

DOES SEMESTER LENGTH FOR ACCOUNTING I MAKE A DIFFERENCE IN STUDENT PERFORMANCE IN ACCOUNTING II?

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ABSTRACT

More and more colleges and universities are offering courses in a compressed form in order to accommodate the hectic schedules of their students and faculty. Numerous studies, across disciplines, have looked at the effectiveness of these shortened classes and found mixed results. This study looks at whether the format of an Accounting I class affects student achievement in the Accounting II class. Utilizing data across seven academic years and controlling for numerous variables, including instructor and textbook, results suggest that students in the compressed form of Accounting I performed as well in the Accounting II class as students taking Accounting I in a traditional length class.

INTRODUCTION

As more individuals attempt to fit college into their busy lifestyles, intensive 3 or 4 week class terms have become more common. Typically, most colleges and universities have offered some variation of an intensive semester for many years by way of summer school. Others include 3 or 4 week intersessions, generally offered either in May or January, as part of their regular academic calendar. Many students often prefer these shortened semesters since they typically involve only one course, not four or five as in a traditional-length semester, allowing students to focus on one topic. Instructors often like them because the longer class period allows for more in-depth coverage of the material, resulting, hopefully, in a longer-lasting understanding of the material. However, both students and faculty complain of fatigue, stress and burnout from the intensive nature of these courses. What should be important to everyone is whether intensive courses are an effective approach for student learning. For the most part, studies on the effect of course length on student achievement have shown mixed results. This study investigates whether the length of a class term for an Introduction to Accounting I class makes a difference in student achievement in the Introduction to Accounting II class.

LITERATURE REVIEW

Numerous studies have investigated the impact the length of class terms has on student achievement. Most have focused on the differences in identical courses taught in sessions of differing lengths. Van Scyoc and Gleason [3] concentrated on students enrolled in a principles of microeconomics course that was taught in both a 3-week and a 14-week format. They controlled variables such as contact hours, course content, instructor, time-of-day, and cost. The only significant difference between the two subject groups was the length of the term. At the beginning of each class, the Revised Test of Understanding College Economics was administered as a pre-test measure of the students' knowledge of economic concepts. The same test was given to the students at the end of the course. They found that students in the 3-week course scored significantly better on the post-test than students taking the 14-week course. In addition, to measure differences in long-term retention of the microeconomic concepts between the two groups, they administered the same test to students on the first day of a subsequent intermediate microeconomics course. On average, four semesters had elapsed since the principles course had been taken by the students. They found no significant differences between the two groups.

Anastasi [1] also investigated the effectiveness of class length and found that overall academic performance, measured by course grade, was similar in full-semester courses and intensive courses. They examined student performance in three different psychology courses taught over both a 16-week semester and a shortened summer session. After controlling for instructor, teaching style, contact hours, examinations and other assignments, they found no significant difference in the final course grades between the two groups.

Most research has focused on short-term performance by students. However, Seamon [2] measured both short-term and long-term performance differences. Students in an educational psychology class taught in both an intensive and traditional-length format were given a pre- and post-test at the beginning and the end of the course. The test consisted of 25 multiple-choice questions designed to measure understanding of specific learning objectives for the course. In addition, approximately half of the questions measured declarative knowledge while the other half included higher order learning-type questions. They found that students in the intensive courses performed better on the post-test, especially on the higher order questions, than did students in the semester-length class. In addition, they conducted a follow-up study three years later, administering the same post-test to 29% (9) of the original thirty-one participants. They found no significant differences between the two groups, suggesting that, in the long run, semester length is not significant to learning.

RESEARCH QUESTION AND METHODOLOGY

This study investigates whether the length of term for the first introductory accounting class makes a difference in student performance in the second introductory accounting class. The subjects for this study were students at a small, liberal arts college in the mid-Atlantic region whose academic year consists of fall, January, and spring terms. Fall and spring are traditional-length courses lasting 13 weeks each while the January term is a 4-week mini-session where students typically meet five days a week for two hours each day. Most students take only one course but are permitted to enroll in two. Traditionally, Introduction to Accounting I—the first accounting course required of majors—is offered in both fall and January while Introduction to Accounting II is offered only in the spring. Accounting I is a pre-requisite for Accounting II and consists entirely of financial accounting concepts. Approximately 75% of Accounting II covers financial accounting while the remaining 25% covers managerial topics. The same instructor teaches all of the Accounting I courses during the fall and January terms, in addition to one section of Accounting II in the spring. Approximately, 75 students take Accounting I each year with the number dropping slightly for Accounting II.

The study utilizes data from seven academic years, 2005 – 2006 to 2011 – 2012, and includes students that took Accounting I in either fall or January and then took Accounting II in the immediately following spring term. All of the courses included in the study were taught by the same professor, minimizing any potential noise in the analysis. In addition, the same book, albeit different editions, was used throughout all of the courses. This resulted in a total of 173 subjects, 122 (70.5%) that took Accounting I in the fall and 51(29.5%) in January. In addition, 98 (56.6%) of the subjects were male while 75 (43.4%) were female. Table 1 provides a breakdown of the group.

T-tests were utilized to determine if a significant difference in final course grades in Accounting II exists between those students that took Accounting I in a traditional-length semester versus those that took it during the intensive 4-week January session. In addition, final course grades for male versus female students were analyzed to determine if gender had an impact on course performance.

TABLE 1: TEST SUBJECT BREAKDOWN

		Academic Year						
	Total	2005 – 2006	2006 – 2007	2007 – 2008	2008 – 2009	2009 – 2010	2010 – 2011	2011 – 2012
Accounting I term								
Fall	122	18	19	20	16	19	14	16
January	51	2	5	8	8	8	11	9
Total	173	20	24	28	24	27	25	25
Gender								
Male	98	8	17	14	10	20	14	15
Female	75	12	7	14	14	7	11	10
	173	20	24	28	24	27	25	25

RESULTS

To determine if the length of the class term for Accounting I makes a difference in course performance for Accounting II, t-statistics were run comparing final course grades in Accounting II for the traditional-length students to those in the intensive course group. As Table 2 shows, no significant difference exists between the two groups. T-statistics assuming unequal variances were calculated also and showed no significant differences ($t = .45$) between the two groups. In addition, no significant differences between final course grades for males versus females were found.

DISCUSSION

As the statistics show, the students taking Accounting I in the intensive 4-week format performed just as well in Accounting II as those taking the initial course in the traditional 13-week semester. Controlling for instructor and course materials, class length does not appear to be a significant factor in how well a student retains and utilizes material from a pre-requisite course.

TABLE 2: T-TEST: TWO-SAMPLE ASSUMING EQUAL VARIANCES

Semester Length	<i>Traditional Term</i>	<i>Intensive Term</i>
Mean	0.812031183	0.806000666
Variance	0.009578838	0.005113517
Observations	122	51
Pooled Variance	0.008273188	
Hypothesized Mean Difference	0	
df	171	
t Stat	0.397612564	
P(T<=t) one-tail	0.345705849	
t Critical one-tail	1.653813324	
P(T<=t) two-tail	0.691411699	
t Critical two-tail	1.973933915	

Interestingly, even though no significant differences existed between the final course grade in both groups, the variances in the grades within the groups did differ significantly. Students from the

traditional-length group had much more dispersion in their Accounting II grades than did the students in the intensive-format group. As Table 3 shows, an F-test on the variances shows significance at the $p > .01$ level. Self-selection bias may be one explanation for this finding. Knowing the intense nature of a 4-week course, better students may self-select into it while weaker students may choose the traditional-length class. In addition, the time between the two classes may have had an impact on student performance. Students in the 4-week intensive course started Accounting II one week following the completion of Accounting I. The traditional-length group did not begin Accounting II until approximately two months after finishing Accounting I.

Future research should be conducted to provide further evidence as to the importance of class length on student learning. Using the same initial data from this research, it might be interesting to identify which students continued on into Intermediate Accounting and analyze whether the length of the Accounting I class makes a difference in their performance in Intermediate.

TABLE 3: F-TEST TWO-SAMPLE FOR VARIANCES
Average Course Grade for Accounting II

	<i>Traditional</i>	<i>Intensive</i>
Mean	0.812031183	0.806000666
Variance	0.009578838	0.005113517
Observations	122	51
df	121	50
F	1.873238521	
P(F<=f) one-tail	0.006674707	
F Critical one-tail	1.510909603	

CONCLUSION

Previous research on whether the length of a course term affects student performance primarily focused on single courses and showed mixed results. No definitive conclusions were reached. In addition, a few studies attempted to measure long-term effects of class length on retention of course material, again, with mixed results. Like the previous studies, the current research found no significant differences in student performance either. For institutions utilizing the intensive format approach, this is good news. Instructors and students can be reasonably assured that the material learned in the first course of a pair of sequential courses will be retained just as well no matter what term length a college or university utilizes.

REFERENCES

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