AN INTERVIEW WITH STEPHEN REYNOLDS: BARRIERS TO CRITICAL THINKING

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1) Dr. Reynolds, you have just completed your dissertation on some of the barriers to critical thinking that teachers seem to see. What led you to examine this particular topic?

While working for the United States Air Force and the Department of Defense, one thing emphasized was the importance of thinking about a problem critically. Eight years ago, as an alternative licensure student, I listened intently as the premise of No Child Left Behind was explained to myself and other future educators. The very idea of teaching students to think critically, backed by a national directive to teach critical thinking, was inspiring. Teaching social studies in an alternative high school, I felt I had a perfect venue for inspiring students to think critically about the world in which they live.

Working in a rural school district, and completely naïve to the classroom realities of rural schools, I quickly abandoned any ideas to foster critical thinking within the classroom. I faced students who were reading at lower levels than average high school students within the district, numerous students who were English language learners, students who, because of their familial responsibilities were missing school to assist with the financial needs of their family, and a significant number of students with a variety of special needs. These aforementioned challenges are realities faced by many teachers working with students in rural school districts.

The realities of teaching in an economically challenged rural setting suddenly took precedence over the idea of teaching critical thinking in any way, shape, or form. There were challenges like a lack of current textbooks, emphasis on preparation for high-stakes testing, and the requirements to teach the mandated curriculum, which quickly took precedence over everything else. I found myself in survival mode, struggling to provide the "free and appropriate public education" (FAPE) required by law, while ensuring that each student was prepared for the requisite high-stakes testing at the end of the year. Further compounding this was the necessity of meeting the Individuals with Disabilities Act requirements and the Individual Education Plan (IEP) goals and objectives for those students with special needs.

Additionally, affecting my teaching challenges was the fact that I am teaching students in an alternative high school, most who struggle with contemporary teaching methods. Because the school is a "credit recovery" program, I teach one year in one semester. This advanced pace requires me to make decisions regarding what to teach so the students are prepared for the high-stakes tests. The concept of teaching critical thinking skills at the secondary level is not a reality in this environment.

The realities of life for these students overrode my desire to teach critical thinking, and national directives in accountability to do so. While it was possible to

meet with interested and motivated students before and after school, and provide special handouts in the classroom, I quickly realized that few students had the time necessary to take advantage of these pre and post school opportunities.

2) Basically what did you find out? What do teachers see as the MAIN barriers to teaching critical thinking?

The data showed that 92.6% of my respondents believed that critical-thinking skills are necessary for daily problem solving. This verifies the studies conducted by Paul et.al. (1997), and Ozkhan-Akan (2003). This also further verifies the findings in the Phi Delta Kappa/Gallup Poll in 2013 which showed the public supporting the teaching of critical-thinking in the schools (Kappa/Gallup, 2013).

Ninety-four point four percent of respondents specified that they felt a need to teach content, therefore, the emphasis on teaching critical-thinking skills was secondary to the content required by state assessments. However, with traditional schooling emphasizing rote memory, Gunn (2011) shows that this method of teaching fails to allow critical thinking. Sousa (2001) cites the pressures to cover an ever-expanding curriculum as a culprit to the teaching of critical-thinking skills. Respondents indicated that critical-thinking skills in students are underdeveloped, difficult for students to acquire, strengthen, and further develop the further they progress in education. Elder (2012) states that if higher level thinking skills are not developed over time, the use of those skills erodes throughout their academic careers.

Many teachers have additional responsibilities requiring time, which might have more judiciously been spent developing higher level thinking activities for their classrooms. This verifies the findings of Rogers & Mirra (2014), who cited the overabundance of extra-curricular activities that involve teachers. Seventy-three point two percent of teachers responded that they were unable to prepare activities to teach critical-thinking within their classrooms due to these extra-curricular commitments.

3) How well prepared do you think the AVERAGE teacher is to promote and teach critical thinking?

The data unfortunately showed that many teachers believe they were ill prepared for teaching critical-thinking skills prior to taking their first teaching job. The majority, 68.5%, thought that educational institutions failed to provide information on improving critical-thinking skills prior to their first teaching job. Research by Blumenfeld et.al. (1994); Carter (1990); Smylie (1998); Russell (1995); Wilson (1996); Woolfolk, Hoy, & Murphy (2001); and Richardson & Placier (2002) show that there is a severe lack in teacher preparation programs at the college level for teaching critical-thinking skills. The acquisition of critical-thinking skills does not occur naturally, it requires guided instruction (Sousa, 2001). Until the necessary tools for teaching critical-thinking are provided in preservice teacher education programs it is unlikely that students will acquire these skills naturally.

If teacher certification programs are not providing pre-service teachers with the necessary skills to elicit higher level thinking skills in students through

teaching strategies, and professional development does not provide access to materials or strategies to teaching critical-thinking strategies, one would hope that these skills would be provided through in-service programs. The data revealed that 53.7% of the respondents indicated that they failed to receive critical-thinking strategies, and the high and middle-schools failed to stress, critical-thinking in the classroom during their pre-service program. If critical-thinking is not emphasized in teacher education classes or professional development pre-service classes as a standard pedagogical strategy, it removes the focus for teaching deeper thinking within the classroom Richardson & Placier (2002). This leaves one avenue for the emphasis on critical-thinking, which is within in-service training.

The respondents in my dissertation showed that 57.4% believed that in-service programs failed to stress critical-thinking skills and the importance of developing them. While these are usually offered through the educational service centers in eastern New Mexico and southwestern Texas, it becomes an individual choice to actually participate in them. Most teachers are involved in department professional development classes, especially in eastern New Mexico, and unless they specifically deal with critical-thinking, the in-service programs are geared towards the goals of the school itself. That is, usually it is geared toward the improvement of classroom procedures, content teaching, response-to-intervention, and common-core competencies, not towards implementing critical-thinking strategies (Department, 2016).

4) Time constraints are always problematic---are teachers wanting a longer school day or longer school year? Or was this not investigated in your study?

While this was not investigated in my study, the time factor was addressed by many teachers. Many teachers have additional responsibilities requiring time, which might have more judiciously been spent developing higher level thinking activities for their classrooms. Teachers have additional duties such as mentoring new teachers, attending meetings for additional programs, developing additional skills on their own time, just to name a few. Combine these with the everyday responsibilities of the classroom -- contacting parents, grading, and developing lesson plans; the teachers believe there is little time for the development of activities for critical-thinking (Rogers & Mirra, 2014).

Respondent number 44 (no names are used due to confidentiality) reinforced this stated “In my mind the greatest barrier to improving critical thinking in classrooms is a lack of time. We have so much content to cover, and critical thinking requires looking at small chunks very deeply. Also, students want to just get the right answer and move on. It’s incredibly difficult to motivate them to look beyond the obvious.” (44). Respondent number 50 stated that schools were in transition from rote facts based instruction to integrated conceptual teaching and that many teachers lacked the training and experience to make the transition. As such, they lack the time and energy to examine curriculum content and present it in ways which foster growth of critical thinking skills. (50).

While the idea of expanding the school hours per day, or extending to a longer school year was not directly addressed, the problem appears to be the lack

of development of critical thinking skills, and the time necessary to teach those skills, thus expanding the school day would not necessarily correct the problems.

5) Did you focus on high school middle school or elementary teachers and why? When SHOULD teachers begin to teach critical thinking?

My focus was on high school and middle school teachers simply because that was the area with which I was concerned. With my experience teaching at the high school level, I was interested in how other teachers did, or did not, teach critical thinking and why. However, critical thinking should be taught as early as kindergarten, expanding upon the skills each year until graduation from high school. Those skills should be further expanded upon in college.

6) Global question- that may not have been addressed in your study--Are teachers spending too much time doing remediation, and does that take their time away from critical thinking instruction?

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This was supported by respondent number 36, who stated that content standards were too broad and too shallow. (36) Respondent 38 stated that "Due to the amount of content we have to cover, students' laziness, and bad home lives, we are typically unable to develop critical thinking skills. There are simply too many barriers to cross, and though I may try, critical thinking skills are underdeveloped in most students." (38). There were no significant differences of opinion between high school or middle school participants.

7) Do you differentiate at all between higher order thinking skills and critical thinking skills- and do teachers also know the difference?

Yes, there is a difference between higher order thinking skills, those of evaluation, synthesizing, analyzing, and creativity, and critical thinking which is the application, analysis, synthesis, evaluation, assessment, and reconstuction of knowledge (based on Bloom's taxonomy of educational objectives). Therefore, critical thinking skills is "… that mode of thinking – about any subject, content, or problem – in which the thinker improves the quality of his or her thinking by skillfully [applying,] analyzing, [synthesizing, evaluating], assessing, and

reconstructing it … Critical thinking is self-directed, self-disciplined, self-monitored, and self-corrective thinking" (Paul & Elder, 2007, p. xxiii).

"The term 'critical thinking' (CT) has become a catchphrase in education in this climate of high-stakes testing and accountability. While the key word in the real estate market is location, location, location; in education the key word is assessment, assessment, assessment" (Cole, Hulley, & Quarles, 2009, p. 1). Most standardized tests only test factual knowledge, rather than higher level thinking. Standardized tests are set up to be quickly scored via electronic means, thus there is only one correct answer. This eliminates the ability of the individual to evaluate, analyze, synthesize, and actually utilize critical thinking. However, with emphasis on Bloom's Taxonomy the recollection of facts are placed at the lower end of the spectrum of critical thinking skills while synthesis, analysis, evaluation and creativity reside at the top (Blooms, 1956). Application is in the middle. The mandated requirements of testing therefore often eliminates the teaching of critical thinking within the classrooom.

8) How did you get your data and how many subjects were used? And is there limited generalizability to your results?

There were fifty-four participants who responded to the survey, working in eight school districts across two states, resulting in a 17% participation rate, which allows us to extrapolate the data. The focus question of this study explore the opinions of teachers on perceived barriers to the teaching of critical thinking skills in the classroom. To answer these questions, the researcher utilized a forty-nine-question survey, that was emailed and completed on a voluntary basis to teachers from the school districts.

It is important to note that the framework of the administered survey came directly from educational studies conducted in Iran and Turkey (Ozkan-Akan, 2003; Aliakbari & Sadeghdaghighi, 2013). While educational systems are very dissimilar to those in the United States, the basic research questions were still applicable. Education is mandatory in both Iran and Turkey, with students receiving a free education for the first 12 years. The questions asked in the survey were pertinent to other educational settings, specifically those in the United States. The United States, provides a free and appropriate education to all students throughout high school (Education, 2010). The study conducted in eastern New Mexico and southwestern Texas was strictly voluntary.

The teachers in the school districts surveyed were in eastern New Mexico, and the southwest panhandle of Texas. While each state takes different forms of high-stakes tests, under different conditions, their success/failure rates are similar. These differences might result in a misleading interpretation of the results applied to a broader population of schools and students. The generalizability of the results of this study should be limited to the teachers in eastern New Mexico and southwest Texas panhandle area.

9) How would a typical school system, say in Texas - go about implementing whatever changes needed based on your research?

Due to the complex nature of critical-thinking, the finding from this study should be considered in conjunction with the context of the study. These findings represent the perceptions of educators from eastern New Mexico and the southwestern panhandle of Texas regarding the barriers to teaching critical-thinking within the classroom in light of the current pedagogical environment in each of these areas. Based on the findings of this study, conclusions can be made regarding the teaching of critical-thinking within the classroom for this contextually situated participant pool. From this study, the following implications emerged: administrator and principal implications, instructor implications, and policy maker implications. Each will be discussed in turn.

Administrators and Principals

This study is significant to administrators and principals who are attempting to provide students who are capable of fully functioning in society today. It provides the insight into the thinking and perceptions of teachers involving the teaching, or the lack thereof, critical-thinking within the classroom. Tieken (2013) states that in the wake of standardized testing and with the constant threat of school and district consolidation, providing an education that prepares individuals to function in society and the local economy is extremely important. Tieken (2013) also showed that school districts face the lowest funding and a limitation in educational technology availability. Further, absenteeism, poverty, single-parent families, and migrancy are on an increase in districts.

As such, it would be incumbent upon school districts to focus on development of critical-thinking skills throughout the school system to enhance the ability of their students to function within the local and global economy today.

This is incumbent upon the administrators and principals to review the data and observe where the over-dependence upon teaching curriculum is minimizing the teaching of critical-thinking skills.

By looking beyond the numbers to what the teachers are actually saying about the state of education today in the eastern New Mexico and southwestern Texas panhandle, administrators and principals can look at what the over-emphasis on curriculum is creating in their schools. While only using a limited study of fifty-four individuals from various schools, the frustration is apparent. The human capacity to gain insight and knowledge from another makes this study relevant for administrators and supervisors to understand the thinking and frustrations of their teachers, and could reduce the burnout rate currently seen in education today.

Instructor Implications

The teachers who participated in this study provided some interesting insights into their thinking regarding the teaching of critical-thinking in the classroom today. While they all admit the necessity of teaching critical-thinking, acknowledge that their classes are useful for developing critical-thinking, they still do not provide the teaching of critical-thinking in the classroom. Teachers should take it upon themselves to provide lessons which will enhance the teaching of critical-thinking skills within their lesson plans. These teachers can also take the

incentive to pursue the training they require to teach critical-thinking skills within their classrooms while still providing the content required to pass the standardized exams. The insight provided can assist other instructors in providing the necessary training, both pre-service and in-service, required to allow instructors the skills necessary to teach critical-thinking in the classroom.

Further, the participants provided significant insight into the frustrations in education today, within the covered region, regarding the current testing environment faced on a daily basis. The insights provided by the participants of the online survey give other teachers the opportunity to see the frustrations faced by all instructors today in the current educational environment from the eastern New Mexico and southwestern Texas panhandle. The frustrations revealed should allow other instructors the opportunity to see the prevalence of thought of their colleagues, thus possibly reducing the burnout rate currently seen in education today within these regions.

Policy Maker Implications

Finally, policy makers can use this study as a starting point to expand the understanding of the fallacy of reliance on the current testing environment within the eastern New Mexico and southwestern Texas. Policy makers can see the importance of teaching critical-thinking within the classroom. With the reliance today on the global economy, and the importance of being able to think outside of the box, providing the ability of students within their area to compete in this arena is a big plus to their constituents.

10) What have I neglected to ask?

Shapiro & Varian (1999) state that not only the United States economy, but the world economies are shifting from tangible goods to intangible or information goods. This economic shift is often referred to as a "Knowledge Economy," and has accounted for an increase between 40% to 45% of all workers employed in the United States as of 2004 (Brinkley, 2006, pp. 18,19).

Individuals without the ability to think critically are at a severe disadvantage in this type of economy as they are handicapped by the inability to apply, analyze, synthesize, evaluate, assess, and reconstruct available information. The requirement to analyze goes beyond the simple ability to restate the facts; it requires critically thinking about the information without bias as Paul (1990) states. Further, critical thinking allows for the focus on practices of deliberate instruction which develop "conscious social reproduction" shaping the political values, attitudes, and modes of behavior of future citizens (Gutmann, 1999, p. 17).

People who think critically make good citizens because they strive to uphold democratic ideals (Dewey, 1933). The U.S. political system depends on educated citizens and leaders who can think rationally. The ancient Greeks, who enjoyed a prototypical democracy, quickly found that an educated populace is necessary to prevent democracy from degenerating into mob rule (Dewey, 1933). This was echoed in Thomas Jefferson's stringent support of public education: "If a nation

expects to be ignorant and free, in a state of civilization, it expects what never was and never will be." (Thomas Jefferson as cited in Bergstedt, n.d., p. 3)

The purpose of this study was to explore teachers' perceptions of critical thinking and any barriers they perceive to teaching critical thinking within the classroom. These teachers have provided an insight into their perceptions of why critical-thinking is not being taught in classrooms today in eastern New Mexico and the southwest panhandle of Texas. Though this was a limited study of only 54 participants, a small picture of the educational system in these two regions of the country is presented. Through this study, and possible future studies, insight may be gained to allow the development of a pedagogy providing students with the capabilities they require to participate in the society of the future successfully.

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