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## Graduate-level Instructor's Perception of Teaching Critical Thinking

Jay Van Der Werff, Ph.D.

**Abstract:** Higher learning institutions identify the teaching of critical thinking skills to students as a goal of the academic programs offered. This study examined faculty perceptions for teaching critical thinking skills.

**Keywords:** Critical thinking, faculty development

*"...all human action, including thinking as an important part of action, has consequences; and the vital difference which men in general and philosophers especially are concerned about is whether responsibility for those consequences is accepted or not [italics in original]"* (Black, Lottich, & Seckinger, 1972, p. 617). A study conducted by the Society for Human Resource Management (2008) noted "employers placed the greatest weight on employee adaptability and critical thinking skills" (p. 6). The question is whether undergraduate and graduate programs are meeting the need in delivering graduates with critical thinking skills. Recently, the Wall Street Journal (Belkin, Jan 2015) reported on a study conducted by the Council for Aid to Education that found "four out of 10 U.S. college students graduate without the complex reasoning skills" (p. A.5).

The goal of improving decision-making is not new, and may be traced back to Plato's time as a student of Socrates for the purpose of creating a better society in Ancient Greece (Gutek, 2001). Early in the 20th century, Dewey (1916) refreshes the movement which continues to today. More recent history focuses on the increasingly complex world, and to discern the myriad claims for better health, improving wealth, or for whom to vote, critical thinking is necessary to meet social, economic, and political challenges (Meyers, 1986; Paul, 1993; Tsui, 2002). Within the discipline of education, the task falls to educators, who recognize the teaching of critical thinking skills is "invaluable to students' futures" (Tsui, 2002, p. 740), yet a goal often not met in our institutions (Willingham, 2007).

Critical thinking is a characteristic trait the military seeks to develop in its officers (CJCS, 2009; Joint Staff, 2010). The concept of a wise commander is not new, from Sun Tzu's writings in the fourth century B.C. (Tzu & Griffith, 1971) through Clausewitz's (1989) in the early-19th century to modern military doctrine (CJCS, 2009). Examining the development of the military officer—specifically the trait of critical thinking and relating it to cognitive development—Clausewitz (1989) attributed the professional knowledge required of senior officers to "reflection, study, and thought" (p. 146). Dewey (1910/1991) also emphasized the importance of reflection, and this study relied upon four cognitive models – Perry's (1999) Schema; King and Kitchener's (1994) Reflective Judgment Model; Belenky, Clinchy, Goldberger, and Tarule's (1997) *Women's Ways of Knowing*; and Baxter Magolda's (1992) Epistemological Reflection Model – that demonstrate all higher order thinking is attributable to greater cognitive thinking skills.

Exploring the teaching of critical thinking, scholars contend the instructor teaching critical thinking skills must possess a higher intellectual capacity. Faculty must model critical thinking and possess subject matter expertise in the area, if he or she is to effectively teach students to think critically. (Brookfield, 2012; Willingham, 2007).

The purpose of this study was to examine the perceptions of graduate-level faculty to teach critical thinking skills. The researcher anticipated faculty would have a positive, confident view in their ability to teach critical thinking skills due to a focused curriculum and dedicated faculty development program. To examine their perceptions, the following questions were addressed:

What are graduate-level instructors' perceptions of teaching methods and assessments incorporated to promote the development of critical thinking skills?

- a. According to faculty members what is the most effective approach to teaching critical thinking skills in a graduate level education environment?
- b. According to faculty members what is the most effective approach to assess critical thinking skills of their students?
- c. How do the faculty members define critical thinking?

### **Research Design**

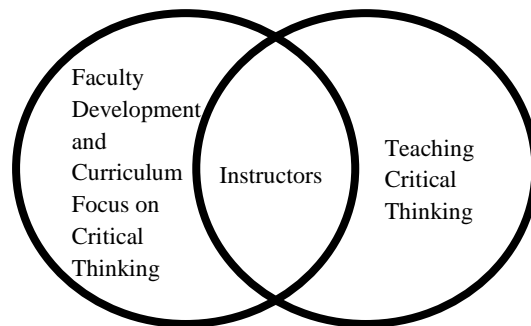
The researcher chose a “partially mixed methods” (Leech & Onwuegbuzie, 2009) research design for this study. The survey instrument provided quantitative descriptive statistics, while the qualitative exploratory approach to interviews was used to gain deeper insight into faculty perceptions of teaching critical thinking.

### **Population**

Instructors at the institution studied are exposed to a military culture focused on the development of critical thinking, and all instructors must participate in critical thinking faculty development sessions. The nexus of the year-long academic curriculum is critical thinking, and developing critical thinking skills in the students.

### **Perspective or Theoretical Framework**

The figure graphically depicts the conceptual framework showing the relationship between the focus on faculty development and a dedicated curriculum designed to teach critical thinking, the instructor, and the teaching of critical thinking. The examined institution cultivates a learning environment focused on teaching and developing critical thinking skills among its faculty and students. All new instructors at the institution participate in a faculty development program with emphasis on adult learning theory, the experiential learning model, and the principles of critical thinking. The institution also follows a standardized curriculum with critical



thinking interwoven throughout the year-long course.

The emphasis of critical thinking toward the institution's mission of preparing military officers for the complexities of the future, combined with the prominence of critical thinking in the faculty development program, and a curriculum targeted at fostering critical thinking skills, leads to instructors focused on teaching critical thinking.

## **Findings and Implications**

The study sought to learn the perceptions of faculty teaching critical thinking at a graduate-level institution. Quantitative survey results showed that faculty believe facilitated discussion, group collaboration during problem solving, and questioning are among the most effective teaching techniques to foster critical thinking. Following the premise that facilitated discussion and group collaboration are most effective teaching techniques, participants identified the monitoring of classroom discussions as the most prevalent means for evaluating critical thinking among their students.

Two major themes emerge that may be linked to the findings of this study. The themes are categorized into requirements for critical thinking and teaching techniques to foster critical thinking skills.

### **Requirements for Critical Thinking**

**Training the mind.** The literature affirms the goal of education is to improve the thinking skills of the student, and to increase the complexity of issues one can consider (Dewey, 1910/1991; Paul, 1993). Those interviewed acknowledged the intent of the curriculum at the institution is to grow the critical thinking skills of the students, and described a process throughout the academic year that increasingly challenges their students. The study results and the literature demonstrate that critical thinking is not a skill that comes by happenstance, and requires self-development or development as part of an education.

**Complexity and effort.** Resnick's (1987) description of "higher order thinking" (p. 3) includes the characteristics of complexity and effort. The institution's curriculum exposes the students to the complicacy of the world. The instructors interviewed described a student population unfamiliar with the operational and strategic levels of national strategy, highlighting the complexity of the curriculum for the student.

Interviewees also expressed that to think critically requires a determined effort. "...[W]e have to find a way to make [critical thinking] more of a personal decision on each student's perspectives, to make that step, and to get uncomfortable, and to exercise [the mind]."

**Necessity for reflection.** In order to effectively apply or improve the critical thinking skills of their students, those interviewed were unanimous in the necessity for reflection. The challenge described in the findings is that the curriculum and the institution place a constraint on the amount of time dedicated for reflection.

**Self-awareness of bias.** Three faculty members interviewed addressed the need to be aware of the possibility of bias entering into one's thinking. A review of the transcripts revealed that the others infer about the awareness and avoidance of bias by gathering other perspectives and viewpoints, while separating facts from assumptions during the process of evaluating a problem.

**Experience.** Experience is a foundational requirement to develop as a critical thinker (Ennis, 1962). The researcher found that nearly 50% of those surveyed described critical thinking elements congruent with the area of "commitment with relativism", which is in the upper three levels of Perry's (1999) Schema. This exhibits a clear challenge for faculty members, and the potential need to re-evaluate the goals of the curriculum, to grow students from the first few levels of Perry's Schema to its upper reaches.

### **Teaching Techniques**

The literature identified four common themes for teaching critical thinking skills - focus on the student and classroom environment, facilitating discussion, modeling critical thinking, and instructor subject matter expertise.

**Focus on the student and classroom environment.** The classroom is an important component in teaching for critical thinking, setting the environment for the students to explore their beliefs and thoughts. Tsui (2002) describes the relationship that must be forged between the student and the instructor allowing students to find their voice, which in the context of this study permits students to challenge their own beliefs by considering other worldviews as they seek recommendations and solutions to the complex problems posed by the curriculum. Accordingly, this requires the instructor to be an active participant in the classroom pushing the students to refine their thinking skills. The faculty members interviewed were committed to improving the critical thinking skills of their students by creating a learning environment that challenged the students' paradigms and require that they "extend themselves", as one interviewee noted.

**Facilitated discussion.** This study exhibits congruency with Dike's (2001) research at a similar institution with faculty members relying upon small group facilitated discussion and questioning as the primary means for fostering critical thinking skills. The researcher found that instructors relied upon subjective observation of student discussions in class to determine whether critical thinking was exhibited. Quantitative results also showed that all faculty participants assess critical thinking by monitoring classroom discussions.

**Modeling critical thinking.** Modeling critical thinking demonstrates to students the degree of thinking they are working toward. Those interviewed described the questions posed to students, and how they attempt to have students think beyond the stated problem. The interviewees thought they modeled critical thinking to their students, and all believed that they exhibit critical thinking characteristics in the classroom.

**Instructor subject matter expertise.** Meyers (1986) and Willingham (2007) addressed the necessity of the instructor to possess expertise in the subject material. An interviewee described the credentials sought by the institution that focus on the instructor's operational experience, "...did you wear a uniform? Did you deploy? Did you ever do any real-world planning?" These qualifications, according to this instructor, provide the specialized experience needed to teach in the institution. Meyers (1986) suggested the experience allows the teacher to present all views encompassing the topic and provoking students to think more deeply about the subject.

The results of the research and the literature are generally congruous. Participants in the research evoke an understanding of critical thinking and an appreciation for teaching critical thinking skills. There did not appear to be much depth in critical thinking literature beyond Paul and Elder, but this did not seem to be a hindrance in the effort to improve the students' critical thinking skills.

### **Implications for Teaching for Critical Thinking**

The results of this study provide three considerations for graduate-level faculty to incorporate in practice facilitating critical thinking skills among students: incorporate Socratic questioning, model critical thinking, and faculty development.

**Socratic Questioning.** Two primary teaching techniques emerged from the study – small group facilitated discussion and questioning. One may presume that without effective questioning on the part of the instructor, facilitated discussion may not achieve the higher order thinking sought after in the curriculum. Those interviewed all described a method of questioning in the classroom, but only two specifically addressed Socratic questioning.

Facilitating small group discussion should include Socratic questioning to be successful. It must also be noted, based upon the results of the study, that time is necessary for reflection on the part of the student. To foster the critical thinking skills of students, instructors must be

proficient and effective in the teaching technique of Socratic questioning, and have time within the curriculum for students to reflect upon the issue or question posed.

**Modeling Critical Thinking.** The literature supports the assertion that faculty must be participants in the learning environment and model critical thinking for the students (Brookfield, 2012; Resnick, 1987). Whether through Socratic questioning or assisting the class through complex real-world planning exercises, the instructors described an environment where they acted as participants in the learning by modeling critical thinking skills to the student. Students observing the thinking process of faculty and peers may be encouraged to actively participate in the learning environment, which will have a positive effect toward learning and exhibiting critical thinking skills.

**Faculty Development.** A purposeful faculty development program exists at this institution intended to introduce new faculty to adult learning theory, critical thinking based upon Paul and Elder's (2009) universal intellectual standards and parts of thinking, and the experiential learning model. What became apparent in the interviews was that not all faculty are equipped to teach critical thinking skills, and noting that no job aid exists to assist faculty in how to teach for critical thinking. Another element emphasized is that there is no one checking on the effectiveness of the faculty member. To address the gap, it is recommended the faculty development program go beyond exposing new faculty members to the terminology and concepts of critical thinking, and address critical thinking pedagogy by offering the tools to successfully foster critical thinking skills among students. Second, implement a thorough system for evaluating classroom instruction and providing feedback to develop instructors in the pedagogy of critical thinking is necessary.

Finally, thinking takes time, and critical thinking requires that an individual set aside a period for reflection. This study revealed a frustration on the part of faculty that not enough time exists in the curriculum to allow for reflection, and to effectively teach critical thinking skills. The goal of the institution is to prepare military officers and equip them with the tools for the complexities they will face in the next five to ten years of their career. Arguably, the most valuable tool is their mind. The teaching of critical thinking skills serves to achieve, "The aim of education is precisely to develop intelligence of this independent and effective type – *a disciplined mind* [italics in original]" (Dewey, 1910/1991, p. 63).

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