

# AN ACTIVE-LEARNING CASE FOR AN INTERMEDIATE ACCOUNTING I COURSE INVOLVING ETHICS WITH VALUE-ADDED ASSESSMENT

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## ABSTRACT

An Intermediate Accounting I active-learning case encompassing ethics issues is examined. This case incorporates over one-half of the competencies/elements of the AICPA Core Competency Framework [Framework] (1999). This project allows the students to experience teamwork, prepare written reports, make oral presentations, and evaluate their peers. The results of Quiz #3 (before the case) and the Final Exam (after the case) are used to measure the effectiveness of this active-learning technique. There is a significant difference at  $p = .01$ . About 6% of the students considered the company's Code of Ethics as an important factor in their investment decisions.

## INTRODUCTION

Over the years numerous calls have been made for modification of the university accounting curriculum. Albrecht and Sack (2000) suggest that accounting courses might focus less on preparation of financial statements and more on analysis. In addition, these authors recommend that an undergraduate accounting curriculum could include the use of accounting information from different industries (e.g., using cases). In this active learning case project, each team analyzes and presents financial statement information from a different industry.

The AICPA Core Competency Framework for Entry into the Accounting Profession (Framework) (1999) identifies a set of essential competencies (encompassing 100 elements) for students preparing to enter the accounting profession. These competencies are comparable to the skills set discussed by educators and practitioners in Albrecht and Sack (2000), the Institute of Management Accountants (1994), Institute of Internal Auditors (1999), and the Accounting Education Change Commission [AECC] (1990). The Framework competencies are categorized as functional, personal, and broad business perspective. The active learning case utilized in this research is designed to permit the students in an Intermediate Accounting I course to experience about one-half of the Framework elements.

In previous years, various committees (American Accounting Association (Bedford Committee) 1986; American Institute of Certified Public Accountants 1988; "Big 8" (now Big 4) CPA firms ("Perspectives . . .") 1989; and the Accounting Education Change Commission (AECC) 1990) have consistently advocated that accounting education should place more emphasis on writing skills, oral skills, and critical thinking skills. More recently, PricewaterhouseCoopers in *Educating for the Public Trust* (2003) concluded that there should be an emphasis on a higher level of interpersonal and communication skills. Our active learning case requires the students to participate in teams, write reports, make oral presentations, and utilize critical thinking in business decision making.

The managing partners of the then “Big 8” CPA firms (1989) stipulated that accounting education should emphasize analytical and conceptual thinking instead of rote memorization. The Accounting Education Change Commission (AECC) (1990) states that students should actively participate in the learning process and not be just passive recipients of information. Further, Albrecht and Sack (2000) emphasize the importance of “teaching students how to find answers and how to learn” and use accounting information in making decisions. Also, these authors suggest that group activities be utilized to teach both leadership and how to work together. The case utilized in this research study requires the students to locate, organize, and evaluate financial information. Also, this case involves group work and analysis of financial accounting information as a basis for decision making.

The written active-learning technique encompassed in our financial statement analysis case should encourage students to “learn to learn.” This study contributes to the accounting literature by presenting and analyzing a case that exposes Intermediate Accounting I students to financial and nonfinancial information found in publicly traded company annual reports and/or SEC 10-K reports. This case involves the analysis of two companies within one industry for each team. The case also permits the students to develop or refine necessary AICPA core competency strategies and techniques while analyzing, writing, presenting, and evaluating this project. This study also contributes to the existing accounting literature by investigating the effects of this active learning exercise. In addition, student opinions of this active learning technique are obtained and analyzed.

## **THEORY**

Cognitive researchers (Anderson 1970; Gage and Berliner 1984; Ross 1983; and Glaser 1984) suggest that learning is an active process, which involves several steps. The first step requires the students to be attentive. Secondly, the students must encode the information into their own words in a meaningful manner. Finally, the students must associate the new information with their previously acquired related knowledge.

Johnstone and Biggs (1998) recommend supplementing existing textbook material with real world activities (e.g., realistic case analysis). This case supplements the textbook material with financial and nonfinancial information from actual corporate annual financial reports and/or SEC 10-K reports. Also, in preparing this outside-of-class case assignment, the students are required to write the financial statement analysis case reports in their own words. Further, this case permits the students to encounter many Framework elements encompassing the analysis and evaluation of financial accounting topics. For example, it is necessary for the students to identify the components that need to be included in the calculation of financial statement ratios.

The ability of the students to write is important in an accounting career. The active learning case assignment in this research study gives the students an opportunity to write on financial statement analysis topics. Specifically, they have two different types of writing exercises (a team report and an individual report) as part of the case requirements.

In summary, the literature suggests that student active learning exercises can enrich the learning process and that writing projects can be utilized as a learning tool. One technique to evaluate students’ learning is to use pre- and post-study measurements. According to Angelo and Cross (1993), the purpose of utilizing pre- and post-assessment techniques is to determine whether students have benefited from class discussions and assignments. The pre-test allows the instructor to establish a benchmark of what the

students know on the subject matter being investigated before the study technique (case) is utilized. Gordon (1998) has used the pre- and post-assessment technique to evaluate students' knowledge of social responsibility accounting. In our study Quiz #3, which was administered after discussing the homework problems on financial statement ratio analysis topics (but before the case was assigned), is designated as the pre-test. The Final Exam, which was given after the students completed the case, is considered to be the post-test. The following hypothesis is used to test the benefit of the active learning technique encompassed in our case:

H<sub>1</sub>: The distribution of scores on the financial statement analysis questions in Quiz #3 (before the active-learning exercise) and in the Final Exam (after the active-learning exercise) are the same.

### **Value-Added Assessment (Questionnaire)**

Stout and Rebele (1996) indicate the need to examine student attitudes toward a classroom teaching method. Various researchers have utilized questionnaires to evaluate student attitudes related to teaching techniques. In their study Stone and Shelley (1997) used questionnaires to measure student perceptions of the instructional processes. Ramsay *et al.* (2000) utilized a questionnaire to determine students' preferences for a cooperative learning method. Sawyer *et al.* (2000) administered a survey after the students received their grade and assessment sheet for a case to determine whether the students felt that the case was useful in meeting specified skills. Chu and Libby (2010) utilized a post-assignment questionnaire to evaluate an active learning assignment. In this research study, students' opinions of the usefulness of the financial statement analysis case project in achieving selected Framework core competencies are measured using a questionnaire.

### **Ethics**

The SEC (as mandated by Section 406 of the Sarbanes-Oxley [SOX] Act of 2002) requires a company to disclose whether it has a Code of Ethics. A company's Code of Ethics may reflect several social theories of corporate governance. One of these theories is the "stockholder theory." Under the stockholder theory a company is responsible only to its stockholders, that is, the employees' actions are focused on maximizing stockholder wealth within the law. Another social theory is "stakeholder theory." The stakeholder theory suggests that a company is responsible to all individuals, groups, etc. that have a stake in the company; not only to stockholders. Navron (2002) identifies several basic characteristics of Codes of Ethics. Some of Navron's characteristics include accountability, honesty, integrity, leadership, and responsibility.

This research study requires the students to locate and obtain the Code of Ethics of a company. After reviewing the Code of Ethics they are to classify the Code as being representative of either the stockholder theory or the stakeholder theory. The students also are required to analyze the Code of Ethics to determine whether Navron's characteristics are encompassed in the Code. Further, the students' individual written reports are analyzed to determine whether they considered the company's Code of Ethics as a factor in their investment decisions.

### **AICPA Framework**

The Framework (1999) provides a set of needed competencies (100 elements) for all students who are preparing to enter the accounting profession. Our financial statement analysis case incorporates elements

of five of the six criteria of the functional competencies category. Also, the case is designed to permit the students to experience elements of the seven criteria of the Framework personal competencies category. In addition, this case exposes the students to six of the seven criteria of the Framework broad business perspective competencies category. The team financial statement analysis case is expected to result in elements of all three categories of the Framework competencies being integrated into an Intermediate Accounting I course with a minimum of two to three hours of class time.

As mentioned previously, students' opinions of the usefulness of the financial statement analysis case project in accomplishing selected Framework core competencies are measured using a questionnaire. This questionnaire requests the students to indicate their opinions as to whether the Framework competencies were achieved in analyzing, writing, presenting, and evaluating their cases.

## **RESEARCH METHODS**

An Intermediate Accounting I class taught by one of the researchers is used in the research experiment. The university is a state university with 96% minority students, which is located in the southwest. The project involves financial statement analysis for the two most recent years of annual reports and/or SEC 10-K reports for two companies within the same industry (e.g., Home Depot and Lowe's) for each team. Each team analyzes a different industry (e.g., hotels, shoe manufacturing, or airlines). Other than the selection of the industry by the team, the entire case project is prepared outside of class.

The students are required to prepare a team written report, which includes three parts. First, the team is required to calculate liquidity ratios, solvency ratios, and profitability ratios for the two most recent years. Then, the students are to use the financial statement ratio analysis results as the basis for answering a set of questions. Finally, for the most recent year, the team is required to answer another set of questions related to each company's annual and/or SEC 10-K reports.

In addition, each student is required to write a one-page individual report. This report requires the students to give their opinions as to the firm they would select for investment purposes. For the questions on ethical issues, the researchers analyzed the individual reports to determine whether ethical factors were discussed by the students in support of their investment decisions.

Each team is required to present their analysis in an oral presentation (15 to 20 minutes) to their classmates. For the presentation, the students are expected to dress as if they were presenting to clients. The other classmates are expected to act in the role of the client and are encouraged to ask questions of the presenting team.

The evaluation form indicates that the students will be graded (5-1 Likert scale with 5 being the best) based on (1) the content of their segment or topic presented, (2) the organization of their presentations, (3) the use of visual aids during their presentations, and (4) the effectiveness of the delivery of their presentations. These grading characteristics are defined on the evaluation form. For example, the characteristics for effectiveness of the delivery of the individual student's presentation are listed as: (1) Did the presenter's voice enhance the effectiveness of the presentation? (2) Did the presenter maintain good eye contact? and (3) Did the presenter sound natural and professional?

In addition, the evaluation form defines the characteristics on which the teams are evaluated. The team score is based on (1) the content of the team case presented; (2) the organization of the entire team

presentation; (3) the coordination of visual aids used by the team; and (4) the cohesiveness of the team presentation.

The instructor and the non-presenting class members evaluate the team and each individual on the team. The students are informed to keep the evaluation forms confidential and that only the instructor will compute the presenter's scores. The evaluation form permits the evaluators to write comments and suggestions for each presenter and for the overall team presentation. The instructor summarizes the comments and attaches them to the student's individual written report.

When the written reports are returned, each student also receives his or her score for the project. The total score for the case is 70 points (team report, 40; individual report, 15; individual presentation, 10; and team presentation, 5).

Approximately a week following the discussion of the homework problems on the financial statement analysis topics, Quiz #3 is administered. Quiz #3 is given before the students start their active learning exercise (i.e., financial statement analysis case project). In our study Quiz #3 is designated as the pre-test.

About a week after the students make their presentations and complete their team and individual reports, the Final Exam is administered. The Final Exam has questions related to the financial statement analysis topics that are different than those that were given on Quiz #3 but are similar in the level of complexity. The Final Exam is considered as the post-test in our study. The results of Quiz #3 and the Final Exam are used to measure the effect of this active learning exercise technique.

This study utilizes a questionnaire to measure student perceptions of this active learning technique as Stone and Shelly (1997) did in their research. The questionnaire requests the students to rank (strongly agree = 5) whether selected Framework competencies are accomplished during their case preparation, team presentation, individual presentation, and completion of the peer evaluation form. In addition, the questionnaire is used to ascertain the opinions of the students on the usefulness of the case in understanding the financial statement analysis topics.

## **RESULTS**

As previously mentioned, the students are tested twice on the financial statement analysis topics. First, Quiz #3 is administered after discussing the homework problems on these topics, but before the case is assigned. Quiz #3 is considered to be the pre-test. The Final Exam is given after the students have completed the case. The Final Exam is designated as the post-test. The majority of the students' quiz/exam scores related to the financial statement analysis topics increased or stayed the same after the case was completed. The median score increased from 50% on Quiz #3 to 87.5% on the Final Exam. Also, the mean score increased from 35.53% on Quiz #3 to 76.32% on the Final Exam. The students' Quiz #3 and Final Exam scores were matched by names. The Wilcoxon signed rank test is utilized to test  $H_1$  ( $Q3 \geq FE$ ). Since there is a significant difference ( $p = .01$ ),  $H_1$  is rejected. The students' exam scores significantly increased as a result of this active learning exercise. Thus, it appears that this type of active learning exercise can be successfully used as a teaching method for financial statement analysis topics in an Intermediate Accounting I course.

Like Sawyer *et al.* (2000), the researchers administered a questionnaire after the students received their grade and assessment sheet for their case. The questionnaire is used to determine whether the students felt that the assigned case is useful in meeting specified Framework skills (i.e., value-added assessment).

The mean scores of the student rankings (5 = strongly agree) for the Framework competencies were analyzed. Generally, the students stated that they “strongly agree” or “agree” that the selected core competencies were accomplished by the case. The average mean score for the students was 4.39 and the median score was 4.33. The scores ranged from 4.72 to 3.89. Of the elements that the researchers expected to be accomplished, the students ranked 94.64% as either “strongly agree” or “agree.” The fifteen highest elements had a score of 4.44 or higher.

Of the top fifteen elements, 60.0% were from the personal competencies category. Of the remaining elements in the top fifteen, four were from the functional competencies category and two were from the broad business perspective category.

The questionnaire also requested the students to rank (strongly agree = 5, agree = 4, neutral = 3, disagree = 2, or strongly disagree = 1) whether preparing the financial statement analysis case project greatly assisted them in understanding the financial statement analysis topics. The students strongly agreed/agreed (with a mean ranking of 4.56) that this case project increased their understanding of these topics.

Also, the individual written reports were analyzed to determine whether the students considered the company’s Code of Ethics as a factor in their investment decisions. About 6% of the students mentioned ethical considerations as an important factor in their investment decisions.

This project can be accomplished using a minimum of two to three hours of class time. In conclusion, it appears that this active learning exercise (case) can be used successfully as a teaching method for financial statement ratio analysis topics.

## **REFERENCES**

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