The Perceptions of Students on Cooperative Learning at Intermediate Accounting II Course

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ABSTRACT

This paper makes a contribution to extend accounting education literature by examining the perceptions of students on cooperative learning at Intermediate Accounting II course. Compared to previous studies, this study focuses on the students' perspective toward cooperative learning instead of academic performance. This study finds that the use of cooperative learning at undergraduate-level Intermediate Accounting II course does not have a favorable impact on students' satisfaction. The implication of this study is that instructors must be very careful in adopting cooperative learning in upper-division accounting classes, where students may prefer individual learning activity. Students feel that more flexibilities to manage their time to learn the difficult class materials is more beneficial.

Keywords: Student Satisfaction, Accounting Education, Cooperative Learning

INTRODUCTION

Cooperative learning, based on Social Interdependence Theory, is a very important tool that asks students to form small groups to engage in learning, which requires individual contribution, self-learning, peer-learning, accountability, and communication skills (Johnson and Johnson, 1999; Johnson and Johnson, 2009; Du, 2015). Team learning is one of best cooperative learning techniques that can be assessed (Slavin, 1991).

Based on the study of Strand Norman et al. (2004), existing accounting education literature related to cooperative learning "can be classified into six distinct research streams: (1) studying student involvement via cooperative learning, (2) investigating how to avoid or correct dysfunctional behavior in group and team processes, (3) examining the effects of cooperative learning on student performance, (4) investigating student satisfaction with cooperative learning, (5) case studies on successfully implemented cooperative learning, and (6) reviews of cooperative learning" (Opdecam and Everaert, 2012). Many studies have been done in category two and three (Opdecam and Everaert, 2012). To focus too much attention to student performance when ignoring student satisfaction with the use of cooperative learning "could be potentially dangerous and shortsighted" (Strand Norman et al., 2004). Only few studies in accounting education literature investigate student satisfaction with cooperative learning (Caldwell et al., 1996; Dyball et al., 2007; Lancaster and Strand, 2001; Opdecam and Everaert, 2012). In addition to it, previous studies in accounting education literature to investigate student satisfaction with cooperative learning focus on the learning activities related to team-based problem type assignments, such as homework (Caldwell et al., 1996; Lancaster and Strand, 2001; Opdecam and Everaert, 2012).

This paper makes a contribution to extend accounting education literature by examining the perceptions of students on cooperative learning at upper division accounting courses, which provides a new perspective to investigate student satisfaction with cooperative learning. How to improve student satisfaction at accounting courses to enhance course experience and learning effectiveness remains an area that is needed to be investigated more.

APPLICATIONS OF COOPERATIVE LEARNING

Prior studies in accounting education literature focus on students' problem-solving skills to investigate student satisfaction with cooperative learning (Caldwell et al., 1996; Lancaster and Strand, 2001; Opdecam and Everaert, 2012). But there are other skills are needed for accounting students. Colon et al. (2015) analyze the self-assessment reports data from 32 Association for the Advancement of Collegiate Schools of Business (AACSB)-accredited U.S. universities (26 public, 6 private). They find that "accounting programs have committed significant resources and efforts to closing the loop in four particular areas: (1) professional responsibility, (2) accounting research, (3) technology skills, and (4) communication skills" (Colon et al., 2015). A much broader skill levels required by Uniform Certified Public Accountant (CPA) Examination Blueprints. The new CPA exam requirements are approved by the Board of Examiners American Institute of CPAs on February 11, 2016 and are taken into effective on April 1, 2017 (AICPA, 2016). The old CPA exam emphasizes more in exam-takers' fundamental skills, such as

remembering and understanding, application of knowledge or theories or techniques. The new CPA exam emphasize more in exam-takers' analysis skill, which means "the examination and study of the interrelationships of separate areas in order to identify causes and find evidence to support inferences" (AICPA, 2016). This is why this paper focuses on case studies to investigate the perceptions of students on cooperative learning. Case studies can help students strengthen their high-level problem-solving skill and improve both oral and written communication skills. The team-based case studies can be a clear demonstration of students' understanding, application of the accounting concepts and high-level critical-thinking skill related to the case.

In general, cooperative learning could have a positive impact on student satisfaction through team work and more social interactions among team members (Cooper, 1995; Strand Norman et al., 2004). Some studies report that cooperative learning is more effective learning method than traditional instructor-only-lecturing format for students in a passive learning environment (Hwang et al., 2005; Hwang et al., 2008). But existing accounting education literature has mixed results about the effect of cooperative learning (Lancaster and Strand, 2001; Du, 2015). Hite (1996) makes a comparison between a control group (without cooperative learning) and a special treatment group (with cooperative learning) in individual income tax course. Students with cooperative learning outperform their peers in control group on final exam and have a better perceptions about teacher's teaching effectiveness. Du (2015) reports that after the implementation of the Cooperative Base Group (CBG) discussed in Johnson et al. (2006) at a first year Principles of Accounting course, students believe that cooperative learning is helpful in maintaining their interest and attention in learning accounting. Gabbin and Wood (2008) replicate the work of Hite (1996) and find no significant difference between the treatment and control groups at the comprehensive final or the cumulative individual exam scores in an Intermediate Accounting II course. Contrary to Hite's (1996) findings, Gabbin and Wood (2008) report that cooperative learning strategy does not improve accounting students' academic performance in an Intermediate Accounting II course. Kunkel and Shafer (1997) do not find a positive relation between academic performance of students in auditing classes and the use of cooperative learning. Lancaster and Strand (2001) also report there is no academic performance differences between control group students under lecture-based learning environment and experimental condition students under cooperative learning environment in a lecture-based managerial accounting class.

The mixed results about the use of cooperative learning in accounting education may indicate how to transform cooperative learning method into a more active and interactive learning approach or environment is crucial. Empirical evidence shows that a more active and interactive learning approach or environment could have a positive impact on student satisfaction and course experiences. Tan et al. (2013) use a more active participation to teach managerial accounting in an M.B.A. program by allowing students to join different mutual interest groups to develop a real-world business plan based on personal research. The study of Tan et al. (2013) indicates that a combination of real-world case study approach and the group project enhances the course experiences of student learning. Dunbar (2004) indicates that a combination of Flash examples, audio and video files and other learning tools does increase student satisfaction based on the student surveys. In Dunbar's 2004 study, the combination online course learning method is used into a graduate-level tax accounting course, an advanced online accounting course. Premuroso et al. (2011) find that the use of Audience Response Systems (ARS), "whereby the instructor poses questions related to the course material to students who each respond by using a clicker and receiving immediate feedback", has a significantly positive impact on the student examination performance in the introductory financial accounting course. The implementation of interactive learning tool in the classroom, such as Audience Response Systems (ARS), increases student engagement and then student satisfaction (Premuroso et al., 2011). Riley and Ward (2015) find that students working individually in an actively cooperative learning environment can outperform in their accounting information systems course. Student performance on exam questions and positive feedback on student satisfaction on a questionnaire about perceived learning support a conclusion that "active learning enhances student outcomes, particularly for those who work individually" (Riley and Ward, 2015). Irving (2011) integrates active learning research into an undergraduate accounting course and reports that accounting students can substantially improve their level of knowledge, skills, and abilities by learning from accounting journal articles related to class topics to finish a research study. To understand the perceptions of students on cooperative learning can help us measure if cooperative learning approach used in the class are active and interactive.

RESEARCH METHOD

Intermediate Accounting II course is a continuation of Intermediate Accounting I course. It covers a variety of very comprehensive and advanced financial accounting topics, such as dilutive securities, basic and dilutive earnings per share, leasing accounting and pension accounting (Kieso et al., 2016). These important topics are also included into the current and future CPA exams (AICPA, 2016; Whittington, 2015).

Canvas, an online learning course management system used at the author's university, is used to randomly select each group member at the beginning of the semester in Spring 2016. In this study, two team-based case studies are used in Intermediate Accounting II course in Spring 2016. One course-embedded Harvard Business School case assignment is used to assess students' understanding of professional responsibility, which is due in the middle of semester. Second case from the Deloitte Trueblood Accounting and Auditing Case Study Dataset is used to assess students' ability to do accounting research in Spring 2016, which is due at the end of semester. The particular case requires all students must use the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Professional View Database. Students should list all ASC quotes they use and integrate ASC quotes into their explanations and analysis. A written report for each case study is required for all groups. In Fall 2016, the previous two team-based case study projects are dropped from course requirements and all other work remains same at Intermediate Accounting II course. Course learning objectives, content and designing structures are similar at both courses in different two semesters, including the course syllabus, end-of-chapter homework exercise assignments, and quiz.

Both courses are offered via traditional in-classroom face-to-face teaching delivery method. All students are traditional students. The author's institution is an AACSB-accredited business school at a public university. At the end of semester, the IDEA Survey, a university-level course evaluation tool, is conducted for Intermediate Accounting II class. The assessment of course objectives, student learning outcomes and student satisfaction are based on the IDEA Survey, which is used to measure the course learning effectiveness at the author's university. Fall 2016 class is used as a control group (without team-based case studies). Spring 2016 class is designed as a special treatment group with the structured team-based case studies, a type of cooperative learning. All following data and results are from the IDEA Survey.

RESULTS

In Fall 2016, 14 out of 14 students respond to all questions on the IDEA Survey. The response rate is 100%. In Spring 2016, 21 out of 21 students respond to all questions on the IDEA Survey. The response rate is 100%. The use of team-based case studies to increase student engagement was well-received. Some evidence of learning effectiveness can be noticed through the descriptive statistics report of some selected data from IDEA survey in table one.

Table 1: Descriptive Statistics of Some Selected Data Related to Students' Perception of Their Instructor's Teaching Procedures

Mean	Standard Deviation	Total Responses
Fall 2016 (Without Cooperative Learning Activity)		
Formed teams or groups to facilitate learning		
2.71	1.62	14
Stimulated students to intellectual effort beyond that required by most courses		
3.79	1.15	
Encouraged students to use multiple resources (e.g., Internet, library holdings, outside experts) to improve understanding		
3.36	1.34	
Spring 2016 ((With Cooperative Learning Activity)		
Formed teams or groups to facilitate learning		
3.90	0.68	21
Stimulated students to intellectual effort beyond that required by most courses		
3.86	1.08	
Encouraged students to use multiple resources (e.g., Internet, library holdings, outside experts) to improve understanding		
3.33	1.08	

Table one shows that mean value of student responses to "formed teams or groups to facilitate learning" is 2.71 in Fall 2016. The mean value of student responses to "formed teams or groups to facilitate learning" is 3.90 in Spring 2016. The student responses are consistent with the research designing because Fall 2016 class is used as a control group (without two team-based case studies). Spring 2016 class is designed as a special treatment group with the structured team-based case studies, a type of cooperative learning. The mean value of student responses to "stimulated students to intellectual effort beyond that required by most courses" is 3.79 in Fall 2016. The mean value of student responses to "stimulated students to intellectual effort beyond that required by most courses" is 3.86 in Spring 2016, a little bit higher.

Table 2: Descriptive Statistics of Some Selected Data Related to Students' Perception of Their Instructor's Teaching Procedures

Mean	Standard Deviation	Total Responses
Fall 2016 (Without Cooperative Learning Activity)		
Related course material to real life situations		
4.43	0.82	14
Involved students in hands--on projects such as research, case studies, or real life activities		
3.07	1.62	
Asked students to help each other understand ideas or concepts		
3.57	1.18	
Gave projects, tests, or assignments that required original or creative thinking		
3.43	1.5	
No group work assignment in this accounting class improves my learning effectiveness.		
4.07	0.92	
Spring 2016 ((With Cooperative Learning Activity)		
Related course material to real life situations		
3.62	1.05	21
Involved students in hands--on projects such as research, case studies, or real life activities		
4.00	0.93	
Asked students to help each other understand ideas or concepts		
3.57	1.09	
Gave projects, tests, or assignments that required original or creative thinking		
3.57	1.18	

Table two shows the one surprising finding in this paper that most of students have a very positive perception about no group project in Fall 2016. Among 14 respondents, 43% of student respond to "no group work assignment in this accounting class improves my learning effectiveness" as "Strongly Agree", the highest rank in 5-level scales. 21% of students describe it as "Agree", the second-highest rank in 5-level scales. Overall, the average value is 4.07 and the standard deviation is 0.92. The results clearly demonstrate that students favor no cooperative learning activity in this class and want to have more flexibilities to manage their time to learn in this class.

Table 3: Descriptive Statistics of Some Selected Data Related to Students' Description of Their Progress

Mean	Standard Deviation	Total Responses
Fall 2016 (Without Cooperative Learning Activity)		
Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)		
3.86	0.91	14
Learning to apply course material (to improve thinking, problem solving, and decisions)		
3.64	0.97	
Acquiring skills in working with others as a member of a team		
2.86	1.46	
Developing skill in expressing myself orally or in writing		
2.71	1.44	
Learning appropriate methods for collecting, analyzing, and interpreting numerical information		
3.86	0.83	
Spring 2016 ((With Cooperative Learning Activity)		
Gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)		
3.43	1.05	21
Learning to apply course material (to improve thinking, problem solving, and decisions)		
3.19	0.96	
Acquiring skills in working with others as a member of a team		
3.24	1.02	
Developing skill in expressing myself orally or in writing		
3.24	1.06	
Learning appropriate methods for collecting, analyzing, and interpreting numerical information		
3.38	1.29	

In general, table three demonstrates that students in Fall 2016 have a very positive description about their progress at Intermediate Accounting II course. In Fall 2016, the average value of student response to "gaining a basic understanding of the subject (e.g., factual knowledge, methods, principles, generalizations, theories)"is 3.86 and the standard deviation is 0.91. In Spring 2016, the average value of same question is 3.43 and the standard deviation is 1.05.

Table 4: Descriptive Statistics of Some Selected Data Related to Students' Perception of the Course

Mean	Standard Deviation	Total Responses
Fall 2016 (Without Cooperative Learning Activity)		
Difficulty of subject matter		
4	0.76	14
When this course began I believed I could master its content.		
3.93	0.7	
Overall, I rate this instructor an excellent teacher.		
4.36	0.81	
Overall, I rate this course as excellent.		
3.93	1.22	
Spring 2016 ((With Cooperative Learning Activity)		
Difficulty of subject matter		
4.33	0.56	21
When this course began I believed I could master its content.		
3.62	0.95	
Overall, I rate this instructor an excellent teacher.		
3.52	1.1	
Overall, I rate this course as excellent.		
3.24	1.11	

Table four indicates that not all students feel very confident about this very difficult advanced accounting course at the beginning of the class period. The mean score for the statement that "when this course began, I believed I could master its content." is 4.00 in Fall 2016 and 4.33 in Spring 2016 on a 5-point Likert scale with a score of 5 indicating strong agreement with the statement.

In Fall 2016, the average value of student response to "overall, I rate this instructor an excellent teacher" is 4.36 and the standard deviation is 0.81. In Spring 2016, the average value of same question is 3.52 and the standard deviation is 1.1. In Fall 2016, the average value of student response to "overall, I rate this course as excellent" is 3.93 and the standard deviation is 1.22. In Spring 2016, the average value of same question is 3.24 and the standard deviation is 1.11. One of possible attributes about significant improvement in students' perceptions toward the instructor and

course could be that students enjoy more individual learning approach at this upper-level accounting course. Since Intermediate Accounting II course is very challenging and difficult, students prefer to work alone without engaging in cooperative learning activity.

RESEARCH LIMITATIONS

One major problem for this research is that IDEA survey is a university-controlled assessment tool. As an instructor, the author only gets a summary report instead of a more detailed dataset, which really restricts the author from doing further basic and comprehensive statistical analysis. Another major problem for this research is sample size. Due to the class size, the author cannot increase sample size for this research. Using a larger sample from more than one institution would give the study results much stronger support.

CONCLUSION

Contrary to the findings of Clinton and Kohlmeyer (2005), the study finds that the use of cooperative learning in a setting of team-based case studies at undergraduate-level Intermediate Accounting II course could be one of factors attributing an unfavorable impact on students' overall rating of an instructor or a class evaluation.

From students' comments on IDEA Survey, the case or group project was a source of frustration for many students in Spring 2016. One possible explanation is that undergraduate students at author's university do a lot of group work in several classes. Scheduling the meetings for teamwork is not one of their favorite things. Another possible explanation is that undergraduate students do not have too much any real-world working experiences. This type of cooperative learning, team-based case studies at undergraduate-level Intermediate Accounting II course cannot bring in a variety of benefits from teammates, as described in other studies (Tan et al., 2013). Future research might be done in other advanced accounting courses to examine the student satisfaction related to the use of cooperative learning and the impact on the learning outcome. A more quantitative method can be used to do further analysis.

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