Become A Better Teacher:
Five Steps in the Direction of Critical Thinking

Limbach, Barbara
Chadron State College
blimbach@csc.edu

Duron, Robert
Husson University
rduron@tds.net

Waugh, Wendy
Chadron State College
wwaugh@csc.edu

Abstract

This paper identifies an interdisciplinary, 5-step framework, built upon existing theory and best practices in cognitive development, effective learning environments, and outcomes-based assessment. The framework provides teachers with a useful means to move their lecture-based courses toward a more active-learning environment which, ultimately, is more enjoyable and effective for teachers and students alike. An example of the model is applied in accounting education, representing a business discipline in which critical thinking has been consistently cited as both necessary and difficult to implement. Barriers to implementation of the model and suggestions for overcoming them are presented.

Keywords: critical thinking, active-learning, learning environments, assessment

Introduction

Professional development in higher education takes place in many situations. Developing a knowledge and deep understanding of an educational practice, as well as the skill to use the practice effectively in the classroom, does not occur overnight. A good question to ask frequently while planning one's professional development is "How will this improve student learning?" Just as students need to see connections in what they're learning, teachers need to clearly see the connection of professional development to classroom practice. Commitment to sustained professional development is demonstrated by teachers who create specific instructional strategies or areas of interest that they would like to pursue in more depth. A particular strategy frequently cited in the professional development literature for improving teaching and student learning is that of enhancing critical thinking skills.

This paper identifies a 5-step framework that can be implemented in virtually any teaching or training setting to effectively move learners toward critical thinking. This interdisciplinary model, built upon existing theory and best practices in cognitive development, effective learning environments, and outcomes-based assessment, provides teachers with a useful framework to move their lecture-based courses toward a more active-learning environment which, ultimately, is more enjoyable and effective for teachers and students alike. An example of the model is applied in the context of accounting education, representing a business discipline in which critical thinking has been consistently cited as both necessary and difficult to implement. Barriers to implementation of the model and suggestions for overcoming them are presented and discussed.

The lecture format of learning is a venerable and popular approach to content delivery in higher education; however, this time of learning frequently does not encourage active learning or critical thinking on the part of students. Those new to the teaching profession often adopt the lecture format because this format is both teacher-centered and comes with a strong academic tradition. Unfortunately, increasing a student's critical thinking skills with the lecture format is very difficult. Topics are discussed sequentially rather than critically, and students tend to memorize the material since the lecture method facilitates the delivery of large amounts of information. The student is placed in a passive rather than an active role since the teacher does the talking, the questioning, and, thus, most of the thinking (Maiorana, 1991).
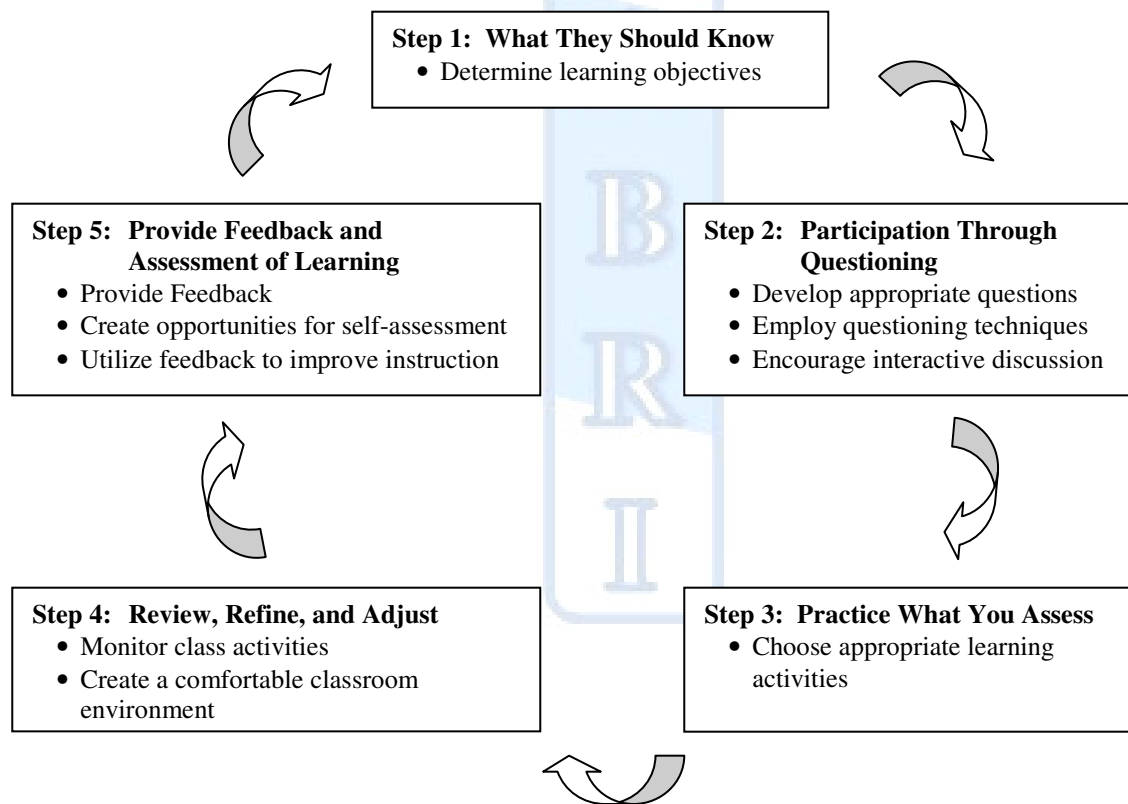
Active learning can make the course more enjoyable for both teachers and students, and, most importantly, can cause students to think critically. For this to happen, educators must give up the belief that students can't learn the subject at hand unless the teacher "covers it". While students may gain some exposure to the material through pre-class readings and overview lectures, students really don't understand the content until they actively "do" something with the concepts and reflect on the meaning of what they are doing.

The theory of critical thinking began primarily with the works of Benjamin Bloom who identified six levels within the cognitive domain, each of which related to a higher level of cognitive ability (Bloom, 1956). *Knowledge* focused on remembering and reciting information. *Comprehension* focused on relating and organizing previously learned information. *Application* focused on applying information according to a rule or

principle in a specific situation. *Analysis* was defined as critical thinking focused on parts and their functionality in the whole. *Synthesis* was defined as critical thinking focused on putting parts together to form a new and original whole. *Evaluation* was defined as critical thinking focused upon valuing and making judgments based upon information. In the context of this paper, critical thinking is deemed to take place when students are required to perform in the Analysis – Evaluation range of Bloom's taxonomy.

To provide the greatest benefit to students, teachers should provide many opportunities for students to engage in the upper levels of Bloom's taxonomy where critical thinking takes place. While most teachers believe that developing critical thinking in their students is of primary importance (Albrecht & Sack, 2000), few have an idea exactly what it is, how it should be taught, or how it should be assessed (Paul, et al, 2002). The following model (Figure 1) is a 5 step framework that can be easily implemented in any classroom or training setting to move students toward critical thinking.

Figure 1: 5-Step Model to Move Students Toward Critical Thinking

Step 1: What They Should Know
- Determine learning objectives

Step 2: Participation Through Questioning
- Develop appropriate questions
- Employ questioning techniques
- Encourage interactive discussion

Step 3: Practice What You Assess
- Choose appropriate learning activities

Step 4: Review, Refine, and Adjust
- Monitor class activities
- Create a comfortable classroom environment

Step 5: Provide Feedback and Assessment of Learning
- Provide Feedback
- Create opportunities for self-assessment
- Utilize feedback to improve instruction

5-Step Model to Move Students Toward Critical Thinking

Step One: What They Should Know

Considering the importance of a course, its placement in a program of study, and its role in providing a base of knowledge to be built upon by other courses, a teacher should first identify the key learning objectives that recognize what students should know when they exit the class. To make critical thinking happen, these teaching objectives, as well as the activities and assessments, must include those tied to the higher levels of Bloom's taxonomy.

A well written objective should include a behavioral verb that is appropriate for the chosen level of the taxonomy. Bloom's Knowledge level requires an answer that demonstrates simple recall of facts. Behavioral verbs at this level include who, what, describe, state, and list. Comprehension requires an answer that demonstrates an understanding of the information. Behavioral verbs at this level include summarize, explain, paraphrase, compare, and contrast. Application requires an answer that demonstrates an ability to use information, concepts and theories in new situations. Behavioral verbs include apply, construct, solve, discover, and show. Analysis requires an answer that demonstrates an ability to see patterns and classify information, concepts and theories into component parts. Behavioral verbs include examine, classify, categorize, differentiate, and analyze. Synthesis requires an answer that demonstrates an ability to relate knowledge from several areas to create new or original work. Behavioral verbs include combine, construct, create, role play, and suppose. Finally, Evaluation requires an answer that demonstrates ability to judge evidence based on reasoned argument. Behavioral verbs include assess, criticize, recommend, predict, and evaluate.

Thus, a well written lesson plan should target a behavioral verb, introduce and practice the desired behavior, and end with the learner exhibition of the behavioral response. The development of well written questions will greatly accelerate a learner's movement into critical thinking.

Step Two: Participation Through Questioning

Questioning is a vital part of the teaching and learning process, allowing the teacher to establish what is already known and then to extend beyond that to develop new ideas and understandings. Questions can be used to stimulate interaction between teacher and learner and challenge the learner to defend his or her position, (i.e. to think critically). Clasen (1990) posits that although many strategies exist that can impact student thinking, teacher questions have the greatest impact. He went on to indicate that the level of student thinking is directly proportional to the level of question asked. When teachers plan, they must consider the purpose of each question and then develop the appropriate level and type of question to accomplish the purpose. All students need experience with higher level questioning once they become familiar with a concept. Thoughtful preparation on the part of the teacher is essential in providing that experience.

Questioning techniques can be used to foster the thinking ability of students. Questions can be categorized in a number of different ways. One simple method is to use the general categories of convergent and divergent questions. Convergent questions seek one or more very specific correct answers, while divergent questions seek a wide variety of correct answers. Convergent questions apply to Bloom's

Knowledge, Comprehension, and Application levels while divergent questions apply to Bloom's Analysis, Synthesis, and Evaluation levels. Divergent questions are generally open-ended and foster student-centered discussion and thereby encourage critical thinking.

To most effectively encourage student participation, teachers must become highly skilled questioners. This is understandably difficult and takes commitment. According to Teaching Strategies (2003), the crucial elements of a skilled questioner are that they: are brief and concise; are prepared to rephrase questions; are prepared to draw further responses from participants; use a variety of techniques; redirect questions/responses; provide feedback and reinforcement without repeating answers; and spread questions around the class.

Teachers can use a number of strategies to improve their questioning skills. First, consider giving up one-at-a-time questioning in exchange for an interactive group discussion. Individual questioning engages only one student at a time. Any student not directly engaged in the discussion will have a tendency to disengage.

Second, make the difficult shift from leading the discussion to facilitating. The role of a discussion leader is very different from the role of lecturer. Your role is to lead students into discussion, foster understanding, and stimulate intellectual growth. Further, you must be prepared to deal constructively with the shy student, the lazy student, the overly talkative student, and the student who keeps challenging you.

Third, utilize the appropriate discussion model. The focused discussion model is good for the natural sciences and engineering and often works best when the teacher keeps students focused. This allows the teacher to cover larger amounts of material, to separate the major from the minor concepts, and to place more emphasis on review, clarification, and elaboration of the lecture and course readings. The open discussion model is good for the social sciences and humanities, where seldom one correct answer or approach exists. In this setting, a less structured and less directed discussion format usually works best. As will be discussed, most fields of study benefit from a combination of both techniques.

Fourth, continually refine the art of questioning. Although many different types of questions exist, good questions are the key to inspiring critical thinking. The most productive questions will elicit a variety of responses and will invite students to think about and respond at a higher level of Bloom's taxonomy.

Fifth, guide the student to the answer or refer the student to a resource that will provide further explanation. The advantage of this process is that students are allowed, and even forced, to develop the analytical tools needed to search for answers.

Sixth, when a student asks the teacher a question the teacher should redirect the question to the class to encourage thinking and problem solving. The teacher can rephrase the question, guide the class toward the correct answer, or use the question to introduce a related topic.

Finally, all learners should have the opportunity to interact with the teacher and with others. Teachers should allow time in their course for debating. Learners must come to see themselves as risk-takers who exercise control over their own learning and experience success when they apply what they have learned to better understand and help resolve issues.

Elder and Paul (2002) proposed that the art of questioning is essential to the art of learning and that, to the extent that they fail to ask genuine questions and seek answers to those questions, students are not likely taking the content seriously. Students learn math by asking questions about math, students learn history by asking questions about history, and students learn business by asking questions about business. Teachers can and should use these questioning techniques to inspire critical thinking in the classroom.

Step Three: Practice What You Assess

In the past decade, a major shift has taken place in education; that shift is toward active learning. Teachers that have used this approach generally find that the students learn more and that the courses are more enjoyable. Bonwell and Eison (1991) described active learning as involving the students in activities that cause them to think about what they are doing. Fink (2003) indicated that the concept of active learning supports research which shows that students learn more and retain knowledge longer when they acquire that knowledge in an active rather than passive manner. To make learning more active, we need to learn how to enhance the overall learning experience by adding some kind of experiential learning and opportunities for reflective dialog.

According to Fink (2003), two guiding principles should be considered when choosing learning activities. First, activities should be chosen from each of the following three components of active learning: Information and Ideas, Experience, and Reflective Dialog. Information and Ideas include primary and secondary sources whether accessed in class, outside class, or online; Experience includes doing, observing, and simulations; Reflective dialog includes papers, portfolios, and journaling. Second, whenever possible, direct kinds of learning activities should be used. Examples of direct activities include doing in an authentic setting, direct observation of a phenomenon, reflective thinking, journaling, and dialog in or outside of class. Indirect, or vicarious, activities may be necessary in some cases; however, the quality of student learning expands when we find direct ways of providing learning activities. Examples of indirect or vicarious activities include case studies, gaming simulations, role playing, and stories. Learning activities that can provide several kinds of learning simultaneously include debate, dramatization, authentic projects, situational observation, and service learning.

One very important ingredient of active learning is in-depth reflective dialog. This provides students with the opportunity to reflect on the meaning of their learning experience. One can reflect with oneself, as in a journal, or with others, as in a class discussion. According to Fink (2003), in reflective writing, students should address the following questions: What am I learning? What is the value of what I am learning? How am I learning? What else do I need to learn?

When teachers think about what should happen in a course, they will want to consider the kinds of active learning that can encourage critical thinking. To enhance the overall learning experience and to create a complete set of learning activities, enlarging the view of active learning to include getting information and ideas, experience, and reflection is necessary. These kinds of activities also allow students the opportunity to practice the same skills that will later be assessed.

Step Four: Review, Refine, and Adjust

Teachers should strive to continually refine their courses to ensure that their instructional techniques are in fact moving students toward critical thinking. To accomplish this, teachers should monitor the classroom activities very closely. To track student participation, a teaching diary can be kept that identifies the students that participated, the main class activities, and an assessment of their success. Other reflective comments can also be tracked in this journal and can be very useful when revising or updating instructional activities. An important outcome of this journal is the identification of students that have participation issues. These would include the over-talkative student, the shy student, the lazy student, and the student that keeps challenging the teacher.

Dealing constructively with difficult students is important to keeping the class on track with the goals set for them (Leading & Facilitating Discussions, n.d.). When dealing with the over-talkative student, they must understand that the floor belongs to everyone. Teachers should acknowledge the comments of the over-talkative student, but then divert the discussion to others, calling them by name when necessary. Should the student still not take the hint, a private conversation emphasizing the benefits of listening to other students as part of a classroom discussion will generally solve the problem. Finally, because the over-talkative student may be insecure, avoid attacking them. Simply point out the situation and then work together to form a solution.

Dealing with the shy student almost always requires extra encouragement. Try bringing the shy student into the activity early on to boost their confidence. Also, encourage them to relate to their own experiences and make eye contact with them so they will feel more connected to the class. When the problem persists, explain that participation is an important part of the course and ask whether other reasons may contribute to their reluctance to participate. When the reasons are extenuating, the teacher can refer the student to other resources such as tutoring or counseling.

Dealing with the lazy student is also a challenge to facilitating active learning. This student must understand that all students will be held accountable to the standards of the class. When a student fails to meet these standards by arriving late, missing classes without excuse, or failing to complete assignments, the teacher must address these issues immediately. Should the student require additional help, suggest a tutor or encourage an individual meeting to discuss or review the material.

Finally, students may continually challenge the teacher. When a student disrupts class to discuss irrelevant points or continually challenges comments made by the teacher, the teacher should meet with them immediately. Be frank and point out the disruptive nature of the action. The student may disagree with the approach of the course; however, they should understand this is not likely to change and they should consider adjusting their expectations in order to derive some benefit. Dealing with this type of student immediately is very important so that they do not impact the rest of the class.

Creating a class for all people is of primary importance, and students should expect to bear at least half the responsibility for this task. However, the responsibility belongs with the teacher to strive to create a climate of equal opportunity and an

environment where rudeness, interruptions, or dismissal of another's opinions is unacceptable. Making these expectations clear in the initial class meeting and as a formal part of the course syllabus is an effective first step toward creating a classroom environment that will be conducive to active learning and critical thinking.

Step Five: Provide Feedback and Assessment of Learning

Feedback, like assessment, compares criteria and standards to student performance in an effort to evaluate the quality of work. However, feedback differs from assessment in its purpose. The purpose of feedback is to enhance the quality of student learning and performance, rather than to grade the performance, and, importantly, has the potential to help students learn how to assess their own performance in the future. Feedback allows the teacher and student(s) to engage in dialogue about what distinguishes successful performance from unsuccessful performance as they discuss criteria and standards (Fink, 2003).

Teachers can learn to provide good feedback to their students through planning which allows students frequent opportunities to practice whatever will be expected of them at assessment time. Teachers should spend ample time helping students to understand what the criteria and standards are and what they mean. Feedback and evaluation may also be provided by student peers, provided they are given proper instruction. Each of these techniques help students learn to distinguish between satisfactory and unsatisfactory performance.

When providing feedback, teachers should be both thoughtful and purposeful. According to Wlodkowski and Ginsberg (1995), teachers should provide feedback that is informational rather than controlling, based on agreed-upon standards, specific and constructive, quantitative, prompt, frequent, positive, personal and differential (i.e. indicating personal improvement since the last learning was performed).

In addition to feedback, assessment itself is an important instructional goal. According to Fink (2003), educative assessment can enhance the quality of student learning and includes four key components. The first component is forward looking assessment, which incorporates exercises, questions, and/or problems that create a real-life context and relevance for the course objective. These types of questions require students to look well beyond the conclusion of the course. To write such questions, teachers must consider situations in which students might need such knowledge and then create a question that replicates the real-life context. These problems should be open-ended, and key assumptions should be provided in order to best assess the quality of the student's response.

The second component of assessment is to clearly explain the criteria and standards that will be used to assess learning outcomes. Teachers must identify the general traits or characteristics of high quality work (i.e. the criteria). The teacher should next identify qualities which distinguish student work which is merely acceptable from that which is exceptional (i.e. the standards). Citing or providing examples of exemplary student work may be useful in articulating assessment criteria and standards to the student.

The third component of assessment is to create ample opportunity for self-assessment. This is a particularly useful skill that will be required of students later in

their professional lives. Self-assessment can be done in groups or individually. To be successful, students again need to understand the appropriate criteria and standards for evaluating and assessing their own work.

The fourth component of assessment is the teacher provided feedback. This feedback should be high quality and have the following characteristics identified by Fink (2003): frequent, immediate, discriminating, and loving. In this context, teacher feedback should be given as frequently as possible, should be given as soon as possible, should make clear the difference between poor, acceptable, and exceptional work, and should be delivered empathetically. Teacher provided feedback is a particularly critical element of this model given the fact that many students will at least initially be unsure and perhaps uncomfortable with their role as an active participant in their learning. Providing positive and appropriate feedback is a vital step of creating a classroom environment which fosters and encourages questioning, active participation, and risk taking on the part of the student.

Finally, important to note is the significance of assessment to the 5-step model itself. Information gleaned from student feedback and assessment provides an immediate and vital source of information to the teacher with respect to which objectives were met/not met, the effectiveness of specific learning activities, things to start or stop doing, effectiveness of feedback on standards, etc. This type of information can in turn become a valuable part of a department or discipline's outcomes-based assessment efforts.

Illustrative Example

In an effort to illustrate the application of this framework to a specific business education context, the topic of financial statement analysis in an introductory financial accounting course will be utilized. The need for fundamental change in accounting education has been well documented for most of the past two decades (Accounting Education Change Commission, 1990; Albrecht & Sack, 2000; Doney & Lephardt, 1993). In particular, the ability to think critically, reason in a variety of ways, and solve unstructured problems has been cited consistently as a necessary quality in business graduates in general and accounting students in particular (Springer & Borthick, 2004). Accounting education has been criticized for spending too much time solving well-structured, deterministic problems, placing excessive emphasis on memorization, reluctance on the part of teachers to develop creative types of learning experiences, and excessive focus on content at the expense of skills development (Albrecht & Sack, 2000; Doney & Lephardt, 1993). The model presented in this paper seems to provide an appropriate and useful framework from which to address many and possibly all of these concerns.

Basic financial statement analysis is a skill taught in most introductory financial accounting courses. The ability to analyze a financial statement represents a good example of a skill that is built upon in other business courses (i.e. finance, business strategy) and is also likely to be utilized by most business professionals. The first step in the model (i.e. What They Should Know) involves the determination of key learning objectives appropriate to the various levels of Bloom's taxonomy. In this context, these might include, but are not limited to:

Knowledge:
1) Identify two basic approaches to financial statement analysis.
2) List and present the formulae for the basic liquidity and solvency ratios.
Comprehension:
1) Compare and contrast horizontal and vertical financial analysis.
2) Explain the meaning of each of the basic liquidity and solvency ratios.
Application:
1) Perform both a vertical and horizontal analysis of the comparative income statement of a corporation for the past two years.
2) Perform a ratio analysis of a company for the most recent fiscal year.
Analysis:
1) Identify trends or patterns in the financial analysis of an organization that might give insight into the results of its operations.
2) Compare the financial ratios of a company to industry averages and give possible reasons for any significant variances.
Synthesis:
1) Based upon financial analysis, identify several actions a company might take to improve its operating results.
2) Propose a new financial ratio of your own that might be of interest to a specific company and explain its meaning.
Evaluation:
1) Evaluate the following statement: the fact that financial statement analysis is regularly performed is evidence that the statements alone are of limited usefulness to decision-makers.
2) In the role of a potential lender, prepare a memorandum to your supervisor assessing the overall liquidity and solvency of a prospective borrower, your recommendation to extend or deny credit, and any significant assumptions made or limitations of the data you utilized in formulating your recommendation.

Note that the development of these objectives not only provides for increasingly higher levels of learning (i.e. those which demonstrate critical thinking), but also provides a basis for developing appropriate questions, designing specific learning activities, and feedback on/assessment of student learning outcomes.

The next critical step in the model (i.e. Participation Through Questioning) is to choose learning activities, develop questions (based upon the learning objectives identified above) and prepare to employ appropriate questioning techniques which help foster an active learning environment and participation by all students. In this context, the use of both focused and open discussion formats is recommended. A focused model is utilized to assist students in mastering the basic financial analysis concepts (i.e. knowledge, comprehension, and analysis), while a more open format is proposed for the learning outcomes identified above which may include a variety of "correct" responses (i.e. analysis, synthesis, and evaluation). In accounting in particular, the instructor may occasionally need to "digress" to the lecture format to explain difficult concepts or computational nuances. Nonetheless, a concerted effort should be made to keep the students actively and equally engaged.

In implementing step three of the model (i.e. Practice What You Assess), working through the objectives and questions can be accomplished using a variety of activities.

For this particular topic, students might be given a reading assignment and then administered a short reading quiz at the beginning of class to provide both practice and feedback on the knowledge and comprehension aspects of the topic. Once the teacher is reasonably sure that the students are able to perform the analysis and compute the ratios correctly, students may be placed in teams to perform the actual analysis of the statements. For higher levels of learning, the guidelines of Fink (2003) can and should be followed. For example, students might be asked to utilize information from "real" companies by accessing financial statements online and then use the data to compute ratios either in groups or individually in a "real world" application. Students may report on their finding and/or be asked to "critique" the analysis/synthesis/evaluation of others. At the conclusion of class or the learning unit, a useful exercise in this setting is that of a reflective journaling activity. For example, students might be asked to reflect in writing upon "how what I learned will be of use to me in my chosen profession" or "what I have learned that I don't want to forget". In addition to encouraging students to reflect upon what they have actually learned, this type of activity also helps make the material personally and/or professionally relevant. Students may additionally be asked to share their thoughts with other members in the class as part of this activity.

Obviously, the teacher will need to continually monitor, reflect upon and refine the activities in an effort to adapt each topic and group of students using the techniques outlined in step four (i.e. Review, Refine, and Adjust) of the model. A particular problem frequently encountered in accounting classes in general is that of the "free rider" effect, in which one or more "strong" students tend to do the bulk of the quantitative analysis to the benefit of the other members of the group. This situation can be mitigated by making expectations clear and holding all group members accountable for the work. For example, the teacher may require all students to prepare a solution and then randomly select one solution for grading and/or presentation for/by the entire group.

Feedback and assessment of learning are provided by the teacher in the final step of the model. In this setting, feedback is relatively straight-forward with respect to the learning objectives in the lower levels of the taxonomy since accounting, by nature, often affords the student to come up with a "right" or "wrong" answer. As was previously discussed, however, this quality of accounting education also has a tendency to produce professionals who have little tolerance for ambiguity or unstructured problem solving. In this area, which represents the higher levels of the taxonomy (and, thus, critical thinking); the model can make a substantial contribution to the quality of student learning. At the same time, teachers will have to make extra efforts to provide thoughtful and purposeful feedback. Examples of outstanding work from other students/groups represent one reasonably effective way to provide feedback on the learning outcomes/standards relating to the analysis, synthesis and evaluation of information. Standards might also include "ground rules" for class/group participation and responsibility for assignments.

Assessment of this topic would logically measure student performance on the objectives stated at the onset of the lesson at a level consistent with the standards articulated above. Teachers should not be afraid to ask ambiguous questions or those which require the student to identify missing or limited information, defend his or her position and recommendations, or question assumptions underlying the financial

statements being analyzed. In this manner, teachers will be in the best position to assess whether or not critical thinking is indeed taking place.

While brief and certainly not comprehensive, this illustration has shown the applicability of the 5-step model developed in this paper to the specific context of teaching financial statement analysis in an introductory accounting course. Obviously, this framework can be applied to most any discipline with appropriate modification of learning outcomes, discussion models, and activities. Indeed, the model can most likely be applied more broadly to virtually any teaching or training setting in which the development of critical thinking skills is a desired learning outcome.

Conclusion

The purpose of this paper was to present a 5-step framework which can be implemented in virtually any teaching or training setting to effectively move learners toward critical thinking. While conceptual in nature, this model provides teachers with a useful framework in which to move their lecture-based courses toward a more active-learning environment. Elements of the model were applied to the teaching of financial statement analysis in an introductory financial accounting course, and barriers to implementation of the model and practical suggestions for overcoming them were presented and discussed throughout the paper.

Finally, teachers must be willing to give thoughtful consideration to current instructional methods and to the personal beliefs that drive them prior to contemplating this particular approach to teaching. Implementing critical thinking through this framework clearly requires a commitment to active, student-centered learning which, at least initially, may be somewhat unfamiliar and uncomfortable to both students and teachers. While this may necessitate a fundamental change in instructional technique from that of the traditional lecture-based format, the results of such efforts will likely result in learning experiences which are both more enjoyable and valuable to students and teachers alike.

References

Accounting Education Change Commission. (Fall, 1990). Objectives of education for accountants: Position Statement Number One. *Issues in Accounting Education*, p. 307-312.

Albrecht, W. S. & Sack, R. L. (2000). Accounting education: Charting the course through a perilous future. Accounting Education Series No. 16. Sarasota, Florida: American Accounting Association.

Angelo, T. A. & Cross, P. K. (1993). *Classroom assessment techniques* (2nd ed.). San Francisco: Jossey-Bass.

Bloom, B. (1956). *A taxonomy of educational objectives. Handbook 1: Cognitive domain.* New York: McKay.

Bonwell, C. C. & Eison, J. A. (1991). Active Learning: Creating Excitement in the
    Classroom. ASHE-ERIC Higher Education Report No. 1. Washington, D.C.:
    George Washington University.

Clasen, D. R. and Bonk, C. (1990). *Teachers tackle thinking.* Madison, WI: Madison
    Education Extension Program.

Doney, L. and Lephardt, N. (1993). Developing critical thinking skills in accounting
    students. *Issues in Accounting Education, 68* (5), p. 1-7.

Elder, L., et al. (Winter, 1997). "Critical thinking: Crucial distinctions for questioning,"
    Journal of Developmental Education 21(2), p. 34.

Fink, L. D. (2003). A self-directed guide to designing courses for significant learning.
    Retrieved on October 28, 2004 at
    http://www.byu.edu/fc/pages/tchlrnpages/fink/fink1.doc

Hatcher, D. L., & Spencer, L. A. (2005). *Reasoning and Writing: From Critical Thinking
    to Composition.* 3rd. ed. Boston: American Press.

Leading and Facilitating Discussions. (n.d.). Assistant Instructor Handbook. Princeton
    University. Princeton, NJ. Retrieved on October 27, 2007 at
    http://www.princeton.edu/~aiteachs/handbook/facilitating.html#dealing

Maiorana, V. (Spring, 1991). "The road from rote to critical thinking," *Community
    Review* 11, p. 53-64.

Paul R., et al. (2002). Study of 38 public universities and 28 private universities to
    determine faculty emphasis on critical thinking in instruction. Retrieved on
    September 23, 2003 at http://www.criticalthinking.org/schoolstudy.html
Teaching Strategies (2003). *The Educational Technology Centre*, University of Sydney,
    Australia. Retrieved March 10, 2008, from
    http://alex.edfac.usyd.edu.au/BLP/Teaching_Skills/questioning.htm

Wiggins, G. (1998). Educative Assessment. San Francisco: Jossey-Bass.

Wlodkowski, R. & Ginsberg. (1995). Diversity and Motivation. San Francisco:
    Jossey-Bass.