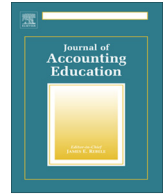




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Main article

Faculty perceptions of online homework software in accounting education

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ABSTRACT

Emerging technologies are providing a variety of tools for accounting educators. One of these tools is Online Homework Software (OHS). This study collects survey data from accounting faculty in the U.S.A. who were queried as to the utilization and perception of OHS in undergraduate accounting courses. Analysis of the survey data indicated five differences between OHS users and nonusers: (1) years of teaching, (2) number of course sections taught, (3) Accounting AACSB accreditation status, (4) faculty rank, and (5) courses taught by the respondents. Faculty indicated the tool is helpful when teaching in the online format and that OHS saves faculty time by reducing the time spent grading and processing student work. Users of OHS raised concerns about whether and how the tool helps students learn, how the students view the tool, and the cost of OHS. The data reported in this study are relevant to educators who have never used OHS as well as those who are currently using OHS. The data collected is important in promoting dialog concerning OHS usage and developing recommendations for continued improvements in the software.

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1. Introduction

Teaching accounting in the 21st century requires instructors to have knowledge of the discipline and a large tool box of accessories to inspire, entice, motivate, and assist students with learning.

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Technology has spurred the creation and integration of many recent learning tools. These tools allow instructors to provide students with more individualized learning opportunities (Arasasingham, Martorell, & McIntire, 2011; Cheng, Thacker, Cardenas, & Crouch, 2004; Wooten & Dillard-Eggers, 2013). Additionally, these tools have the potential to improve course and time management for accounting educators by reducing time on some tasks and allowing instructors to concentrate on high-value-added activities that promote improved teaching effectiveness. Online Homework Software (OHS) is one technology tool utilized in accounting courses. Ng (2011) reported emerging trends in online accounting education and concluded that utilizing online accounting homework software, such as Wiley Plus, is one of those emerging trends.

In this study, OHS is defined as web-based accounting work completed by the student. The work includes solving accounting problems and answering discussion and multiple choice questions. A student's work (except for essay questions) under OHS is immediately computer-graded. In OHS, the instructor can elect whether the software gives automated feedback to students on their submitted answers. The instructor can also elect the number of student attempts allowed for each assignment and whether to vary the given numbers in each attempt. At the onset of this study, the researchers had implemented OHS in their accounting principles and intermediate financial accounting courses and were curious about the prevalence of OHS usage in undergraduate accounting curricula and the perceptions of OHS by other accounting educators.

The study seeks to advance the OHS literature and to gain insight into faculty perceptions of OHS. This paper presents the data collected from a national survey concerning OHS software usage in the teaching of undergraduate accounting. The research reveals some significant differences among users, nonusers, and those who had discontinued the use of OHS and reports factors that contribute to an accounting faculty member's use, non-use, or discontinuance of OHSs.

2. Relevant literature

Research on OHS crosses many disciplines including accounting, physics, chemistry, mathematics, finance, and economics. The prior OHS literature clusters around three main topics: identifying the benefits of OHS, whether OHS improves student performance, and student and faculty reactions to OHS. A discussion of these three areas is presented below.

2.1. Literature on benefits of OHS

A number of benefits from student usage of OHS have been identified. One benefit is that OHS can provide immediate homework feedback to each student (Smolira & Joseph, 2008). Another benefit is increased student understanding of the course material. Cheng et al. (2004) found improvement in student understanding of introductory physics when graded online homework was utilized. Smolira (2008) reported increased understanding of material in an introductory finance course and asserted that instantaneous feedback enhanced student performance. Burch and Kuo (2010) observed that students using online homework in algebra displayed better retention rates than their counterparts using Paper-and-Pencil Homework (PPH). Arora, Rho, and Masson (2013) reported better knowledge retention of statics by students using OHS compared to students using PPH.

The use of OHS has been reported to increase student effort and preparation outside of the classroom. In Bonham, Beichner, and Deardorff (2001), physics students reported spending significantly more time completing homework when using OHS rather than PPH, on average 30 min to an hour longer. Zerr (2007) discovered students doing more work outside of class when online homework was used in a first-semester calculus course. In introductory finance courses, Smolira (2008) found that students reported greater time spent preparing for class as a result of online homework assignments. When Richards-Babb, Drelick, Henry, and Robertson-Honecker (2011) replaced quizzes and ungraded homework in a chemistry course with online homework, students reported that the OHS encouraged them to spend more time on task and apply more consistent study habits.

Unique individual homework assignments and required repetition based on performance can be efficiently provided through OHS. Arasasingham et al. (2011, 70) noted that "the online homework

system offers an affordable alternative to efficiently manage personalized homework in large scale with instant turnaround.” They continued, “It also provides early feedback on student learning that can allow for changes in instructional methodologies or clarification of critical concepts during instruction.”

Finally, OHS benefits faculty and their institutions. Cole and Todd (2003) reported that using OHS saved faculty time by their not having to grade homework problems for 200 students in a chemistry course. Arora et al. (2013) pointed out that assigning unique problems to each student with OHS reduces, if not eliminates, student cheating by copying another’s work.

2.2. Literature on whether OHS improves student performance

The literature on whether OHS improves student performance is mixed. Bonham, Deardorff, and Beichner (2003) reported that the use of OHS contributed to students’ learning of physics. Zerr (2007) discovered improved student learning when online homework was used in a first-semester calculus course. Dillard-Eggars, Wooten, Childs, and Coker (2008) found a strong, positive relationship between the completion of online homework and course grades for a sample of accounting principles students. Gaffney, Ryan, and Wurst (2010) found that students using OHS in introductory financial accounting outperformed the students in the PPH section. Burch (2010) observed that algebra students who used OHS had higher examination scores than those using PPH.

Arasasingham et al. (2011) found improved final examination scores for OHS users in multiple sections of an undergraduate chemistry course taught by multiple instructors. They observed that students perform better with OHS compared to PPH due to increased repetition on difficult topics with OHS because students are able to repeat units many times with different questions from an extensive question pool. Richards-Babb et al. (2011) replaced quizzes and ungraded homework with online homework and found a significantly improved student success rate in chemistry. Arora et al. (2013) reported better final exam scores in a statics course and an engineering course with OHS over the same course in the same term using PPH. Wooten and Dillard-Eggers (2013) found that using OHS in a principles of accounting course resulted in higher grades for users of OHS in comparison to non-users, with low-performing students appearing to gain more benefit than high-performing students from the use of OHS.

On the other hand, some researchers have found no or weak correlations between student performance and use of OHS versus PPH. Fisher and Holme (2000) failed to find improved scores when using OHS in a large chemistry course. Bonham et al. (2001) found no difference in exam scores in a large physics course between students using OHS and those completing their homework on paper. Cole and Todd (2003) also failed to find a significant difference between chemistry student performances in sections using OHS compared to sections which did not. Chamala et al. (2006) found little correlation between students’ scores on OHS assignments and scores on examinations in a chemistry course. They attributed the non-finding of an effect of OHS on student performance to the fact that some exam questions were not covered by assignments in the OHS such as questions about mechanisms and retro-synthesis. Halcrow & Dunnigan’s (2012) study of OHS in calculus was split. One instructor obtained improved student performance with OHS while the other instructor did not. Hall, Butler, Kestner, and Limbach (2012) found a correlation of completion of OHS assignments and performance on the mid-term exam but failed to find a correlation of completion of OHS assignments and final exam performance in an economics course. They believed this finding indicates a deterioration of OHS impact over time.

Phillips and Johnson (2011) explained the differences in online homework packages and intelligent tutoring systems. They summarized that online homework packages have instant feedback but have issues relating to accuracy. Intelligent tutoring systems (ITS) allow students to ask questions, receive instant feedback, and can demonstrate the steps needed to solve problems better than OHS. Phillips and Johnson (2011) found that accounting principles students using ITS performed higher on transaction analysis than did students using OHS. Hahn, Fairchild, and Dowis (2013) lengthened the research timeframe beyond that used in Phillips and Johnson (2011) and compared OHS and ITS in classes where an active learning setting existed. No significant learning advantage was found with OHS or ITS in comparison to PPH. The implication of the Hahn et al. (2013) study is that Computer-Based

Learning tools (such as OHS and ITS) may not add value to courses already being taught with an active-learning course delivery.

2.3. Literature on student and faculty feelings about OHS

Students and faculty appear to have positive feelings toward OHS. Bonham et al. (2003) reported the majority of students learning physics in their study preferred OHS over PPH. Zerr (2007) discovered improved student satisfaction when online homework was used in a first-semester calculus course. Smolira (2008) collected student perceptions of online homework in introductory finance courses and found that students preferred online homework to traditional homework assignments. Richards-Babb et al. (2011) reported OHS in a chemistry course was perceived by students to have a positive effect on their learning and improve their attitude toward the course. Chamala et al. (2006) reported the majority of the students enjoyed using OHS and, if their next chemistry class did not use OHS, they would ask for the instructor to adopt it or would change to another section using OHS.

In a study of OHS usage in multiple sections of chemistry courses taught by multiple instructors, Arasasingham et al. (2011) found that students did not mind the online homework as long as it was well planned, integrated with the course material, supported by course instructors, and the technology was easy to use. Arasasingham et al. (2011) reported both positive and negative feedback of OHS usage by the five course instructors in the study. On the positive side, the faculty felt that OHS helped the course stay on task and on track, improved student learning, was better than hand grading, and allowed students to work at their own pace. The common weakness reported was the content in the OHS did not align with the textbook well.

Peng (2009) explored the use of online homework in accounting principles by analyzing survey responses from students who had used OHS. He reported that individuals with less intrinsic motivation used OHS more heavily and viewed OHS as more beneficial than those with high intrinsic motivation. He also found that a student's computer efficacy has a positive correlation with amount of use and beneficial view of OHS. Morgan (2013) expanded the work of Peng (2009) and developed a model to be used in measuring the impact of OHS on student performance in accounting courses. The model included the relationship among student self-efficacy, need for cognition, computer self-efficacy, and facilitating conditions with performance expectancy, effort expectancy, and social influence.

Wooten and Dillard-Eggers (2013) investigated the use of online homework in principles of accounting, focusing on whether online homework should be required or optional. They found that both required and not-required users rated OHS favorably compared to traditional PPH. Required users were significantly more positive than not-required users. Wooten and Dillard-Eggers (2013: 189) concluded that the use of OHS "is an effective way to motivate students and may be particularly beneficial for less motivated or poorer performing students."

2.4. Literature summary

Published research to date relating to OHS is summarized in Table 1. For each study, Table 1 identifies the courses in which OHS was used and studied and the study's results and major conclusions. The literature provides evidence that some have found that OHS is a tool with benefits to students and that students generally like the tool and believe it is helpful. Continued research into OHS and student performance and perceptions should also be undertaken.

Only one study (Arasasingham et al., 2011) mentions the perspective of faculty on OHS and this perspective was from only five instructors at the same institution teaching the same course. Two other studies (Bonham et al., 2001; Cole & Todd, 2003) presented OHS benefits to the faculty, one benefit from each study.

Interestingly, OHS studies are found in disciplines that require mathematical computations or manipulation. However, a few of these studies discuss how OHS can be used for assignments requiring graphical or illustrative answers. Accounting definitely fits into the genre of disciplines requiring the use of numbers and methodical problem-solving skills.

Table 1
Research relating to OHS.

Researcher(s)	Course(s)	Results/conclusion
Bonham et al. (2001)	Physics	No correlation between OHS and student performance in comparison to PPH and student performance
Bonham et al. (2003)	Physics	Contributes to learning and is preferred over PPH
Cheng et al. (2004)	Physics	Significant improvement in student understanding when online graded homework was utilized
Zerr (2007)	Calculus	Improved student learning, students reported a high level of student satisfaction, and students did more work outside of class
Halcrow and Dunnigan (2012)	Calculus	Reported mix results from using OHS on student performance
Burch and Kuo (2010)	College Algebra	Better retention rates and examination scores using OHS rather than PPH
Fisher and Holme (2000)	Chemistry	No correlation between the use of OHS and student performance in comparison to PPH
Cole and Todd (2003)	Chemistry	Some benefit to faculty from using OHS
Chamala et al. (2006)	Chemistry	Little correlation between the use of OHS and student performance in comparison to PPH
Arasasingham et al. (2011)	Chemistry	Higher final examination scores; students and faculty responded favorably to OHS
Richards-Babb et al. (2011)	Chemistry	Students viewed OHS assignments as worth the effort and reported more consistent study habits and time on task
Smolira (2008)	Finance	Students preferred OHS to traditional assignments; reported increased understanding and greater time preparing for class; asserted instantaneous feedback enhanced student performance
Hall et al. (2012)	Economics	Completion of OHS positively correlated with higher scores on midterm exams not on final exams
Arora et al. (2013)	Statics	Students completing online homework performed better on the final exam than students completing written homework
Dillard-Eggars et al. (2008)	Accounting principles	Strong, positive relationship between OHS and course grades
Peng (2009)	Accounting principles	Individual intrinsic motivation, confidence in computer skills, and perception are important factors in student effort
Gaffney et al. (2010)	Introductory accounting	OHS students outperformed PPH students on cases and a comprehensive accounting cycle problem but no significant difference in quizzes and course exams; student satisfaction was not enhanced
Phillips and Johnson (2011)	Financial accounting	Contrasted OHS and ITS; students using ITS performed better on transaction analysis and recording
Hahn et al. (2013)	Introductory accounting	Did not identify learning improvement for OHS or ITS in comparison to PPH
Wooten and Dillard-Eggars (2013)	Accounting principles	Benefited low-performing students more than high-performing students; users had higher GPA and earned a higher course grade
Morgan (2013)	Accounting	Developed a model to measure impact of OHS on student performance

No previously published research was discovered that compared OHS users, nonusers, and faculty who had discontinued the use of OHS. This lack of knowledge of faculty perspectives and experiences suggests further exploration and research should be undertaken. Understanding the views and experiences of accounting educators is important because the course instructor decides whether and how the tool will be used in the course. Sharing the views of instructors who use OHS could also help improve the tool.

An understanding of the characteristics and viewpoints of instructors in each of the three user groups (users, never used, and discontinued using) should be relevant to educators who are considering adopting OHS and to educators developing other technology tools for courses. Sharing information among accounting educators should promote dialog and interest in ways to teach accounting more effectively and efficiently. In the next section, the methodology of the current research study will be presented.

3. Method

3.1. Data collection (survey)

An electronic survey using SurveyMonkey® was developed to collect data on the use of OHS. After testing the survey through a pilot study, the survey was modified by adding an exploratory question about OHS users' concerns with the tool, reformatting some questions so that they were easier to answer, and adding a demographic question of how many classes (sections) the instructor taught each term. The final survey asked whether the participants are using or have used OHS, which OHS products they have used, in which courses they have used OHS, their opinions on OHS, their OHS concerns, reasons they have discontinued using OHS, and a number of demographic variables. A copy of the survey is found in the [Appendix A](#).

In the invitation to participate in the survey, it was estimated that the survey would take less than 10 minutes to complete. Ninety-six percent of the survey respondents completed the survey in less than 10 minutes and the median time to complete the survey was four minutes.

3.2. Subjects

Subjects for this study were selected from the 2012 to 2013 Hasselback directory. From the directory all professors, associate professors, assistant professors, and instructors not listed in Missouri were selected. The Missouri faculty members were excluded because they were included in the pilot study. Not selected from the directory were deans, chairs, directors, visiting faculty and emeritus faculty. The selection process resulted in 5313 accounting faculty subjects.

An invitation to participate in an electronic survey was sent by email to the subjects. The invitation said "We are collecting information about the use of online homework software in teaching accounting. We are interested in your level of usage and opinions on the tool. Please complete our 10-minute survey found at <<https://www.surveymonkey.com/s/H2K98S8>>." The invitation went on to describe the drawing for a \$250 gift card if the respondent answered in the next seven days. It was explained that SurveyMonkey® would separate their survey responses from their drawing information and the researchers would not see their name or email address unless they won the drawing. To conclude the invitation the researchers' names and contact information were provided.

A reminder email was sent to subjects six days after the original invitation. The reminder email said "Last week, you received a request from us to complete our survey concerning the use of online homework software in teaching accounting. If you have completed the survey, we thank you very much and please disregard this email message. If you have not completed our 10-minute survey, please do so at <<https://www.surveymonkey.com/s/H2K98S8>>. We would like your input even if you do not use online homework software. The drawing associated with this survey will end on September 27, 2012. This is the last time we will contact you with this request." We concluded the email with the researchers' names and contact information.

Of the 5313 individuals invited to participate, 374 invitations were returned as undeliverable, resulting in 4939 invitations assumed to be delivered. There were 550 usable surveys completed, which resulted in an 11% response rate. All survey responses were collected within 20 days of the initial invitation.

4. Data analysis

This study explores the relationship between 10 variables and OHS User Type (using OHS, never used OHS, and used OHS but discontinued using it). Of the 10 variables examined, three are continuous variables and seven are categorical variables. Since no commonly used methodology exists to combine various scale variables into one model for control of familywise Type I error rate, a Bonferroni adjusted alpha level of 0.005 (0.05/10) was utilized in this study to test for statistical significance.

The data analysis is presented in four sections. The first section compares the characteristics of faculty using OHS to characteristics of faculty who had never used OHS and to faculty who had used

OHS but discontinued using it. The second section reports how OHS was being used in accounting courses. Section three presents OHS users' perceptions of the tool. Lastly, section four presents faculty concerns relating to the use of OHS.

4.1. Use of OHS

Of the 550 responses, 362 or 66% were using OHS in their courses. Seventy-three respondents or 13% had discontinued the use of OHS and 115 or 21% had never used OHS in their courses. (Note that because of self-selection bias the percentage responses of this survey for those who had never used OHS and those who had discontinued using OHS cannot be generalized to represent the population of accounting faculty.) The demographic variables for all respondents and for each of the three respondent subgroups are found in Table 2. An analysis of the demographic variables reveals differences between OHS users and nonusers on the following characteristics: (1) years of teaching, (2) number of sections taught by the faculty member, (3) AACSB accounting accreditation status of the faculty member's institution, (4) faculty rank, and (5) which courses the faculty member typically teaches.

4.1.1. Differences between users and nonusers

Users of OHS in our sample have fewer years of teaching in higher education than nonusers of OHS. An ANOVA (Table 3) with the dependent variable of Years Teaching in Higher Education and the independent variable of User Group yielded a difference ($F = 8.106, p < 0.001$).² Accounting faculty using OHS in their courses had a mean of 15.7 years teaching while faculty who had never used OHS had 19.5 years of teaching; faculty who discontinued OHS use had 19.0 years of teaching in higher education. A Tukey HSD post hoc test indicates that users of OHS had significantly fewer years of teaching in higher education than those who had never used OHS (mean difference 3.8 years, $p = 0.001$). The Tukey HSD test also indicated that those who stopped using OHS were not different in years of teaching in higher education than those who had never used OHS (mean difference 0.5 years, $p = 0.951$) and those using OHS were not different in years of teaching in higher education than those who stopped using OHS (mean difference 3.3 years, $p = 0.026$).

Users of OHS tend to teach more course sections in a term (mean 4.2) than those who had never used OHS (mean 3.7) and an equal number of sections to those who stopped using OHS (mean 4.1). An ANOVA (Table 3) with the dependent variable of Sections Taught Per Term and the independent variable of User Group yielded a difference ($F = 13.007, p < 0.001$). A Tukey HSD post hoc test indicates that users of OHS taught significantly more sections than those who had never used OHS (mean difference 0.5 sections, $p < 0.001$) and an equal number of sections to those who stopped using OHS (mean difference .1 sections, $p = 0.519$). This test also yielded a marginally significant difference in the number of sections taught by those who stopped using OHS than those who had never used OHS (mean difference 0.4 sections, $p = 0.019$). Number of Sections Taught Per Term and Years Teaching in Higher Education were not correlated ($r = -0.091, p = 0.036$). An ANCOVA with the dependent variable of Sections Taught Per Term, covariate of Years Teaching in Higher Education, and the independent variable of User Group yielded a difference for Sections Taught Per Term ($F = 11.473, p < 0.001$) and no influence of the covariate Years Teaching in Higher Education ($F = 1.948, p = 0.163$). Pairwise comparison run after the ANCOVA provided the same conclusions as the Tukey HSD tests run after the ANOVA.

Being at an institution holding Accounting AACSB accreditation was higher among faculty who had never used OHS (60%) in contrast to OHS users (41%) and faculty who had stopped using OHS (29%). Cross-tabulations indicated significant differences between those who never used OHS and OHS users (Chi-square = 12.149, $p < 0.001$) and those who never used OHS and those who had stopped using OHS

² This study examined three continuous variables (Years of Teaching in Higher Education, Number of Sections per Term, and Class/Section Size) with separate ANOVAs. Before running the individual ANOVAs, a MANOVA was performed with the three continuous variables as dependent variables and User Group as the independent variable. The MANOVA yielded a rejection of the null hypothesis of no differences across means (Roy's largest root = 0.069, $F(3, 528) = 12.23, p < 0.001$). The follow-up procedure to finding a significant MANOVA is running individual ANOVAs on each dependent variable. The follow-up ANOVAs are presented in the body of the paper.

Table 2
Demographics of respondents.

Respondents	Using OHS	Never used OHS	Stopped using OHS	All
Number	362	115	73	550
Years teaching in higher education, mean (Std. Dev.)	15.7(9.8)	19.5(10.9)	19.0(9.3)	17.0(10.1)
Number of sections per term, mean (Std. Dev.)	4.2(0.9)	3.7(0.9)	4.1(0.8)	4.1(0.9)
Class/section size, mean (Std. Dev.)	41.6(51.1)	38.7(36.8)	33.1(12.7)	39.9(44.9)
On the semester system	93%	93%	88%	93%
Students purchase their textbooks	91%	92%	92%	91%
<i>Have teaching or grading assistants</i>				
Yes	32%	35%	37%	33%
No	66%	64%	62%	65%
No response	2%	1%	1%	2%
<i>Public or private institution</i>				
Public	69%	68%	63%	68%
Private	29%	31%	33%	30%
No response	2%	1%	4%	2%
<i>At institution with AACSB in Business</i>				
Yes	72%	84%	73%	74%
No	26%	16%	22%	23%
No response	2%	0%	5%	3%
<i>At institution with AACSB in accounting</i>				
Yes	41%	60%	29%	43%
No	57%	39%	66%	54%
No response	2%	1%	5%	3%
<i>Respondents' position</i>				
Professor	16%	32%	18%	19%
Associate professor	25%	33%	29%	27%
Assistant professor	37%	20%	34%	33%
Instructor	14%	6%	8%	11%
Department head/chair	2%	3%	5%	3%
Other (marked other, adjunct)	4%	5%	3%	5%
No response	2%	1%	3%	2%
<i>Courses typically teach (respondent could choose more than one)</i>				
Accounting principles	70%	37%	58%	62%
Accounting information systems	18%	17%	21%	18%
Advanced accounting	13%	11%	19%	14%
Auditing	17%	29%	14%	19%
Cost accounting	25%	16%	33%	25%
Governmental accounting	11%	9%	10%	11%
Intermediate accounting	39%	27%	42%	37%
International accounting	3%	5%	6%	4%
Tax	17%	18%	21%	18%
Graduate course for non-accountants	14%	9%	14%	13%

Table 3
ANOVA results on years teaching in higher education, number of sections per terms, and class/section size by user group.

Dependent variable	Using OHS mean (Std. Dev.)	Never used OHS mean (Std. Dev.)	Stopped using OHS mean (Std. Dev.)	df Between groups	df Within groups	F	p
Years teaching in higher education	15.7 (9.8)	19.5 (10.9)	19.0 (9.3)	2	532	8.106	<0.001
Number of sections per term	4.2 (0.09)	3.7 (0.9)	4.1 (0.8)	2	538	13.007	<0.001
Class/section size	41.6 (51.1)	38.7 (36.8)	33.1 (12.7)	2	535	1.125	0.325

(Chi-square = 15.573, $p < 0.001$). No difference was generated from cross-tabulation between OHS users and those who had stopped using OHS (Chi-square = 3.113, $p = 0.078$).

Faculty rank distribution of OHS users was different than rank distribution of faculty who had never used OHS (cross-tabulation yielded Chi-square = 26.246, $p < 0.001$). The faculty rank distribution was similar for OHS users compared to those who stopped using OHS (Chi-square = 4.867, $p = 0.561$) and faculty never using OHS compared to those who had stopped using OHS (Chi-square = 9.527, $p = 0.146$). The actual and expected counts by faculty rank for both OHS users and faculty who have never used OHS are displayed in Table 4. The actual counts are the observed number of faculty in each category. For example, 57 respondents were OHS users with a Professor rank while 37 respondents had never used OHS and hold the Professor rank. The total number of Professors is 94. In the cross-tabulation test comparing Rank and OHS users with those who have never used OHS 94 (20% of respondents) hold the rank of Professor. The test then goes on to multiply the number of respondents who are OHS Users (354) by 20% to get an expected count of 71 professors who are expected to hold the Professor rank and be an OHS user. The cross-tabulation then computes whether the actual count is significantly different than the expected count. An examination of Table 4 reveals faculty in lower ranks (Assistant Professors and Instructors) were OHS users in higher proportion than the other ranks. Professors and Associate Professors represented a higher proportion of those who had never used OHS.

A cross-tabulation revealed that Accounting Principles/Introductory Accounting courses were taught more often by OHS users and Auditing was more often taught by those having never used OHS. Accounting Principles/Introductory Accounting was taught more heavily by OHS users (70%) than those who never used OHS (37%; Chi-square = 41.954, $p < 0.001$). Teaching of Intermediate Accounting had a marginally significant difference between OHS users (39%) than those who had never used OHS (27%; Chi-square = 5.445, $p = 0.020$).

One course, auditing, was more commonly taught by faculty who had never used OHS. Auditing was more often taught by those who had never used OHS (29%) than faculty currently using OHS (17%; Chi-square = 7.738, $p = 0.005$).

4.1.2. Similarities between users and nonusers

The data show no significant difference in class/section size between OHS users and nonusers. An ANOVA with the dependent variable of Class/Section Size and the independent variable of User Group returned no differences ($F = 1.125$, $p = 0.325$). Results of the ANOVA are found in Table 3.

Prior to collecting data, the researchers held the belief that accounting faculty without assistance in the tedious task of scoring homework would be more likely to adopt OHS in their courses, particularly at smaller institutions where faculty generally do not have teaching or grading assistants. However, the data did not support this belief. A cross-tabulation indicates that OHS users were just as likely to have grading assistance as nonusers of OHS (Chi-square = 0.691, $p = 0.708$).

Prior to this study, the researchers believed that schools where students purchase their textbooks would be more likely to use OHS than schools which rented textbooks to their students. The reason for

Table 4

Actual and expected count of OHS users and those who never used OHS.

	Professor	Associate professor	Assistant professor	Instructor	Other	Total
<i>OHS user</i>						
Actual count	57	89	133	50	25	354
Expected count	71	96	118	43	26	354
<i>Never used OHS</i>						
Actual count	37	38	23	7	9	114
Expected count	23	31	38	14	8	114
<i>Total</i>						
Actual count	94	127	156	57	34	468
Expected count	94	127	156	57	34	468

this belief is that many textbooks include free access to the publisher's OHS as part of a new book purchase. For schools that rent textbooks to students, the use of OHS would require an additional expenditure for students. The institutions where students purchase their textbooks did not report utilizing OHS differently than those renting textbooks based on a cross-tabulation (Chi-square = 1.708, $p = 0.411$).

The use of OHS by accounting faculty was not significantly different between public and private institutions (Chi-square = 0.746, $p = 0.689$). Nor was the rate of holding Business School AACSB accreditation by their institution different between OHS users and nonusers (Chi-square = 5.522, $p = 0.063$).

4.1.3. Discontinued use of OHS

Seventy-three respondents indicated that they had previously used OHS in their accounting courses but now do not. The most common reason reported for discontinuing OHS use was that the tool did not appear to improve student learning (22 responses or 31%). The second most common reason for discontinuance of OHS was that it required too much of the faculty member's time to administer (9 or 12%). Other reasons given for discontinued use were the cost, students' dislike of the tool, unreliability in the software and solutions, concern that the tool was not pedagogically sound, poor customer support, institutional discouragement for using OHS, and the lack of OHS flexibility to allow students the opportunity to solve a problem with different (varied) approaches.

Accounting faculty primarily discontinued using OHS in three courses: Accounting Principles/Introductory Accounting (38 responses or 52%), Intermediate Accounting (23 or 32%), and Cost Accounting (6 or 8%). Not surprisingly, these are the same three accounting courses where OHS is most heavily used.

Not one OHS product was predominantly discontinued by accounting faculty. The 73 responses indicated discontinued use of McGraw-Hill's Connect (21 responses or 29%), Wiley's Wiley Plus (14 or 20%), McGraw-Hill's Homework Manager (10 or 14%), Pearson's My Accounting Lab (6 or 8%), Cengage's Aplia/Now/Plus (9 or 12%), and Aleks (5 or 7%).

4.2. OHS utilization in accounting

As shown in Table 5, our faculty respondents (on average) have been using OHS for 4.15 years. The faculty appear to be using OHS primarily in Accounting Principles /Introductory Accounting (257 responses or 71%), Intermediate Accounting (121 or 33%), and Cost Accounting (77 or 21%). Little use of OHS was reported in International Accounting, Governmental Accounting, and Accounting Information Systems (AIS).

OHS can be used for several learning activities. Examples include optional homework, all or a portion of required homework, graded or ungraded homework, extra practice, quizzes, and examinations. Users of OHS primarily utilize OHS for student homework and practice for examinations. Ninety-six percent of the users assign homework with OHS. Most faculty are using it heavily for homework with

Table 5

Courses in which OHS users use OHS (each respondent may use OHS in more than one course).

Course	Respondents using OHS in this course	Percentage of respondents using OHS
Accounting principles/introduction	257	71%
Intermediate accounting	121	33%
Cost accounting	77	21%
Tax accounting	29	8%
Graduate accounting for non-majors	23	6%
Advanced accounting	22	6%
Auditing	16	4%
Accounting information systems	10	3%
Governmental accounting	8	2%
International accounting	1	0%

60% of users assigning all homework in OHS and 76% assigning 75% or more of the homework in OHS. Faculty also utilized OHS to offer ungraded/optional examination practice questions. Thirty percent of users always offered extra practice in OHS, 26% frequently offered it, and 20% never offered it in OHS.

Of the user respondents, 223 reported giving quizzes in their courses. Of these 223, 35% always use OHS to administer quizzes, 30% never give their quizzes in OHS, and 20% use OHS to administer quizzes between 1% and 24% of the time. Use of OHS for examinations was far less frequent. Fifty-seven percent of users never used OHS to give examinations while 25% used OHS for examinations 50% or more of the time. Only 13% always used OHS to administer examinations.

Accounting faculty are taking advantage of the algorithmic function of OHS. The algorithmic function issues a different data set (different set of numbers in the problem) for each student. This function would eliminate one student from simply copying another student's answer for a problem. In some situations, the algorithmic function can be configured to issue a different data set each time the same student works the problem. Seventy-four percent of the user respondents state they are using the algorithmic functionality while 24% are not.

The accounting faculty indicated use of various OHS packages. In descending usage order, the packages being utilized are McGraw-Hill's Connect (218 responses or 60%), Wiley's Wiley Plus (123 or 34%), Pearson's My Accounting Lab (92 or 25%), Cengage's Aplia (77 or 21%), McGraw-Hill's Homework Manager (53 or 15%), Aleks (10 or 3%), and a university proprietary system (3 or 1%).

A majority (77%) of OHS users indicate they are free to choose whether to implement OHS in their accounting courses. However, 22% of users are required to use OHS in their Accounting Principles/Introductory Accounting courses, while 3% of users are required to use it in Intermediate Accounting, 3% in Cost Accounting and 1% in all other accounting courses.

4.3. Perspectives of OHS benefits by OHS users

Faculty members indicating they are currently using OHS in an undergraduate accounting course were asked to indicate how strongly they agree with seven statements concerning the benefits of OHS. Respondents were asked to use a seven-point Likert-type scale, with "1" representing "strongly disagree" and "7" representing "strongly agree." The mean responses and standard deviation for each statement are reported in Table 6.

The strongest response (mean 6.31) related to the benefit of using OHS for online teaching. The second strongest response was the benefit of OHS to reduce time spent grading and processing student work (mean 5.92). Respondents also agreed that OHS is a cost-effective teaching and learning tool (mean 5.59) and that OHS with the algorithmic function had reduced cheating on homework assignments (mean 5.01).

Responses were not as strong for three potential OHS benefits. One benefit receiving weak support was faculty's belief that OHS had improved student learning (mean 4.95). The respondents also did not

Table 6
Users' perspectives of OHS benefits.

Statement	Mean ^a	Standard deviation
"I believe online homework software is a cost effective teaching/learning tool for my accounting students"	5.59	1.61
"I believe that the use of online homework software in my accounting courses has significantly improved student learning"	4.95	1.53
"I believe use of online homework software with algorithmic capabilities has reduced student copying of one another's homework in my accounting courses"	5.01	1.64
"I believe use of online homework software in my accounting courses has improved my course management by reducing the amount of time I spend grading or processing student homework"	5.92	1.6
"If asked to teach an online accounting course, I would definitely use online homework software"	6.31	1.4
"My students recognize the benefit of using online homework software in my accounting courses"	4.84	1.51
"My students like to use online homework software in my accounting courses"	4.80	1.44

^a Responses were on a seven-point Likert scale with 1 = strongly disagree and 7 = strongly agree.

support an assertion that students saw the benefit of OHS. Responses were the least strong for the last two potential benefits concerning students recognizing OHS benefits (mean 4.84) and students liking to use OHS (mean 4.80).

4.4. OHS users' concerns

Of the 362 OHS users, 81 (or 22%) had no concerns with the tool. However, a number of concerns were expressed by other OHS users. The strongest concern (140 or 39%) was whether using OHS actually improves student learning. A number (24 or 6%) of OHS users expressed concern that OHS is so structured that students are unable to prepare journal entries or solve other problems without the drop-down boxes and preformatted solutions presented in OHS. These respondents wonder if students are learning the mechanics but failing to learn how to think about the topic. Other respondents (6 or 2%) were worried that students are "gaming the system" to get points rather than using OHS to learn the material and concepts about which the problems cover.

The second most strongly expressed concern was cost. One-hundred and eighteen users (33%) reported that the cost of OHS was too high. In addition, users articulated that the software sometimes fell short of expectations. For example, 13 (4%) users said that OHS had computer issues such as slow connection, unavailability, and students getting signed off prematurely. These issues can cause students stress not related to accounting issues and can have an impact on student effort and motivation. Others complained that the OHS software had flaws; there were errors in the OHS solutions, especially with algorithmic problems; the grading rubrics were sometimes too rigid or silly; and the number and variety of questions were too few.

OHS users believed that students dislike using the tool (47 or 13%) and that the tool required too much of the student's time (33 or 9%). Faculty expressed concern with the amount of time they spent on OHS (22 or 6%). Lastly, accounting faculty (11 or 3%) were concerned that cheating was occurring during the completion of online homework.

5. Discussion

The motivation for this study was to gain insight into characteristics of faculty, courses, and institutions using OHS in undergraduate accounting courses. Data show that OHS users had fewer years of teaching experience and were of lower rank than those who had never used OHS. Unanswered is whether the pattern observed is due to the faculty members' experience and comfort with technology tools. For many individuals technology is intimidating. Do faculty members who have had more technology in their lifetime more quickly add new technology tools to their classes than those with less technology exposure? Maybe more established faculty have found their best way to deliver content without technology while less seasoned faculty are looking for their best delivery method including options with technology. However, the data show that those with heavy course loads tend to use OHS more. So, it may be that workload drives use of OHS. The current study is unable to distinguish a primary cause of OHS adoption.

The data collected indicate that OHS users more often taught Accounting Principles while those who had never used OHS more often taught Auditing. The difference in the course content and the homework structure could explain why OHS is more adopted for some courses and not for others. For example, Accounting Principles would have many homework assignments requiring transaction analysis and mathematical computations. In this course, repetition of the material is necessary to reinforce the content. On the other hand, Auditing would have more assignments that require deep-level thinking and application of previously acquired material. Auditing homework requires essay or graphical illustration type answers. Perhaps OHS is more conducive to assignments in some courses than in others. This thought is reinforced with the type of courses found in the previous literature. In the previous literature, the studies were conducted in courses needing heavy repetition (chemistry) and heavy computation (math, physics, finance).

Of the 550 respondents, 362 or 66% were using OHS in their courses. This percentage cannot be generalized across the U.S. accounting faculty population due to survey self-selection bias but it does

indicate that OHS is an accounting instructional tool used for some courses. With its benefits to instructors, the researchers believe that OHS will continue to be used and further improved until a better product is developed. To make OHS better a number of questions around the tool need to be explored.

Most faculty who continue to use OHS had favorable views of the tool but still hold concerns about the product. OHS users' top concern (39%) was whether OHS improves student learning. In addition, when OHS users were asked to rate the statement OHS "has significantly improved student learning" only 11% strongly agreed with the statement. Faculty who had discontinued using OHS listed their belief that OHS did not improve student learning as their number one reason for product discontinuation. This information suggests more research should be undertaken on whether OHS helps student learn accounting content and why faculty continue to use a course tool with questionable outcomes. Prior literature (Dillard-Eggars et al., 2008; Gaffney et al., 2010) found OHS usage was correlated with better performance in accounting principles. However the question raised by some faculty is whether OHS is teaching students to memorize the task (such as which accounts to debit and credit) due to repetition without learning the concepts or application of the concepts (such as how the transaction impacts the financial statements). One wonders why faculty members would continue to use a tool they are not convinced improves student learning. Maybe they view OHS as the best tool available right now. Perhaps faculty view OHS as the best option, at this time, for encouraging students to commit time to completing homework, to providing repetitive practice, and to provide timely feedback to students and faculty concerning student performance. In addition, OHS may be preferable for students who like to use technology rather than PPH and as a means to save faculty time by their not having to grade student homework.

The second most voiced concern by OHS users was the cost to the students. Most OHS are developed by textbook publishers. In effect, the problems in the textbook are put into the OHS along with test bank questions. Often the OHS is included in the purchase price of a new textbook. Students who opt to acquire a used textbook or to rent the textbook must separately acquire an OHS subscription. To the researchers' knowledge, only one of the major OHS for accounting is not textbook-specific. Availability of more non-publisher specific OHS could increase competition and drive cost down. Perhaps accounting faculty should play a larger role in the development of OHS that better meets the instructor's needs and be offered at a lower cost than the current products. As an aside, what are the effects of moving to more digital textbook options on the cost of OHS? Currently, publisher-specific OHS systems include or have an option to add a digital textbook.

OHS users believe the tool has reduced their time spent grading student work. This position may be an important point for those considering adopting an OHS. Not all faculty, however, agree that OHS saves time. Nine of the 73 respondents who discontinued using OHS stopped using the product because managing the tool took too much of their time. OHS newcomers need to be aware that there is some time requirement for managing the OHS. Each faculty member has to weigh whether managing the OHS takes more time than grading student papers. This factor would be one of many considered when deciding to adopt an OHS.

The data show that OHS is used heavily for graded and ungraded homework or extra practice for exams. The researchers believe that many faculty think about OHS for homework and extra student practice. However, they may not think of the tool for administering exams and quizzes. This study reports that 70% of OHS user respondents who gave quizzes in their course used the tool to administer a quiz at least some of the time. Also reported was 25% of OHS users administer examinations with the tool 50% or more of the time. One has to wonder about the environment in which the OHS examination is taken. Is the environment controlled, how is it controlled, and does the level of environmental control impact the validity of the examination results? Faculty stated strong agreement in the study to the statement "If asked to teach an online accounting course, I would definitely use online homework software." The researchers believe faculty are searching for tools to support their increasing requests to teach online. There is potential for use of OHS for assessment other than homework.

Faculty are concerned when students copy each other's homework. This type of cheating deprives the student of an opportunity to gain knowledge of and master the course content. This study's data show that the majority of the OHS users believe that OHS with the algorithmic capabilities reduced

student cheating. Student cheating in the OHS would be reduced when the tool is set to give each student unique numerical values for each problem assigned. The methodology to solve the problem would be the same but the numbers would be different. OHS users are using the algorithmic function in high numbers (74%). The reduction of student cheating is a great benefit to the student and an important consideration for someone considering OHS adoption.

This study surveyed accounting faculty in the U.S. to inquire into their use and perceptions of OHS. Many of the respondents had favorable comments toward OHS. However, this study also collected evidence of concerns and questions about OHS. This data indicates there is still room to make OHS more flexible, reliable, interactive, and impactful.

6. Limitations

This study has a number of limitations. The first limitation is the existence of self-selection bias when a survey is used to collect data. The 550 respondents to the survey may have replied to the invitation to complete the survey because they were interested in the topic. The views of accounting faculty who did not complete the survey may be different than the responses collected. The second limitation of this study is that it only collected data from accounting faculty teaching at U.S. institutions. Our goal was only to collect data from instructors at U.S. institutions as a first step in gaining an understanding of OHS usage. However, collection of data from across the globe would give additional generalization of the tool's application. The last limitation of the study is that we did not collect the size of each institution or accounting program. With the size of the institution or accounting program included we could have perhaps better explained some of the differences in the study's data.

7. Suggestions for further research

A number of future research directions have been raised within this study. As discussed earlier, future research is needed on how student learn with OHS. Is repetition in OHS helping students to just memorize material or does the tool help students deeply process new material? Are students gaming the OHS or really using it to learn? A study of how students utilize the tool will help instructors better use the tool in their courses. How can OHS be best designed and implemented to contribute significantly to student learning? Research should continue to explore the usefulness of OHS to faculty and students and explore the benefits and concerns in more depth and detail.

Additional research should identify how OHS can evolve into a better system. Can the tool's integrity, flexibility, accuracy, and response time be improved? The OHS problems and exercises should be accurate. Students should get prompt and accurate feedback. The tool's software and technical support should be user-friendly. Research should provide insights into how to make OHS better. Can OHS be offered at lower cost? This future research should explore which features of OHS are important to faculty and students.

More research is need on accounting students' perception of OHS. Textbook publishers are quick to claim students learn accounting better with OHS than without. Students should be queried to gain their views of OHS in terms of learning effectiveness, performance, and product satisfaction. Additional evidence should also be sought concerning the impact of OHS on teacher effectiveness. Lastly, materials should be developed and shared that provide the best practices in designing, implementing, and supporting OHS in accounting education.

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Appendix A

*** 1. STUDY PARTICIPATION CONSENT FORM**

We are conducting a study investigating accounting faculty use of online homework packages. The survey should take no more than 10 minutes to complete.

Our project was designed solely for research purposes. No one except the researchers will have access to any of your responses. All responses will be kept confidential. Results of this study will be reported in the aggregate only. Your participation in this project is voluntary. You may terminate the survey at any time. There are no anticipated risks associated with participation.

In order to encourage participation in this survey, one respondent will receive a VISA® or MASTERCARD® gift card in the amount of \$250. To be eligible for the drawing you must respond by 09/27/2012. Information for the prize will be collected by SurveyMonkey and kept separate from your anonymous responses to the survey. The prize will be mailed by the researchers after receiving the name of the winner from SurveyMonkey. It is also acceptable to complete the survey and decline inclusion in the drawing.

If you have any questions or comments about this research, please contact Dr. Roberta Humphrey at 573-986-4916 or rhumphrey@semo.edu or Dr. Debbie Beard at 573-986-6742 or dfbeard@semo.edu.

Click on the “Yes, I agree” link below to indicate that you have read the procedure described above and agree to participate by completing our survey. If you do not wish to participate, then click “No, thanks.”

Yes, I agree

No, thanks

2. What courses do you typically teach? (Please choose all that apply)

Accounting Principles (Introductory Accounting)

Governmental and Not for Profit Accounting

Accounting Information Systems

Intermediate Accounting

Advanced Accounting

International Accounting

Auditing

Tax

Cost Accounting

Graduate Course for non-accounting students

Other (please specify)

3. Approximately what percentage of your classes do you teach

	100%	90%	80%	70%	60%	50%	40%	30%	20%	10%	0%
face to face?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
online?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
in a format blending the two?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For purposes of this study, we define online homework software as web-based accounting work completed by the student. The work includes solving accounting problems and answering discussion and multiple-choice questions. At the instructor's election, the software can give automated feedback to students on their submitted answers.

***4. Have you ever used online homework software in teaching an accounting course?**

- No
- Yes, I used it the last time I taught the course(s)
- Yes, but I have discontinued using it

5. Which online homework software have you used over the last two years? Please mark all software used.

- Wiley's Wiley Plus
- McGraw-Hill's Connects
- McGraw-Hill's Homework Manager
- Pearson's My Accounting Lab
- ALEKS
- Other (please specify)

6. In which courses have you used online homework software? (Please choose all that apply)

- Accounting Principles (Introductory Accounting)
- Accounting Information Systems
- Advanced Accounting
- Auditing
- Cost Accounting
- Other (please specify)
- Governmental and Not-for-Profit Accounting
- Intermediate Accounting
- International Accounting
- Tax
- Graduate Course for non-accounting students

7. Please indicate the main reason you discontinued usage of online homework software in your accounting courses:

- Cost was too high
- Required too much of my time
- Required too much of the students' time
- Did not seem to improve student learning
- Students really disliked it
- Other

8. Approximately, how many years of experience have you had using online homework software in teaching accounting?

- | | | |
|-------------------------|-------------------------|------------------------------------|
| <input type="radio"/> 1 | <input type="radio"/> 5 | <input type="radio"/> 9 |
| <input type="radio"/> 2 | <input type="radio"/> 6 | <input type="radio"/> 10 |
| <input type="radio"/> 3 | <input type="radio"/> 7 | <input type="radio"/> more than 10 |
| <input type="radio"/> 4 | <input type="radio"/> 8 | |

9. Which online homework software have you used over the last two years? Please mark all software used.

- Wiley's Wiley Plus
- McGraw-Hill's Connects
- McGraw-Hill's Homework Manager
- Pearson's My Accounting Lab
- ALEKS
- Other (please specify)

10. In which courses have you used online homework software? (Please choose all that apply)

- | | |
|--|--|
| <input type="checkbox"/> Accounting Principles (Introductory Accounting) | <input type="checkbox"/> Governmental and Not-for-Profit Accounting |
| <input type="checkbox"/> Accounting Information Systems | <input type="checkbox"/> Intermediate Accounting |
| <input type="checkbox"/> Advanced Accounting | <input type="checkbox"/> International Accounting |
| <input type="checkbox"/> Auditing | <input type="checkbox"/> Tax |
| <input type="checkbox"/> Cost Accounting | <input type="checkbox"/> Graduate Course for non-accounting students |
| <input type="checkbox"/> Other (please specify) | |

11. What percentage of each of the following was assigned using the online homework software for

	100%	75% to 99%	50% to 74%	25% to 49%	1% to 24%	0%	This Item Was Not Assigned
graded homework?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
quizzes?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
exams?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. How often have you used online homework software to offer ungraded or optional extra questions or practice that students could use in preparing for examinations?

Always

Frequently

Sometimes

Seldom

Never

13. Do you use the algorithmic function (same problem but with different data for different students) of the online homework software when available?

Yes

No

14. Are all accounting faculty at your institution required to use online homework software in teaching accounting courses? (Please mark all that apply)

Yes, in all courses

Yes, must use in the principles (introductory) accounting courses

Yes, must use in cost accounting courses

Yes, must use in intermediate accounting courses

Yes, must use in tax courses

No, it is optional

15. How strongly do you agree with the following statements (1=Strongly Disagree and 7=Strongly Agree):

	1=Strongly Disagree	2	3	4	5	6	7=Strongly Agree
"I believe online homework software is a cost effective teaching/learning tool for my accounting students"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"I believe that the use of online homework software in my accounting courses has significantly improved student learning."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"I believe use of an online homework software with algorithmic capabilities has reduced student copying of one another's homework in my accounting courses."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"I believe use of online homework software in my accounting courses has improved my course management by reducing the amount of time I spend grading or processing student homework."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"If asked to teach an online accounting course, I would definitely use online homework software."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"My students recognize the benefit of using online homework software in my accounting courses."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"My students like to use online homework software in my accounting courses."	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Do you have any concerns about using online homework software in your accounting courses? Please check all major concerns that apply.

No concerns

Concerned the cost is too high

Concerned use requires too much of my time

Concerned use requires too much of the students' time

Concerned whether use improves student learning

Concerned that students really disliked using it

Other

17. How many years of teaching experience at institutes of higher learning do you have?

18. Is your institution on a semester or quarter system?

semester

quarter

Other (please specify)

19. Approximately, how many classes (sections) do you teach each term?

0 1 2 3 4 5 6

20. On average, approximately how many students do you have in a class (section) of your accounting courses?

21. Do you have a teaching assistant or student that assists with grading student homework or other class activities?

Yes

No

22. Do your students buy or rent their textbooks for your undergraduate accounting courses?

Buy textbooks

Rent textbooks

23. Is your institution a public or private institution?

Public

Private

24. Is your institution AACSB accredited in Business?

Yes

No

25. Is your institution AACSB accredited in Accounting?

Yes

No

26. What is your position?

Department Head or Chair

Professor

Associate Professor

Other (please specify)

Assistant Professor

Instructor

Adjunct

Thank you for participating in our survey!

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