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Implications for Critical Thinking in
Teacher Education**

Jody Piro
Gina Anderson



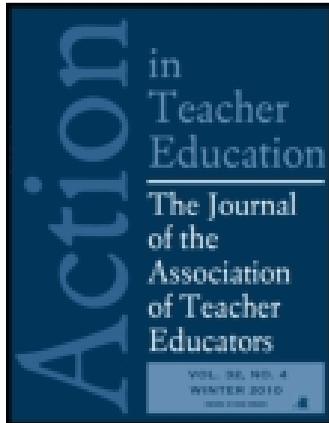
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Jody Piro^a & Gina Anderson^b

^a Western Connecticut State University

^b Texas Woman's University

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Discussions in a Socrates Café: Implications for Critical Thinking in Teacher Education

Jody Piro

Western Connecticut State University

Gina Anderson

Texas Woman's University

The purpose of this study was to benchmark the types of Socratic questioning that were occurring in a Socrates Café, an online discussion forum, in a graduate-level diversity course in teacher education. The Universal Intellectual Standards were used to analyze Socratic questioning. Results suggested that the nine Universal Intellectual Standards provided an exceptional deductive framework for understanding the types and frequencies of Socratic questioning occurring in the Socrates Café. The benefits of using a Socrates Cafe discussion for instruction to scaffold critical thinking are discussed and implications for teacher education are considered.

INTRODUCTION

Oliver (2001) suggested that critical thinking is a core learning goal for universities, and it is also central to the values of teacher education in that it promotes civil discourse and democracy in action for individuals and for the larger community. Valuing the democratic purposes of education may be considered a central tenant of teacher education and the ability to critically analyze positions in discussion is a necessary component of those values. These goals are consistent with John Dewey's (1916) educational aim, the cultivation of critical thinkers and socially responsible citizens.

Teacher education pedagogy can do much to facilitate spaces where students engage with difficult and contrasting ideas within civil discourse. To prepare students who are literate in multiculturalism and an inclusive society (Banks, 1996), the opportunity to participate in democratic learning opportunities must be created. Those educators who hope to create learning spaces that foster democratic values may do so by exploring difficult ideas through contemporary educational dialogue and engaging in deliberative discussions that bring students with diverse viewpoints together. Instruction that challenges stereotypes and assumptions is indispensable in student exchanges, yet without these facilitated instructional spaces, students may remain

Correspondence should be addressed to Jody Piro, Department of Education and Educational Psychology, Western Connecticut State University, 181 White Street, Danbury, CT 06810. E-mail: piroj@wcsu.edu

insulated in comfort zones that perpetuate stereotypes, shade interpretations of social interactions, and exaggerate differences between groups of people (Naudé, 2011, 2012). Purposeful and deliberative pedagogies may accomplish communication across these differences. Linda Darling-Hammond (1996) stated:

America's capacity to survive as a democracy . . . rests on the kind of education that arms people with an intelligence capable of free and independent thought . . . that helps people to build common ground across diverse experiences and ideas . . . that enables all people to find and act on who they are, what their passions, gifts, and talents may be, what they care about, and how they want to make a contribution to each other and the world. (p. 5)

Recent research indicates critical thinking to be a significant area of improvement needed in preparing preservice and in-service teachers for increasingly diverse classrooms (Gorski, 2009). Critical thinking as a common instructional aim in teacher education has broadened to pedagogies supported by asynchronous online discussion boards (Yang, Newby, & Bill, 2005, 2008). Instructors hold aspirations that their students will apply critical analysis to their own thinking and that of their peers in discussion forums. E-learning environments show promise for encouraging critical thinking (Thomas, 2002), and collaborative student learning is supported by social constructivists who maintain that learning does not occur in isolation (Vygotsky, 2006). Yet students often use fallacious logic within their arguments and discussion forums can become repositories of distorted thought.

As a proponent of critical thinking and civil discourse, Christopher Phillips (2001) originally established Socrates Cafés by creating open-invitation discussion groups in coffee shops and libraries and by investigating open ended questions with participants, such as “What is justice? What is good? What is courage?” (Phillips, 2011). The same process can be implemented in online environments as well. As part of a Socrates Café, open-ended Socratic questioning by instructors and students may scaffold the critical thinking of complex educational issues (Elder & Paul, 2008; Golding, 2011; Knezic, Wubbels, Elbers, & Hajer, 2010; Paul & Elder, 2007). The purpose of this study was to benchmark critical thinking that was occurring in a Socrates Cafe by way of Socratic questioning in an online discussion forum and to explore the implications for teacher education.

APPROACHES TO CRITICAL THINKING

For the purposes of this article, we explore the connection between diversity curricula and critical thinking. We examined the vast literature on critical thinking within the context of the study. Lai (2011) found several approaches to critical thinking bound in the philosophical, educational, and psychological disciplines (Lewis & Smith, 1993). All three approaches to critical thinking are addressed as they intersected with the study, along with measures of critical thinking and approaches to critical thinking in online or hybrid class formats.

Philosophical Approach

The philosophical approach to critical thinking, a system that emphasizes “reflective and reasonable thinking that is focused on deciding what to believe or do” (Ennis, 1985, p. 45) and

“disciplined, self-directed thinking that exemplifies the perfections of thinking appropriate to a particular mode or domain of thought” (Paul, 1992, p. 9) is an outcome of this approach. The philosophical approach to critical thinking may be found in the works of Socrates, Plato, Aristotle, and, more recently, Richard Paul and Linda Elder (Lai, 2011). The philosophical approach to critical thinking promotes the notion that broad critical analysis skills may be taught that are independent of content and cross subject domains. It is representative of Scriven and Paul’s (1987) definition of critical thinking as:

intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. In its exemplary form, it is based on universal intellectual values that transcend subject matter divisions. (para 2)

Paul and Elder (2007) suggested that humans regularly perceive truths and untruths in ways that do not reflect reality. Humans do not naturally grasp the truth but see things as they want to see them. It is this distortion in thinking that led Elder and Paul (2007) to create standards for thought, “standards we can count on to keep our thinking on track, to help us mirror in our minds what is happening in reality, to reveal the truth in situations, to enable us to determine how best to live our lives” (p. 3). When students sharpen their critical thinking skills, they create meaning by using sound logic rather than fallacious assumptions (Paul & Elder, 2007). Universal Intellectual Standards (Elder & Paul, 2008) offer a structure for this process.

Universal Intellectual Standards (Elder & Paul, 2008; Paul & Elder, 1996; Paul, 2008) advance a framework for structuring critical thinking within the philosophical approach to critical thinking. Elder and Paul’s (2008) nine Universal Intellectual Standards are clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness. These standards may be applied for assessing the quality of reasoning about a problem (Elder & Paul, 2007). In this approach, critical thinking skills may be applied regardless of the content and are viewed as interdisciplinary aptitudes.

The philosophical approach is a style of critical thinking that idealizes a person who is inquisitive in nature, open minded, flexible, fair minded, has a desire to be well informed, understands diverse viewpoints, and is willing to suspend judgment to consider other perspectives may be considered philosophical in approach (Facione, 1990). This style of critical inquiry advances thinking that meets “standards of adequacy and accuracy” and “thinking that is goal-directed and purposive . . . thinking aimed at forming a judgment where the thinking itself meets standards of adequacy and accuracy” (Bailin, Case, Coombs, & Daniels, 1999, p. 287).

The philosophical approach to critical thinking focuses on the student’s ability to logically analyze arguments rather than solely on the teacher’s content expertise (Plato, Hamilton, & Huntington, 1961). For example, Socrates assisted students by employing questions, dialogue, and rebuttal for critically analyzing their understandings and misunderstandings of issues. This form of pedagogy begins with an open-ended question that proceeds to student response. It may be the instructor or other students who pose additional questions, furthering the analysis and discussion outcomes. Through the questioning process, students learn to recognize their own limitations in content and in analysis, thus leading to an expanded critical thinking. The professor’s role is facilitative in nature. The professor gently probes students’ responses and guides students through controversial issues (McAvoy & Hess, 2013). The ultimate purpose is enlarged personal understandings of difficult educational issues through social and situated learning.

Educational Approach

Educational approaches to critical thinking encompass varying lenses, psychological and philosophical. A hierarchical taxonomic approach to information processing skills (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956) is widely used in educational circles to encourage the higher order thinking skills of synthesis and evaluation. Some have faulted Bloom's Taxonomy for its vagueness (Ennis, 1985) and others for lack of reliability (Sternberg, 1986). Still, the notion of applying instructional interventions to scaffold critical thinking undergirds the educational approach.

Although higher education instructors have pedagogical hopes for critical thinking in their courses, some researchers have suggested that increased critical analysis in classrooms rarely occurs without instructional assistance (Abrami et al., 2008; Case, 2005; Facione, 1990; Halpern, 1998; Hew & Cheung, 2003; Landsman & Gorski, 2007; Paul, 1992). In teacher education, critical thinking may be viewed as an interdisciplinary form of expression for multiple content areas. Further, it may be asserted that using a framework for scaffolding critical thinking in teacher education will increase the probability of a desirable outcome (Halpern, 1998). Knezic et al. (2010) examined empirical research (i.e., Griessler et al., 2004; Parkinson & Ekachai, 2002; Pihlgren, 2008; Yang et al., 2005) to explore the use of the Socratic method in teacher education. Additionally, use of Socratic questioning (Elder & Paul, 2008; Golding, 2011; Paul & Elder, 2007) has been suggested for enhancing critical thinking in classrooms.

Assessing critical thinking in educational contexts poses some challenges. The debate over whether critical thinking skills may be taught in general or whether they are content specific (Case, 2005; Ennis, 1989; Lipman, 1988; Silva, 2008) is related to instruments that measure critical thinking in general versus specific, domain-oriented measures. There are multiple assessments for measuring students' critical thinking, including: The California Critical Thinking Skills Test (Facione, 1990), the Cornell Critical Thinking Tests (Ennis, Millman, & Tomoko, 2005), the Ennis-Weir Critical Thinking Test (Ennis & Weir, 1985), and the Watson-Glaser Critical Thinking Appraisal (Wilson & Wagner, 1981). A criticism of these measurements is that they are general critical thinking tests and are not situated and contextual or subject specific (Kennedy, Fisher, & Ennis, 1991). Furthermore, they are not necessarily designed for online environments.

As educational arenas embrace technology for pedagogy, online discussion forums have been touted as a means for engaging students in critical thinking at various levels of education (MacKnight, 2000; Perkins & Murphy, 2006; Trufant, 2003; Yang et al., 2008). At the K-12 level, using the Internet has been suggested for increasing critical thinking (Kurubacak & Gonzales, 2002; Salpeter, 2003), but critical thinking in these contexts has focused mainly on information validity and literacy, whether online sources have valid information.

Cognitive-Psychological Approach

The ability to problematize issues and understand the perspectives of others is a particularly significant outcome for critical analysis. The cognitive-psychological practice for increasing critical thinking emphasizes "seeing both sides of an issue, being open to new evidence that disconfirms your ideas, reasoning dispassionately, demanding that claims be backed by evidence, deducing and inferring conclusions from available facts, solving problems, and so forth" (Willingham,

2007, p. 8). The cognitive-psychological approach to critical thinking emphasizes people's actual actions and outputs, rather than the merely idealized expressions of critical thinking which typify the philosophical approach. This perspective for increasing critical analysis may be found in the frameworks and taxonomies that this approach promotes for assessing the production of critical thinking. The cognitive psychological approach to critical thinking suggests that behaviors or skills that imply critical thought may be determined (Lewis & Smith, 1993) and that the use of "skills or strategies that increase the probability of a desirable outcome" (Halpern, 1998, p. 450) may be measured by frameworks intent on increasing critical thinking. The analysis of the data through a framework is suggestive of a cognitive psychological approach (Lai, 2011). Reflecting the cognitive-psychological approach to measuring critical thinking, data in this study were analyzed through a taxonomic structure, the Universal Intellectual Standards.

Philosophical, educational, and cognitive science approaches to critical thinking literature each influenced the development of this study. Socratic dialogue and questioning has shown promise in cultivating critical thinking. However, research that measures critical thinking via Socratic questioning or that provides a framework for their enhancement in contextual and domain-specific online environments, such as teacher education, warrants further investigation. The lack of research in the assessment of online, subject-specific measures of critical thinking provided the impetus for the inquiry into Socrates Café online discussion as an instructional tool in teacher education.

THE SOCRATES CAFÉ

The Socratic method has found novel form in a new expression, the Socrates Café. A Socrates Café "reveals people to themselves" and "makes them see what their opinions really amount to." In that the true philosopher "helps to inculcate men and women against the seductive half-truths of sophists," the Socrates Café "is not so much a search for absolute truth and certainty as it is a quest for honesty" (Phillips, 2001, p. 53). A Socrates Café promotes reflection, reconceptualization of taken-for-granted notions, and perspective building. A full discussion of our Socrates Café follows.

An online discussion forum, the Socrates Café, served as the construct for the expression of critical thinking in this study. This construct was chosen to facilitate critical analysis of the issues so that students might increase their awareness of Socratic questioning by examining their own and other students' written expression. The instructors' role in the online Socrates Café was to develop opportunities to interact and pose Socratic questions in a process-oriented search for students' own reflective conceptions of taken-for-granted assumptions about current issues and to develop their understanding of those issues.

Our Socrates Café parallels a pragmatic philosophical forum in that discussion topics are related to the participants' own lives as educators (Pamerleau, 2014). We situate our Socrates Café in Parker and Hess's (2001) typology of discussion where the purpose of a Socratic seminar is to reveal the world with greater clarity and nuance to the participants. In that we require a textual grounding for analysis, our Socrates Café resembles a Socratic seminar, whose purpose is to increase students' powers of understanding, or what Adler (1998) termed "enlarged understandings," through the application of content and reading to open-ended questions. This requirement focuses on a disposition of scholarliness and use of text through readings to inform

the participant's dialogue in text. Like Phillips' (2001) Socrates Café, we explore big questions in an open-forum style discussion.

We also differentiate our use of Socrates Café from traditional discussion and public Socrates Cafés. The Socrates Café in this study is not face-to-face or synchronous whereas the forum of traditional Socratic seminars and Socrates Cafés tend to be face-to-face in organization. Our Socrates Café diverges from Socratic seminar in that the purpose is more political and agency oriented than the Socratic seminar, which has no specific outcome rather than increased understanding (Parker & Hess, 2001). The Socrates Café results in a clearer understanding of issues that emerged from the Socratic seminar and then culminates in a course of action. In the case of the participants, this action may result in integration of the principles of diversity and democracy into classrooms. Unlike a public philosophy forum where participants come of their own volition and shape the flow of discussion in entirety (Pamerleau, 2014), in the study Socrates Café, "attendance" in the online forum is required. Although Phillips' Socrates Café (2001) and other public philosophical discussions are not evaluated by the facilitator or participants, and in fact, all participant responses may be given equal measure, our Socrates Café was evaluated by using the Intellectual Standards (Elder & Paul, 2008) as a framework for taxonomic analysis of Socratic questions. The nine Universal Intellectual Standards (Elder & Paul, 2008) known as clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness were used to scaffold critical thinking and to develop Socratic questions during the discussion, as well as to assess their use at the conclusion of the activity. Guidance by and assessment with the Universal Intellectual Standards differentiates the Socrates Café used in this study from forums of discussion grounded in public philosophy (Pamerleau, 2014).

METHOD

This inquiry was located within teacher-researcher methodology (Cochran-Smith & Lytle, 2009). The research context was the online discussion posting from the teacher-researchers' course and critical thinking via Socratic questioning in the online discussion was identified as the area of inquiry (Mills, 2003). The purpose of this study was to benchmark the types of Socratic questioning in an online Socrates Café. The research questions were "When Socratic questioning occurred in the Socrates Cafe, what were the types and frequencies of questioning that were employed? What were the implications for scaffolding critical thinking instruction in online and hybrid environments in teacher education?"

Background and Theoretical Framework of the Context

As professors who coteach a graduate-level teacher education course on diversity, the researchers regularly engage in critical conversations about pedagogical practices. The conversations support and challenge the continued practice of fostering students' critical analysis. We vacillate between the acts of constructing, affirming, deconstructing, and rejecting our practices in iterative cycles; a constant situating and repositioning of ourselves and others within the context of the work of teaching a diversity curriculum. This ongoing process led to the creation of the Socrates Café in an online discussion forum that asked students to use Socratic questioning to investigate their own and peers' lines of analysis with the goal of increasing critical thinking. This study served to benchmark that attempt.

Sociocultural and situated learning theories framed this graduate, diversity course in teacher education, revealing the reciprocal nature of teaching and learning. Socrates Café discussions require students to apply critical thinking and Socratic questioning, which are considered higher ordered skills, within an online, social setting. The application of these skills does not occur in a vacuum. Rather, sociocultural theory conveys that learning occurs through social interaction with self, others, and the community within specific contexts (Vygotsky, 2006). As students engage with the course content and readings, reflect upon their own diversities and experiences, and discuss the connections and disconnections of these topics and experiences with others within a taxonomic form of scaffolded instruction, new meanings and understandings may emerge.

Situated learning theorists similarly posit that learning occurs as a function of the activity, context, and culture (Korthagen, 2010). Sociocultural and situated learning are social, cultural, and contextual that suggests human development and social interaction are interconnected and cannot be divided. Socrates Café discussions provide the opportunity for authentic investigations of diversity topics with student colleagues, rather than in isolation by individuals, which is often required for traditional types of assignments. In essence, the real-world context of the diversity topics, the social interactions created in the Socrates Café discussion boards, and the framework used to help scaffold the critical thinking instruction create opportunities for learning. Sociocultural and situated learning structures complemented the context that situated this inquiry—an online discussion forum titled Socrates Cafe within a diversity course in teacher education.

Context of the Study

The context of this study was in one diversity course within a required graduate teacher education program with students in preservice and in-service teacher education programs. The goals of the course included understanding the conceptual and philosophical issues of diversity in schools; issues of discrimination, bias and equity surrounding students with diverse needs; issues concerning multicultural, pluralistic, and global education; issues of nontraditional families; the impact of specific types of diversity on teaching and learning including race, ethnicity, culture, socioeconomic status, language, religion, gender and sexual orientation, cognitive differences, ableness; multicultural curriculum and culturally responsive teaching; and assessment issues related to students from diverse backgrounds.

Diversity pedagogies construct visions of possibility for students and society. These pedagogies focus on the intersection of power and knowledge and oppose social, economic, and political formations that limit or reduce individual or collective visions of the future (Cushner, McClelland, & Safford, 2012; Lusted, 1986). Social justice pedagogies were embedded in the diversity course, constituting a focus on power relations as essential to pedagogy (McLaren, 2007). The application of social justice pedagogies and the facilitation of our students' critical analysis of intersections of power, privilege, and the social constructions of knowledge prompted an instructional decision to scaffold critical thought within the course.

The Socrates Café

The diversity course utilized an online Socrates Café discussion with Socratic questioning as scaffolding toward the goal of critical inquiry. Through online resources, use of a Socrates Café and

Socratic questioning were introduced and facilitated in the online forum. An ungraded practice Socrates Café discussion was modeled initially. A model prompt is demonstrated below:

Read Peggy McIntosh's *White Privilege* located in the corresponding thematic unit. Discuss the connections/disconnections you made to the article and any impressions it made upon you. Regardless of your race or ethnicity, describe any actions or events you may have encountered or from which you have benefitted based on McIntosh's reference to this "invisible package of unearned assets."

Following the instructor prompt, students engaged in the online discussion and the professors gave written feedback to the students. After that, the professor-researchers provided initial topics or questions related to course readings, which then provided a springboard for students to organically write original and reply postings. These resources were the only interventions provided to students. The professor-researchers did not offer any subsequent subject for discussion, and all postings were made by students in the course. Students wrote original and response postings each week within a 15-week semester to issues within the class based upon readings, interests, or current events. Sample student postings, which occurred through semester-long diversity courses, included content related to globalization, prejudice, discrimination, immigration laws, and religious diversity.

Data Collection and Analysis

This study involved a data-collection system consisting of postings within a required online discussion forum titled, *The Socrates Café*, through Blackboard, a learning management system. The postings from approximately 70 students in two sections of the course were analyzed for two subsequent semesters. Data were collected throughout the semester and were selected based upon the following criteria: an original posting or reply that demonstrated at least one Socratic question; and postings were selected at multiple points in time throughout the semester. Although the coding structure for the reading of the online forum postings was taxonomic, the analysis of the qualitative data was grounded in a constructivist approach (Denzin & Lincoln, 2005), as was the researcher reflexivity of the data collection and analysis (Kleinsasser, 2000). Both professor-researchers engaged in the collection and analysis of the data. The professor-researchers analyzed a selection of 48 original postings and 143 student replies for a total of 191 Socratic questions. None of the data were retouched for grammar or syntactical purposes.

The data were analyzed using a directed content analysis approach (Gall, Gall, & Borg, 2008; Hsieh & Shannon, 2005) with a structured deductive reading (Kyngas & Vanhanen, 1999) through an already identified situated framework. Socratic questioning within a *Socrates Café* forum was coded for level of Universal Intellectual Standard. We used Elder and Paul's (2008) nine Universal Intellectual Standards: clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness. The taxonomy was used in much the way it was created, to structure the participants' thought processes away from complete egocentric thinking—"It is true because I think it is true. It is true because I have always believed it. It is true because it is in my selfish interest to be true" (Paul & Elder, 2007, p. 9) with the purpose being "to become infused in the thinking of students, forming part of their inner voice, which then guides them to better and better reasoning" (Paul & Elder, 2007, p. 10). The use of the taxonomy for the purposes of benchmarking Socratic questions in teacher education is a novel use of the standards. [Table 2](#) demonstrates the

TABLE 1
Research Method

Research questions	When Socratic questioning occurred in a Socrates Cafe, what were the types and frequencies of questioning that were most often employed? What were the implications for scaffolding critical thinking instruction in online and hybrid environments in teacher education?
Data collection	Archival online Socrates Café postings from one year of a diversity class in a teacher education curriculum.
Data analysis	Deductive directed content analysis: Taxonomic using the Intellectual Standards (Elder & Paul, 2007).
Trustworthiness	Peer debriefing; inter-rater agreement.
Limitations	Nongeneralizable; narrowing of data through construct.

Universal Intellectual Standard, the type of Socratic question that was coded for a standard, and the frequency of that type of Socratic question.

The coding decisions were based upon the situatedness and contextual nature of the content of the postings. The coding decisions reflected a more holistic analysis of the entire flow of student contemplation within the discussion board rather than the single, atomistic posting, itself. Trustworthiness was addressed by using peer debriefing (Marshall & Rossman, 2010) through ongoing data chats. Inter-rater agreement of coding was enhanced through the data chats between the researchers. Practice in the use of the taxonomy prior to and throughout the analysis further strengthened trustworthiness. Institutional Review Board protocols were observed. Table 1 summarizes the research methods.

RESULTS

When students sharpen their critical thinking skills, they create meaning by using sound logic rather than fallacious assumptions (Paul & Elder, 2007). Universal Intellectual Standards offered a structure for this process. The nine standards were used to code Socratic questioning events within the Socrates Café. In general, varying types of Socratic questioning were found within the online Socrates Café. The highest frequencies of postings ($n = 51$) were coded at Intellectual Standard Five-Depth and Intellectual Standard Nine-Fairness ($n = 35$). The Universal Intellectual Standards with the least amount of postings within the online Socrates Café forum were Intellectual Standard Seven-Logic ($n = 4$) and Intellectual Standard Six-Breadth ($n = 9$). The following table, modified from Elder and Paul (2008), lists the Intellectual Standard the types of questions that would identify the Socratic Question at that level, and the frequency of Socratic questioning coded for each Intellectual Standard.

Analysis of Socratic Questioning Through the Universal Intellectual Standards

In this section of the results, examples of Socratic questioning types as they were analyzed from the data are provided. Adhering to the organization shown in Table 2, we demonstrate representative postings that were coded at a Universal Intellectual Standard and the types of Socratic questions that were created within that posting.

TABLE 2
Standards, Types, and Frequencies of Socratic Questions

<i>Level of intellectual standard</i>	<i>Types of Socratic questions asked within the posting</i>	<i>Frequency of Socratic questioning</i>
Standard One- Clarity	Could you elaborate further? Could you give me an example?	19
Standard Two- Accuracy	Could you illustrate what you mean? How could we check on that? How could we find out if that is true? How could we verify or test that?	22
Standard Three- Precision	Could you be more specific? Could you give me more details? Could you be more exact?	17
Standard Four- Relevance	How does that relate to the problem? How does that bear on the question? How does that help us with the issue?	26
Standard Five-Depth	What factors make this a difficult problem? What are some of the complexities of this question? What are some of the difficulties we need to deal with?	50
Standard Six-Breadth	Do we need to look at this from another perspective? Do we need to consider another point of view? Do we need to look at this in other ways?	8
Standard Seven- Logic	Does all this make sense together? Does your first paragraph fit in with your last? Does what you say follow from the evidence?	4
Standard Eight-Significance	Is this the most important problem to consider? Is this the central idea to focus on? Which of these facts are most important?	11
Standard Nine-Fairness	Do I have any vested interest in this issue? Am I sympathetically representing the viewpoints of others?	34
Total Socratic Questions	<i>N</i> = 191	

Intellectual Standard One-Clarity

Within a discussion on religious diversity a student wrote about deciding how to best address diverse celebrations, such as Kwanza, Christmas, and Eid. She asked, "How do I, as the teacher, address varying celebrations in my classroom?" In a follow-up reply, a fellow student continued her line of inquiry. She suggested that celebrations should be a learning activity not a worship experience and followed up with another clarity question, "Do you think that is a clear enough distinction between the two instructional activities?" A third student asked, "Can you clarify what you mean by teaching celebrations?" These questions in this context were coded as Intellectual Standard 1-Clarity, in that each sought elaboration from peers.

Intellectual Standard Two-Accuracy

Within a discussion on Alabama's immigration law, two students questioned the sovereignty of state law that they felt was unfair to the immigrants in that state. One student asked, "Can citizens from other states influence a state decision such as this one?" Another student posed the question, "As teachers, would we be legally bound to provide student names of those we suspected were residing illegally?" In the context of quality of education and level of crime, a student questioned other students by stating, "Crime is not something that we inherently value," then went on to question, "if this is indeed true, how does education encourage us against crime? Is it because more education reduces our desire for crime because we earn more money?" Each of these Socratic questions was coded at the level of Intellectual Standard 2-Accuracy, in that each asked other students to consider how one can determine the veracity of contentions.

Intellectual Standard Three-Precision

In the context of a discussion of the responsibility that teachers have in the affective and cognitive domains, a student maintained that the philosophy of progressivism combines the affective and cognitive domains of education and teaches real-world skills. A fellow student posted a Socratic question, asking for more precision for this contention, by using Intellectual Standard 3-Precision: "Can you be more specific? Can you give examples of skills that students would be taught by progressives?" In the context of a discussion of a news release that a high school student was not allowed to attend her prom because her date was female a student asked another student for clarification on why she agreed with the school board cancelling the event. The student asked, "Can you offer some clarification or more details on why you argue that cancelling the prom was the wisest decision? Isn't the way to solve the issue to improve tolerance and understanding?"

Intellectual Standard Four-Relevance

In a discussion on setting expectations for students, an original posting discussed her parent's disciplinary choices for her siblings by questioning the relevance, Intellectual Standard Four, of expectations on the outcomes of each sister and how the different expectations had impacted their lives: "If the same expectations had been set for my sister than for me, would the outcome have been any different for them?" The relevance of globalization on education was discussed, with the context specifically addressing the outsourcing of goods and services to other countries for cost savings. The student making the original post asked, "Do you think that the same factor of globalization influences the institutions of education?"

Intellectual Standard Five-Depth

In an original post addressing the a priori contentions of the textbook (i.e., studying diversity is good; it will create a better educational system), a student making an original post examined the inherent difficulty and complexity of the notion of diversity curricula by using Intellectual

Standard Five-Depth. She asked peers to question, “What is a ‘better’ educational system? What makes a ‘better’ person? What is this ‘good’ end toward which we are striving by studying diversity?” Another student, addressing the inherent complexity of this issue asked, “Where would we start as classroom teachers?” This last question addressing the depth and complexity of the issue was coded at Intellectual Standard 5, rather than just looking for clarification, which would suggest Intellectual Standard One.

Intellectual Standard Six-Breadth

Examples of breadth were found in two different discussions; one regarding a PBS *Frontline* show focusing on a teacher’s hands-on lesson on racial discrimination, and one on the benefits of collaborative teaching and learning. For the former discussion, a student posed the original question, “Could schools include other issues of discrimination besides race, such as gender, sexual orientation, classism, ableism, etc. in similar types of lessons?” For the latter discussion, a student posed the original question, “Is collaborative work always the best idea or could competition or individual teaching and learning also yield positive results?” Both Socratic questions were coded as the Intellectual Standard Six—Breadth, because of their comprehensive nature and attention to multiple viewpoints.

Intellectual Standard Seven-Logic

The Intellectual Standard of logic was noted in a discussion on recent immigration laws viewed as punitive based on several students’ previous posts. A student claimed she was playing devil’s advocate when she posted the reply questions, “Are we all suggesting that it’s okay to turn our heads on one thing that is illegal and not another? Should all law breaking situations be treated differently, then? How do we discern what is okay to turn our heads at and what is not?” Her line of questioning indicated she was concerned with consistency and the elimination of contradiction.

Intellectual Standard Eight-Significance

One discussion investigated the context of assumptions such as the Amish not valuing education or diversity. According to a student’s viewpoint, many Amish people assume this stance because, according to her statements, most Amish never go to school beyond the eighth grade, marry within their own faith, and often shun the social and economic influences of the dominant culture. Follow-up Socratic questions that were posted from a second student included, “Does their society suffer because it does not share these same ideals? Or, would the acceptance of these ideas cause their society to suffer? Do the actions (or inactions) of a self-contained society affect those who aren’t a part of it?” A third student responded with additional questions of her own,

I wonder, is a public-schooled American with a PhD held in higher esteem by his/her community than a respected Amish elder within his community? Perhaps the ‘education’ valued by the Amish is a different type of education than a structured public institution’s curriculum?

These response questions were coded as Intellectual Standard Eight due to awareness of what constitutes significance or substantial meaning to the issue at hand; whether the Amish value education and diversity.

Intellectual Standard Nine-Fairness

An ongoing discussion of deconstructing arguments from the textbook led to the questions, “Is there common knowledge or a majority moral principal we all share as humans? What is the definition of a ‘better’ way of living that education ensures?” A student replied with the following additional questions, coded as Intellectual Standard Nine-Fairness, which indicated she was concerned with the viewpoints of others rather than privileging her own position, “What is considered common knowledge? Who gets to decide this? What is morality, and who draws the lines? Are we talking about religious morality or human instinct morality? Is there a ‘better’ education that exists? If there is, what makes it ‘better’?”

DISCUSSION OF RESULTS

In this study, an online Socrates Café structured our inquiry into critical thinking in an online discussion. The nine Universal Intellectual Standards provided an exceptional deductive framework for understanding the types and frequencies of Socratic questioning occurring in the Socrates Café. The standards relating to depth, relevance, and fairness represented the most utilized standards. The standard relating to logic was used least often in the Socrates Café.

We found it interesting to discover which levels of Universal Intellectual Standards were applied more often than others. For example, the Intellectual Standard Seven-Logic was coded less frequently than other standards. The nature of the course content or teacher education discipline may have played a part in the lower frequency level of this standard. Diversity studies, especially in the field of teacher education, often focus on equity and social justice issues. Ethical dilemmas that challenge the definitions of what is legal and what is ethical are common. The difference between what is equal, equitable, and fair is often debated, as well. More often than not, issues are problematized rather than simplified, as multiple perspectives are valued over one ideology. Thus, it may be that certain intellectual standards are more meaningful to this field than in others (Elder & Paul, 2008). The content of diversity curricula often requires a complexity of thought that exceeds a binary analysis of the issues. The questions that demonstrated the intellectual standards of depth and fairness reaffirm the contextualized nature of the discipline. Critical thinking via Socratic questioning may be contextual, content driven, and domain specific (Bailin, 2002; Willingham, 2007).

The Universal Intellectual Standards for creating defined categories of critical thinking based upon the production of Socratic questioning were found to be beneficial for understanding the types and frequencies of questioning that were being produced in an online discussion forum called the Socrates Cafe. Socratic questioning is assessed by the Universal Intellectual Standards within a Socrates Cafe for the pedagogical goal of enhancing critical thinking holds promise for practice. The main limitation to the study is that it is contextual and non-generalizable to a wider population.

Implications

If, as the results suggest from this contextual study, a Socrates Café that employs Socratic questioning structured through the Universal Intellectual Standards scaffolds critical thinking

instruction, there are theoretical and practical implications for teacher education. Scaffolded critical thinking instruction in online teacher education courses has far-reaching implications toward a much broader, pedagogical goal. Socrates Café online discussions in this study invited participants to engage with issues that surpassed the self and connected with larger societal problems, which therefore has the potential to enhance civil discourse necessary in a democratic society. Critical thinking as a pedagogical goal may be perceived within the larger objective that teacher educators often have for their students, creating a reflective practice (Schön, 1983). Establishing a community of critical discourse surrounding educational issues by engaging with contrasting ideas, assisting others to view perspectives outside of their own frameworks of thought, and insisting on using evidence support one's contentions enhances democracy in action (Dewey, 1916). Critical thinking by way of Socratic questioning within the Socrates Café supports the combined accumulation of individual and community growth. Civil discourse as a value in a democracy is an outcome when individuals and communities use critical thinking to examine difficult issues.

The interactions with others as a result of the Socratic questions and dialogue stimulates a transcendence of the self and further improves the "habits of mind" (Meier, 2002) necessary for the interpretive element of thinking. Discussions in Socrates Café are contextually situated and spring from the participants' own social, cultural, ethnic, and gendered experiences. This approach is consistent with the sociocultural and situated theoretical foundations of the Socrates Café discussion and the research, itself, and teacher educators interested in grounding their practice in these foundational values may find benefit in Socrates Café discussions.

If critical thinking skills may be taught then there are considerations for practice as well (Halpern, 1998; Kennedy et al., 1991). There are several practical instructional interventions that teacher educators may consider to promote the use of Socratic questioning for critical thinking within online or hybrid courses. A first level of intervention might include an explicit lesson (Ennis, 1989) using the framework of Universal Intellectual Standards. Supporting visual and reading materials within the online electronic forum may be provided and an open-ended, domain specific question(s) may guide the Socrates Café. The questions should be grounded in the content and reflect actual problems in educational settings (Halpern, 1998). This intervention stems from the cognitive science position that students require "deliberate practice" (Van Gelder, 2005) in the actual experience of critical thinking and questioning. As some online formats require one or more traditional instructional meetings, a second-level intervention to support Socratic questioning might include a face-to-face Socrates Café lesson that would be fashioned upon the online forum. In the lesson, students would address content related to the class in a collaborative grouping environment and analyze the types of Universal Intellectual Standards they discovered within their dialogue (Anderson & Piro, 2013). This intervention addresses a collaborative approach to teaching critical thinking (Abrami et al., 2008; Heyman, 2008; Paul, 1992) and a domain-specific approach to critical thinking (Bailin et al., 1999; Lipman, 1988; Silva, 2008). The course content serves as the lens for the collaborative and critical thinking process. Using a general approach to critical thinking instruction through a framework, such as the Universal Intellectual Standards, and Socratic questioning within a course-specific curriculum, supports the mixed method of teaching critical thinking that suggests that instruction integrating critical thinking into domain specific academic content and teaching general critical thinking skills (Lai, 2011, p. 32) has the largest effect-size for increasing critical thinking through instruction (Abrami et al., 2008).

An instructional approach for increasing critical thinking through collaborative discussion is established in Piagetian and Vygotskian traditions (Lai, 2011). Piaget's notion of cognitive conflict in learning and Vygotsky's zone of proximal development suggest that working with more capable peers or adults has instructional value (Dillenbourg, Baker, Blaye, & O'Malley, 1995). Collaboration works best when it is scaffolded (Nelson, 1994), such as in a Socrates Café that uses the Universal Intellectual Standards for analyzing Socratic questions. Further, it is entrenched in the notion of a community of critical learners. Dewey (1916) explained the concept of community:

There is more than a verbal tie between the words common, community, and communication. Men live in a community in virtue of the things which they have in common; a communication in which they come to possess things in common. What they must have in common in order to form community or society are aims, beliefs, aspirations, knowledge—a common understanding—like mindedness as the sociologists say. (Dewey, 1916, p. 4).

A collaborative intervention would require students to analyze themselves with the assistance of peers within their group, leading to the following questions: What types of Socratic questioning am I producing? What types do I tend to omit in my inquiry?

In a third level of instructional support, teacher educators might provide structured prompts and replies within the online Socrates Café developed from the content of the course and paralleling the assigned readings. Instructors might model (Hemming, 2000) varying types of Socratic questioning within the forum, and practice coding those Socratic questions within the Universal Intellectual Standards. Each of these instructional interventions provides fodder for inquiry into the practice of promoting critical thinking in online coursework.

CONCLUSION

Embedded in a Socrates Café is a search for honesty (Phillips, 2001); and when it is scaffolded with the Universal Intellectual Standards, it is a quest that may sharpen participants' critical thinking skills by using sound logic rather than fallacious assumptions (Paul & Elder, 1996). This contextual study revealed that benchmarking Socratic questioning types was beneficial for scaffolding critical thinking instruction. The use of the Universal Intellectual Standards for creating defined categories of critical thinking based upon the production of Socratic questioning was an effective tool for identifying the types and frequencies of questioning that were being produced. The types and frequencies of Socratic questioning applied in the Socrates Café online discussions were contextual and situational. Diversity issues are complex, and multiple perspectives are often valued over one ideology. The results of this study support the idea that certain intellectual standards are more meaningful in certain fields when compared to others (Elder & Paul, 2008). The Socratic questions that emerged in the online discussions that demonstrated the intellectual standards of depth and fairness reaffirmed the contextualized nature of the teacher education discipline. The use of the Universal Intellectual Standards to benchmark, typify, and count the Socratic questioning occurring within a Socrates Café for the pedagogical goal of enhancing critical thinking instruction holds promise for practice, especially in online settings where little precedence has been established.

Discussion—and a Socrates Café discussion in particular—is part of a larger curricular goal (Parker & Hess, 2001) that intersects the two aspirations of diversity and democracy in an ongoing inquiry. The Socrates Café makes explicit pedagogical intentions to assist students “to set alongside one perception of the matter under discussion the several perceptions of other participants, challenging our own view of things with those of others” (Bridges, 1979, p. 50), creating a new dialectic in the process. The Socrates Café online discussions in this study revealed a symbiotic relationship between the value of critical analysis and values of diversity for teacher educators in that its format has the potential to facilitate civil discourse and democratic engagement for both individuals and for the larger community.

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Jody Piro is an Associate Professor in the Doctor of Education in Instructional Leadership program at Western Connecticut State University. She has been involved in education for over twenty-five years in K-12 as a social studies teacher and as a dean and principal, and in higher education as a professor and dissertation director. Dr. Piro's current scholarly interests focus on accountability outcomes for educators and problematizing discussion for critical analysis and civil discourse.

Gina Anderson is an Associate Professor of Teacher Education and the Program Coordinator of the Curriculum & Instruction program at Texas Woman's University in Denton, Texas. Prior to her work at TWU, Dr. Anderson taught several years of elementary and middle school in Oklahoma City, Oklahoma and served as a student teacher supervisor and teaching and research assistant at Oklahoma State University. Culturally-responsive teaching strategies and the Scholarship of Teaching and Learning guide her research and scholarly interests.