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Incorporating Problem-Based Learning (PBL) and Team-Based Learning (TBL) to Integrate Professional Skills into the Intermediate Accounting II(III) Course at Two Universities

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ABSTRACT

To incorporate professional skills (e.g., communication, teamwork) into Intermediate Accounting II(III), four continuum PBL approaches (e.g., problem-centered learning) and a TBL Project were successfully employed at two universities in different regions of the country. Pre-Post Tests indicated that the TBL Project was helpful in learning financial statement analysis topics. The PBL and TBL projects/cases were located/created using the Backward Design technique by starting with the AICPA, Pathways Commission, CGMA, and IFAC professional skill sets. A student survey evaluated selected 50+ professional skills. To help students in learning, one or more of these PBL approaches can be used.

KEYWORDS: Intermediate Accounting; Professional Skills; PBL Continuum; TBL; Backward Design

INTRODUCTION

For more than three decades, there has been a call for change in the accounting curriculum and teaching approaches by several accounting committees and organizations. Recently, the accounting profession suggested that students should obtain both generic/soft and technical skills. To attain these desired skills, the International Federation of Accountants (IFAC) identified professional skills that are essential for individuals entering the accounting profession in its International Education Standard 3 (IES3), *Professional Skills and General Education* (2019). Also, the *AICPA Pre-Certification Core Competency Framework* (2019) [AICPA 2019 Framework] proposed a set of necessary skills-based competencies (both technical and generic/soft) for accounting students (public/industry/government/not-for-profit) who are beginning their professional careers. In addition, the Association of International Certified Professional Accountants in their *CGMA Competency Framework: 2019 Update* (2019) [CGMA Framework] have classified skills that are deemed necessary for managerial accountants. Further, the Pathways Commission (2015) advocated approaches or learning experiences that should inspire students to think, perform, and make decisions that are comparable to the decisions of accounting professionals. Several teaching approaches (e.g., problem-based learning) are presented in this paper that can be applied in teaching both technical and generic/soft skills in an Intermediate Accounting II(III) course.

Earlier, the Accounting Education Change Commission [AECC] (1990) stated that accounting students should actively participate in the learning process and not be just passive recipients of information. For example, the preparation of a TBL Project. This research paper investigated the effectiveness of selected PBL activities and the TBL Project teaching method that engage

students enrolled in their final intermediate accounting course [Intermediate Accounting II (III)], which was taught at two universities (midwest urban and southwest). The PBL and TBL activities permitted the students to experience several of the competencies/skill sets recommended by the professional organizations (e.g., IFAC, CGMA, and AICPA).

THEORIES

Learning Theories

Taylor and Hamdy (2013) denoted that "learning" involves the acquisition of domains (i.e., knowledge, skills, and attitudes). Ideally, any learning theory should include each of these domains. Presently, adult learning theories can be divided or clustered into groups or categories (e.g., instrumental theories, humanistic theories). Further, it has been implied that learning originates with the learner's existing knowledge [e.g., Vygotsky (1997)].

Instrumental Learning Theories

Instrumental learning theories emphasize individual experiences in learning. This group includes cognitive, behavioral, and experiential theories. Cognitive theory relates well with the concept that learning begins with the learner's existing knowledge. Taylor and Hamdy (2013), however, have specified that the new knowledge must be sufficiently similar to previous knowledge to allow its relevance to be recognized.

The experiential learning theory [e.g., Bruner's (1966) and Davidson's (1990) discovery learning] is encompassed in the instrumental learning cluster. Under this theory, the students' role requires active participation (engagement) in experiences that construct their knowledge base. The experiential theory appears to be relevant to accounting education since it places emphasis on the development of competencies (e.g., intermediate accounting topic(s), problem solving) and includes skills of practicing accountants (e.g., decision making, communication) in specific situations.

Humanistic Theories

Humanistic theories support individual development. This group of theories is learner centered (i.e., self-directed learning). Self-directed learning is focused on adults who are planning, conducting, and evaluating their own learning. However, as related to students, Norman (1999) and Hoban et. al. (2005) implied that it really should be "directed self-learning" instead of "self-directed learning." Directed self-learning can motivate students to undertake more responsibility in their own learning, which could prepare students for life-long learning.

Portions of the Instrumental Learning Theories and the Humanistic Theories are encompassed in the Problem-Based Learning (PBL) teaching approach. PBL is student/learner motivated and entails directed self-learning (i.e., Humanistic Theories). PBL combines the Cognitive Theory by having the students use their existing knowledge when they identify what still needs to be acquired or learned and the Experiential Theory when the instructor coordinates the students' activities to create the desired learning experience (i.e., Instrumental Learning Theories).

Problem-Based Learning (PBL)

Problem-Based Learning encompasses the principles that learning develops from cognitive and social interactions in problem centered situations (e.g., Evensen and Hmelo 2000; Savery and

Duffy 2001). PBL is a learning technique that requires students to be actively engaged in collaborative team or group projects. Under PBL students have to take considerable responsibility for their learning. Bates *et. al.* (2013) indicated that PBL results in students becoming active learners in their learning and not passive recipients of information. This is precisely what the Accounting Education Change Commission (1990) previously endorsed. Under the PBL approach the starting point for learning is a problem or query that the students endeavor to solve according to Boud (1985). The idea of the PBL concept is that students as they work on solving the problem or query will have to identify and search for the knowledge needed in order to attempt to solve the problem. Bates *et. al.* (2013) suggested that the essential factors to attain the desired learning objectives is for both the students and faculty to understand how the learning process works and their roles in this process.

Educator's and Student's Responsibilities

In order to accelerate learning using the PBL approach, educators need to (1) create the desired learning experience (e.g., project, case, module), (2) facilitate students access to the experience, (3) organize the experience and (4) provide feedback and assessment. In developing the project/case to use in the PBL approach, Wiggins and McTighe (1998) promoted using a process called the "Backward Design" (i.e., outcome-based approach). Under this method, the starting point is to identify the desired learning goal(s) of the project/case (e.g., starting with the accounting profession's learning objectives/elements). Next, the feedback and assessment activities should be established while designing a meaningful PBL project/case.

The role of learners according to the constructive learning theory is to actively participate in activities that construct their knowledge base. Taylor and Hamdy (2013) suggested that students while engaging in a PBL project should (1) expect to have to perform some searching for needed information, (2) expect to be mentally challenged, (3) construct new knowledge, and (4) hopefully have their perception, views, and beliefs supported and/or changed.

What are the benefits of utilizing the PBL approach? Allen (1992) indicated that this approach encourages the acquisition of generic or soft competences (e.g., problem solving, communication, teamwork), which are essential skills according to the Pathways Commission Learning Objectives (2015), CGMA Framework Knowledge Areas (2019), and the AICPA Framework Core Competencies (2019 and 1999 versions). PBL can be used as a strategy to encourage deep learning by the students instead of surface learning. Further, the PBL approach should permit students to activate previous learning while permitting them to incorporate or link the new knowledge with their prior learning.

PBL Continuum of Approaches

Davis and Harden (2009) have implied that PBL is not solely one approach but rather a continuum of approaches to be used by educators in teaching (e.g., problem-assisted learning, problem-centered learning, problem-based learning). An educator can use one or more of these approaches in helping students in learning. According to Barrows (1986) the PBL approach selected to be used varies with the desired learning goals or objectives (e.g., development of self-directed learning skills; increase students' motivation to learn).

Research has suggested that instructors need to establish different learning opportunities to accomplish different types of learning objectives [Anderson (1995), Driscoll (1994), Gagné and Medsker (1996), Gredler (2009), and Schunk (2020)]. Boh *et al*. (2001) indicated that lecture-based training may not be an adequate transfer technique when complexity of knowledge is

high. Bonner (1999, p. 11) suggested that “learning objectives involving complex skills require teaching methods that promote active learning on the part of the students, while learning objectives involving simpler skills can be achieved with more passive teaching methods.” Harden and Davis (1998) discussed the various PBL approaches based on the relationship between the scenario/problem and the learning that can be derived from studying that problem. These authors developed an eleven-step continuum between the problem and expected learning experience by the students (e.g., theoretical learning, task-based learning).

Team-Based Learning (TBL)

Parmelee *et. al.* (2012), stated that TBL involves active learning, which is learner-centered, that holds students accountable for preparation (e.g., financial statement ratio calculations) and engagement in group activities (e.g., discussion related to the team response) and expects students to use knowledge acquired to solve authentic or realistic problems, make decisions, and communicate conclusions. These skills are what the accounting profession has been seeking. That is, students entering the profession should be able to work on teams to solve problems, make business decisions, and present the conclusions clearly to the intended audience (e.g., oral presentation, written report, business letter) according to the AICPA Framework (2019), CPA Vision Project (2017), Pathways Commission (2015), IFAC’s IES3 (2019), and CGMA Framework (2019).

Like PBL, the educator should probably use the “Backward Design” [i.e., specific desired learning goal(s)] recommended by Wiggins and McTighe (1998) to locate or create the problem, project, or case to be used under the TBL approach. The Pathways Commission Learning Objectives (2015), the CGMA Framework Knowledge Areas (2019), the AICPA Framework Core Competencies (2019), and/or the IFAC’s IES3 Professional Skills (2019) can be the source(s) for the specific learning goal(s) to be used in developing the TBL Project.

The TBL technique along with several of the eleven PBL steps can be used to achieve the specific desired learning objectives for a course over various times during a semester. Next, the authors will discuss how they have implemented PBL and TBL in teaching the Intermediate Accounting II(III) course.

TEACHING USING PBL AND TBL

To incorporate several of the Pathways Commission’s Learning Objectives (2015), CGMA Framework Knowledge Areas (2019), IFAC’s IES3 Professional Skills (2019), and the AICPA Framework Core Competencies (2019 and 1999 versions) into student learning experiences, the authors have utilized several of the continuum PBL approaches and a TBL project in teaching Intermediate Accounting II(III). The selected PBL approaches and the TBL project that have been successfully employed in teaching Intermediate Accounting II(III) at two universities (e.g., large urban, regional state) in different regions of the country (i.e., midwest and southwest) are presented below.

Problem-Based Learning Approaches

In the PBL approaches the students begin with the problem, case, or project and then they start to pinpoint and search for the knowledge needed to be learned in order to attempt to solve the problem. While the students are solving the problem, they are also learning knowledge related to that problem. In Intermediate Accounting II(III) these approaches have been utilized in this course.

Problem-Assisted Learning Approach

During the first day of the Intermediate Accounting II(III) class, the students were introduced to PBL by using the Harden and Davis (1998) “problem-assisted learning approach.” The educator selected a multifaceted problem or a series of brief exercises from the textbook to assist the students in identifying keywords or features in the problem situation that may be useful in answering the question(s) (e.g., types of bond issuances, stock options).

Next, the educator asked the students what type of bonds have been issued and what is the potential impact on earnings per share for the bonds issued (e.g., convertible bonds). Once the class decides on the appropriate topic to be investigated, the students were asked to discuss with neighboring classmates what they think is the answer(s) considering facts stated in the particular situation.

Finally, a volunteer was asked to give their conclusion and the reasoning for the answer. This approach was utilized each time to introduce the students to new topics in the subsequent textbook chapters.

Also, during the first-class session, the students were informed that they will be held responsible to read the chapter for the next class period along with preparing the assigned homework problems including justification for their answers.

Problem-Solving Learning Approach

During the second-class session, the educator introduced the students to the next step in the Harden and Davis (1998) PBL continuum (i.e., “problem-solving learning”). Under this approach, the students orally present their justification or reasoning along with the calculation procedure for each problem/situation to their classmates. This permits the students under friendly conditions to begin to improve their oral communication as recommended by the AICPA Framework (2019), CPA Vision Project (2017), Pathways Commission (2015), IFAC’s IES3 (2019), and CGMA Framework (2019).

In the situation where a classmate does not agree with the answer, that classmate can give their answer with their reasoning or justification. This permits an investigation of which classmate has the better reasoning or calculation for the situation and at times a discussion of where the other student took the wrong step in the analysis. The class discussion also permits the educator to expand on the topic(s) if necessary. The problem-solving learning approach is used for most class periods during the semester.

Problem-Centered Discovery Approach

Because of the complexity of the topic to be taught (e.g., cash flow statement), there are times in a semester that another PBL approach needs to be employed in place of the problem-solving learning approach. Therefore, the problem-centered discovery approach is applied. In this situation, the educator could utilize an instructor-prepared checklist along with a complex textbook problem in class to assist the students to discover and organize a complex topic (e.g., cash flows from operating activities).

Under the problem centered discovery learning approach, the students by using the checklist should discover the cash flow classification for each transaction or situation in the problem.

Then, the students should use this checklist to discover (i.e., determine) the classification treatment (i.e., increase or decrease in cash flows) for the specific transaction before the transactions' information data is entered in the appropriate cash flow statement category (e.g., operating activities, financing activities). After all the transactions have been classified and entered under the appropriate category (e.g., investing activities) as an increase or decrease, the students can discover how each of the transactions affect cash flows. Finally, the students can discover after netting the various cash flow categories that the ending cash balance on the Cash Flow Statement is the same dollar amount balance as in the ledger Cash account. It is suggested to the students to utilize the checklist in doing their homework assignments and preparing for the quiz/exam on the topic(s).

Problem-Initiated Learning Approach

The problem-initiated learning approach is another type of PBL assignment that can be used in an intermediate accounting class. Under this approach, the problem or project should act as a trigger to start the students learning on the assigned topic(s) according to Harden and Davis (1998). This approach can be used as either a team or individual student project. This learning approach has been integrated into the Intermediate Accounting II(III) course by using a Topic Project.

Topic Project—The students are given once a semester an outside of class problem-initiated learning assignment (i.e., Topic Project) to be completed in one week by each student. The students were assigned an accounting topic [e.g., investments in debt securities; investments in equity securities and other financial reporting issues; corporate capital and reacquisition of shares; dividend policy and presentation and analysis] to organize before any class discussion on that topic.

This Topic Project was assigned to encourage the students to learn how to organize topics, which is one of the skill sets (i.e., ability to organize information) recommended by the AECC (1990) and AICPA Framework (1999). The Topic Project enabled each student to organize the topic(s) using a checklist, chart, graph, grid, flowchart, outline, or other approach that will help them understand the assigned topic(s). The AICPA Framework (1999) specified the need for accounting professionals to express information and concepts in a clear and concise written manner. As a result, the Topic Project was limited to 1 1/2 pages in length.

Team-Based Learning

As discussed earlier, the AICPA Framework (2019), Pathways Commission (2015), IFAC's IES3 (2019), and CGMA Framework (2019) have all indicated that graduating students should be able to work on teams to solve problems, make business decisions, and present the conclusions clearly to the intended audience (e.g., oral presentation, written report, business letter). However, the several problem-solving learning exercises and the problem-centered discovery learning approach may not be adequate to develop these desirable skills. Therefore, a TBL Project was assigned, which will take three to four weeks to complete primarily outside of the classroom.

The TBL Project was designed using the "backward approach" (e.g., starting with the accounting profession's learning objectives/professional skills/knowledge areas/core competencies). The TBL Project involved financial statement analysis for the two most recent years of annual statements 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 analyzed a different industry

(e.g., hotels, farm equipment manufacturing or retail department stores). An example of the instructions for this TBL Project is available upon request.

RESEARCH METHODS

One of the limitations of educational research that is conducted at only one university is whether the results will apply to other university settings. Accounting instructors should be interested in teaching techniques or methods that might be successfully utilized in different university environments.

Intermediate accounting classes taught by one of the researchers at each of the two universities were used in the research experiment. One of the universities was a midwest urban state university and the other was a regional state university [95% English second language] located in the southwest.

An end of the semester survey was used to measure the students' perceptions of the Topic Project and TBL Project. Since the "backward approach" (e.g., starting with the accounting profession's learning objectives/professional skills/knowledge areas/core competencies) was used to develop these projects, the survey purpose was to determine the student's perception if the selected professional skills were accomplished while preparing these projects.

Topic Project

One of the learning objectives of the Topic Project was to encourage the students to learn how to organize topics. Also, this project was designed to enable each student to organize the topic(s) so it will help them understand the assigned topic(s). Since this Topic Project was limited to 1 1/2 pages in length, another objective was to help the students to learn to express information and concepts in a clear and concise written manner.

One method to evaluate the accomplishments of these learning goals is to obtain the students perceptions that these skills were achieved. Several questions on the end of the semester survey can be used to measure whether the students felt they had accomplished the desired skills.

TBL Project

As previously stated, the TBL Project involved financial statement analysis (FSA) for the two most recent years of annual statements 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 analyzed a different industry (e.g., restaurants, pharmaceutical manufacturing, or cereal manufacturing). Neither class had prior experience in preparing a TBL project.

The student teams were allowed to select the industry from pairs of companies identified by the instructor. After selection of the industry, each team was expected to obtain online each companies' annual reports and/or SEC 10-K reports for the two most recent years. The students formed their own teams consisting of 3-5 students. Other than the selection of the industry by the team, the entire TBL Project was designed to be prepared outside of class. However, several days before the TBL Project's due date one class session was designated as a research day to permit the teams to finish organizing and preparing their TBL Project report and oral presentation.

Written Reports and Oral Presentations

The students at both universities were required to prepare a team written report, which included four parts. First, the team was required to calculate liquidity ratios, solvency ratios, and profitability ratios for the two most recent years using the definitions of the ratios given in their textbook. Then, the students needed to use the financial statement ratio analysis results as the basis for answering a set of questions, which required them to decide what data or ratio should be used. For example, “Which company has the more favorable inventory turnover?” Also, for the most recent year, each team was required to answer another set of questions related to each company’s annual and SEC 10-K reports. For example, “What are each company’s basic and diluted earnings per share?” Finally, for the most recent quarter, the team was asked to answer a set of questions related to each company’s Form 10-Q Reports (interim reports) filed with the SEC. For example, “What is the net earnings for each company?”

In addition, to assure that each student has writing experience while preparing the TBL Project, each student was required to write a one-page report. This individual report required the students to give their opinions as to the firm they would select for investment purposes. They were expected to support their investment decisions based on the team data developed in the first four parts of the TBL Project requirements.

Also, each team was required to present their analysis in an oral presentation (15 to 20 minutes in length) to their classmates. This required the preparation of PowerPoint slides and/or other visual aids for the team presentation. Also, this involved the decision of which team member will present what part of the presentation as each team member was required to participate in the presentation. The students were expected to dress as if they were presenting to clients. The other classmates were expected to act as the client and were encouraged to ask questions of the presenting team.

Evaluations

As the Pathways Commission (2012) recommended, the TBL Project was designed to promote deep engagement of the students by holding them accountable to the instructor and fellow students through the use of an evaluation form during their oral presentations. Also, the IFAC in IES3 (2019) indicated that students should be able to scrutinize their own work through feedback from others. In addition, Stone and Lightbody (2012) found that students should learn to listen. Our TBL Project required the students to not only prepare a written report and make oral presentations, but also, to encourage them to learn to listen. Each student’s presentation was evaluated as well as the team as a whole.

The evaluation form indicated that the students would 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 were defined on the evaluation form. For example, the characteristics for effectiveness of the delivery of the individual student’s presentation were 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 defined the characteristics on which the teams were evaluated. The team score was based on (1) the content of the team project 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 evaluated the teams and each individual team member. Also, the non-presenting class members were required to complete the evaluation form and sign the peer review evaluation form related to the other teams' student presentations (i.e., perform a peer evaluation). Each classmate and the instructor had equal evaluation weight in determining the student scores for the presentations. This helped the students to consider the presentations more seriously.

The students were informed to keep the evaluation forms confidential and that only the instructor would compute the presenter's scores. The evaluation form permitted the evaluators to write comments and suggestions for each presenter and for the overall team presentation. The instructor summarized the comments and attached them to the student's individual written report.

One of the purposes of the evaluation form was, as implied by the Pathways Commission (2015), to hold the presenting students accountable to their student peers and the instructor. Another purpose of the evaluation form was to help the students to learn to listen as recommended by Stone and Lightbody (2012). Also, as suggested by the Pathways Commission (2012), it was expected that the students would benefit from peer evaluation/observation and comments.

When the written reports were returned, each student at both universities received an evaluation form with each TBL Project's component score of 70 (i.e., team report, 40; individual presentation, 10; individual report, 15; and team presentation, 5) and the comments written by their classmates about the presentation (i.e., received a peer review).

Testing

One technique to evaluate students' learning is to use pre- and post-study measurements (e.g., quiz or exam). According to Angelo and Cross (1993), the purpose of utilizing pre- and post-assessment techniques is to determine whether the 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 (project) is utilized.

In our study Exam II, which was administered about a week after discussing the homework problems on financial accounting ratio topics (but before the Project was assigned), was designated as the pre-test for the midwest university. Questions related to the financial statement analysis topics on the Final Exam, which was given after the students completed the Project, was considered to be the post-test for the midwest university. The results of Exam II and the Final Exam at the midwest university were used to measure the effect of the TBL Project. However, at the southwest university there was no pre-test administered.

The following hypothesis was used to test the benefit of the self-managed learning technique encompassed in the TBL Project:

H_1: The distribution of exam scores at the midwest university on the financial statement analysis questions in Exam II (before the TBL Project) and in the Final Exam (after the TBL Project) are the same.

Student Perceptions

Ennis (1987) stated that attitudes strongly determine the ability to apply intellectual skills (e.g., written communication skills). Stout and Rebele (1996) indicated the need to examine student attitudes toward a classroom teaching method. Also, Ennis (1987) suggested that if students do not have positive attitudes toward a teaching method, desired learning outcomes (e.g., intellectual skills) may not occur.

In their study Stone and Shelley (1997) used questionnaires to measure student perceptions of the instructional processes. Ramsay *et al.* (2000) administered a questionnaire to determine students' preferences for a cooperative learning method. Sawyer *et al.* (2000) gave 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.

As Stone and Shelley (1997) did in their research, our study used an end of the semester survey to measure student perceptions of the PBL and TBL techniques. This survey requested the students to rank (strongly agree = 5) whether selected Pathways Commission's (2015) Learning Objectives, CGMA Framework (2019) knowledge areas and AICPA Framework Core Competencies (2019 and 1999 versions) were achieved while doing their Topic Project and TBL Project (i.e., report preparation, team presentation, individual presentation, completion of the peer evaluation form, and reviewing peer evaluations). In addition, the survey was used to ascertain the opinions of the students on the usefulness of the TBL Project in understanding the financial statement analysis topics.

RESULTS

The students at the midwest university were tested twice on the financial statement analysis topics. First, an exam (Exam II) was administered after discussing the homework problems on these topics, but before the TBL Project (financial statement analysis) was assigned. Exam II was considered as the pre-test. The second exam (Final Exam) was given after the students had completed the TBL Project. The Final Exam was designated as the post-test.

The majority of the students' exam scores at the midwest university that were related to the financial statement analysis topics increased or stayed the same after the TBL Project was completed. At the midwest university, the median score increased from 83% on Exam II to 100% on the Final Exam. Also, the mean score at the midwest university increased from 81.17% on Exam II to 91.00% on the Final Exam.

The students' Exam II and Final Exam scores were matched by names at the midwest university. The Wilcoxon signed rank test was utilized to test H_1 (EII ≥ FE). Since there was a significant difference (at $p = .01$) for the urban midwest university, H_1 was rejected. The students' exam scores significantly increased as a result of the TBL Project at the midwest university. Thus, it appears that this type of learning exercise can be successfully used as a teaching method for financial statement analysis topics at the midwest university.

Student Perceptions

As previously mentioned, like Sawyer *et al.* (2000), the researchers administered an end of the semester survey to determine the students' perception of their PBL and TBL activities (e.g.,

Topic Project, TBL Project). The survey was used to give an indication of the students' belief that certain components of the Pathways Commission's Learning Objectives (2015), CGMA Framework (2019) knowledge areas, and the AICPA Framework (2019 and 1999 versions) skills were achieved while preparing the Topic Project and the TBL Project (i.e., analyzing, writing, presenting, and evaluating).

To measure the students' perception of the desired learning skills, the mean scores of their rankings (5 = strongly agree) for the Pathways Commission's Learning Objectives, CGMA Framework (2019) knowledge areas, and the AICPA Framework competencies for both universities were evaluated. Generally, the students stated that they "strongly agreed" or "agreed" that the selected learning objectives/knowledge areas/core competencies were accomplished by these Projects. The average mean score for the students at the midwest university was 4.14 and the median score was 4.00. At the southwest university the mean score was 4.25 and the median score was 4.13. The scores ranged from 4.43 to 3.57 for the midwest university and 4.50 to 3.56 for the southwest university.

Topic Project

Several of the selected learning objectives/knowledge areas/core competencies on the end of the semester survey could be accomplished while the students are consolidating, organizing, and writing the Topic Project. This survey was used to ascertain the students' perceptions of the specific professional skills expected to be accomplished while preparing this project.

A professional skill the researchers had hoped the students would feel they had accomplished while doing the Topic Project is "Organizes and effectively displays information so that it is meaningful to the receiving party." This was one of the main reasons for this Project with a mean score of 4.43 for the midwest university and 4.13 for the southwest university. Another skill related to this project is "Selects appropriate media for dissemination or accumulation of information," which had mean scores of 4.14 for the midwest university and 4.19 for the southwest university.

Generally, the students indicated that they "strongly agreed or agreed" that the desired learning skills were experienced while preparing the Topic Project. The only exception to this was at the midwest university (3.86 mean score) for "Expresses information and concepts with conciseness and clarity when writing and speaking." However, the students generally felt that they had accomplished the learning goals that the researchers desired related to the Topic Project. Also, there was very little difference in the students' perceptions of the desired learning goals between the midwest and southwest universities on the end of the semester survey learning objectives/elements questions. As a result, it appears that the Topic Project is a good learning exercise to be used in teaching selected Intermediate Accounting II(III) course topics.

TBL Project

As previously discussed, an end of the semester survey using a 5-point Likert scale (5 = Strongly Agree) was given to investigate whether the students believed that for certain selected accounting profession's learning objectives/professional skills/knowledge areas/core competencies were accomplished while carrying out the TBL Project requirements. Specific questions on this survey (after the TBL Project was returned to the students) were also used to determine if the TBL Project desired learning goals were achieved.

Some of the skills (i.e., generic/soft) that the students felt that they had accomplished (i.e., "strongly agreed" or "agreed") during the semester were:

- Organizes and evaluates information and alternatives (mean score: 4.43 MW – 4.19 SW)
- Identifies what needs to be measured (mean score: 4.29 MW – 4.13 SW)
- Transfers knowledge from one situation to another (mean score: 4.29 MW – 4.00 SW)
- Commits to achievement of common goals when working on a team (mean score: 4.14 MW – 4.31 SW)
- Uses interpersonal skills to facilitate effective interaction (mean score: 4.14 MW – 4.19 SW)

Generally, the professionals believe that accounting students should be able to communicate. The TBL Project was designed to increase student communication skills, which is not normally part of the final semester of an intermediate accounting course. The survey had six question associated with communication skills as recommended by the Pathways Commission (2015). The majority of the students' scores for both universities were 4.00 or higher with a mean score of 4.10 for the midwest university and 4.13 for the southwest university.
Another skill set that professionals desire students to be capable of doing is analytical thinking and solving problems. The survey questions had seven questions that examined analytical thinking [i.e., Pathways Commission (2015)]. Again, the majority of the students' scores were 4.00 or higher with a mean score of 3.94 at the midwest university and 4.21 at the southwest university.

Because the TBL Project involved teams, the students had some leadership opportunities. Under this competency the students' opinions of the TBL Project associated with leadership [i.e., Pathways Commission (2015)] were evaluated using 16 questions. Most of the students' scores for these questions were 4.00 or higher with a mean score of 4.09 (midwest university) and 4.11 (southwest university).

The end of the semester survey also requested the students to rank (strongly agree = 5) whether preparing the TBL Project greatly assisted them in understanding the financial statement analysis topics. The students strongly agreed/agreed (4.50 at the midwest university and 4.38 at the southwest university) that the TBL Project increased their understanding of these topics. Finally, the students indicated on the survey (strongly agreed/agreed) that the TBL Project assisted them in preparing for the Final Exam (4.00—midwest university and 4.13—southwest university). It appears that the students at both universities found the TBL Project to be beneficial.

It noteworthy that there was very little difference in the students' perceptions of the TBL technique between the midwest and southwest universities related to the desired learning objectives/elements questions. Therefore, it appears that the TBL Project (i.e., financial statement analysis) is a good alternative method of teaching these topics in different environments.

The TBL Project can be accomplished using a minimum of two to three hours of class time. In conclusion, it appears that this engaged learning exercise (TBL Project) can be successfully used as a teaching tool for financial statement analysis topics in the Intermediate Accounting II(III) course.

SUMMARY

The majority of the students at the midwest university received higher scores on the Final Exam related to the financial statement analysis topics after they completed the TBL Project than they did on Exam II, which reflected only regular class discussion and homework assignments on these topics. There was a significant difference at the midwest university at $p = .01$ between the mean scores on Exam II (before the Project) and Final Exam (after the Project). Remember that the pre-post technique was not available at the southwest university.

Many specified learning objectives/knowledge skill areas/core competencies were accomplished when the students prepared, presented, and evaluated their TBL Projects. On the survey the students ranked 74.51% (midwest university) and 86.54% (southwest university) of the learning objectives/knowledge skills/elements that the researchers expected to be achieved as either "strongly agree" or "agree." The average mean score on the end of the semester survey was 4.00 (midwest university) and 4.06 (southwest university). The median score was 4.00 for the midwest students and 4.13 for the southwest students. The scores ranged from 4.43 to 3.57 (midwest university) and 4.50 to 3.56 (southwest university).

The PBL and TBL techniques gave the students an opportunity to incorporate selected learning objectives/knowledge skill areas/core competencies that may not normally be accomplished in the typical final semester of the Intermediate Accounting II(III) course. Further, the students indicated that they "strongly agreed" or "agreed" (4.50—midwest university and 4.38— south-west university) that the TBL Project increased their understanding of the financial statement analysis topics.

Also, in the preparation of the Topic Project and TBL Project, the students were active participants in the learning process as suggested by Schulman (2005) and the AECC (1990). The use of actual company data in the TBL Project permitted the students to analyze and interpret real world financial information as advocated by Albrecht and Sack (2000). Also, as recommended by both the Pathways Commission (2015) and the AECC (1990), the students were required in the TBL Project to locate, obtain, and organize/analyze financial and nonfinancial information.

In addition, our PBL and TBL activities gave the students an opportunity to improve their communication skills as recommended by the CGMA Framework (2019), the AICPA Framework (2019), the IFAC in IES3 (2019), the Pathways Commission (2015and PricewaterhouseCoopers in Educating for the Public Trust (2003).

The TBL Project can be accomplished using a minimum of two to three hours of class time. In conclusion, it appears that the TBL Project can be successfully used as a teaching method for financial statement analysis topics in an Intermediate Accounting II(III) course. Further, since there are definitely several PBL approaches that can be easily integrated into Intermediate Accounting and other accounting courses, why not try using one or two of these approaches next semester?

REFERENCES

References available upon request.