Electronic Pedagogy: Blended Education, Evaluating Models, Certification, Hands on Experience and Economic Models

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Abstract

Knowledge transfer from post-secondary institutions to the business world does not always readily translate. It can be argued that, especially, undergraduate education fails at providing the specific solutions sought for business problems.

This research paper explores the various components of non-traditional undergraduate, graduate, executive, and certificate education delivery systems, including distance and blended models. It is believed that the non-traditional approach potentially provides an opportunity for programs in the United States and abroad to bridge the education offerings to the business sector, especially to the sector of the economy where attending traditional college courses is restricted due to work or economic constraints.

Background and Current Status of Distance Education

Distance education is anything but a novelty these days. There are an increasing number of traditional and non-traditional universities and colleges offering distance learning courses and programs. The American Association of University Professors defined distance education as "…the process whereby the education of a student occurs in circumstances where the educator and the student are geographically separated, and the communication across this distance is accomplished by one or more forms of technology" (Lindsay, 2006, p. 4). The origins of distance learning are frequently attributed to the development of correspondence courses over one-hundred years ago. "The University of Wisconsin was a pioneer in this field. In fact, the term "distance education" was first used in a University of Wisconsin catalog in 1892" (retrieved from www.uwex.edu/ics/design on December 20, 2009). It was some fourteen years after the catalog was produced that professors began taping their lectures on phonographs which were sent to students far from the campus (retrieved from www.uwex.edu/ics/design on December 20, 2009)). Further, "…distance education has been an option for learners since the mid-1800's (Parker, 2003).

Written correspondence courses delivered by the postal service represent one of the earlier technologies used for distance learning. Over time, correspondence courses incorporated the media of television and radio. The industry has evolved from the phonograph era, "…currently, live interactive satellite capability, fiber optic networks, Integrated Services Digital Network(ISDN), and Internet Protocol(IP) videoconferencing, web conferencing, interactive computer networking, handheld wireless devices, the Internet, the Web, email, and distributed learning have emerged on the scene"(Ibid). Thus the options for more effectively and conveniently dispersing knowledge and sharing information are at an all time high. Couple this optionality with the rigorous schedules of most households and the constant thirst for knowledge, it is no wonder that the demand for the virtual classroom has consistently increased over the past decade. Another important data point involves the emerging teacher pool.

More than half of the doctoral student cohort will end up teaching in colleges and universities, and current research suggests many are inadequately prepared for traditional teaching (Utecht and Tullous, 2009). It is a reasonable conclusion that

this same group is lacking the essential skills to be effective with non-traditional or blended education pedagogy. Further complicating the teaching challenge is the low participation in non-traditional delivery by long-term, and typically tenured, faculty. It has been my experience over the past decade that tenured faculty with greater than twenty -five years of teaching experience are reluctant to learn new technologies for teaching, even the most basic of technologies, the smart board. One of the big challenges is keeping the training of teachers current on both the new technologies and how to effectively use them to transfer knowledge effectively. Further, evaluation and measurement methodologies will need to be constantly updated to determine effectiveness of the new knowledge delivery systems.

The Future Organization of Teaching

There is little doubt that traditional methods and organizational structures will continue to evolve to address distance learning and the technologies necessary to deliver knowledge. Some researchers are focusing specifically on transforming education and put forth some intriguing philosophies that are relevant to our discussion on the future of distance learning (Smith and Duus, 2001, Hutchins and Hutchinson, 2008). For example, "…the fundamental concept is that traditional forms of learning were non-interactive and non-stimulating and were the antithesis of problem-based and dialogue-oriented learning" (Smith and Duus, 2001, p. 61).

The terminology of distance learning is continuously evolving along with the mechanisms for its delivery. "One example of these new patterns is that traditional degree-providing institutions have created for-profit subsidiaries to respond to the demand for distance education". (Lindsay, 2006, p. 4). Terms like hybrid or blended education and learning dominate the online vocabulary landscape. It is worth delving into the literature on one of the more popular terminologies, blended education.

Blended Education

Blended education refers to combining more than one

learning environment. It is the "…convergence between traditional face-to-face learning environments and computer-mediated (or distributed) learning environments, involving four critical interactions that occur in both environments (space, time, fidelity, and humanness)" (Bonk and Graham), 2004, p. 6). For example, online content delivery with face to face (F2F) classroom teaching is one form of blended education. "The ultimate aim of blended learning is to provide realistic practical opportunities for learners and teachers to make learning independent, useful, sustainable and ever growing." (Graham, 2005, p. 3). This factor is of particular importance to employers seeking knowledge employees that are work-ready. Is there an optimal set of criterion that determines the best teaching or learning approach to utilize and how? While formulaic approaches have been proposed (Allen and Seaman, 2006), the ratio of online to F2F is debatable yet not irrelevant. There is an absolute demand for online learning as both a convenience and a cost saving for both the institution and the student.

Evaluation Models

One of the critical lessons learned in the first year teaching at the university undergraduate and graduate student levels by a new professor in 2009 was the importance of establishing the expectations and goals of the courses. The teacher had to be clear about the course objectives at the outset. Further, the learning objectives (LOs) needed to be sequentially mapped out with supporting assignments and tasks. Another technique implemented was to have each of the students submit resumes before the start of class and a couple of paragraphs about their personal goals for the course. Armed with this data, it was fairly straightforward to design an end of the year evaluation that was usable and relevant. Development of an evaluation mechanism for a blended program can follow similar steps. Program evaluation can be much more rigorous particularly when the data gathered is directly applied to the design and implementation of future programmatic offerings.

As broader experience is gained programmatically, a sort of blended electronic portfolio, a more diverse set of teaching instruments can be developed. One of the invaluable exercises utilized in the leadership and change program at Antioch College, as an example, are the self-reflective writing assignments. It is critical to the post-implementation stages

of blended education to engage the students as they are enrolled in relevant programs or courses and certainly the early cohorts for any program. Another instrument that has proven useful is peer-to-peer dialogue groups where small-group collaboration provides useful feedback for evaluation purposes. In the fourth year of studies at Antioch's Leadership and Change program, students have been virtual student residencies with technology to bring themselves together in forums to share and discuss ideas in-depth.

In order to effectively compare the outcomes of the blended learning and traditional pedagogy, it will be important to gather technical and anecdotal information from participants in both the design and implementation of the program. There are two studies that took a more in-depth look at comparing outcomes of traditional education to web-based or blended approaches (Leasure, 2000, Liao, 1998). The in-depth design of a comprehensive evaluation instrument is beyond the scope of this paper. However, this author has experienced and read enough to know that actively engaging in construction of knowledge and implementing collaborative learning environments are two critical dimensions that must be part of the initial course design, and therefore a part of the outcomes assessment (Herrington, 2009, Kirkpatrick, 2006). In designing two courses for a local public university in Washington, D.C., I advanced my knowledge of online education in the summer of 2014 by becoming certified in the design and delivery of online course content. The course I took was a professional development course comprised of three modules, using media in courses, Blackboard essentials, and building an online course. After successfully completing the three modules and becoming certified for online course design and delivery, I enrolled in the next level of certification, Quality Matters (QM). The next phase of QM involved becoming certified as a peer reviewer for online course designers. Each level of engagement made it abundantly clear that without online training to the level that I became in engaged in, there may be hundreds, if not thousands, of courses that are not being properly taught online.

There are extensive evaluation studies about online self-paced courses (Gerlich, et. al., 2009). A representative conclusion of Gerlich's work is that "…the results reported appear to indicate that GPA is the sole predictor of success in a course of this type, and that various other factors such as a student's Locus of Control and demographics are not significant predictors of achievement" (p. 8). This phase of the research is informed by

the QM program

OM is "...a faculty-centered peer review process that is designed to certify the quality of online and blended courses" (Quality Matter literature, 2011-2013 -APA?). The full OM program has three components to it: the rubric, the peer review process, and then professional development. I will incorporate a discussion of each QM component within this document.

Finally Hobbs, 2002, promotes the importance of including detailed evaluation in the initial program design.

Summary of Certificate Program Research

Introduction

There is a need to do some preparation work before involving students in online or blended courses. "Designing and e-learning experience should include elements of various perspectives offered by cognitive, behavioral, constructivist, and social learning theories and then adapted to the e-learning course" (Hutchins and Hutchinson, 2008, p. 367). Students who are not inclined to attend a full time academic program, and who want to advance their professional knowledge or skill in a certain area are inclined to take on a certificate program. Certificate programs are often part of advanced degree programs. In many cases, students can opt for just the certificate or the advance degree to which it is academically associated (NCPH Curriculum, 2008).

The number of hours required for the certificate by itself varies, averaging between 15 and 24 hours of coursework, including an internship. Fifteen hours, or about five courses, seems to be the minimum for an effective certificate program. This allows for an introductory course which provides some kind of overview, an internship, and three or four more specialized courses. The configuration of the courses varies from program to program, depending on the focus (NCPH Curriculum, p. 1, 2008). Appendix A, lists ten recommendations that were adapted from a certificate program for another discipline. Further, "…an undergraduate certificate program may pull courses together from a variety of disciplines in order to form a coherent theme, or an undergraduate certificate program may offer classes that all focus on a specific academic or technical field" (www.degreedirectory.org). It is virtually impossible to discuss

certificate program best practices without touching upon the discussions about accreditation, and in particular as it relates to the distance learning environment.

The proliferation of community colleges, online education platforms and international programs challenge the status-quo of accreditation, "…distance education carries difficulties never before encountered" (Lindsay, 2006, p.2). In the undergraduate college environment, "…the challenge is to delineate what should be the same as brick and mortar institutions, and what can be allowed to be different" (Lindsay, p. 2, 2006). Given the geographical characteristics of distance education, any accreditation issues will necessitate national and regional participation. At the minimum, the U.S. Department of Education and the Council for Higher Education will help shape accreditation (Lindsay, 2006).

In a comparative analysis study by Scott Howell, et. al. (March 2007), looking at distance education by the six accrediting entities around the country, one is struck by the lack of universal standards across them. There is also debate about how "…without a common set of outcomes to be measured by accreditation, there can be no common understanding of expectations of the accreditation process" (Scott Howell, p.3, 2007). The regional entities have adopted common platforms for reviewing distance learning that "….informs and supports the distance learning policies and processes in each region" (Scott Howell, p.5, 2007). This brings us to the "Principles of Good Practice for Electronically Offered Academic Degree and Certificate Programs (Good Practice)" (Scott Howell, 2007).

The 'Good Practices' served as the guiding principles for electronically offered academic and certificate programs from 1995 until 2000 when the "…WCET and the Council of Regional Accrediting Commissions(C-RAC) began to draft new guidelines" (Scott Howell, P. 7, 2007). The results of the new effort were two new documents introduced in March 2001. They are "…Statement of Commitment by the Regional Accrediting Commissions for the Evaluation of Electronically Offered Degree and Certificate Programs (hereafter Statement) and the Best Practices for Electronically Offered Degree and Certificate Programs (hereafter Best Practices)" (Scott Hagell, et. al, 2007). The former document outlines the general approach and the latter focuses on what are considered to be the best practices in the field. "The *Best Practices* is comprised of five sections: (1) Institutional Context and Commitment, (2)

Curriculum and Instruction, (3) Faculty Support, (4) Student Support, and (5) Evaluation and Assessment" (Scott Howell, p. 8, 2007). There is a table that compares the website offerings by each region and then introduces the comparative analysis. The comparative analysis gives a more in-depth description of each commission and highlights changes since 2000. The recurring themes that came up in the more in-depth review are highlighted next.

The commission documented the need for more rigorous program and student learning assessments. There is some consensus that the objectives and outcomes should be identical no matter the venue of learning. Many of the commissions are no longer using separated policy documents for distance learning. One entity, the North Central Association, Higher Learning Commission, did not distinguish 'distance education'; rather their view is "…an institutional accrediting body evaluates an entire organization and accredits it as a whole" (Scott Howell, p. 17, 2007). This latter approach puts emphasis on the institution versus specific programs or courses. Specific references to the use of technology are introduced as well as specific requirements for faculty getting training for distance related education. The Northwest Commission is the only one that "…identifies what an institution should supply as supporting documentation to accompany it self-study and also be made available to the evaluation team" (Scott Howell, p. 22, 2007).

Why is accreditation relevant to our discussion of certificate programs? As this document observed in discussing electronic and certificate programs, "…accreditation is one (and perhaps the primary) means of quality control that can help providers of distance education realize their potential in helping students maximize the benefits generated by this mode of delivery and learning" (Scott Howell, p. 26, 2007). Yet the earlier referenced QM program provides another quality control metric (Add an Appendix B - QM?)

Next Paragraphs:

History of QM

Relevance

My personal history with OM

Good and Best Practices for Certificate Programs

Of great importance to any programs at universities, certificate programs or not, is their ability to "…articulate the centrality of their respective educational programs to their institution's mission" (Euster and Reaves, 1995, p. 194). It was fifteen years ago that a relatively unknown entity, the Western Interstate Commission on Higher Education (WICHE), under its Western Cooperative for Education program, published the "Principles of Good Practice for Electronically Offered Academic Programs" (Howell and Baker, 2005, p. 41). Over this timeframe several other standards were developed, some of which were discussed in the accreditation discussion in this paper but "…none of them influenced more programs and exhibited more staying power nationwide than the Good Practices" (Howell and BAker, 2005).

Best Practices has ten more principles than Good Practices and eight more than the Guidelines. The Guidelines were built off of Good Practices, but expanded principles in Curriculum and Instruction, Evaluation and Assessment and the Learning Resource sections. The additional principles in the Guidelines in all sections sought to clarify the currency of curriculum, material ownership, compensation of faculty and copyright; ensure the integrity of student work and degree legitimacy; and affirm student access to resources and that proper institutional monitoring of same was done, respectively. "The new section, "Facilities and Finance," was comprised of two principles: the institution's ability to make the program financially viable and effective and its possession of sufficient technical expertise to support and perpetuate the program" (Howell and Baker, p. 45, 2005).

Much of the literature discusses the development of certificate programs as, in part, a response to the fiscal pressures and the need to focus their priorities as impetus for the growth of certificate programs at the university level (Euster and Reaves, 2005). Further, representative of the anticipatory role that universities must become more effective at is that "…institutions of higher education must anticipate future challenges to their efforts to create and maintain appropriate educational structures" (Howell and Baker, p. 193, 2005).

Hands On Experience

At the Antioch PhD program on leadership and change (Antioch) there is an abundance of institutional within- and across-cohort support and connectivity to the learning community. There is a definite institutional cost that must be borne by and/or priced within the tuitions in order to achieve the extensive institutional, technological and staff support provided by the Antioch program. The library support alone is vast, responsive and technologically current with relationships to virtually every database imaginable. There is a defined cost for providing real-time library support to physical documents (shipping books, dissertations, and the like) and electronic support (emailing documents, database connections and similar resources). Each week during the first three years of the program, there are within-cohort writing and critical thinking exercises directed by a faculty member, which require active student participation. The net benefit is to keep the students engaged between face to face sessions, connected to the learning community, and providing support to one another along the journey. There is no doubt that accountability among peers is instrumental to student progress. The competencies gained in this blended approach cannot be overstated or undervalued. The competencies need to be present in the faculty, and institution support is critical. Specifically, "…applying relevant learning theories in the design of e-learning courses, using creative processes in deciding on and developing content, providing continuous assessment of the organizational technology infrastructure, and considering the development and delivery of e-learning process from a return-on-investment (ROI) perspective" (Howell and Baker, p. 367).

Overall costs of blended education arguably should be less for the learner-consumer than the escalating costs of traditional classroom education. However, the operating costs for the institution delivering the blended education will directly correlate to the communication channels utilized, the faculty costs, and the frequency and type of interactions with the learner-consumer. One example of pricing in the e-learning field is from a stand-alone software database package called NVIVO 8. NVIVO 8 is _____The pricing is discounted for students. The license purchase costs $565. Additionally, there is an offer for a six-hour, three session training course for the software package for $295. Thus, the combined investment is

$860 for the NVIVO 8 license and training (email from QSR International, February 17, 2010). The value of this data point is to partially set the cost context of Appendix C, which contains a more detailed spreadsheet of projected program costs.

In 2009, for a year, I taught a form of blended education course at the graduate school level at a New England based university. The institutional support for the proper technology and budget to pay adjunct professors greatly affected the ability of teachers to deliver the best product to the students. The screening of the students was also lackluster. There was not a focus placed on determining, before the class started, whether the students were independently driven and technology savvy.

The literature has substantiated the importance of the individuals' drive in lessening attrition. The research found "…locus of control to have a direct bearing on student's completion of coursework" (Parker, 2003, p. 7). There are internal and external considerations when looking at locus of control. This quote helps describe the term, internal locus of control, in words that describe a student who is "one who holds the belief that the outcomes of a situation are contingent on his or her own behavior" (Parker, 2003, P. 4). It stands to reason that external locus focuses students' views on something other than themselves. In external locus scenarios, students do not feel as responsible for the outcomes. Since being certified as an online course designer in 2014, and subsequently becoming a peer reviewer in 2016 through the QM program platform, I have come to appreciate both the design and implementation challenges and opportunities for online learning

While grade point averages (GPA) may arguably be the best predictor of educational attainment in a blended learning environment, locus of control has also been shown to be an important variable as well. Specifically, _____

At this juncture, traditional evaluation methodologies are recommended for any institution engaging in a blended education program. It is imperative that the evaluation process be adequately funded at the outset which will pay handsome dividends over the long-run in program redesign and determining the effectiveness of the learning. The evaluation process should be able to determine the effectiveness of the blended education program or whether to continue to administer it. This author proposes using the work of Kirkpatrick and Kirkpatrick's (2008) four levels of review, and in particular the 'evaluating

learning' chapter (pp. 42-51). There are three critical questions posed by Kirkpatrick and Kirkpatrick (2008) that must be addressed at the minimum in the evaluation process:

1.   What knowledge was learned?

2.   What skills were developed or improved? And

3.   What attitudes were changed? (Kirkpatrick and Kirkpatrick, 2008 p. 42).

While program evaluation is not the scope of this research, it is a very important component to the overall economics discussion for the design and implementation of a blended education program.

Designing online courses

In designing two courses for a local public university in Washington, D.C., one fully online and the other a hybrid or blended format, the preparation for students prior to the commencement of the classes was extremely important.

Getting certified as a course designer, and as a peer reviewer of other faculty's work, proved to be invaluable to the successful implementation of my courses.

The Economic Model

Universities across the country continue to raise tuitions to meet increased operating costs. "Cost control and strategic allocation of institutional resources have emerged as issues of central importance in higher education over the past decade." (Euster and Reaves, 1995, p. 194). The response has been to seek out educational approaches that maintain quality while increasing profitability. The annual market of distance education in general stood at $4.5 billion in 2003, with projections to $11 billion two years later (Kariya, 2003). Blended education, arguably, is one approach to meeting the necessary economic model of tomorrow's academic institution.

A critical first step in e-learning, online education or blended education (all hereafter referred to as blended education) is the initial course design. Not unlike a comprehensive literature review, the return on investment for a detailed and effective blended course design more than pays for itself over

the long-run. "Instructional design is one of the single most critical factors in successful online teaching and learning." (Desai, Hart, and Richards, 2008, pp. 3331-332). The authors believe that the importance of design transcends other issues. Good design trumps whether a course is totally or partially online. It is more important than whether the staff is full-time or made up of adjunct faculty members. Further, the structure of blended education is seen in these comments, "…usability and interaction factors were identified as some of the key pedagogic themes important in e-learning design" (Hutchins and Hutchinson, 2008, p. 365).

The evidence is clear that higher education has embraced online education as valued, and not just because of the burgeoning numbers of participants, "...an increasing number of academic leaders say that offering online courses is critical to their institution's long-term strategy" (Allen and Seaman, 2006, p.66). With the aforementioned data points as a starting point, this section of the paper seeks to address the economic components of blended education, grounded, in part, on the extant literature on e-learning design.

Each institution must start with what is termed 'e-learning readiness. That is, "…assessing the learner's technological skills and the technology infrastructure of the organization is important in identifying if the e-learning program could be supported in the organization" (Hutchins and Hutchinson, 2008, p. 366).

The most consistent means of quality control for current and prospective providers of blended education is arguably through the various stages of accreditation (Lindsay, 2006) discussed in this paper. Each stage and substage, whether certificate, full program, full time staff or adjunct, and the level of technological sophistication, will ultimately determine the economics of the program(s) implemented. It is universally agreed that initial design is the first critical phase, and it is also the stage at which costs incurred will be highest. Some of the startup costs can be spread over per student participations, and over multiple semesters. Once the size and technology systems are decided upon, the specific economic impact can be more precisely delineated.

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1. The best certificate programs are those embedded within a larger program, which require students to gain a contextual and theoretical background for the study of the subject focus by taking courses outside of the primary subject major. This would include allowing students to take courses outside of their home departments.

2. Certificate programs should allow students the option of also completing a graduate degree. The credits acquired in the certificate should count toward the total number needed for the graduate degree.

3. Certificate programs should include some kind of introductory course, depending on the nature of the program. For example, if it is a general certificate in Employee Stock Ownership Plans (ESOPs), the introductory course should give students a broad background in the varieties of public policy, practice, legal, and financial work required regarding ESOPs. If it is more focused, such as in management training, the introductory course should place the most emphasis on that field.

4. Skills based courses are essential. For example, a management training program should have required courses in motivational and organizational theories.

5. Students need to gain hands-on experience. A required internship is a must. For students in the program who are already employed, they should still complete an internship. Depending on the needs of the student, the internship could be a special project designed by the employer seeking a succession plan or ESOP execution. A practicum course might be an additional avenue for students to gain practical, project-based experience. Not only do the students learn skills, but they also learn one of the most important skills—working as part of a team.

6. Certificate programs should provide other kinds of opportunities for students to gain experience, especially if the program engages with the local community in some way.

7. Providing access to professionals practicing in the field, over and above internships, is a good way for students to gain more information about what professional managers of ESOP

conversions and ESOP companies actually do. This could be done by inviting employed professionals in the field to give presentations about their work. There may even be opportunities for students to "shadow" ESOP professionals for a day.

8. Certificate programs should play to the strengths of the location of the institution. In other words, what resources are available in the surrounding area that can be effectively utilized by students and faculty?

9. Seeking partnerships with other facilities in the area and the region will enhance the program by providing opportunities for internships, field based projects, and other interactions between the entities and the students.

10. Encouraging interaction among the students, whether in the classroom or outside of it, is a great way for them to learn how to work together to complete a project or reach a goal. It is also a system of mutual support and may form the basis of future networking opportunities, as students gain employment in different places.

[1] Adapted from the public history design recommendations, wwww.uwex.edu/ics/design