

**USING BLOOM'S TAXONOMY TO PROMOTE HIGHER LEVEL THINKING AND  
LEARNING IN INTRODUCTORY ACCOUNTING COURSES**

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## **Abstract**

Bloom's taxonomy has been used for years to promote higher level learning in the academic learning environment. This paper focuses on the application of Bloom's Taxonomy in an Introductory Accounting Course in the online learning environment. Learning levels will be applied to the introductory concepts of creating financial statements. The paper will present a practical application of Bloom's Taxonomy, using specific examples of a company's annual report. The application will allow students to move from basic memorization of introductory accounting concepts to using their critical thinking skills to evaluate and synthesize accounting concepts. Students will realize the learning objectives of the course as they progress through the levels of learning. Assignment examples will be given and explained in the paper.

## **INTRODUCTION**

In Introductory Accounting courses, students are introduced to the basic accounting principles and concepts that lay the foundation to the accounting discipline. Even in the introductory principles courses, the learning curriculum points to teaching students to use their critical thinking skills to solve business problems. Further, the AACSB requires that business programs educate their students to have the ability to use their critical thinking and analytical skills to study the business process. One of the goals of both an undergraduate and a graduate business education is to train students to solve business problems. As a result, faculty must teach their students to progress through learning levels in order to function at the higher levels of critical thinking.

Students who take principles of accounting courses are not necessarily accounting majors. The majority of institutions who employ some type of undergraduate business degree require that the student take two accounting courses. The consequence of this mixture of students is that there will be a wide variety of student learning goals for the course. Some students are beginning to learn accounting to lay the foundation to their majors, while other students are just trying to pass the course and move on to their major courses. Faculty must be cognizant of the makeup of the students in their course. This will allow the professor to incorporate the diverse student population into the learning strategies designed to move the students to higher level thinking. Regardless of major, the importance of accounting information cannot be discounted. Students need to be taught to apply the information they obtain in the principles of accounting courses to business situations in the world around them.

Application of this technique is used in the basic accounting courses offered at the author's institution, although the technique can be modified for implementation in various accounting topics on varying course levels, with varying modes of deliveries.

This paper first discusses Bloom's Taxonomy and the six different levels of learning that Bloom discussed in his model. Each level of Bloom's taxonomy will be paired with assignment examples that promote the students' learning ability at the specified level, as well as to help the

student progress through the levels. Some assignments will then be presented in detail with specific examples that point to the ability of the assignment to promote a certain level of thinking. After discussing the assignments and proposed levels of thinking, feedback will be presented. A summary of the process and conclusions and recommendations for future study will be presented.

## **DISCUSSION OF BLOOM'S TAXONOMY**

Educators strive to help students develop critical thinking skills related to their studies. The publication of *Taxonomy of Educational Objectives* paired with conferences conducted shortly thereafter proposed a taxonomy that classified learning objectives into domains. (Bloom, 1956) Benjamin Bloom chaired the committee that developed the taxonomy.

The taxonomy proposes three domains of educational objectives: cognitive, affective, and psychomotor. Bloom's taxonomy proposes that there are six levels of thinking. The cognitive domain focuses on a student's understanding of the subject matter. The student can relate to learning within six different levels (Krathwohl & Bloom, 1989). The affective domain focuses on emotion, attitude, and feeling. The affective domain contains five levels: receiving, responding, valuing, organizing, and characterizing (Krathwohl, Bloom, & Masia, 1999). Students start at the lower level of receiving and progress to higher level thinking skills such as allowing a particular values to influence behavior. The third domain is Psychomotor. The psychomotor domain discusses physical ability, specifically, skills related to how one reacts physically to different situations (Harrow, 1972).

The cognitive domain is the most heavily applied within the field of education. Students must progress through each level, starting from the lowest order processes and ultimately reaching the highest level. The levels, from lowest order processes to highest are knowledge, comprehension, application, analysis, evaluation, and synthesis (Krathwohl & Bloom, 1989). In 2000, the cognitive domain of Bloom's taxonomy was revised. The revision was fundamentally the same, but some of the levels were changed in name; remember, understand, apply, analyze, evaluate, and create (Anderson et. al., 2001).

The six levels of Bloom's taxonomy lend themselves to subject matter that becomes progressively more difficult (Needles, 2014). By aiding in a student's progression from lower level thinking skills to higher level skills, the objectives and learning outcomes in an accounting course can be reached in a way that will enrich students' learning and provide them with a critical thinking toolbox that they can use throughout their business studies. Bloom's taxonomy has been shown to be effective in producing learning objectives in accounting courses within the shell of a total learning environment (Needles, 2014). Needles and Anderson (1994) included Bloom's taxonomy in their comprehensive model for accounting education. By using this taxonomy, students will have a better understanding of the accounting process that stretches beyond merely memorizing terms and regurgitating them.

The courses in this study were principles in accounting courses being taught through the online course delivery method. Discussion Boards are required assignments for both Principles of Accounting One and Two. Bloom's Taxonomy is applied to discussion board assignments that

are assigned every week throughout the term. As the term continues, new discussion board topics naturally progress through the six levels of the taxonomy. The levels complement the accounting cycle introduced and discussed in the text. The Levels of Bloom's Taxonomy can be briefly described as follows:

### **Knowledge**

Knowledge is the lowest level of thinking. Students are required to remember basic concepts and answers. In accounting, examples of knowledge would include remembering the accounting equation, defining assets, liabilities, and capital accounts, naming the four financial statements. This basic knowledge is important in forming a foundation in accounting theory. However, if students remained at this level, they could produce basic information by repeating information straight from the textbook.

### **Example of the Knowledge Level: Basic Concepts**

Students begin the course with little to no experience in accounting. Through student written introductions in the discussion board, it can be concluded that the majority of the students are in the principles courses of accounting because the courses are required for their degree programs. In the first weeks of the course, the students are introduced to accounting, including the accounting equation, generally accepted accounting principles, accounting concepts, recording transactions in the general journal, and posting information to the general ledger. To access level of knowledge, students are then required to complete a discussion board. The discussion board requires that students to define the accounting equation in their own words and define examples of assets, liabilities, owner's equity, revenue, and expense accounts. Students have to indicate what accounts would be included on the income statement, statement of owner's equity, or balance sheet. This first discussion board demonstrates that students can produce the information that was learned through the textbook.

### **Comprehension**

Comprehension is the second level of thinking. Once students establish the foundation of knowledge, they can move into the comprehension level. If a student is in this level, they not only remember the concepts, but can also demonstrate that they understand the information (Krathwohl & Bloom, 1989). Students can explain the information in their own words. Students can see the connections between concepts. Students will be able to explain the relationship between the four financial statements.

### **Example of the Comprehension Level "Pick a Company...Any Company"**

Students are assigned a second discussion board assignment when the topics of adjusting entries and closing entries are covered in the course. The discussion board requires that each student research and select a company and submit the annual report of that company. The students are asked to include the reason they selected the company, the company's type of business, and a link to the annual report. Students are also asked to begin looking through their annual report and note the different sections that it contains. Finally, each student is required to

list examples of the five different types of accounts that were covered in the textbook and state which financial statement those accounts would be found.

### **Application**

The third level is application. Once students can comprehend the information, they can apply the concepts to different situations. Students can perform basic financial statement analysis by applying the formulas they learned in the accounting text to a new company, by looking at that company's financial statements and identifying the needed numbers to calculate the ratio. Students can translate, interpret, problem solve, and extrapolate information when functioning at the level of application.

### **Example Application Assignment: "Cash Crisis"**

Students demonstrate the application level through going back into their annual report. Students have been introduced to basic financial analysis at this point in the term. Specifically, students are computing working capital and current ratio. These two equations are applied to demonstrate whether the company that was selected demonstrated liquidity. Students apply this concept to their company by defining the variables needed for the two equations and produce basic numbers. Students present this information on the discussion board and share with the class the interpretation of their findings.

### **Analysis**

Students can then move from application to analysis. Skills in this level include the ability to break down different concepts within the material. Students can compare and contrast the information presented. The outcome of this level is for students to identify and explain concepts (Krathwohl & Bloom, 1989). Students will then gain a deeper understanding of the principles. An example in accounting would be for a student to be able to identify a specific concept related to the course and then identify that same information in a company's notes in the annual report regarding the treatment for the allowance of bad debt. Other examples include identifying long term assets and the treatment of merchandise in the annual report.

### **Example of Analysis Level: "Just the Facts"**

During the week in which the course covers inventory systems, lecture presents the perpetual and periodic inventory systems. Differing methods of accounting for inventory such as the FIFO, LIFO, and average cost systems are discussed. Students are asked to look at their company's annual report and post as to whether the company uses an inventory system. If an inventory system is used, the student must then identify what type of inventory system is being used. At this point in the term, students are also required to identify the notes to the financial statements that relate to the inventory concept. Based on the information that is obtained, the student will then be asked to give a brief synopsis of their company's inventory control system.

### **Evaluate**

Once the analysis level is attained, students can move closer to higher level thinking and move towards the level of evaluation. Evaluation introduces the idea that students can now form their own opinions. Students will also be able to explain their reasoning behind their opinion. Students can clearly articulate and apply concepts from the course. This real world application will deepen the understanding of the concept. Accounting students will be asked to evaluate financial statements and use pertinent information to rate companies. More complex accounting ratios can be applied and discussed. More specifically, students will be able to write a letter to a company's stockholders, discussing various financial ratios and comment on the health of a company.

### **Example of Evaluate Level: "You are the Stockholder"**

Students are now learning about capital accounts at this point in the term. The corresponding chapters address corporations. Specifically, the organization of corporations, stock transactions and dividend transactions. Students learning objectives include understanding the differences between common stock and preferred stock. The discussion board post is an extension of the stock concepts. It is required that the student provide information on their own company's capital accounts. A brief paragraph identifying shareholder information including account balances is required.

Students are given their first writing assignment. This short assignment is posted on the discussion board, as well. The class posting also allows students to read other posts and learn about other companies. Students write a simple memo to a potential stockholder. The required information is meant to explain to the potential stockholder the financial position of the company. The potential stockholder is assumed to have little to no knowledge about the company. Students demonstrate their ability to provide the pertinent information that a stockholder would need to know in order to make an informed decision.

### **Create**

Finally, the last level of Bloom's Taxonomy is the ability to judge, recommend, create, and compare. These skills are acquired while in the create phase. Students can continue to evaluate information, but they can also make judgments and recommend a plan of action. Students will be asked if they would invest in a company. Students will obtain outside information and use the concepts from the book to provide a recommendation with supporting evidence regarding the investment of funds in a company.

### **Example of Create Level: "Stockholder Information Continued"**

The assignment for the evaluation level is extended into the create level assignment. This second half requires the student to evaluate the company's position. The question is posed as to whether the student would invest in their company. If they did choose to invest, the student is required to explain what type of stock would be more attractive. Discussion including references to the financial statements including related ratios is also required.

Although students are asked to glean a simple understanding of the company's capital accounts, this process still requires the students to apply the accounting concepts from the book to a real world situation. Students needed to use their judgment when deciding what they would do with their own money. The personal aspect of the assignment allows the student to become more intimate with the data. This aspect also causes the students to bring in their own preferences when explaining their decision.

Students have the option to choose to invest in a fellow student's selected company if they do not want to invest in their own company. Students begin to compare and contrast varying capital account sections in varying companies' financial statements.

### **ANALYZING THE SUCCESS OF THE DISCUSSION BOARD ASSIGNMENT SET THROUGH STUDENT FEEDBACK FROM END-OF-COURSE SURVEY**

In the most recent term where Bloom's Taxonomy was applied to the discussion board assignments, the following was determined.

Prior to the required class discussion board posts, an estimated 95% of the students enrolled in principles of accounting I and II courses had never seen an annual report, let alone knew how to read the reports and make educated financial decisions. After the class discussion board posts required throughout the term, 100% of the students were exposed to at least one annual report. Students were exposed to financial data interpretation and decision making.

The success of this application is demonstrated through student feedback concerning the annual report discussion board grouping assignments presented in table one.

**Table 1.**

*Sampling of Student Comments:*

*I was better able to understand why I had to take this course. You really need to know some of this stuff if you are going to work in business*

*I liked picking my own company. It was easier for me to get motivated when I was looking at something I was interested in.*

*I picked the company that I have worked for over the past 10 years. I have learned things about my employer that I never knew before.*

*The course was still hard, but this assignment helped me remember stuff from the book. I didn't have to work so hard to memorize everything*

## **SUMMARY AND CONCLUSION**

The ability to use critical thinking skills in the study of business, specifically in accounting, is crucial to a student's success in their education. Teaching these skill in introductory accounting courses can help move students away from the practice of basic rote memorization of concepts. This skill progression is often absent from beginning accounting courses. Students never progress past the level of basic knowledge, which allows for listing and naming accounting information.

This paper presents an approach to help students gain the ability to understand, apply, and evaluate company financial information. Bloom's taxonomy is applied to create a student learning model. The model progresses students through looking at financial accounting concepts with the graduated goals of knowledge, comprehension, application, analysis, synthesis and evaluation. As a result, students will develop critical thinking skills as they progress through the stages of higher level learning. Student discussion board assignments correspond to each level of Bloom's Taxonomy. The assignments gradually build the student's skill set so the end result is a more advanced sophisticated level of accounting analysis which is shown through more detailed discussion board postings that include evaluation of financial data. Examples of these discussion board assignments were provided with specific detail that tied the assignments to particular levels of thinking that encouraged students to expand their understanding and ability.

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