

An Exploratory Study to Determine Students' Perceptions of Online Homework

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ABSTRACT

This paper begins with a summary of the literature which discusses the effects of homework on the learning experience. It then describes technology now available to allow homework to be completed and graded online, with the grade submitted to the professor. The research section of this paper relates the preliminary results of a survey given to three classes of accounting students, having used two different online systems, to determine the students' perception of the online homework system(s) and to gauge their acceptance of this mode of doing homework. The students, who represented both accounting and non-accounting/undeclared majors, were quite positive about the use of the online homework system. This was true for each of the online systems used. The majority of students surveyed reported that they would recommend the use of online homework. The paper then discusses the implications, along with avenues for extensions of the study for future research.

EFFECTS OF HOMEWORK ON LEARNING

Accounting professors have long recognized that one of the best ways to master technical accounting concepts is through the repetitive application of those concepts in various problems and contexts. Prior research suggests that homework that is graded and returned with feedback to students is generally superior to homework that is not collected or graded (Paschal, Weinstein, and Walberg, 1984). Sullivan and Sequeira (1996) also found that for homework to be effective, it must be graded and returned to the students. One way to incorporate this need for repetition into the accounting curriculum, then, is the use of graded homework assignments. Results from the Rayburn & Rayburn study (1999) showed that accounting students who consistently complete homework perform better on examinations. That study concludes with the advice that "accounting instructors should institute procedures that will encourage students to compete homework consistently to maximize students' learning of accounting." In addition, the use of homework positively impact students' retention and understanding of materials covered in the classroom (Cooper, 1989).

However, assigning, collecting and grading homework assignments is obviously easier to do when the class is small, but more difficult for larger sections. The use and integration of graded homework assignment into the accounting course can be difficult and too time consuming for many professors.

ONLINE HOMEWORK SYSTEMS

A recent innovation in educational technology is the online homework delivery system. This technology automates the administration and grading of homework assignments. The use of computerized online homework software allows the professor to enjoy the benefits of graded homework assignments while overcoming some of the common issues previously mentioned in the grading of students' homework.

Benefits to the students of using this technology include the opportunity for multiple attempts to solve problems, and also immediate feedback. While the use of automated online homework delivery system overcomes the administrative and time consuming burden of manual homework application, there are other issues involved in the use of computerized homework assignments. These include technical glitches in the software, responsiveness of the web site technical support staff, and availability of internet access.

PRIOR RESEARCH ON ONLINE HOMEWORK

Few studies are published on the use of online homework. In one such study, Allain & Williams (2006) investigate the use of online homework vs. non-graded offline homework in an introductory Science class. The study attempts to determine if the use of online assignments benefit the students more than offline, non-graded homework. A standardized pre and post test was used to measure students' conceptual knowledge. They found no significant difference in scores between students using graded online homework versus students not using it. In a follow up survey, those students who were given graded online homework in the study report spending more hours per week on the subject matter and were more likely to use the text to aid in answering homework problems, leading the authors to conclude that online homework becomes "less an evaluation tool and more a part of students' learning process."

THE SURVEY

The lack of published research on the effects of online homework lead the authors of the current study to assemble a survey for students in Fall 2006. The students had used one of two systems in their accounting classes: Homework Manager from McGraw-Hill or Personal Trainer 4.0 from Thompson. At the conclusion of the semester, students were asked to complete a 6 item survey. Five questions required the students to respond with 1-4, 1 being Strongly Disagree and 4 being Strongly Agree. The sixth question was open-ended and allowed students to add any other comments they had about the online system.

The Survey questions were:

Question 1: The online HW assignments help me understand the concepts better.

Question 2: The online HW software is easy to use.

Question 3: I would recommend the use of the online HW software for other classes.

Question 4: The online HW assignments make me study more than I ordinarily would have.

Question 5: Online HW assignments are more time consuming than doing the assignment manually.

(HW = Homework)

RESULTS AND IMPLICATIONS

Summary results indicate that the students felt that the online system(s) helped them better understand the concepts, were easy to use, and made them study more than if they did not use the system. The majority of students said they would recommend the use of the online systems. They also felt that using the online system was not more time consuming than manually completing the homework. This was true regardless of the topic of study, level of the course, or the system used. In addition to summarizing and testing frequency of responses, the authors used ANOVA and Factor Analysis to explore the data further, with no additional insights from these tests.

FUTURE RESEARCH--EXTENSIONS

The results reported from our surveys lead to a variety of additional research questions that could be investigated. The survey instrument could be extended to determine if there are correlations by gender and/or choice of major, and correlations could also be determined between the online homework grades and test grades and/or expected grade in the course. Additionally, students could be asked to track the amount of time spent on homework, both in courses using online and manual homework to draw additional conclusions about the benefits of the online systems. Students at different colleges/universities could be surveyed to determine if there are any discernable trends in their responses to the usefulness of the systems.

It would also be interesting to survey faculty to determine their perceptions of online homework systems. Ideally, these could be correlated with their students' perceptions to see if there might be a contagion effect. Evidence regarding the usefulness and ease of use of online homework systems could grow into a body of knowledge that would lead to a determination of the best use(s) of the system.

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