

Critical thinking skills and teaching accounting: a comparative study

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ABSTRACT

Accounting textbooks are constantly being revised by the many new pronouncements of the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB). FASB issues accounting standards for the United States, while IASB issues standards for other countries. Accounting is rapidly moving toward a global convergence of accounting practices. Students are being overwhelmed by the volume of materials in accounting textbooks. How should educators convey all of this new information to students? To prepare students for the profession, it is imperative that students are able to learn new concepts using a consistent framework. Thus, the authors recommends all accounting concepts should be presented to students using the ABCs of accounting teaching model. "A" is for Allocation, "B" is for Book Valuation, and "C" is for Classification. This allows students to learn new material without getting overwhelm with details rules and procedures. Thus students are able to learn more material and instructors are able to focus on teaching the critical thinking skills that the marketplace demands. The purpose of this paper is to convey the authors' use of the ABCs of teaching accounting model. This paper gives the result of one Historically Black Colleges and University (HBCU) using the ABCs of accounting teaching model teaching relative to the HBCU performance on Certified Public Accountant (CPA) exams for the years 2012, 2013 and 2014. The results were mixed and further research is needed.

Keywords: critical thinking skills, ABCs of accounting, HBCU, CPA exam

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INTRODUCTION

Since 2010, the authors have been on the faculty of a HBCU located in Georgia. The authors are the only full-time faculty, thus are responsible for teaching all accounting courses. The failure rate has average thirty-five (35%) percent. Failure is defined as a student receiving a grade of “D”, “F” or “W” in an accounting course. This failure rate was unacceptable, thus a search begin to explore ways of reducing this rate without compromising the academic integrity required to prepare students to become an accountant.

This study explores a new teaching model designed to improve students’ technical competencies while increasing their critical thinking skills. What adjustments to a classroom lesson plan and teaching strategy are useful to improve interpersonal communication, creativity, reasoning and analytical abilities? Does improvements in interpersonal communication, creativity, reasoning and analytical abilities require abandoning the traditional teaching model? Critical thinking includes analyzing, conceptualizing, reasoning and evaluating. Research finds that these skills can be developed in learners if teaching strategies evolve beyond memorization (Reinstein,2008). Accounting graduates are expected to possess a healthy dose of critical thinking skills. This study explores a teaching model reflective of cognitive thinking. Cognitive teaching increases the need to compare, contrast, group, and memorize relevant accounting concepts. The literature argues that students have considerable difficulty in solving accounting problems that are slightly different than those presented in the classroom, even though the same concepts are being covered. The Pathways Commission has called for improvements in accounting curriculum and teaching techniques (Bloom, 2013). The quality of future accountants will be shaped by a need for improvement in critical thinking skills. The purpose of this paper is to convey the authors’ result of using the ABCs of accounting teaching model.

SIGNIFICANCE OF THE PROBLEM

The accounting profession requires more creativity and innovative thinking in order to be competitive. Much of the literature argues that teaching models that require students to memorize accounting rules and procedures fail to cultivate critical thinking in problem solving. The Bedford Committee (1986) asserts that the traditional accounting lectures fail to stimulate creativity and innovative thinking. Thus student are not educational ready to enter the profession. The Pathway’s Commission finds that accounting programs are overly invested in outmoded models. Bloom (2013) finds that students increasingly exhibit difficulty solving complex accounting problems.

The goal of teaching should always embrace a pedagogy designed to discover a higher order of thinking. Higher order critical thinking can be achieved if the teaching approach gets it right. Such is the pursuit of this study. The five step process for developing higher level critical thinking skills (Limbach, 2008) are:

- Step 1 - Learning Objective
- Step 2 - Teach through Questioning
- Step 3 - Practice before Assessment
- Step 4 - Review, Refine and Improve
- Step 5 - Provide Feedback and Assessment of Learning.

LITERATURE REVIEW

Singer and Wiesner (2013) suggest that high schools teach basic accounting rules and procedures, thus allowing colleges to focus on critical thinking skills. In their study, the authors found factors such as homework, peer interaction, and emphasis on science versus humanities had a strong impact on higher level thinking. A study by Kitaoka (2011), an economics professor, suggested that teachers using the traditional chalk and talk may not help students to develop good problem solving skills. Kitaoka suggested alternative methods designed to increase teacher-student communications along with context rich problem solving. Findings from this study show an increase in student performance. An increase in communications motivates a student to actively participate in the learning process.

In 1989, Brigham Young University (BYU) faculty decided that their accounting students were often required to memorize IRS code sections or FASB pronouncements. Faculty lectures were primarily based on traditional content competencies. Concept applications were limited to textbook problems and instructors had little time to focus on the conceptual foundation of accounting or real world relevance. In 1994, BYU decided to modify the content of its accounting courses (Albrecht, 1994). Writing skills were stressed in selected classes and more emphasis was placed on oral communications skills. BYU sought to enhance the skill-based competencies' required in the accounting curriculum. The faculty decided to focus on nine expanded competencies in addition to technical accounting competencies (Albrecht, 1994).

The BYU faculty realized that they were inexperienced in teaching such skills and that significant development would be necessary. The nine competencies can be grouped into five categories as follows:

- Written communication
 1. Ability to present views in writing
- Oral communication
 2. Ability to present views through oral communication
 3. Ability to listen effectively
- Group work and people skills
 4. Ability to understand group dynamics and work effectively with people
 5. Ability to resolve conflict
 6. Ability to organize and delegate tasks
- Critical thinking
 7. Ability to solve diverse and unstructured problems
 8. Ability to read, critique, and judge the value of written work
- Working under pressure
 9. Ability to deal effectively with imposed pressure and deadlines.

As the new curriculum was developed, these nine expanded competencies became part of the focus of each day lesson plan. Each four-hour block emphasized one or more of these competencies. In addition to the accounting technical competencies, the grading system was redesigned to weight the technical content and the other competencies equally. The revised curriculum also incorporated changes to the student evaluation system to close the loop in the assurance of learning process.

Once the competencies were measured, student performances were summarized into a single course grade. BYU twenty-four (24) semester credit hours of accounting curriculum was divided into six four-credit hour courses. These courses were scheduled as following:

fall semester

- Accounting Information Systems
- Intermediate Financial Accounting I
- Financial Statement Auditing

spring semester

- Cost and Management Accounting
- Intermediate Financial Accounting II
- Fundamental of Taxation.

The new accounting curriculum at BYU represented a major structural change from their traditional accounting education (www.byu.edu). In summary, the reactions of the vast majority of faculty, students, and other stakeholders who studied or participated in this revised curriculum were positive. Indeed, the benefits seem to far outweigh the costs. In recent years, the National Association of State Board of Accountancy report on the performance of candidates on the CPA exam ranked BYU second in the nation with a past rate of 83.4% for 2012, first in 2013 with a past rate of 84.2% and fifth in 2014 with a pass rate of 84% for large accounting program. These results are definitive external metrics of the success of BYU accounting program (NASBA).

Some observers have suggested that BYU, a private, religious-based institution has been able to make these significant curriculum changes because of its unique faculty and student body. The authors are not convinced that this transformation requires such specific circumstances. The crucial variable for success does not seem to be a unique demography--but rather a willingness to change coupled with patient work.

ABCs OF ACCOUNTING

To improve the performance of students and to reduce the failure rate of students at this HBCU, the authors are using the ABCs of accounting teaching model. This model allows students to learn new concepts using a consistent framework. This allows students to learn new material without getting overwhelmed with details rules and procedures. Thus, each new accounting concept is introduced to students using the ABCs of accounting teaching model (Thompson, 2013). The meaning of this acronym are:

“A” is for Allocation;

“B” is for Book valuation; and

“C” is for Classification.

The “A” stands for the allocation concept that is used it to explain the relationship between the balance sheet and the income statement. Thompson (2013) states that “it teaches students that all items on the balance sheet will be allocated to the income statement at some future date. For example, inventory and cost of goods sold are the same costs. These costs must be allocated from the balance sheet to the income statement under the accrual basis of accounting. Thus first-in, first-out (FIFO) and last-in, first-out (LIFO) are just the mechanics for completing this allocation process.” This allows students to learn the allocation concept using a consistent framework. Thus, students are able to learn new materials without getting

overwhelmed with details rules and procedures (Thompson, 2013). Instructors are now able to devote more time to the critical thinking skills that the marketplace demands.

The “B” stands for the book valuation concept that is used to explain the various valuation bases used to record transactions. Thompson (2013) states that “accounting textbooks use terms such as historical cost, amortized cost, present value, discounted cash flows, and fair value as separate valuation basis. Students are often confused and misled into thinking that these are different valuation basis and not just a variation of historical cost or fair value. Once students understand the book valuation concept, students can easily apply it to other measurements without further explanation.” This allows students to learn the book valuation concept using a consistent framework. Thus, students are able to learn new materials without getting overwhelmed with details rules and procedures (Thompson, 2013). Instructors are now able to devote more time to the critical thinking skills that the marketplace demands.

The “C” stands for the classification concept that is used to explain that accounting information become valuable to creditors and owner when it is proper classified. Thompson (2013) states that “proper classification enhances the decision-making process. It teaches students to classify accounts into the following categories: asset, liability, equity, revenue (gain), and expense (loss). Thus, when a new account is introduced in the textbook, students can immediately classify that account.” This classification scheme can be used to further subclassify items on the balance sheet and income statement. Thus, students are able to learn new materials without getting overwhelmed with details rules and procedures (Thompson, 2013). Instructors are now able to devote more time to the critical thinking skills that the marketplace demands.

The acronym continues with the “Big D” for disclosure. To insure users that the financial statements information is not misleading, students are taught that all significant allocation, book valuation, and classification issues must be disclosed (Thompson, 2013). For example, it would be misleading to value inventory at \$100,000 without disclosing how this \$100,000 was determined, such as FIFO or LIFO. Thus, our teaching technique has involved over the past five years. It has evolved from teaching less accounting rules and procedures to more emphasis on accounting concepts.

This paper also proposes a greater use of digital instructional support platforms to reinforce conceptual learning through homework assignments while classroom interaction emphasizes higher order critical thinking while connecting the dots to the concepts assigned. The increase of student to faculty communication is structured to develop higher ordered thinking (Newman, 2008). Today’s student embrace of digital technology offers a unique opportunity to maximize learning concepts while yielding additional time for critical thinking activities. Digital innovations are still in its infant stage. Accounting will surely benefit from an increase integration of instructional technology into the classroom (Fichman, 2014).

This paper evaluates the correlation of the ABCs of accounting teaching model to student performance on CPA exams at a HBCU. This HBCU has some significant challenges as it relates to student preparedness for college level work and the availability of financial resources. Just like BYU, this new accounting teaching model represents a major structural change from the traditional accounting teaching model. Again, some observers might suggest that a HBCU might have a unique faculty and student body. Again, the authors are not convinced that this is the case. The crucial variable for success does not seem to be a unique demography--but rather a willingness to change coupled with patient work.

CPA EXAM RESULTS

The ABCs of accounting model involves preparing students for the new technological era of e-commerce and the attributes that students must have to be successful. Student must have academic competencies of technical, analytical, conceptual, and communications skills along with other behavior competencies of professional image, judgment, assertiveness, teamwork, and leadership to be successful in the marketplace. The goal is to develop these competencies via higher level critical thinking skills.

The CPA exam is an external metric that can be used to evaluate the effectiveness of the ABCs of accounting model. This is a uniform exam given on a worldwide basis to identify those individuals who process the basic competencies to be called a CPA. The CPA exam consists of the following four sections:

- AUD- -Auditing and Attestation
- BEC- -Business Environment and Concepts
- FAR- -Financial Accounting and Reporting
- REG- -Regulation.

This study seeks to determine a correlation between the ABCs of accounting model and the performance on the CPA exam for this HBCU, for the years 2012, 2013 and 2014. Some average baseline demographic information about this HBCU is presented below:

- University enrollment 4,400 students
- College of business 770 students
- Accounting majors 125 students
- Accounting graduates per year 20 students.

The smaller number of accounting majors and accounting graduates allowed the faculty to give individualized attention to students to enhance their critical thinking skills. This has resulted in smaller number of students sitting for the CPA exam, an external metric to evaluate the effectiveness of the accounting program at this HBCU. Is this HBCU moving in the right direction?

SUMMARY PERFORMANCE

Year	Candidate	Sections	Percent	Average
	Total	Total	Pass	Score
2012	7	13	53.9%	70.8
2013	14	29	27.6%	57.8
2014	6	10	30.0%	69.6

SECTION PERFORMANCE

	Total Events per Section				Percent Pass		Percent Pass	
	AUD	BEC	FAR	REC	AUD	BEC	FAR	REG
2012	3	0	6	4	66.7%	0.0%	33.3%	75.0%
2013	14	7	3	5	14.3%	28.6%	66.7%	40.0%
2014	3	3	3	1	33.3%	66.7%	0.0%	0.0%

The summary performance shows that the number of HBCU students sitting for the CPA exam increase from seven (7) in 2012 to fourteen (14) in 2013, a one-hundred percent increase,

but decrease by over a one-hundred percent to six (6) in 2014. The total sections taken results were similar. The section total increase from thirteen (13) to twenty-nine (29) from 2012 to 2013 but decrease to ten (10) in 2014. The percent pass rate decrease by forty-nine percent from 53.9% to 27.6% from 2012 to 2013 but increase to 30% for 2014. The average score also decrease by eighteen points from 70.8 to 57.8 from 2012 to 2013, but increase to 69.6 for 2014. The overall summary performance results were a mixture of increases and decreases.

The section performance percent pass rate results were also a mixture of increases and decreases for this HBCU. For the year 2012 the best performance was on AUD with a percent pass rate of 66.7 and on REG with a percent pass rate of 75. For the year 2013, all sections had a percent pass rate with the highest being on FAR with a percent pass rate of 66.7. For the year 2014, the percent pass rate was 33.3 for AUD and 66.7 for BEC. However, the percent pass rate was 0% for FAR and REG in 2014. The results reflects the dichotomy between quantity and quality. The goal is to increase the academic quality of HBCU candidates sitting for the CPA exam. The results are mixed and hopeful that this HBCU is moving in the right direction to improve the critical thinking skills of its accounting majors that is reflective by their performance on the CPA exam. As an added benefit, the failure rate has been reduced from thirty-five (35%) to twenty (20%) percent, again, a step in the right direction.

CONCLUSION

This study explores the ABCs of accounting model that improves critical thinking skills. Critical thinking increases the need to compare, contrast, group, and memorize relevant accounting concepts. The literature argues that students have considerable difficulty in solving problems that are slightly different than those presented in the classroom, even though the same concepts is being covered. The quality of future accountants will be shaped by a need for improvement in critical thinking skills.

This study also seeks to determine a correlation between the ABCs of accounting teaching model and performance on the CPA exam from a HBCU for the years 2012, 2013 and 2014. The summary performance shows that the number of HBCU students sitting for the CPA exam increase from 2012 to 2013, a one-hundred percent increase, but decrease by over one-hundred percent in 2014. The total sections taken results were similar. The section total increase from 2012 to 2013 but decrease in 2014. The percent pass rate decrease from 2012 to 2013 but increase in 2014. The average score also decrease by eighteen points from 70.8 to 57.8 from 2012 to 2013, but increase to 69.6 for 2014. The overall summary performance results were a mixture of increases and decreases. More data points are needed to fully evaluate the effectiveness of the ABCs of accounting teaching model.

There are many studies conducted over the years about learning and teaching techniques. Instructors have used the conceptual approach for learners to satisfy outcomes measurement over the centuries. This study espouses the use of the ABCs of accounting teaching model to teach accounting concepts. Research suggest a review and reengineer of lesson plans to maximize learning is needed. The question becomes what changes are required in order to improve upon the ABCs of accounting teaching model. As an instructor enters a classroom with a lesson plan that is reflective of the accounting curriculum. Then there is an interaction with various student's learning style. Research has shown that no single teaching model will optimize student learning for all students but the ABCs of accounting teaching model is a step in the right direction.

REFERENCES

- Albrecht, W. S., Clark, D. C., Smith, J. M., Stocks, K. D., & Woodfield, L. W. (1994). An accounting curriculum for the next century. *Issues in Accounting Education*, 9(2), 401. Retrieved from <http://search.proquest.com/docview/210945535?accountid=8244>
- Bloom, R. (2013). Perspectives on the pathways commission report: An analysis of the proposals. *The CPA Journal*, 83(8), 10-14. Retrieved from <http://search.proquest.com/docview/1439943570?accountid=8244>
- Fichman, R. G., Dos Santos, B.,L., & Zheng, Z. (. (2014). Digital innovation as a fundamental and powerful concept in the information systems curriculum. *MIS Quarterly*, 38(2), 329. Retrieved from <http://search.proquest.com/docview/1521632000?accountid=8244>
- Kitaoka, H. (2011). *Teaching methods that help economics students to be effective problem solvers*. Rochester: Social Science Research Network. Doi:<http://dx.doi.org/10.2139/ssrn.1951095>
- Limbach, B., Duron, R., & Waugh, W. (2008). Become A better teacher: Five steps in the direction of critical thinking. *Research in Higher Education Journal*, 1, 1-13. Retrieved from <http://search.proquest.com/docview/760989761?accountid=8244>
- National Association of State Boards of Accountancy [NASBA], (2012, 2013 and 2014). *Uniform CPA Examination Candidate Performance*, National Association of State Boards of Accountancy.
- Reinstein, A., & Lander, G. H. (2008). Developing critical thinking in college programs. *Research in Higher Education Journal*, 1, 78-94. Retrieved from <http://search.proquest.com/docview/760989878?accountid=8244>
- Singer, R. A.,PhD,CPA., & Wiesner, T. (2013). The future of undergraduate accounting programs and curricula. *Management Accounting Quarterly*, 14(4), 22-31. Retrieved from <http://search.proquest.com/docview/146555537?accountid=8244>
- The Bedford Committee. (1886) Committee on the future structure, content, and scope of Accounting Education. *Issues in Accounting Education* (Spring), 168-195.
- Thompson, Forrest. "Performance of HBCUs on the CPA Examination for the Year 2010" *Journal of Finance and Accountancy*, Volume 13, July 2013. www.byu.edu/business/accounting/