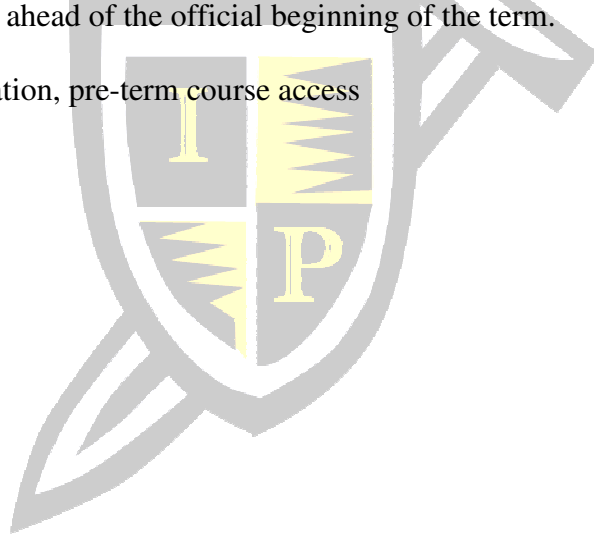# Effect of pre-term course access on online learner performance

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ABSTRACT

Asynchronous delivery of instructional content makes access to online course material ahead of the official start of the academic term possible. Online courses can be "flipped" to provide enrolled students with an opportunity for access to the instructional content (course announcements, calendar dates, assigned readings, individual/group learning activities, select graded assignments, etc.) ahead of the official start of the term. This paper presents the findings of an investigation that sought to determine the influence of learner pre-term access to graduate level courses delivered entirely online. The study employed a causal-comparative research design, analyzing archival data of the pre-term login patterns of online graduate students in an examination of early access to course materials presented asynchronously. The results of this investigation offer online practitioners further insight into the potential benefit of providing early access to online courses ahead of the official beginning of the term.

Keywords: online education, pre-term course access

INTRODUCTION

Across the faculties of higher education, instructors are trying out new, more effective modes of pedagogy, partly in response to a generation of students who have been learning all their lives from computers, websites, and visual media (Lambert, 2012). In order to better understand what practices are most meaningful, the continued examination of learner preference and expectation toward the online experience can provide valuable insight for online practitioners (Bailie, 2014).   The literature abounds with examples of how stakeholders of online education advance innovative tactics with an interest toward providing learners with the tools that gain added benefit from their learning experience. But a review of the contemporary literature finds relatively little reporting of investigations for how early access to course materials might impact online learner performance. This paper presents the findings of an investigation that sought to determine the influence of pre-term access to graduate level courses delivered entirely online.

BACKGROUND

Toward an adherence to standard regulatory expectation, conventional online courses taken for college credit operate according to a set calendar, depicted by an official start and end date. But an inimitable facet of an online course is its asynchronicity, wherein learners can engage the embedded instructional materials on a schedule of "any time, any place." Many attribute the flexible nature of individualized access to Web-based instructional materials as the basis for the significant growth of online learning over the past decades. Some online enterprises have reported benefit in opening access to online courses ahead of the official start of the term, whether such a practice is institutionally driven or a decision made at the program, or instructor level (Smouse, 2017).

There have been past investigations on the influence of instructional materials being provided to learners ahead of on-ground lectures. In their 2005 study, Sung & Huang compared the performance of an experimental group provided with Web-based instructional material before the delivery of a face-to-face lecture with that of a control group that was not. The outcome revealed that the experimental group earned examination scores that were significantly higher than the control group, suggesting at least some benefit from the opportunity to preview course material.

In a related study, Seery and Donnelly (2012) examined whether the viewing of video presentations ahead of a face-to-face lecture helped to alleviate the cognitive demands of learning new concepts and related terminology. Before each lecture, students viewed a media clip that was posted online, presenting new concepts and terminology that would be included in an upcoming classroom lecture.   The preview was followed by a quiz. Findings of the study indicate that performance scores of the students receiving the pre-lecture treatment improved as compared to the performance on midterm and final test scores of learners from previous years that had not, particularly for those with no previous knowledge of the subject matter.

In a blog posted through his role as the Social Media Manager, Eric Sorrentino outlined what he believed to be six advantages of Grantham University's *Get Into Class Early* initiative, and the effect on their online students. The list of advantages cited by Sorrentino (2012) includes the potential benefit in the learner's ability to:

- Preview course material ahead of time. Students can review the course's syllabus, gain a perspective toward major assignments and projects, and mark their calendars for deadlines.
- Work on assignments ahead of time. Although students cannot submit assignments prior to the first day of class, they can still work ahead so they're ready to submit at the earliest possible time after the term begins.
- Plan schedule ahead of time. Knowing their course schedule in advance allows students to more effectively blend their academic calendar into their daily work and lifestyle regime.
- Learn about the instructor ahead of time. Information about the instructor is available in advance.
- Travel with more knowledge of your courses. Online students, who work in jobs that require frequent travel including active duty service members, are better able to coordinate work and school schedules further in advance.
- Become acclimated quicker. Students who are new to online learning might be especially advantaged from previewing their classes. They can browse around and get comfortable with the courses before the term officially begins.

In a 2017 poll promoted by Carey Smouse of Blackboard, members of a Learning Management System (LMS) Administrator Community were asked when their schools make classes available to students. Of the 41 respondents, 15% indicated that access is opened on the day the class begins, while 32% reported opening courses for student access before the official start of the term. Another 44% responded that it varies (given that faculty have the ability to choose). The extent to which this response is representative of the larger population is unknown. Follow up discourse between the respondents quantified the actual timeframe for student access, including select outliers that reported access being granted months ahead of the official term start. One respondent to the 2017 Smouse poll offered the following observation:

> Early on in our use of an LMS, we realized that it was important to students that they be able to identify a consistent date when they could expect all of their courses to be available. The problem was getting everyone to agree on exactly when that date should be. The last time that we opened the practice up for review, we received proposals from everything from a month in advance to not one minute before 8:00a.m. on the day that the class begins. Ultimately, after multiple rounds of discussion, we settled on 1 week prior to term start. For us, the switch from letting faculty make their courses available when they wanted to having a standard available date was switching from focusing on faculty first to focusing on students first.

There were two main questions to be addressed by this study. The research questions included:

1. Is there a positive correlation between the final grades of learners and the time spent in their online courses prior to the start of the term in the higher learning setting?
2. When early access to online courses is offered, do learners take advantage of the preview opportunity as evidenced by resulting login patterns?

Research Question 1 was designed to determine whether there is a correlation between the time invested in advanced accesses to online courses and final grades. Research Question 2 will examine the extent to which participants accessed courses that were opened for preview prior to the start of an academic term, potentially indicating the perceived value of the preview opportunity.

THEORECTICAL FRAMEWORK

One of the advantages that asynchronous delivery of instructional content affords the learner is the opportunity for exposure to the content of an online course ahead of the official start to the term. Conceptually, opening learner access to course content ahead of the calendar start date reflects something of a flipped approach to instructional delivery, a teaching methodology that has grown in popularity in the 21st century. Formally introduced in 1998, one aspect of flipped learning is that instructional materials are presented to the students in advance of the class session, thereby allowing extra time to focus on developing understanding of course structure, topics, and activities (Brame, 2013; Seery, 2015). The flipped approach has been recognized as a method that can help learners to familiarize themselves with course content before attending face-to-face sessions (Herreid & Schiller, 2013), and findings have demonstrated improvement in final grades associated with the flipped model on-ground (Abeysekera & Dawson, 2015; Love, et. al., 2014; Missildine, et. al., 2013).   One might question, therefore, whether the opportunity to preview course content in advance of the official term start might hold a similar promise for an online course. Accordingly, the aim of this investigation is to examine whether access to the instructional content before the start of the term has a remarkable effect on students learning outcomes.

METHOD

This study employed a causal-comparative research design, using archival data of the login patterns of graduate online students in an examination of early access to course materials presented asynchronously. Having received the necessary approval from the university's Institutional Review Board, course access data for 78 distinct subjects were drawn from the LMS hosting the Masters of Business Administration program of a single regionally accredited university located in the Midwestern United States. The actual course sections were randomly selected by the LMS Administrator, but represented six previously delivered graduate level courses covering a span of four academic terms from the 2017-18 school year. The raw data provided to the investigator was limited only to the total number of minutes that each individual accessed the course prior to the official term start date (as recorded by the LMS) and the point value assigned as the final grade.

Research Design

Since a causal-comparative design was applied without an intervention or manipulation, the desired result was to determine whether there is a relationship between early access expressed in minutes (X Values) and the final grade performance indicators expressed as points of n/1000 (Y Values). The archival data was provided to the investigator in a way that subjects could not be identified.

Pearson's r was used as the statistical method to determine the correlational coefficient for the dataset. Pearson's r is a statistic that reveals both the direction and the degree of linear relationship between two variables. The direction of the relationship is designated by a positive or negative expression of the correlation coefficient (Creswell, 2005). For this investigation, an alpha level of 0.05 was established to determine the significance in correlation between the

independent variable (access time to pre-term course material) and the dependent variable (the final points received for the course).

RESULTS

The time expended by students enrolled in the courses under investigation during the five day preview period ranged from 0 to 472 minutes. Twenty eight of the students elected not access the course during the preview period. The final grade points ranged from a low of 121 to the maximum of 1000. All four of the students that earned a perfect score of 1000 accessed their course during the preview period, for mean of 210 minutes. Of the five individuals failing the course (<60 points), three accessed the course early, and two did not. The three that logged in during the preview period recorded a mean time of just more than 104 minutes.   It should be noted that the scope of actual activity within the course during the preview period was not considered in this investigation.

As indicated in Table 1 (Appendix) the bivariate correlation between preview access in minutes and final grade point values was calculated to be .1526. Therefore, the analysis of the dataset indicates that a statistically significant difference at the .05 level did not exist when student performance was correlated to early access. Instead, the correlation was found to show no more than a negligible relationship.

Limitations

As with any investigative endeavor, limitations are bound to exist. The data for this study were collected from a single institution of higher learning, over a span of four semesters during the 2017-18 academic year. The LMS access, and corresponding performance detail of 78 randomly selected students, was considered for this investigation.   Because of the protected archival nature of the datasets, potentially significant student characteristics including age, gender, ethnicity, enrollment classification, and experience with online learning were not considered as part of the investigation. Factors aside from academic performance that might have negatively impacted the performance of some subjects were also not considered.   Further research that incorporates such characteristics might very well serve to ascertain additional variables or outcomes that predict gains from early course access.
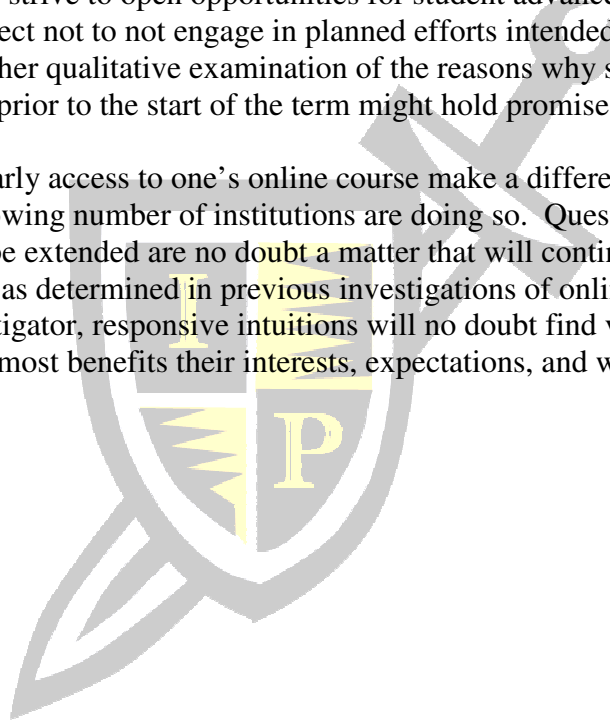
DISCUSSION

Professional educators hold a sincere interest in strategies that might hold promise toward the promotion of increased learner performance. Accordingly, an investigation of the efficacy of additional online course access time (particularly early preview access before the official start of the academic term) is a reasonable area of inquiry. Should it be determined that early access to asynchronous courses can be shown to an increase in the attainment of learning outcomes, then such an inquiry is certainly a worthwhile endeavor to report.

Two research questions were established to guide this study. The questions queried whether there was a positive correlation between the final grades of graduate learners that were afforded early access to their online courses, and the extent to which the subjects took advantage of the preview opportunity extended to them as evidenced by login patterns.

In response to Research Question 1, an analysis of the data collected for this study did not depict a positive correlation between the final grades of learners and the access time in online courses prior to the start of the term. This is not to suggest that early access is not useful, however, even though the datasets collected from this specific investigation found no correlation. Interestingly enough, a closer review of the four subjects that earned a perfect score as their final grade reveals that each one accessed the course during the preview period. Albeit any such significance is countered by the recognition that three of the subjects that failed also accessed the course during the preview period. One possible area for further inquiry might be to examine the actual content areas in the course that are previewed by the participants ahead of the term.

As for Research Question 2, 50 of the 78 participants (64%) opened the course for preview prior to the start of an academic term, perhaps suggesting some perceived value in the opportunity. But what about the 28 subjects that did not preview the course? Some might clearly find such a response to be disparaging. After all, learner service initiatives in higher learning unquestionably strive to open opportunities for student advancement. So why did some of the online students elect not to not engage in planned efforts intended to enrich their learning experience. Alas, a further qualitative examination of the reasons why students do not access courses made available prior to the start of the term might hold promise, and should be considered.

Does granting early access to one's online course make a difference? Anecdotally, at least, it must since a growing number of institutions are doing so. Questions of how long the preview access should be extended are no doubt a matter that will continue to be debated at the institutional level. But, as determined in previous investigations of online student expectation conducted by this investigator, responsive intuitions will no doubt find value from asking their learners what approach most benefits their interests, expectations, and what they desire.

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APPENDIX

Table 1

Computation of r (n = 78)

Raw Data	Computation of r
X Values (Preview Access in Minutes) $\sum = 5351$ Mean = 68.603 $\sum(X - M_x)^2 = SS_x = 726928.679$ *Y Values (Final Grade)* $\sum = 67282$ Mean = 862.59 $\sum(Y - M_y)^2 = SS_y = 2901094.872$ *X and Y Combined* $N = 78$ $\sum(X - M_x)(Y - M_y) = 221573.282$	R Calculation $r = \sum((X - My)(Y - Mx)) / \sqrt{((SSx)(SSy))}$ $r = 221573.282 /$ $\sqrt{((726928.679)(2901094.872))} = 0.1526$