A PEDAGOGY OF FORCE: FACULTY PERSPECTIVES OF CRITICAL THINKING CAPACITY IN UNDERGRADUATE STUDENTS

Mark D. Halx and L. Earle Reybold

It is a historical fact that although novel ideas may occasionally arise through accident, for the most part scientific discoveries, technological inventions and artistic performances require the exercise of judgment based on critical thought.

—Bailin, Case, Coombs, & Daniels, 1999b, p. 288

Critical thinking has become the mantra of higher education, rallying faculty to nurture students toward increasingly complex reasoning and analysis. Substantiated by decades of research and practice, critical thinking is assumed a desirable goal—if not the principal goal—of higher education, shaping its curriculum, pedagogy, and policy (see Halpern, 1999). The privileged status of critical thinking, particularly in undergraduate classrooms, is often an implicit characteristic of higher education, a tacit “rule of thumb” in colleges and universities that is rarely questioned or criticized (Browne & Freeman, 2000; King & Kitchener, 1994; Mentkowski et al., 2000).

Whereas considerable inquiry has focused on the nature of critical thinking and its significance to the learning process, much less is understood about faculty perceptions of critical thinking. Browne and Freeman (2000) contend that “deference to critical thinking as an educational objective is certainly more common than the actual encouragement of critical thinking in university classrooms” (p. 301). Faculty, for the most part, support critical thinking development as a part of their teaching charge, but they are
rarely taught how to define critical thinking, much less how to effectively facilitate its development (see Bailin et al., 1999b). Students, then, become participants in a pedagogical experiment:

The common terminal degree model does not systematically help graduate students prepare for university teaching in general. The state of faculty preparation to teach content areas is highly variable at best, and inadequate at worst, leaving many young faculty members to develop methods experientially, by trail and error. Although this may result in successful practices in time, the basic model of preparation is based on replication of the status quo. (Clarke & Gabert, 2004, p. 31)

Given that critical thinking development is an essential part of undergraduate education, and in most cases faculty members accept their role to promote some level of it in their classrooms, this article explores the complicated relationship between faculty perceptions of critical thinking and pedagogical applications. Following a review of the literature related to these concepts, we present the findings of a case study conducted at a selective, private liberal arts university. The findings are then discussed in terms of higher education policy and faculty preparation for critical thinking pedagogy.

**Literature Review**

This section provides an overview of the various definitions and characterizations of critical thinking in the current literature, as well as perceptions and applications for development techniques, particularly in undergraduate education.

*Defining the Term Critical Thinking*

The literature provides a wide range of definitions for the term *critical thinking*. However, the descriptors—purposeful, reasoned, and goal-directed thinking—appear consistently. Most definitions of critical thinking emphasize a heightened awareness of multiple points of view and context, as well as an evaluation of one’s own thought
processes before reaching a conclusion. Thus, critical thinking requires the presence of mind to “assess and scrutinize ‘knowledge’ prior to its consumption” (Tsui, 2003, p. 328). Bailin et al. (1999b) further characterize critical thinking as “responsible assessment of reasons and arguments” along with “responsible deliberation” (p. 289). The capacity to think critically requires “a set of skills involving the ability to identify issues and assumptions, recognize important relationships, make correct inferences, evaluate evidence or authority, and deduce conclusions” (Furedy & Furedy, 1985, cited in Tsui, 2003, p. 318).

Other definitions of critical thinking focus on the uncertainty of knowledge and knowing. For example, Garside (1996) defines critical thinking quite succinctly, as “a controlled sense of skepticism” (cited in Browne & Freeman, 2000, p. 305). Critical thinking, then, is disciplined thinking that requires self-regulation (Pithers & Soden, 2000), and it is practiced by accepting or rejecting arguments based on purposeful and reasoned judgment, not based on emotions or assumptions.

Some research suggests that critical thinking is primarily logical and rational thinking (see Paul & Elder, 1999, 2003). Countering this view, Walters (1990) notes that many conventional instruction techniques that presume to stimulate critical thinking often stimulate a mere “calculus of justification” (p. 451) that forces students to assure a rational and logical outcome. This “analytic reductionism” (Walters, 1990, p. 451) compels students to break down the parts of a problem as either deductive or inductive from the other parts. Walters calls this a Spock-like “vulcanization” (1990, p. 451) of students. Though seeking a logical solution to a given problem reminds students that learning is part of an “organized and intelligible system” (Paul & Elder, 1999, p. 35), critical thinking is not simply the creation of logical and rational solutions. In other words, just as underthinking a given problem is clearly not thinking critically, training students to overthink a problem can create an exclusively logical or rational result. Critical thinking must consider personal perception and context.

Most educators understand that critical thinking is not easy. If learning requires effort, then critical thinking requires absolute exertion. In 1941, Mortimer Adler noted that learning is painful.
He also cautioned that thinking is “fatiguing not refreshing” (1941, p. 361). Kroll (1992) suggests that students are often more comfortable with “ignorant certainty” than they are with “intellectual confusion” (cited in King & Kitchener, 1994, p. 225). When students first begin to think critically, they often experience discomfort because critical thinking calls for students to reflect; set aside their established assumptions; and consider other, sometimes counter, perspectives. To paraphrase John F. Kennedy, students too often enjoy the comfort of opinion without the discomfort of thought. Critical thinking transforms simple opinion into well-reasoned thought.

Paul, Elder, and Bartell (2004) suggest, “Human thinking left to itself often gravitates toward prejudice, over-generalization, common fallacies, self-deception, rigidity, and narrowness” (p. 2). All in all, critical thinking requires a standard level of adequacy and relevance not always found in common thinking practices (Bailin et al., 1999b).

Teaching for the Development of Critical Thinking

With cognitive development and higher-order thinking inextricably correlated (van Gelder, 2005), faculty often presume a developmental stance in their efforts to teach critical thinking (Halpern, 1999). In fact, Mentkowski et al. (2000) contend that an “enduring assumption of developmental curriculum is that education should develop the whole person’s way of being in the world” (p. 105). They take a stronger position on the issue of a developmental curriculum by suggesting that “such development should be a unifying purpose of higher education” (2000, p. 105). A liberal education, they continue, should encourage development from “a conformist to a post-conventional way of being in the world” (2000, p. 105).

Not only is development the goal of undergraduate education, but it is the process of that education as well. A developmental perspective of education emphasizes the connection between a student’s abilities to learn and to achieve recognized cognitive developmental levels (see King & Kitchener, 1994; Mines, King, Hood, & Wood, 1990; Pascarella, 1989). Mentkowski et al. (2000), building on the works of Chickering et al. (1981) and Kegan (1982), comment, “In this view, the
individual learner actively constructs meaning across a broad range of domains. Such meaning making becomes developmental when the person can construct and confront increasing complexity with greater integrity” (p. 105). Thus, they conclude, “educators who take a developmental perspective on how students think, reflect, and grow can create a curriculum that successfully fosters learning that lasts” (2000, p. 106). King and Kitchener argue, “As educators, we have the responsibility to teach students the ‘habits of mind’ associated with making interpretive analyses and thoughtful, reasoned arguments” (1994, p. 222).

Tsui (2003) sheds light on another critical thinking/student growth concern: the “relationship between institutional selectivity and the development of higher order thinking skills” (p. 318). She approaches the issue from the perspective of socioeconomic status, arguing that in many instances “the higher education system engages in the transmission of social inequality by availing opportunities to succeed in adult life for some while constraining opportunities for others” (2003, p. 318). Tsui’s assumption, of course, is that critical thinking is a valuable outcome of the academic experience. She maintains a relationship between pedagogical choices and critical thinking outcomes. Tsui claims, “At some nonselective colleges and universities, critical thinking development is little pursued in part because faculty assume it is beyond the grasp of what they view as a largely ill-prepared student body” (2003, p. 326; see also Tsui, 2001). This fatalistic perspective can deny equitable educational opportunities based solely on faculty perception of a student’s ability. Clearly, critical thinking development does not occur in a vacuum; it is influenced by the “context and culture in which it is ‘situated’” (Pithers & Soden, 2000, p. 246). Faculty members must recognize and counter their own biases to assure that all students are given every opportunity to develop and maintain critical thinking ability.

Design and Methodology

Tsui (2002) argues that “studies on critical thinking have not displayed great variation in research design” (p. 742), with most inquiry relying extensively on quantitative methodologies. Diverse
research approaches, particularly case studies, broaden our understanding about critical thinking beyond test and measurement to include “rich contextual evidence” (Tsui, 2002, p. 742). Further, case study research “allows a uniquely phenomenological inquiry into process and perspective,” and in the context of higher education, it is distinctively “geared toward description and understanding of institutional culture and its impact on perspective” (Reybold, 2003, p. 238).

Using a qualitative case study design, we explored faculty perspectives of undergraduate critical thinking. We were particularly interested in the relationship among institutional location, institutional culture, and faculty perceptions of student reasoning capacity. Three research questions guided the inquiry: (1) How do faculty members define critical thinking in the undergraduate classroom? (2) How does this definition of critical thinking influence their pedagogical choices? and (3) What is the role of institutional culture and ideology in the development and maintenance of critical thinking?

We conducted this study at a private liberal arts university in the Southwest. The university has a selective admissions policy and, each year, accepts only 60% of students applying as freshmen. There are numerous other institutions of higher education in the same city, including one public and three private universities, along with a comprehensive community college system. The university, located in a large metropolitan area with a predominately Hispanic population (60%), has an enrollment of approximately 2,700 students, with 2,500 being undergraduate. Neither the student population nor the faculty is representative of the city’s demographics. Of the students, 67% are white; 11%, Hispanic; 6%, Asian; 3%, African American; 2%, international; and 11%, unknown. Of the faculty, 84% are white; 7%, Hispanic; 3%, Asian; 2%, African American; and 4%, unknown.

Selection of participants was criterion based (Patton, 2002). Through a network sampling process, we asked department chairs and senior faculty to identify undergraduate faculty members in their disciplines who displayed a clear understanding of critical thinking as well as a significant ability to develop such thinking in their students. Based on these recommendations, we contacted two
faculty members in each of the traditional core curriculum areas: social sciences, natural sciences, humanities, and fine and performing arts. All eight faculty members self-identified as strong critical thinking advocates and agreed to participate. Faculty participant demographics are similar to those of the university faculty as a whole, with the majority being male and white (non-Hispanic). Only two of the eight participants are female, and seven of eight are white; the remaining one is Hispanic. These demographics are not representative of the city’s population, but they are comparable to the institution we studied and to national faculty demographics at similar institutions. Additionally, to maintain confidentiality, in the findings section we use pseudonyms when referring to the eight participants in the study.

Because the focus of the study is faculty perceptions of critical thinking, the data gathered are primarily from semistructured interviews supplemented by archival material. The interview guide focused on the development and application of faculty members’ perspectives of critical thinking. For example, the faculty members were asked to define critical thinking, particularly in relation to their own pedagogical choices. Additionally, they were asked for their views regarding critical thinking capacity in relation to secondary school preparation and university type, as well as what effect, if any, institutional or faculty ideology might have on critical thinking development. The study was pilot tested with two faculty members at another university and was revised based on peer review with students and faculty.

Data were analyzed using a constant comparative method (Corbin & Strauss, 1990) that employs a three-phase coding process: open, axial, and selective. We coded all data independently and met regularly throughout the process to review individual coding until we achieved consensus regarding the themes and supporting data. Each interview was transcribed and open coded prior to subsequent data collection. During the open coding phase, we identified numerous ideas related to critical thinking that were specific to each interview. Some interviews yielded dozens of “meaning chunks,” and a few lengthy interviews yielded hundreds. Through axial coding, we began to merge these open codes into related constructs, constantly reviewing each of the interviews to ensure that they
evidenced the emerging themes. Finally, after completing data collection, we continued the selective coding phase to identify the core categories or unifying themes.

**Findings**

Participants in this study overwhelmingly agreed that critical thinking is essential to a liberal education. Each one, no matter the discipline, acknowledged a passion for undergraduate teaching and agreed that a teacher’s role is to cultivate and sharpen critical thinking. Analysis of the interview data revealed the following consistent themes about faculty perceptions of critical thinking and its application in the undergraduate setting: (a) pedagogical experimentation, (b) the content connection, (c) pedagogy of force, and (d) the resistance factor.

**Pedagogical Experimentation**

Although our participants were eager to promote critical thinking among their students, none had been expressly trained to do so. However, these faculty members had garnered a repertoire of pedagogical techniques to stimulate and even provoke critical thinking. Their pedagogy implies a philosophy of practice based on personal definitions of critical thinking. Pedagogy refers to instructional philosophy, teaching style, and teaching strategies. Based on their epistemology of critical thinking, then, they developed—sometimes hesitantly—a comparative methodology of teaching and learning.

Interviews revealed the primal source of faculty perceptions about critical thinking to be their own undergraduate experiences. Thus, with no formal training, they were not clear exactly what abilities—let alone dispositions—they are supposed to develop in their students. This lack of surety creates an ongoing circumstance of pedagogical experimentation. Nonetheless, although each provided a distinct definition of critical thinking and its essential characteristics, they understood critical thinking primarily in two ways: methodology for information processing or epistemology of knowledge and knowing.
Four of the participants associated critical thinking predominantly with information processing and management of knowledge. They understood critical thinking as a methodology or set of skills and competencies required for thinking *more, better, or faster*. Ross, a professor in the humanities, viewed critical thinking as the ability to entertain many thoughts at once. She uses the allure of “secret knowledge” of a particular subject to entice students to think more intensely and tackle issues from a new perspective. Ross believes that critical thinking is more than seeing what is obvious: “Students must look for what *is not* in the text.” Similarly, Artmond, a professor in the fine and performing arts, agreed; students must “learn to discern beyond what is on the page.” Smith, a professor in the social sciences, characterized critical thinking as “the ability to manipulate information.” Students, she believes, “are very good at dismantling. They can see the holes; they can see the gaps in the research.” Students will rise to expectations, she said, so she often uses introductory-level graduate textbooks with her undergraduate students to “sort of stretch them; it makes them uncomfortable, but I don’t think that’s a bad thing.” Jones, a professor in the natural sciences, added that students not only must use their current knowledge, they must also become information finders; critical thinking is achieved when the faculty member is no longer needed to guide learning.

The next two participants thought of critical thinking primarily as an attitude about ideas, a disposition toward knowing. These faculty members wanted their students to transform their understanding of knowledge. In other words, a critical thinking pedagogy must motivate students to think *differently*, not just better. A professor in the fine and performing arts, Arthur described critical thinking in terms of wonderment. He related teaching critical thinking to the analogy of “pealing back the layers of an onion,” referring to digging deeper and deeper into an issue to keep the student wondering what is next. He motivates students with the “original incentive of expectations—students rise to expectations.” To accomplish a critical thinking pedagogy, he said, you must connect with students on their terms. For example, if a student lives for rock music, a professor must couch Beethoven in the context of modern-day rock music. This method breaks down the barrier of disinterest and gives Beethoven
relevance in the life of the student. He concluded, “You’re not going to reach people, as countless missionaries have known, if you don’t go to them, if you don’t meet them on their terms.” Likewise, Reilly, a professor in the humanities, views critical thinking as an epistemology of knowing, claiming that “students must abandon their way of thinking for at least a moment.”

The final two participants described critical thinking as a balance between a methodology of knowledge and an epistemology of knowing. Johnson, a professor in the natural sciences, merged these definitions of critical thinking into a complex blend of information management and a propensity for broadmindedness. “Critical thinking is the establishment of a cognitive map,” he said, because “without the map, there is no place to put information delivered at a high speed.” The cognitive map, though, is just a beginning. Critical thinking, he said, occurs only when a student is unwilling to suspend disbelief and willing to make the rare associations necessary to understand an issue more fully. A professor in the social sciences, Sutton agreed but added that critical thinking requires students to observe and participate, not just passively absorb information.

The Content Connection: The Professor’s Conundrum

Though all participants agreed that content plays some role in critical thinking and its development, they offered divergent perspectives regarding the relationship between the two. For some, content—particularly interdisciplinary content—is necessary for critical thinking. For example, Jones believes that the richest ground for critical thinking is interdisciplinarity. Ross agreed, noting that “thinking” in general transcends disciplines. She also argued that the textbooks of any given discipline impede critical thinking because of their summarizing nature.

Others agreed that content is important but that critical thinking is embedded in the discipline itself. Without base knowledge, they argued, no amount of critical thinking ability will yield a positive result. As Reilly pointed out, critical thinking requires a student to create a relationship between content and reality. Smith uses in-class time to “manipulate the content—to think about it at a different
level.” Artmond believes that music students must know the milieu of a period they are studying. He believes strongly that students must be “able to look at a piece of music and understand that music in a larger context, not only how it relates to a specific instrument, but how it relates to the world around it.” They must know the “fit” of the content in relation to the world. He deemed that this is the most effective way to stimulate critical thinking. However, many undergraduate students do not possess an inherent willingness to seek out this sort of supplemental content on their own. Regardless of its source, the participants said, the content must serve the overarching goal of enabling students to think critically within a particular discipline. In other words, simply adding more content can sometimes impede this goal.

Still others believe that content has no relationship whatsoever to critical thinking or its development. Faculty members who believe that critical thinking transcends content were scornful of teaching that is limited to knowledge acquisition. Sutton argued, “Students can’t learn by observing content.” Reilly warned that boredom is a significant barrier to critical thinking development. He makes use of various media to deliver content to ensure that his students do not become bored and also to stimulate the creativity in their minds. He feels it is important to deliver at least a “pill of content” to keep them happy while he is trying to facilitate critical thinking development.

A Pedagogy of Force

Force without wisdom falls of its own weight.
—Horace, poet and satirist, 65 BCE

When asked to discuss how they encourage critical thinking in their classes, all of the participants noted the teacher’s role as facilitator and guide. However, most also believe that critical thinking is an “unnatural” process, and thus learners must be tricked or even coerced into higher levels of learning and knowing. In fact, seven of eight participants used the term force when describing their pedagogical approach to teaching students to think critically; the remaining participant used the term aggressive. This pedagogy of
force assumes that conflict compels the development of student thinking capacity, particularly at the undergraduate level. Without this form of pedagogical intervention, student thinking levels are believed to remain static. Reilly spoke for many of the participants when he said that “critical thinking must be stimulated.” Ross contended that an interventionist pedagogy is necessary because “critical thinking runs counter to the normalizing impulses of human cognition.”

Participants employed a variety of pedagogical techniques to impel critical thinking. Smith sets up her classes to “extract” critical thinking from her students, and Johnson uses an initial “startle phenomenon” to stimulate critical thinking. Jones believes that faculty members should be more assertive pedagogically, particularly when dealing with student discussions: “I think there are students who approach things a little sophomorically when they don’t really understand the details of something well enough, and they just like to spout.” He added, “It takes a faculty member then—and also other students—to hold that spouter’s feet to the fire and challenge [that individual].” Unfortunately, Jones said, faculty are often satisfied with students simply speaking in class: “They haven’t been thoughtful; they haven’t done their preparation; and yet these comments are somehow so wonderful. The faculty member needs to rein that in.” Otherwise, he argued, “that is not teaching critical thinking skills; that’s just letting students blather.”

Sutton agreed with Jones’s contention that pedagogy must be assertive to encourage critical thinking. His teaching style, he said, has developed to be more confrontational, with the intention of provoking conflict:

In terms of teaching techniques, I’m really aggressive in the classroom. I think I’m more aggressive now than a few years ago. One of the things I do is “pull” students out of their chairs and force them to engage with me. I talk about [my discipline] as a tool. In class, I talk about it as a metaphorical lens. “There, take it! No, not that way! You’ll get it greasy! You have to hold the edges; if you touch the middle, you can’t see through. So now, hold it up and look at the world through it. See!” So, that is the kind of aggressive technique where, if I do that with one
student, everyone in the class is on edge because they think I’m going to come do it to them, and so it really forces students to stay engaged.

Several of the participants employ aggressive teaching techniques, using their personal beliefs as a pedagogical foil to challenge students. For example, Sutton described himself as “the stereotypical liberal professor” who uses politics to force critical thinking:

One of the advantages of teaching in an undergraduate institution is you can get at these little bastards and teach them anything you want. They’re going to either agree or disagree with me. If they disagree, [it’s] all the better because they’re forced to realize that other people are just as vehemently invested in their opinions.

When students “take what I say as truth, I think less of them,” he said. Still, he feels that he has “won a certain victory” when they agree with him.

Several of the participants stressed the lack of willingness among certain students to engage in critical thinking without a forceful pedagogy. Artmond, for example, said, “This current generation of undergraduates [is unwilling to] go out and seek information on its own. You almost have to demand it of them and say, ‘You have to do this!’” He admitted to being “a little Draconian” about critical thinking. He acknowledged that this assertive pedagogy—using various “tricks of critical thinking”—“does put student[s] on edge,” but “they know well enough in advance from the first week of class that this is the way [Artmond] teaches; this is the way I approach the material, and they’re responsible for it and they have to keep up with it.” Smith also believes in an aggressive pedagogy, saying that students must be “pushed” to think critically.

Arthur also uses “those little tricks that an old professor will use,” but he added, “If you set up the dynamics of the classroom, then you can sit back and [students] will pick [it] up.” He admitted, “I will sometimes fake a terrible throat ailment that prevents me from speaking.” Students who normally might be intimidated by the professor “really come to life if I shut up more.” Sutton referred to
these pedagogical tricks as hooks “for sucking students in.” He believes that content is useless, aside from the primary purpose of “forcing [students] to think critically.”

Most participants admitted that there are possible repercussions when teachers use conflict to initiate critical thinking. Johnson described it as “an edge, and sometimes it’s a slippery slope—and sometimes it’s nicely defined—between discomfort and frustration.” He believes that it is the teacher’s responsibility to balance conflict with realistic expectations:

If you are going to have individuals who are going to figure it out for themselves, there still has to be a reasonable probability that they can figure it out for themselves, that it is not such a multidimensional or confusing or just plain unfair project that you end up with abandonment!

For Ross, the issue is more than pedagogy and classroom technique; for her, critical thinking is analogous to “intellectual aggressiveness” in general. She argued that the regional culture “puts a very real emphasis on obedience and politeness,” which “de-authorizes our students intellectually.” Originally from New York, she said that there is “no cultural civility at all [there], and people are aggressive in all respects, and intellectually, as well.” Though she admitted that this may be somewhat of an exaggeration, she firmly believes that too much politeness can preclude critical thinking.

This pedagogy of force, as conceptualized by these faculty members, is not meant to intimidate students into critical thinking; rather, these aggressive techniques are meant to compel the development of the capacity for critical thinking. In turn, they expect the critical thinking will lead to student agency and ownership of the learning process. For example, Johnson strongly advocated for a critical learning environment, “as opposed to a critical environment where the message is, ‘You’re not good enough.’” Artmond uses pedagogical force to assist the initial development of critical thinking: “One of my greatest goals in music theory is to get the brain jump-started so [the students] are able to do it [for themselves].” Ross was careful to note the importance of balancing the power dynamic of the classroom to “authorize” students to take charge of
their learning. Johnson agreed, adding that critical thinking can only be evidenced through ownership of material. Jones believes that “once they see that they can do that, it’s empowering, and that sense of empowerment is addictive. It’s no longer the faculty member who is the one guiding the discussion, the discussions take place on their own.” Jones dismissed the “hands-off” pedagogy practiced by some colleagues, contending that teachers should “hold [students’] feet to the fire to really hone critical thinking skills.”

**The Resistance Factor: Critical Thinking as a Value**

Sutton argued that for students to develop strong critical thinking ability, they must learn to see their beliefs as opinion and begin to challenge their myopic views. He contended, “Many students are so imbedded in a kind of suburban lifestyle that they don’t experience the kind of cross-cultural vision that you would get if you went to [another region].” Similarly, Ross believes that critical thinking often yields a result that is counter to a student’s cultural ideology, which in turn causes the student to resist and pull back to a thinking style that is comfortable. Though students are perhaps naturally inclined to resist the uncomfortable, she noted that critical thinking becomes evident when student restlessness begins. Arthur agreed that students must learn to collapse boundaries of thought that would otherwise hinder thinking that is more expansive. For Johnson, students must learn simply to “contemplate what does not make sense.”

Several of our participants believe that certain cultural environments discourage critical thinking. Specifically, they believe that cultural opposition to debate and confrontation tends to discourage questioning and critical thinking development. For example, Ross admitted to being somewhat disappointed in her students for being obedient and submissive to such an extent that they are very happy to accept her authority. Therefore, she said, they do not question her or embark on any critical thinking of their own. Especially in the case of the first-year students,

they need a lot more, they need to be pushed. I’m not sure if this is a result of the high schools in [this state]. [This state] puts very real emphasis on obedience and politeness, which is
lovely in some respects, but I think it de-authorizes our students intellectually.

Our participants also established an interesting connection between students’ religious ideology and their critical thinking capacity; most believe that conservative religious cultures, in particular, present considerable barriers to critical thinking development. In general, faculty expressed concern that religious conservatism restricts students’ willingness to question assumptions, a foundational rubric for critical thinking. Though religious faith is often a personal and independent part of a student’s life, several of the participants questioned whether it is possible to be a critical thinker and still maintain faith in religious teachings. Reilly believes that religious and political ideologies are the “center of everything.” He told of some students who will relentlessly bring religion into the discussion of a novel in an attempt to “judge actions as sinful and wrong.” He countered, “It’s not about whether it’s right or wrong, that’s another discussion, it’s about trying to own the perspective of the text.”

Reilly sees this constant judgment as an expression of power that some students feel they can wield over the professor. Emphatically, he underscored that “critical thinking is not about judging!” Smith suggested that the “bigger danger is radicalism.” She believes that extreme liberal or conservative political or religious views impede critical thinking development: “Debate is an important part of critical thinking.” She warned that if a culture or ideology is not open to debating ideas, critical thinking is stifled. Ross expressed concern that “religious ideology can make an enormous difference in shaping a student’s learning habits,” especially the religious philosophy of the institution. She noted that institutions sometimes consider it “their job to tutor students in the legitimacy of that philosophy.”

**Discussion**

Attitude is foundational to critical thinking development, so even the manner in which faculty members approach critical thinking
development very likely has a significant effect on student learning (Bailin, Case, Coombs, & Daniels, 1999a; Halpern, 1999; Tsui, 2001). In general, research has established a clear connection between faculty epistemologies and their professional reasoning (Clarke & Gabert, 2004; Reybold, 2003), thus it is reasonable to conclude that faculty attitudes about critical thinking affect students’ acquisition of critical thinking skills. Tsui (2003) warns that some faculty may believe their students are ill prepared to think critically and therefore they do not even attempt to develop the ability. Faculty members must monitor their own beliefs and biases to ensure that they do not negatively influence critical thinking development in their students.

_Pedagogy as Experimentation and Practice_

Students cannot learn to think critically by simply watching someone else think critically (van Gelder, 2005). Shor (1992, p. 21) further laments the “endullment” of students’ minds that occurs if they are not actively participating in the leaning process. And although students must learn to take command of the learning process (Kienzler, 2001; Paul & Elder, 2002), they should not be allowed to practice “random and undisciplined thought” (Black, 2005, p. 42). Robertson and Rane-Szostak (1996) suggest that dialogue between students and faculty members is an important critical thinking development tool because it challenges all participants to be spontaneous. Because dialogue is fleeting, it must be evaluated as it occurs. This evaluation-on-the-fly process, our participants agreed, hones critical thinking ability while at the same time encouraging student agency.

Unfortunately, most faculty members are never trained to teach, much less to teach critically. Our participants are no exception; none has been trained to teach critical thinking. Instead, they learn as they teach, experimenting pedagogically with student thinking. Clarke and Gabert (2004) suggest that learning may be negatively affected by the haphazard preparation of higher education faculty for teaching. “It is noteworthy,” they say, “that the professional activity of teaching occupies the majority of working hours of faculty employed by institutions and yet is the focus of the least preparatory emphasis, in both duration of time and perceived effectiveness” (2004, p. 34).
Although “the formal channels of preparation are surprisingly ill equipped to prepare faculty to teach” (Clarke & Gabert, 2004, p. 35), most faculty members do establish their pedagogy through experimentation. “Once in the classroom,” Clarke and Gabert say, “able instructors are likely to adjust and revise their practices until they develop a style and methodology that serves their belief systems and the delivery of content material” (2004, p. 35). The authors do not mention if that style is effective, specifically when faculty members are hoping to promote critical thinking. This issue of nonpreparation, though, calls into question the centrality of critical thinking to the undergraduate curriculum. When faculty members do not necessarily agree on the definition of critical thinking, and as they are not trained specifically for this type of teaching, is it prudent to hold faculty members solely responsible for critical thinking development?

Content Questions

For each participant, the question of content and its relationship to critical thinking was met with an emphatic response. However, these faculty members did not agree on the role of content. Much research suggests that content and thinking go hand in hand (Laurillard, 1993; Pithers & Soden, 2000; Ramsden, 1992). According to Bailin et al. (1999b), content provides the vital background knowledge necessary to move forward with the “process” of critical thinking (p. 291). Many of our participants disagreed, with some arguing that critical thinking transcends content or that content is nothing more than a “pill” to keep students satisfied.

Most students, though, never develop an “integrated understanding between the many variables that affect the logic of a discipline” (Paul & Elder, 1999, p. 35). Domain-specific aspects of critical thinking come into play when one considers the base knowledge required to make a considered judgment regarding the evidence involved in a given issue (Bailin et al., 1999a). This notwithstanding, many of our participants use content simply as a foundation from which to initiate critical thinking. They universally believe that learning how to think first will allow infinitely richer content acquisition to occur later.
The Role of Conflict in Critical Thinking

By far, the central theme of this study is the emphasis on conflict, whether in terms of an aggressive pedagogy, the stimulation of alternative ideas, or resistance to critical thinking. Van Gelder (2005) argues that “humans are not naturally critical . . . critical thinking is a highly contrived activity” (p. 42). Though developmentalists might criticize this assertion, noting that critical thinking is an innate ability that can be stimulated through challenge, an active classroom is the ideal setting for critical thinking development (Browne & Freeman, 2000). Questions, discussion, controversy, and tension all have the potential to push students out of their “conceptual ruts” (Wicker, 1985, cited in Browne & Freeman, 2000, p. 304) and force them to review and evaluate their original assumptions. Interestingly, the two women faculty members in the study were more emphatic about the need for aggressive and forceful means to stimulate critical thinking in their students than were the male participants were. However, because our interviews did not explore gender issues, we can only suggest further research into gender-related pedagogical styles.

As often noted in the multiple definitions of critical thinking, questioning assumptions is the first step in thinking critically. Browne and Freeman (2000) note, “Experiencing disagreement, even when the encounter is vicarious, gives the learner permission to enter the rough and tumble of evaluation” (p. 304). Furthermore, “students are much more willing to challenge and test when they can see that experts habitually question formulations of other experts” (Resnick, 1987, cited in Browne & Freeman, 2000, p. 304). However, conflict in the classroom also has the potential to discourage learning and even alienate students. Though Browne and Freeman disregard this overly “paternalistic protection of learners” (2000, p. 305), it is clear that encouraging critical thinking in an undergraduate classroom requires a heightened awareness of the delicate balance of force and support.

Observed student resistance to critical thinking is a recurring theme among our participants, particularly in relation to a student’s cultural or religious background. As Pithers and Soden (2000) note, critical thinking development is very much influenced by the culture in which it is situated; further, sensitivity to cultural disposition can
facilitate effective critical thinking. Therefore, culture plays an important role in the development and application of critical thinking. On the other hand, participants in this study expressed a tension associated with cultural taboos against questioning assumptions, particularly religious and political. Perhaps there is also some aversion to critical thinking because it “threatens the calm of assumed amiability that governs much of our interactions with one another” (Browne & Freeman, 2000, p. 309). Oppenheimer (2004) suggests that the “niceness of American culture where politesse and chumminess are essential values of manhood and . . . womanhood” (p. B9) is a distinct barrier to critical thinking. The inculcated politeness of a culture can often deter students from questioning peers or faculty.

Faculty members themselves also may resist critical thinking. This may in part result from the context in which they teach. Some may fear broaching controversial subjects, as this may negatively influence teaching evaluations and even tenure considerations. Others—new faculty at large comprehensive institutions in particular—have expressed concern that critical thinking development requires more time and energy from the teacher. Their emphasis on a critical pedagogy often is not rewarded according to tenure and promotion criteria, and effort spent on enhancing student critical thinking detracts from other academic obligations like research that are more prevalently valued. It is important that colleges and universities encourage their faculty members to perceive teaching to be a mutual learning process which in turn invites a “pedagogy that actively engages students in the teaching/learning process” (Tsui, 2001, p. 21).

Resisting Objectivity

Some students may believe that they are unable to think critically and, therefore, will not respond to critical thinking stimulus even when encouraged. Critical thinking requires, to paraphrase Aristotle, a willingness to entertain ideas without necessarily accepting them. Disposition plays a central role in critical thinking development (Bailin et al., 1999a). Halpern (1999) agrees, stating that one must possess the “disposition to recognize when a skill is needed” and then “exert the mental effort needed to apply it” (p. 72) if one is to
think critically. Critical thinking is significantly hindered, though, when a student makes “evidence subservient to belief” (van Gelder, 2005, p. 45). The ideal critical thinker, according to van Gelder, is aware of this phenomenon and “actively monitors her thinking to detect its pernicious influence and deploys compensatory strategies” (2005, p. 45). Students must learn to “use evidence to preserve opinions rather than guide them” (Douglas, 2000, cited in van Gelder, 2005, p. 45).

The faculty members in this study were more than willing to employ a critical thinking pedagogy; however, there was little agreement on exactly what constitutes critical thinking or how it should be engendered. Participants did agree, though, that cultural ideology affects student disposition to critical thinking. Critical thinking is not a simple skill. As Paul (1989) states, “Without due emphasis on the dispositions of objectivity, impartiality, and nonarbitrariness, critical thinking only fosters sophistry to rationalize existing biases and cements egocentric and sociocentric beliefs and attachments” (p. 40, cited in Gong, 2005, p. 40). We agree that this form of thinking is not truly critical. Some students may seek to “use” critical thinking techniques simply to bolster their own views and biases. Extremists and megalomaniacs throughout history have had no interest in critical thinking. Adolf Hitler “read and listened, not to learn, but to acquire information and find additional support for prejudices and opinions already in his mind” (Montmarquet, 1993, cited in Hyslop-Margison, 2003, p. 319). Faculty members must guard against this selective critical thinking and ensure that students learn to question their own perspectives, not just the perspectives of others.

Conclusion

The ability to think critically is a learned skill and for undergraduate students, one that is greatly influenced by faculty attitude, disposition, and pedagogy. Arguably, most faculty members have developed a keen sense of how to think critically, and they sincerely promote student learning and critical thinking development in their classrooms. However, few are prepared to teach critical thinking, per se, and most teach it based on their own definitions and understanding of critical
thinking. We encourage faculty to turn a critical eye toward their own thinking and its influence on pedagogy and teaching style. We agree with Clarke and Gabert (2004), who exhort faculty members to consider their own critical thinking development, particularly as it affects student learning. Drawing from the works of Kagan (1992) and Brookfield (1995), Clarke and Gabert argue that teachers must critically reflect “on their own belief systems, preconceptions, and adaptability” (2004, p. 33). To teach critical thinking, we must model it, as critical reflection is a common characteristic of successful educators. How do we operationalize our definitions of critical thinking and critical teaching? What assumptions drive our teaching? What are we doing as teachers to sharpen our own critical thinking capacity? We should ask no more of our students than we ask of ourselves.

References


