Using Acceptability as a Measure for Evaluating Online Education

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Author Note

The terms *online learning* and *distance learning* are used interchangeably throughout this paper.

Abstract

The debate over the effectiveness of online education versus traditional in-classroom education continues. Much of the literature uses learning outcomes and academic achievement to view the effectiveness of online education. Jonathan Adams and his colleagues proposed a new measurement of the acceptability of online coursework to determine the effectiveness of the education. This paper supports using acceptability as a vital measurement and proposes a study that might address some of the limitations of previous studies.

Keywords: online learning, distance learning, no significant difference, student interaction, acceptability

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Introduction

The debate over the effectiveness of online education versus traditional in-classroom education continues as the demand for more educated workers fuels the fire. The Bureau of Labor Statistics projects that the growth in jobs requiring at least some postsecondary education will outpace those in the on-the-job training category between 2008 and 2018, with those occupations that fall in the master's or first professional degree categories growing by 18% each (U.S. Department of Labor, 2010). Both for-profit and conventional academic institutions are turning to the idea of online course offerings to help fill the demand. As of the fall 2008 school term, the number of students taking at least one online course was 4.6 million, up 17% from the previous year (Allen & Seaman, 2010, p. 5). As the prevalence of online course offerings grows, more and more scrutiny is being placed on their effectiveness. The majority of the research attempting to address this issue focuses on student learning outcomes and student satisfaction. Very little research looks at the question of acceptability of online coursework in terms of helping students further either their academic pursuits or their career. This paper takes the position that acceptability might be a more useful measurement of effectiveness and describes a research proposal that could shed more light on this important discussion.

Literature Review

A review of the existing literature shows how the measurements of learning outcomes and academic achievement have been studied, and what factors appear in that body of work that warrant turning to acceptability as a new measure of effectiveness. Many of the existing studies also addressed student satisfaction; however, since many of the variables measuring satisfaction are affective, not cognitive, this paper will not focus on those findings. One group of higher

education leaders even questioned a student's ability to measure the effectiveness of education saying that "students cannot make judgments about what constitutes high-quality education because they have not been trained to develop appropriate criteria" (Twigg, 2001, p. 13).

No Significant Difference

It is hard to read any research about the effectiveness of online or distance learning written in the last 10 years without coming across the notion of "no significant difference" established by Thomas Russell. His 1999 annotated bibliography includes hundreds of studies published between 1928 and 1998 that support his claim that learning outcomes are not affected by the mode of teaching (No Significant Difference, n.d.). Since Russell's book was first published, many studies – including both primary and secondary research – have attempted to confirm or reject the *no significant difference* phenomenon.

Studies conducted by Ryan, Carlton, and Ali (1999) and Hoban, Neu, and Castle (2002) broke down attitudes toward online learning into different learning dimensions to see if they could determine where there might be differences in the same course taught both online and in the classroom. Ryan et al., (1999) studied seven graduate nursing courses that had a mix of both on-campus and online modules, and their findings from an eight item questionnaire indicated that there were both positive and negative aspects to distance learning (p. 276). Hoban et al., (2002) created 12 different dimensions in their study of three cohorts of an online educational administration program. While they found that in aggregate students found their online coursework to be comparable to classroom instruction, there were significant statistical differences in some of the individual attributes including critical thinking, problem-solving, and decision-making at $p < .005$ (Hoban et al., 2002, p. 16) and the ability to apply what they learned within diverse populations and situations at $p < .05$ (Hoban et al., 2002, p. 17).

Slater and Jones (2004) attempted to test the no significant difference theory through the lens of a different approach than what they felt had been studied before. They contended that that majority of the existing research compared conventional lecture courses to online learning (Slater & Jones, 2004, p. 17). Their study compared "an interactive Internet-delivered course with a learner-centered on-campus course, both of which use highly interactive teaching techniques characteristic of LCE [learner-centered education]" (Slater & Jones, 2004, p. 17). While their analysis of pre- and post-tests did show that "conceptual understanding is significantly increased" (Slater & Jones, 2004, p. 22) in students who took the course online, the students in the on-campus course performed better (Slater & Jones, 2004, p. 22).

While the research cited above focused on different aspects within a single study that showed differences existed between effectiveness of online versus traditional classroom courses, Zhao, Lei, Yah, Lai, and Tan (2005) conducted a meta-analysis to examine how different groups of studies yielded different responses about effectiveness. Most interestingly, they found that studies published prior to 1998 tended to support Russell's theory of no significant difference; however, "studies published in and after 1998 found distance education to be significantly more effective than face-to-face education (d = 0.20, p<.001)" (Zhao et al., 2005, p. 1855).

Benefits of Distance Learning

Just about every article about distance learning touts the benefits of flexible scheduling and increased access to education. Another commonly mentioned benefit comes from the technology used in online learning. Adams and DeFleur (2005) found evidence of the favorable view of technology when surveying department chairs regarding their preference among candidates for faculty positions. They found that because the use of technology is such an important part of teaching instruction, a candidate with some coursework completed online may

have an advantage in certain hiring scenarios (Adams & DeFleur, 2005, pp. 81-82). This theme

was echoed in Adams, DeFleur, and Heald (2007) in comments from their participating hiring

managers in the health professions indicating that completing coursework online demonstrated

the desirable skill of being able to use new technology. Another example comes from Walls

(2008) in a study of Graduate Music Education students who felt their online coursework

increased their self-efficacy in using technology (p. 60).

One benefit that might not be so apparent when thinking about distance learning is that it

demonstrates a student's discipline and motivation (Adams et al., 2007, p. 304.) This notion has

deep-seeded roots in the history of education going back to 1916 when correspondence courses

were said to have promoted autonomous learning (Larreamendy-Joerns & Leinhardt, 2005, p.

582).

A Major Shortcoming of Distance Learning

One prevalent theme in the literature is the inability of online learning to foster the same

sense of interaction – between students themselves and between students and faculty – in the

same way that traditional classroom learning can. History shows that this is not a new criticism

of distance education, and that this has occurred "whenever pedagogical innovations challenge

the classroom as the privileged scenario for learning and instruction" (Larreamendy-Joerns &

Leinhardt, 2006, p. 572). At the annual meeting of the National University Extension

Association in 1916, Wayland J. Chase, asked, "Is distance between teacher and pupil, professor

and student, an insuperable difficulty?" (Chase, 1916, p. 64 as cited in Larreamendy-Joerns &

Leinhardt, 2006, p. 580).

Ryan et al., (1999) indicated that distance did matter as their findings showed that

"classroom interaction was very helpful in understanding course content" (p. 275). Interaction

was also a theme in the work of Adams and DeFleur (2005, 2006). In their study of applicant

credentials for obtaining a faculty position, the qualitative data collected as part of their survey

showed that participants "expressed concern about [online] students being able to engage faculty

and discuss ideas with peers through classroom discussion and in study groups" (Adams &

DeFleur, 2005, p. 80). Adams and DeFleur (2006) found similar results in their research of

online degrees as credentialing across a broad range of industries where "the theme of

interaction and classroom experiences surfaced as the most troubling aspect of online

coursework" (p. 41). These finding seem to be at the core of what William F. Massey was

thinking when he said technology "cannot replace most human contact without significant

quality losses" (Massey, 1997 as cited in Phipps, 1999, p. 31).

Acceptability as a New Measure of Effectiveness

A review of the literature finds interesting observations about the way those in academia

view online education. As previously noted in Adams and DeFleur (2005), faculty candidates

were typically not viewed as favorably if they had earned their degree online. These findings are

supported by research conducted by Allen and Seaman (2010) that showed less than a third of

Chief Academic Officers surveyed at more than 2,500 colleges and universities felt their faculty

accepted the "value and legitimacy of online education" (p. 3). With that little support from the

community that is itself providing the online education, what can the expectations be for

acceptance in general?

In national surveys conducted by Adams and his colleagues, various industries were

studied using similar methods to determine if the type of degree earned affected the

"gatekeepers'" (Adams, 2008, p. 574) hiring decision. Adams and DeFleur (2005) found that

98% of search committee chairs responded that they would choose the candidate with the

traditional degree over candidates who had earned their degree online (p. 78). Adams and

DeFleur (2006) conducted a similar study among hiring managers in various business sectors and

found that 96% indicated they would most likely recommend the candidate with the traditional

degree over one whose degree was earned online (p. 38). Turning to a field in which

"historically, technology-supported instruction has played an important role in university-based

health profession programs" (Adams et al., 2007, p. 293), the results were still overwhelmingly

in favor of the candidate with the traditional degree with 95% of respondents recommending

hiring the candidate with the traditional degree (Adams et al., 2007, p. 298). Results in all three

studies showed slightly more acceptance for degrees earned where only 50% of the coursework

was completed online over degrees earned completely online (Adams & DeFleur, 2005, p. 78;

Adams & DeFleur, 2006, p. 38; Adams et al., 2007, p. 298).

    Several studies found that certain levels of education might lend themselves better to

online learning. Zhao et al., (2005) found evidence in their study that at the graduate level where

"more complex ideas are explored" (p. 1864), distance education may not be as effective as at

the undergraduate level. The participants in Adams' (2008) study provided comments in support

of that saying that "online courses are more acceptable for training, certificates, and

undergraduate classes, but not for graduate classes (p. 582). However, Grouix and Hernly (2010)

felt that the concerns about acceptability of online coursework "would be virtually negated" (p.

69) for the participants in their study since the reason these teachers were taking master's level

online courses was to qualify for promotions within the organizations where they were already

employed (p. 69).

Research Problem and Hypothesis

Allen & Seaman (2010) calculated that 14% of the 4.6 million students taking online classes in the fall of 2008 were taking graduate level courses, which is proportional to the percent of graduate students in the entire higher education student population (p. 5). With the Bureau of Labor Statistics predicting an 18% increase in jobs that require a master's or first professional degree (U.S. Department of Labor, 2010), it would seem that the supply may be keeping up with demand – unless the degrees students graduate with are not considered acceptable by the hiring mangers for those jobs.

Therefore, the research question is does the type of degree affect one's ability to be hired? Specifically, the null and research hypotheses for this study are:

H_0: There is no difference in the likelihood of being hired between graduates who have earned their degree online versus those who earned their degree through traditional classroom learning.

H_1: Students with graduate level degrees earned through traditional classroom learning are more likely to be hired than graduate students who earned their degree online.

Adams and his colleagues have addressed this question in their studies cited earlier in this paper. However, there may have been a flaw in their methodology to cause instrumentation, experimenter effect, and subject effect to be threats to the internal validity or their research. The survey used asked the participants to choose a hypothetical candidate from each of two pairs:

- Candidate A with 100% traditional coursework vs. Candidate B with 100% online coursework

- Candidate A with 100% traditional coursework vs. Candidate C with 50% traditional and 50% online coursework (Adams & DeFleur, 2006, p. 37)

Because both pairs included the candidate who had completed all of the coursework in a traditional classroom setting, and because that candidate was listed first in both pairs, it may have contaminated the participants by hinting at the study's hypothesis.

Methodology

Design

To examine this important question, a non-experimental ex post facto study will be conducted where students who graduated with an MBA from an online program will be compared to students who graduated with an MBA from a traditional (classroom) program. The students will be purposefully selected and will apply for jobs in the Chicago area.

The independent variable is the type of program from which the student graduated. This IV is a nominal variable with two levels – online or traditional. For the purpose of this study, online is defined as 100% of coursework completed over the Internet at a location other than the physical school campus. Traditional is defined as 100% of coursework completed by attending classes taught by professors in person and on the university campus.

The dependent variable is the job offer, also a nominal variable with two levels – yes and no.

Sample

A convenience sample will be drawn from students who reside in the Chicago metropolitan area and who graduated from one of two MBA programs in the spring of 2010. Thirty students will be selected from those who graduated with degrees earned through online coursework from University of Phoenix, and 30 will be selected from those who graduated with degrees earned through traditional in-class coursework from the Evening MBA program at

University of Chicago. These critical case participants will be students who graduated from their programs with the intent to look for a new job.

The type of student attending the Evening MBA program is similar to the online student in terms of being a working professional seeking a flexible program. Demographic information will be gathered from the enrollment databases of the respective universities to determine if the groups are relatively equivalent in areas other than their type of degree. One demographic characteristic that will have to be controlled for is the difference in the gender make-up of the two schools. The student body of University of Phoenix is 63% female (University of Phoenix, n.d.), whereas the student population of the Evening MBA program at University of Chicago is only 23% female (The University of Chicago Booth School of Business, n.d.).

Observation

Participants will be asked to submit applications, cover letters, and/or resumes (depending on the requirements in the job postings) for specific positions listed on the Indeed.com job board that require the applicant to have an MBA degree. After a three-month period, participants will be contacted and asked whether or not they have been hired into a position that listed the MBA degree as a requirement.

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Data Analysis

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Statistical analysis for this experiment is limited by the fact that both the independent and dependent variables are nominal variables with only two levels each. A frequency table will be created (Table 1) that will show the number of students from each program who were hired and not hired. This table will then be expanded to include a calculated percentage for frequency and a chi-square value that indicates the contingency coefficient (Table 2). If any of the frequency values is less than five, the chi square test will be corrected with the Yate's correction. The

Fisher's exact test may also be used to determine the value of chi square and the level of significance of chi square.

Table 1

Number of Students Hired into Positions Requiring an MBA

Type of Degree	Hired	Not Hired
Online	f	f
Traditional	f	f

$n = 60$

Table 2

Level of Significance of the Effect of the Degree on Hiring Status

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Type of Degree	Hired	Not Hired	$\chi 2$
Online	%	%	xx.xx
Traditional	%	%	xx.xx

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Limitations

While this research hopes to address some of the shortcomings or omissions in previous research, this study is by no means free of limitations.

Sampling Issues

The sample is probably the biggest source of error in this study because it is a purposeful, not random, selection, and because it is relatively small. Both of these factors make it difficult to generalize to a larger population. The students selected may not be representative of their classmates nor of the general population. In addition, the geographic area from which the students were selected may affect how representative they are to the larger population of MBA students.

Extraneous and Confounding Variables

The findings of this research may be affected by extraneous and confounding variables:

- Which and what types of companies were hiring during that 3 month period when participants were searching for jobs

- Previous work experience of the participants

- Educational background of the hiring managers

- Manner in which participants interviewed for the positions

Even though this study is a non-experimental research design, there are several aspects of experimental validity that can be discussed to shed light on other extraneous variables that may affect the generalizability of the findings in this study:

- History – there may be an event or occurrence that happens in the Chicago area during this time that affects the job market. For example, a major employer may experience an increase or decrease in hiring. The timing of this study coming during the summer months may also affect the results.

- Selection – even though demographic information was collected about the participants, the differences between these existing groups may affect the study's outcome.

- Subject Attrition – during the course of their job search, participant may apply for and be hired into positions for which an MBA degree is not a requirement.

- Subject Effect (John Henry effect) – because there has been so much publicity about the debate over the quality of online education, the students who received their degree from University of Phoenix may feel they have more to prove and

may try harder in their job search than they would have if they were not part of this study.

The debate over online versus traditional education will continue long after this study is completed, so there will be many opportunities to refine the approach used here. Future studies might sample students in multiple metropolitan areas to create a larger sample size, or they may focus on rural areas where the option of a traditional graduate university experience may not be as accessible to the population.

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