

## Pre-service Teachers Characterization and Engagement Levels of Critical Reading

Bernice Sanchez, Ph.D.<sup>1</sup>

### Abstract

---

Pre-service teachers must be critical readers and thinkers if they are to prepare our future generations for the challenges of the 21st Century. Critical reading and thinking skills are essential to the evolution of a well rounded individual who can interpret information, challenge evidence, and assess diverse arguments. The following case study attempts to examine pre-service teachers' characterization of critical reading and explore their level of responses in their application and engagement of critical reading/thinking. This paper discusses the research explored in the case study that incorporated an open ended survey and critical reading prompts that examined pre-service teachers' engagement levels into reading and thinking critically while allowing the researcher to gain an understanding of teachers' awareness and engagement of critical reading/thinking stance. Overall, the data findings presented support the on-going challenges of teaching critical reading/thinking as indicated by previous research studies. The information gathered by the researcher will provide insights into pre-service teachers' critical reading/thinking and the importance of transmitting critical engagement habits to future generations of pre-service teachers.

---

**Key Words:** *critical thinking, critical reading, pre-service teachers, reader response theory*

### Introduction

This generation of pre-service teachers must be critical readers and thinkers in order to adapt to dynamic and diverse classroom environments. Pre-service teachers have the responsibility of engaging and modeling these cognitive processes in order to create future generations of students who are critical thinkers. Critical thinking is emphasized across disciplines in academic institutions across the country; however, many students cannot effectively engage in or utilize this skill (Burbach, Matkin, & Fritz, 2004). 85% of learning in academic colleges and universities is dependent on independent reading, nevertheless a study conducted by the American Institutes for Research indicated 50% of students enrolled in college lacked the skills to function at a proficient level of literacy (Pugh, Pawan, & Antommarchi, 2000; Baldi, 2006).

Critical reading is defined as the art of analyzing and evaluating text through connections with prior experiences all the while considering alternative responses or interpretations (Pau & Elder, 2008; Tomasek, 2009). Critical thinking is defined as reasonable reflective thinking considering both sides of an issue, being open to new evidence, inferring, evaluating, and drawing conclusions in attempts to solve problems (Willingham, 2008; Jenkins, D. & Cutchens, A. (2011). Critical reading involves the act of engagement with text and critical thinking involves the act of engagement in any context presented regardless they both entail similar metacognitive processes. The following case study attempts to examine pre-service teachers' characterization of critical reading and explore their level of responses in their application and engagement of critical thinking. Furthermore, the critical thinking rubric is an attempt to provide meaningful data of the levels of critical thinking pre-service teachers engage in.

---

<sup>1</sup> Department of Professional Programs, COED, Texas A & M International University, Laredo, TX 78041-1900 KL- 435B, USA.  
E-mail: [bsanchez@tamiu.edu](mailto:bsanchez@tamiu.edu). Phone: (956) 326-2670

The increasing demand of national standardized test and state testing has created an environment of intellectual decline over the last 25 years which highlights the need now more than ever to ensure that critical thinking principles are the driving force in all college level instruction (de Sanchez, 1995).

### Literature Review

There is limited research available in the area of pre-service teacher's engagement in critical reading and or critical thinking. The diminutive range of research available examines the conceptual frameworks, critical thinking principles and the complexities of teaching critical thinking and is focused mainly on entry level college students (Marschall, S. & Davis, C. 2012; Karabay, 2015; Willingham, 2008; Bosley, L. 2008; de Sanchez, 1995).

Arons (1979) and de Sanchez (1995) conducted a study in which they devised problem-solving tasks on the principles of formal reasoning and evaluated college students' performance on these tasks. They discovered that college students struggled with formulating inferences from data evidence, verifying inferences and conclusions, and finally maintaining an awareness of the thinking processes. The researchers utilized critical thinking principles as a guide for college level classroom instruction and the findings indicated that minimal levels of critical thinking principles were applied, but rather mechanical knowledge and memorized facts of isolated concepts which lacked meaning and lack transferability were often utilized. The cognitive consequences of these skills do not provide opportunities for students to apply critical thinking to various situations and does not prepare them for ambiguous situations Arons (1979) and de Sanchez (1995).

Whimbey and Lochhead (1986) conducted a similar study to Arons (1979) and de Sanchez (1995), but designed their own assessment of thinking skills and behaviors of college students as opposed to utilizing a theoretical framework focused on critical thinking principles. The findings were similar to the previous study noted that majority of college students omitted analysis of items in solving problems, in addition they lacked skills in comprehension and resorted to memorization skills (Whimbey and Lochhead, 1986).

Willingham (2008) claims that critical thinking is difficult to teach and it is not a set of skills that can automatically be deployed. With this in mind, there are Meta cognitive strategies that can be practiced, such as scientific thinking that can be practiced and learned over time which can in turn facilitate and provide support for engagement in critical thinking. This claim is aligned with de Sanchez (1995) approach to thinking skills that must be deliberate. de Sanchez (1995) suggests that incidental thinking, while necessary, is automatic, spontaneous and lacks an awareness of engagement. Deliberate thinking requires a conscious development of thinking skills which requires planning in making decisions and in problem solving. Both are natural modes of thinking and some processes are not always easily categorized, but de Sanchez (1995) suggests that practice in deliberate thinking can lead to and support in dealing with complicated situations, weighing factors in the decision making process, and furthermore increase continuous improvement through reflection and feedback of the mental act, of critical thinking engagement.

Tomasek (2009) and Applegate, Quinn, and Applegate (2002) assert that readers comprehend written text by drawing on prior experiences based on cultural values and good readers connect their experiences as they read and interpret and evaluate text. Rosenblatt (1991) claims that there are two purposes for reading one is the aesthetic stance, pleasure reading, and the other efferent stance to locate, interpret, and remember information. Readers engage in one or the other and at other times engage in reading for both purposes. Reader response theories often include a combination of two stances when reading. Critical reading is aligned with reader response theories in that understanding author's meaning is one step, but the reader's ability to negotiate meaning based on knowledge and previous experiences is more in depth and requires higher levels of thinking. The following case study presented explores pre-service teachers' perceptions of critical reading and is based on the theoretical models of reader response learning theories. Readers create or negotiate meaning based on background knowledge, and that critical reading/writing prompts can engage pre-service teachers towards higher levels of critical stance, while providing them opportunities to reflect, think, and respond to a global society beyond the academic classroom (Langer & Applebee, 1987; Rosenblatt, 1991; Tomasek, 2009).

## Sample

The survey population consisted of 63 pre-service teacher candidates enrolled in a teacher preparation program for Hispanic serving campuses at a 4 year university College of Education Program which is in a southern border town north of the Mexican border region. 90% of the candidates surveyed indicated that they were second language learners of English and Spanish was their native home language.

It is also important to note teacher candidates surveyed were enrolled in varying College of Education degree programs all with the intent of becoming classroom teachers K-12. The criterion for the case study was acceptance into the teacher preparation program and current enrollment in a 3000 level educational WIN course (Designated: Writing Intensive Course) of which 3 WIN courses were part of the case study. Fifty three of the sixty three pre-service candidates responded to the survey resulting in an 84% response rate.

## Methods

Qualitative and quantitative methods were employed in this study. The data collected included an open ended survey and student responses to critical thinking prompts. A critical thinking rubric was applied to each student response submitted, modeled after Tomasek (2009) framework for critical reading, the purpose of the rubric was to determine the level of critical thinking maximized by the pre-service teacher. The 3 WIN courses employed professors' contribution of collection data including open-ended survey and a total of 5 critical thinking prompts completed by students. Fifty three students participated voluntarily with a total of 265 student responses collected and scored by the researcher utilizing the critical thinking rubric. All professors taught the same course content and utilized the same textbook. Professors from all 3 courses were provided with the same consistent instructions for dissemination of open ended survey and the same instructions for introduction and application of critical thinking prompts for chapter readings for purposes of fidelity of study.

The purpose of the study was to examine pre-service teachers' characterization of critical reading and how engagement in critical reading prompts can provide opportunities to think critically and beyond description and summarization levels. The open ended surveys asked pre-service teachers to define critical reading and critical writing. For purposes of this study, only critical reading was extracted from the surveys. The open ended survey provided an examination of pre-service teachers perception/characterization of what is critical reading.

A critical thinking rubric was applied to each of the 265 student responses scored by the researcher. Each of the 5 critical thinking prompts were focused on the chapter readings and asked students to engage in identifying or describing of issues within the readings and then further developed into interpretation and application of the readings (Appendix A). The task required for each prompt asked pre-service teachers to write a 350-400 word essay addressing the critical reading prompt by focusing in on the categories provided in the scoring rubric. Each prompt provided opportunities for students to think beyond summarization with the intent of guiding students towards reading critically and for deeper meaning. The scoring rubric categories included:

1) Identify problem/issue 2) Make connections 3) Interpretation of evidence 4) Challenge Assumptions/Different viewpoints 5) Make applications, Tomasek (2009). Pre-service teacher responses were ranked on a scale from: 4 Superior, 3 Skilled, 2 Adequate, 1 Inadequate in each of the categories provided. The critical reading/thinking prompts prompted pre-service teachers to engage in higher levels of critical reading in effort to address the prompts. The critical thinking rubric provided insightful data into the levels of critical thinking pre-service teachers engage in.

## Results

The data collected throughout the semester in this study provided the researcher an opportunity to gain awareness into pre-service teachers' characterization and actual levels of engagement and application of critical reading. First 2 weeks of the semester the researcher acquired anonymous student responses to the following question: Define critical reading. Fifty three of the sixty three pre-service candidates responded and the researcher qualitatively examined the responses and extracted overall themes that were coded and categorized accordingly. The responses were coded into the following categories:

1) Understand 2) Analyze/Evaluate 3) Inference/Predict 4) Question/Judge. The results of case study survey responses indicated the following: 42% characterized critical reading as understanding or comprehending, 28% characterized critical reading as analyzing or evaluating, 20% characterized critical reading as making inferences or predicting, 4% characterized critical reading as the ability to question text or judge texts, 6% non-coded category.

42% of the respondents indicated that they define critical reading as understanding or comprehending text which is correct in the sense, that this is the first step in the metacognitive strategic process towards critical stance thinking, but not in alignment with what the true meaning of critical reading is which is reasonable reflective thinking considering both sides of an issue, being open to new evidence, inferring, evaluating, and drawing conclusions in attempts to solve problems (Willingham, 2008; Jenkins, D. & Cutchens, A., 2011). Combined 52% of the respondents indicated that they define critical reading at some varying level of critical thinking some indicating lower levels, while others indicating higher level of critical thinking, but all within the same critical thinking paradigm. The exploratory results in this case study are an indication that about less than half of the pre-service teachers surveyed indicated that they may not have a clear understanding of the expectations associated with critical reading stance; whereas, on the contrary the other half defined critical reading at some varying level of critical thinking beyond that of understanding.

The critical reading/thinking prompts prompted pre-service teachers to engage in varying levels of critical reading in efforts to address the prompts. The critical thinking rubric provided quantitative data into the levels of critical thinking pre-service teachers engaged in each of the 5 critical thinking prompt tasks required which consisted of 350-400 word short essays. A critical thinking rubric was applied to each of the 265 student responses scored by the researcher. Each of the 5 critical thinking prompts were focused on the chapter readings and asked students to engage in the following: 1) Identify problem/issue 2) Make connections 3) Interpretation of evidence 4) Challenge Assumptions/Different viewpoints 5) Make applications. The results of the case study rubric scored responses combined all 5 prompts (Scale 1-4) are provided below (Table 1).

**Table 1: Critical Reading/Thinking Prompts**

	4 Superior	3 Skilled	2 Adequate	1 Inadequate
1) Identify problem/issue	68%	12%	15%	5%
2) Make connections	49%	25%	18%	8%
3) Interpretation of evidence	25%	13%	35%	27%
4) Challenge Assumptions/ Different viewpoints	19%	25%	18%	38%
5) Make applications	9%	18%	23%	50%

The case study results presented in the chart are an indication that pre-service teachers scored higher in the areas of identifying problems or issues within the readings and in making connections. These 2 areas represent the simplest or lower indicators of critical thinking. As the critical thinking levels become more challenging and higher leveled the pre-service teachers appear to score lower as they are tasked with engagement in interpretation of evidence, challenging assumptions and various view points. The lowest level of engagement for pre-service teachers was the ability to make applications of the text information. The results in this case study are aligned with previous research (Arons, 1979, de Sanchez, 1995, Whimbey and Lochhead, 1986, Willingham, 2008, and Tomasek, 2009) suggesting that overall college students struggle with formulating inferences from data evidence, verifying inferences, and making conclusions/applications on larger scales, in this case higher levels of critical stance thinking.

Overall, the exploratory findings reported indicated 42% of pre-service respondents characterize critical reading as understanding or comprehending in the open ended survey which is aligned with the high levels of engagement in category 1) Identify problem/issue based on the rubric scores. 52% of the respondents indicated that they define critical reading at some varying level of critical thinking.

On the contrary, the data results on the rubric scoring indicates that pre-service teachers have lower levels of engagement as the levels of critical reading increase as indicated by their responses to the prompts provided. For example combined, 80% of the respondents were superior or skilled in Identify problem/issue. 74% of the respondents were superior or skilled in making connections. 38% of the respondents were superior or skilled in Interpretation of evidence; while, 44% were superior or skilled in Challenge Assumptions or Different viewpoints. Finally, only 27% were superior or skilled in making applications. As the data results indicate, the more challenging the critical reading level of thinking was tasked the less engagement levels were present. Overall, as indicated by the data results, pre-service teachers may define critical reading, but are not fully proficient at actively engaging in higher levels of critical reading.

Tomasek (2009) research on critical thinking and reading prompts to promote text engagement model types of critical analysis of text that require meaningful understanding and connections to personal experiences and reflective practices beyond that of the classroom environment. The case study presented attempts to provide opportunities for practice utilizing prompts that can engage pre-service teachers towards higher levels of critical stance, while providing those opportunities to reflect, think, and participate in a global society beyond the academic classroom (Langer & Applebee, 1987; Rosenblatt, 1991; Tomasek, 2009). As indicated by Willingham (2008), metacognitive strategies that can be practiced, such as scientific thinking that can be practiced and learned over time can in turn facilitate and provide support for engagement in critical thinking. Further research is required in this field of study for discovery and to provide ample opportunities for pre-service teachers, and college students in general, to be prepared to read and think on a global scale.

## References

- Applegate, M. D., Quinn, K.B., & Applegate, A.J. (2002). Levels of thinking required by comprehension questions in informal reading inventories. *The Reading Teacher, 56*(2), pp. 174-180.
- Arons, A. B. (1979). Some thoughts on reasoning capabilities implicicately expected of college students. In J. Lochhead & J. Clement (Eds.), *Cognitive process instruction* (pp. 209-215). Philadelphia: Franklin Institute Press.
- Baldi (2006). *New study of the literacy of college students finds some are graduating with only basic skills*. American Institutes for Research. Retrieved March 30, 2006, from <http://www.air.org/news/documents/Release200601pew.htm>
- Bangert-Drowns, M., Hurley, M., & Wilkinson, B. (2004). The effects of school-based writing-to-learn interventions on academic achievement: A meta-analysis. *Review of Educational Research, 74*(1), 29-58.
- Behar-Horenstein, L., & Niu, L. (2011). Teaching critical thinking skills in higher education: A review of the literature. *Journal of College Teaching and Learning, 8*(2), 25-41.
- Burbach, Matkin, & Fritz. (2004). Teaching critical thinking in an introductory leadership course utilizing active learning strategies: A confirmatory study. *College Student Journal, 38*(3), 482-493.
- de Sanchez, Margaritita A. (1995). Using critical thinking principles as guide to college level instruction. *Teaching of Psychology, 22*(1), 72-75.
- Knipper, K. J., & Duggan, T. J. (2006). Writing to learn across the curriculum: Tools for comprehension in content area classes. *The Reading Teacher, 59*, 462-470.
- Langer, J. & Applebee, Arthur N. (1987). How writing shapes thinking: A study of teaching and learning. Urbana, IL: National Council of Teachers of English.
- Langer, J. (2002). Effective literacy instruction: Building successful reading and writing programs. Urbana, IL: National Council of Teachers of English.
- Loads, D. (2013). Critical thinking. *Teaching in Higher Education 18*(8), pp.950-957 (EJ1021608).
- MacArthur, C., Graham, S. & Fitzgerald, J. (2006). Handbook of Writing Research. NY: Guilford Press.
- Pugh, Pawan, & Antommarchi (2000). Academic literacy and the new college learner. In R. F. Flippo & D.C. Caverly (Eds.) *Handbook of college reading and study strategy research* (pp.25-42). Mahwah, NJ: Lawrence Erlbaum Associates.
- R. Deborah Davis , Tania Ramahlo , Barbara Beyerbach & Arcenia P. London. (2008). A culturally relevant teaching course: Reflecting pre-service teachers' thinking, *Teaching Education, 19*:3 (pp. 223-234) DOI: 10.1080/10476210802250265

- Tapper, J. (2004). Student perceptions of how critical thinking is embedded in a degree program, *Higher Education Research & Development*, 23:2, 199-222, DOI: 10.1080/0729436042000206663.
- Tomasek, T. (2009). Critical reading: Using reading prompts to promote active engagement with text. *International Journal of Teaching and Learning in Higher Education*. 21(1), 127-132.
- Whimbey, A. & Lochhead, L. J.(1986). Problem solving and comprehension. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Williams, R.L. (2005). Targeting critical thinking within teacher education: The potential impact on society. *The Teacher Educator*, 40(3), 163-187.
- Willingham, D. (2008). Critical thinking: Why is it so hard to teach. *Arts Education Policy Review*, 9(4) March/April.
- Zabihi, R. & Pordel, M. (2001). An investigation of critical reading in reading textbooks: A qualitative analysis. *International Education Studies*, 4(3), 80-89.

### **Appendix A: Prompt Sample.**

**Professor Prompt/Questions:** Define "struggling readers" according to CH. 10. Reflect on Ch. 11 and the video Workshop 8. Connecting other Subjects to Inquiry and describe specific strategies for teaching adolescent literacy in all content areas and how this relates/connects to the ELA and Reading Teacher State Standards (applications). How can you apply this as classroom teacher?

### **Critical Thinking:**

- Identify problems /issues
- Make connections
- Interpretation of evidence
- Challenge assumptions/different point of view
- Make applications.