live and the way we work. This coupled with eLearning is now transforming the way we learn, along with our needs for learning. However, while some learners, be they academic or corporate, are already reaping dividends from eLearning, many still do not learn. As government, business and educational sectors respond to the demands of the new learning technologies, most students and even teachers are caught up in this turbulence. Our research has shown that the eLearning transaction, characterized by the absence of a teacher mentor, has imposed certain responsibilities on the part of the learners. In order for the learners to reap the benefits from eLearning, they must conform to a special breed of learners with implicit learning characteristics. While many learners see such learning responsibilities or characteristics as undue burdens, we believe that such learning responsibilities are consistent with what we know to be essential for the prevailing education philosophy. However, while this type of transition is essential, the evolution is too abrupt. Hence, this paper sets out to explicit the learning

responsibilities and investigates how we can mitigate such learning transition. Through the employment of proven pedagogical approaches and learning theories, we propose a powerful way that adds real value to transforming eLearning.

1 Introduction

Technology concocts the eLearning world with the arrival of the Web. The Web allows eLearning to move out of its specialized markets, characterized by geographical boundary and distributed by disc and later by CD-ROM, to become a mainstream part of education and training. With the widespread availability of personal computers and the advent of the Internet, eLearning becomes ubiquitous. Its influence is now transforming the way we learn, along with our needs for learning.

However, while some learners are reaping dividends from eLearning, many still do not learn. As government, business and educational sectors, in their frantic attempt to keep pace and respond to the demands of the new learning technologies, most students and even teachers are caught up in this turbulence. Problems with regard to stimulating and sustaining learner's motivation are well documented in the literature of eLearning and the broader context of distance learning (Visser, 1998; Rowntree, 1992), especially

when learners are working independently at a distance.

Although most eLearning courses are experiencing high drop-out rates and low learner's satisfaction, we do not believe that it is the eLearning vision that has failed. Instead, our research has shown that the very nature of eLearning technology (i.e., the distributed nature of the distance learning modality, the physical separation of learners from instructor, the asynchronous communication paradigm, etc.) that has made it so successful, is also the factor that pits its downfall. We believe that the eLearning transaction, characterized by the absence of a teacher mentor, has imposed certain responsibilities on the learners. In order for the learners to reap the benefits from eLearning, they must conform to a special breed of learners with implicit learning characteristics.

Although we believe that such responsibilities are consistent with what we know to be essential for the prevailing education philosophy, to impose such implicit requirements on the e-learners is unfair. Simply stated, it does not seem ethical or efficient to leave students to bear the full impact of learning transition. Hence, this paper sets out to explicit the learning responsibilities and investigates how we can impart such learning responsibilities.

2 E-learners' Requirements

The unique characteristics of eLearning technology require not only adjustments in the nature of instruction specifically designed for that modality but also a special breed of learners with implicit learning characteristics to appreciate it.

The eLearning transaction requires the e-learner to possess some form of self-discipline, ability to work alone, good time management, learning independence, readiness, the ability to plan for himself and the ability to assess his strengths and

weaknesses (Dunlap & Grabinger, 2003). A higher level of commitment (time and effort) and progress monitoring is also required as the e-learner must negotiate and plan his learning need and goals.

Furthermore, the e-learner must possess a high degree of curiosity, openness to new experiences, and be comfortable with an ill-structured environment in order to explore the many learning benefits that eLearning brings. One such example is the non-linear nature of the eLearning materials. Instead of the usually sequential flow of traditional learning materials where one course follows another, the learning experience of continuity, integration and interaction that is often associated with traditional learning is now replaced by a fragmented, episodic and discontinuous learning experience that comes with eLearning. While some may find such learning experience daunting, such an exploratory learning nature can actively engage the learners (Duffy & Cunningham, 1996) and allow them to revisit learning concepts in greater details or from a different perspective after they have digested the fundamentals.

The electronic learning materials also impose certain demands on the e-learners who study them. Inevitably, basic digital competency skills are required in order for the e-learners to appreciate the sophisticated multimedia design. But beyond this is a set of learning skills that must be mastered before the e-learners can use the computer effectively as a study tool and adopt a critical approach to the learning resources. Two major areas, information literacy and online collaborative learning skills, require competency (Macdonald, 2002). The term information literacy connects eLearning with self-directed lifelong learning. Its characteristics include recognising the need for information, being able to identify and locate it, gaining access to it, evaluating, organising it and then using it effectively (American Association of College and

Research Libraries, 1999). Online collaborative learning skills are also essential as learning is a social activity and learners need to practise team working, negotiation skills, group decision making and task management.

In summary, we argued that a competent e-learner must possess communicative and interpretive ability in using electronic media. This involves fundamental requirements such as the effective use of computer as a learning tool to more advanced requirements that necessitate the possession of critical and analytical skills such as self-directedness, learning independence and collaborative abilities to work with and learn from peers.

3 Current E-learners' Abilities

With the elicitation of clear requirements of an e-learner, the important question to ask is: do our learners fulfill the requirements of competent e-learners? Unfortunately, but not surprising, the clear cut answer is NO! Many learners are experiencing a lack of the important learning factors of motivation and persistence (Súilleabhain & Coughlan, 2004) and have expressed feelings of isolation, lack of self-direction and increased management problems (Bennett et al., 1999; Abrami & Bures, 1996) when they are called upon to take control over their learning.

Such frustrations are perhaps understandable. Our current breed of learners is used to studying in a traditional brick and mortar learning environment that is characterized by the teachers talking and the students listening passively. Passive learning seems to be the order of learning although many educators refuse to acknowledge this fact. Learners have for ages been almost entirely guided and depend mostly on teachers for their motivations, directions, goals and progress monitoring. (Passive) learning in traditional environment usually takes the following pattern: (1) students enter the (pre-defined) courses with minds like

empty vessels/sponges waiting to be filled with knowledge; (2) traditional classroom lecturing takes place with teachers verbalizing information to passive note-taking students; (3) the teacher serves as a 'verbal' textbook and fills up the "empty" vessels with exam-able information; (4) the student acting as a passive "recorder" regurgitates and empties its content during examinations. Hence, following such a teaching/learning approach, it is very common, as Knowles (1970), way back in the 1970s, has pointed out, to leave school adult in other ways, but still dependent, or at least retarded in independence, as a learner. Unfortunately, as we step into the 21st century, the situation has not improved.

While students cherish the new found freedom, individuality and flexibility that comes with eLearning, most do not possess the skills to appreciate it. Also, many students who have not been previously exposed to computers in their education may be daunted by the prospect of relying on computers and Internet for their education (Andrusyszyn & Cragg, 2006). Moreover, the using of unfamiliar technology, engaging in learning activities not congruent with learning preferences, or studying in places or at times that interfere with life circumstances, has also led to learning discouragement or frustration.

As stated in the previous section, problems with regard to stimulating and sustaining learner motivation are well documented. Learner's motivation is important for the learning process as it has been shown that students will only restructure or assimilate new data if accommodation fails and when they are motivated to reconcile anomalies and to reduce inconsistencies (Wankat & Oreovicz, 1993). However, overcoming these motivational challenges can be difficult because of the complexity of human motivation and the vast number of motivational concepts and theories that exist (Keller & Suzuki, 2004). While the challenge of motivation and drop-out rates are typically

answered through the provision of traditional face-to-face communications (Súilleabhain & Coughlan, 2004), the luxury of such provision is not available, or at least minimized, in the context of eLearning.

4 Proposed Solution

In view of the importance of nurturing e-learners, this research sets out to investigate an effective mean to mitigate the transition process. It is important to note that while our main objective lies in cultivating the traits of competent e-learners, such a learning transformation is difficult and time consuming. Hence, while we work on nurturing e-learners, we also rely on proven technological and pedagogical approaches to mitigate the learning transition.

4.1 Easing Redundant Technological Adoption

The impact that information and communication technologies (ICT) has on eLearning is often centered on its technological functionalities and advantages. While many are banging on its rapid advancement to exploit and gain competitive advantage over its competitors, they have missed the most important fact that eLearning is about learning and that most students are not IT-savvy. eLearning is just a media; a small letter 'e' in front of eLearning does not change the nature of learning. Yet, many let technology drives the solution and gets too fanciful, too fast. As stated before, students who have not been exposed to computers are often daunted by the experience. Hence, it is important to keep the technology employed as simple as possible as the more complicated the technology is, the more time will be wasted by the learners on getting the technology to work, rather than on learning. More importantly, the usage of simple, straight to the point content will not put off the less IT-savvy e-learners.

4.2 Self-directed Learning

The problems of sustaining learning motivation and persistence, inherent in our current breed of 'traditional' learners, can be solved with the nurturing of self-directedness. Literature on self-directed learning further asserts that self-directed learners demonstrate a greater awareness of their responsibility in making learning meaningful and monitoring themselves (Garrison, 1997). They are curious and willing to try new things (Hunt & Lyman, 1997), view problems as challenges, desire change, and enjoy learning (Taylor, 1995). Taylor (1995) also found self-directed learners to be motivated and persistent, independent, self-disciplined, self-confident and goal-oriented. Furthermore, Morrow, et al. (1993) observes that with proper planning and implementation, self-directed learning can encourage students to develop their own rules and leadership patterns.

Self-directedness can be nurtured with the usage of concept maps. Concept maps complement and advance self-directed learning. As articulating-, reflective- and problem-based learning focus on self-direction and tends to be mainly unstructured, the use of concept mapping can be used to structure the information/knowledge acquired during these educational approaches (Farrand, et al., 2002).

4.3 Scaffolding

While the transcend of the distance aspect of learning does offer a different and seemingly better medium for teaching and learning in terms of better return in investments, enhanced learning outcomes, greater accessibility and flexibility to learning, it is also a double-edged sword. It is this distance aspect of eLearning (i.e. the physical separation of the instructor and learner, the lack of social interaction, etc.)

that has distanced the learner from their learning motivation.

The minimized teacher-student interaction has serious adverse impact on the student's learning. As Gills (2003, p. 23) states: "even the most well-intentioned e-learners can experience flagging interest when no one is looking over their shoulder or when no incentives are provided for completing an eLearning course...e-learners do not always understand what is expected of them, sometimes missing deadlines of ...the required eLearning prerequisites"

Hence, it is imperative that such student support cannot be discontinued even with eLearning. Therefore, in view of the minimized teacher-student interaction and geographical separation between teacher and student, student support through the use of scaffolding is proposed. Scaffolding can mimic the presence and advice of the teacher by diagnosing the complex needs of the students at various stages of the intended learning (through appropriate allocation of assessment) and employs proper instructional strategies adaptively to their progress.

4.4 Pedagogical Considerations

Pedagogy is focused on enabling learning and intellectual growth of students in contrast to instruction that treats students as the object of curriculum implementation. Successful learning pedagogy requires teachers to understand how students learn and must have the capacity and autonomy to design, implement and assess educational activities that meet the needs of individual and all students. eLearning pedagogy is one that incorporates this form of learning pedagogy but goes beyond it to include a deeper study into the incorporation of instructional strategies that take into account how we can create learning content to cater to the needs and learning characteristics of learners.

5 Conclusion

The problem of eLearning attrition and drop-out rates has been a constant debate without any consistent conclusion or a clear solution. In defining the learning characteristics that are required of e-learners, we believe we have unveiled the root of the problem and laid the foundation for future research work.

6 References

- AMERICAN ASSOCIATION OF COLLEGE AND RESEARCH LIBRARIES (1999). Information literacy competency standards for Higher Education.
<http://www.csusm.edu/acrl/il/index.html>
- Abrami, P.C., and Bures, E.M. (1996). "Computer-supported collaborative learning and distance education". *American Journal of Distance Education*, 10, pp. 37-42.
- Andrusyszyn, M.A. and Cragg, C. E. (2006). "Promoting Comfort in E-Learning for Professional Women: Examining Access, Language and Culture, Learning Preferences and Role Integration". *International Journal of Instructional Technology and Distance Learning*. Vol. 3 No. 1. pp. 31-40.
- Bennett, S., Priest, A. and Macpherson, C. (1999). "Learning about online learning: An approach to staff development for university teachers". *Australian Journal of Educational Technology*, 15(3), pp. 207-221.
- Duffy, T. M. & Cunningham, D. J. (1996). "Constructivism: Implications for the design and delivery of instruction". In D. H. Jonnasen (Ed.), *Handbook of research for educational communications and technology* (pp. 170-198). New York: Simon & Schuster Macmillan.

- Dunlap, J. C., & Grabinger, R. S. (2003). "Preparing students for lifelong learning: A review of instructional features and teaching methodologies". *Performance Improvement Quarterly*, Volume 16 / Number 2.
- Farrand, P., Hussain, F. & Hennessy, E. (2002). "The efficacy of the 'concept map' study technique". *Medical Education* 36:426-431.
- Garrison, D.R. (1997). "Self-directed learning: Toward a comprehensive model". In *Adult Education Quarterly*, Fall 97 v 48 n 1, p18, 16 p.
- Gill, S. (2003). "Myths and reality of e-learning". *Educational Technology*, January-February, 20-24.
- Hunt, Jr. & Lyman C. (1997). "The effect of self-selection, interest, and motivation upon independent, instructional, and frustrational levels". *Reading Teacher*, 50 (4), 278-282.
- Keller, J. (1987) "Development and use of the ARCS model of instructional design", *Journal of Instructional Development*, 10, pp. 2-10.
- Knowles, M (1970). *The modern practice of adult education*. New York: Association Press.
- Macdonald, J. (2002). "Developing competent e-learners: the role of assessment". *Learning Communities and Assessment Cultures Conference*, University of Northumbria, 28-30 August 2002.
- Morrow, L.M., Sharkey & Firestone (1993). "Promoting Independent Reading and Writing through Self-Directed Literacy Activities in a Collaborative Setting". *Reading Research Report No. 2*.
- Rowntree, D. (1992) *Exploring open and distance learning* (London, Kogan Page).
- Súilleabhain G. Ó., & Coughlan R. (2004). "Student support services for e-learning: collaborative tutoring and authentic assessment". Third EDEN Research Workshop, Carl von Ossietzky University of Oldenburg, Germany, pp. 83-86.
- Taylor, B. (1995). "Self-Directed Learning: Revisiting an Idea Most Appropriate for Middle School Students". Paper presented at the Combined Meeting of the Great Lakes and Southeast International Reading Association, Nashville, TN, Nov 11-15.
- Visser, L. (1998) "The development of motivational communication in distance education support". Report for the Educational Technology Department (Twente, University of Twente, The Netherlands).
- Wankat, P.C., and Oreovicz, F.S. (1993). *Teaching Engineering*, McGrawHill Inc., New York, 1993.