CRITICAL THINKING IN DISTANCE EDUCATION AND TRADITIONAL EDUCATION

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CRITICAL THINKING AND DISCOURSE: DEFINING THE CONCEPT

The authors of this paper see critical thinking as a disciplined manner of thought (Scriven & Paul, 2000) that a person uses to assess the validity of something (statements, stories, arguments, research, etc.). The behaviors or habits of mind associated with critical thinking include asking questions, defining a problem, examining evidence, analyzing assumptions and biases, avoiding over-simplification, reflecting on other interpretations, and tolerating ambiguity (Facione, 1998). Critical thinking requires a deep understanding of the issues being investigated. However, critical thinking also requires flexibility—the willingness to change one's point of view as a result of examining and re-examining ideas and facts that may seem obvious. Critical thinking not only takes time and effort, it also requires a certain attitude toward the self and the outside world—willingness to say the three words that are often not so easy to use: "I don't know."

The role of critical thinking and discourse in education has been recognized through the centuries. In fact, it was Socrates who, through discourse, challenged his students to become critical thinkers by formulating and asking questions and by developing a thorough and profound understanding of the issues they were studying (Facione, 1998). Indeed, it was already evident in Socratic times that discourse—the dissemination and exchange of information to negotiate understanding and generate new knowledge—was a central mechanism for the development of critical thinking skills. Critical thinking underlies reading, writing, speaking, and listening (the basic elements of communication).

When discussing critical thinking and discourse, we assume that these play an important role in all levels of education, and particularly in graduate-level education. It is assumed that critical thinking and discourse should create

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new understandings among learners. Being able to think critically is vital, as it allows one to adapt to a changing environment (Facione, 1998). In education, critical thinking can be viewed as a learning *outcome*, but it can also be viewed as a *mediating mechanism* for the attainment of other learning outcomes (Fisher, 2001).

What Do We Know About the State of Critical Thinking in Higher Education?

In considering the extent of integration of critical thinking and discourse in higher education, the seminal question to consider is: *Are we, as students and instructors (as reflective practitioners and as lifelong learners) helping our students to become critical thinkers?* This question formed the basis of a research study carried out in 66 California universities (both public and private). In the study (Paul, Elder, & Bartell, 1997), the researchers assessed current teaching practices and investigated the knowledge of critical thinking among faculty, while also identifying exemplary practices in teaching critical thinking. The findings from this study are somewhat sobering. Among other things, it was found that while almost 90% of the instructors claimed that critical thinking was the primary objective of their instruction, only 19% of the instructors could give a clear explanation of critical thinking. Furthermore, the study found that basic concepts essential to understanding critical thinking were poorly understood by faculty participating in the study. For example, only 9% of faculty could clearly differentiate between an assumption and an inference; and only 4% could differentiate between an inference and an implication. In addition, it was found that while 67% of the participating faculty said that their concept of critical thinking is largely explicit in their thinking, only 19% could elaborate on their concept of critical thinking. In other words, there was a certain degree of overconfidence among participating faculty in terms of the extent of their under-

standing of the concept of critical thinking. These are interesting findings that emphasize the need for more profound reflection on critical thinking.

WHAT ARE SOME OF THE FACTORS AFFECTING THE INTEGRATION OF CRITICAL THINKING IN TRADITIONAL HIGHER EDUCATION?

Faculty Factors

As has been pointed out in the previous section, it appears that few faculty are systematically encouraged to study the theory and research on the nature of critical thinking, and on how critical thinking is enabled and assessed in a learning environment (Paul, et al., 1997). It appears that this has a largely negative impact on the ability of instructors to effectively and purposefully integrate critical thinking activities and learning outcomes in their instruction. Instructors should have at least a basic knowledge of the concept of critical thinking and model critical thinking in their own instruction.

In addition, there are frequently discrepancies that discourage critical thinking in the classroom. These discrepancies are founded largely in an inconsistency in the culture of education ideals and its practice. Both instructors and students are likely to have experienced this when students are told that they are to develop their own point of view, avoid being spoon-fed, and be critical thinkers. However, the culture within many educational institutions requires, above all, that students adhere to the system by producing the "right" answers, and that they limit their critical thought and discourse to the parameters of the culture of education within which they operate. Students are thus discouraged from being excessively adamant in their critical thinking and expression. Because learners are expected to adopt the critical thinking patterns and out-

comes modeled by the instructors and the instructional materials, little critical thought is generated in classroom environments.

Learner Factors

While many students in higher education will likely applaud the opportunity to develop critical thinking skills, their prior educational experiences are likely to have failed in equipping them with the prerequisite skills and attitudes for accomplishing this goal. Often, critical thinking is something that "suddenly" appears and is expected to take place in graduate-level courses. It has not been developed at earlier levels in the education process. If students have the skills for critical thinking, these skills seem to have been attained outside of classroom contexts, and students may feel somewhat uncomfortable or unable to transfer them to the classroom environment in graduate school. This trend is further exacerbated as students may implicitly have been discouraged from critical thought beyond the instructional objectives in their primary and secondary school education.

Learner Environment Factors

In the traditional classroom environment, learners are placed in a constrained time and place for engaging in the process of learning. The focus is often on using classroom time as expeditiously as possible to maximize the acquisition of new skills and knowledge. Because classroom time is limited, the opportunities for in-depth critical exchange are also limited. In out-of-class assignments, learners typically are expected to work independently, and they are not encouraged to review or critique each others' assignments. The learning environment—both the physical classroom and the larger "course experience"—are thus oriented toward a two-way exchange between the instructor and the individual student, where the instructor communicates key expertise, and the learner demonstrates through assignments

and activities that he or she has assimilated this expertise.

FACTORS THAT MAY INHIBIT CRITICAL THINKING IN DISTANCE EDUCATION

In recent years distance education has become an increasingly pervasive modality in university instruction and learning. However, it is increasingly evident that there are fundamental differences in the challenges and opportunities distance education offers when compared to traditional education. In the last quarter of the twentieth century, distance education showed characteristics of an industrialized process of teaching and learning, rarely encouraging students to creatively consider and apply knowledge in diverse situations. Distance education organizations are still in the process of moving from *Fordist* entities (characterized by uniform products and bureaucratic processes) to *post-Fordist* entities (characterized by decentralized approaches, a dynamic, fast-moving and flexible culture, oriented toward the development of customized products and empowerment of student and staff).

Furthermore, because distance education is increasingly adopted by traditional institutions of higher education as a means of addressing the pressures of rising enrollments and increasing financial constraints, many current distance education programs are operating within the constraints to critical thinking and discourse outlined in the previous section. Indeed, while faculty and facilitators may already have difficulty in identifying the instructional design and student support needs for enabling critical thinking in traditional education, these difficulties are greater when faculty make the transition to distance education. In addition, in the interest of addressing the "parity of esteem" issue faced by many distance educators, many distance education programs in traditional institutions are simply transferring the strengths and weaknesses of traditional educa-

tion to the distance modality. Given this tendency to transfer traditional practices to distance education, and the tendency to adapt distance education to the parameters of traditional education, it appears that some of the unusual opportunities offered by the distance education modality to support critical thought and discourse are overlooked.

Because many distance education programs still show Fordist culture, or operate within the constraints of traditional education institutions, the effect of this on the fostering of critical thinking and discourse in distance education is negative. Some of the immediately evident implications should be considered and are listed below:

- Creativity: distance education has a tendency to adhere to an industrialized process that makes little room for creativity, and tends to discourage flexibility and change. Learners and instructors thus have to confine their creativity to the parameters of the industrialized process.
- Decision-making: curriculum and courses are often very much prescribed in a lock-step fashion. Students are given little or no opportunity to take electives.
- Reasoning: given the constraints of the distance education format as it tries to fit into traditional conceptions of education, most instruction in distance education requires students to demonstrate acquisition of key outcome skills and knowledge. Little emphasis is placed on practice and the assessment of reasoning, argumentation, and inferential thinking skills that are the "building blocks" of critical thinking.
- Impact of language: often little attention is given to the specific communication skills needed in distance education.
- Meta-cognition: distance learning requires high levels of self-regulation and meta-cognition. However, the focus of instruction tends to be on transmis-

sion of content, rather than on learning to learn.

OPPORTUNITIES FOR THE SUPPORT OF CRITICAL THOUGHT IN DISTANCE EDUCATION

Many approaches can be used to effectively foster critical thinking and discourse. Two factors are mentioned: collaborative problem solving, and fostering of a learning culture.

Collaborative Problem Solving

Current practices in the design and development of distance instruction offer many opportunities for in-depth collaborative problem-solving activities (ADEC, 2001). Given some of the unique features of the instructional environments used in many distance education courses, collaborative problem solving opportunities may be more effectively developed in distance education than in traditional education, thus serving as an important "carrier" for critical thinking processes.

There are a number of ways to use collaboration as a way of promoting critical thinking in distance education courses:

- Case-based reasoning activities
- Critiques and rebuttals around topics posted
- Mock trials, debates, posted arguments with logic delineated
- Graphic organizers, flowcharts, decision-making trees, concept mapping.
- Categorization schemes, taxonomies, comparison and contrast matrices
- Minute papers, reflection logs, think sheets. (McVay Lynch, 2002)

Strategies for collaborative problem solving and related instructional activities in distance learning (e.g. (ADEC, 2001), are already being implemented in traditional classrooms. Why, then, would we consider these activities and approaches to more effectively foster collabo-

ration, discourse, and critical thinking in distance education? Among the reasons are:

- Increased equity among participants and proven high participation rates (Willis, 1994): Online discussion boards and knowledge repositories that are developed and maintained in distance education courses allow—and encourage—all learners to participate in the collaboration efforts. Distance education courses often are offered through course Web sites that are available to all learners at all times during the academic semester. Learners can reflect on written materials contributed by all members of the course, and they can contribute without having to feel constrained by the "fifty-minute period" that characterize many face-to-face courses. Furthermore, learners can carefully analyze information presented by peers, without having to feel the pressure to respond immediately or to "shoot from the hip" with their contributions.

- Interactive technologies, growth of the Internet, the potential of the Web: Most distance education courses offer a combination of synchronous and asynchronous technologies for communication and collaboration. In addition, most courses allow learners to exercise their judgment as to whether a particular contribution they would like to make should be oriented toward the instructor, toward all learners, or toward a subset of learners. In traditional classes, communication and exchange among learners is largely within the synchronous exchange during class time, and oriented toward addressing all learners present in the class. By definition, collaboration in the classroom is defined by whether information communicated through the exchange is readily available in the classroom, and whether it is of direct relevance to all people in the classroom.

These limitations are not present in distance education.

- Better possibilities for students to explore their potential as thinkers and conveyers of ideas through improved access to (re)sources, such as knowledge-based communities: Most distance education courses encourage learners to make generous use of online information sources. In addition, most courses provide a number of different repositories through which learners can contribute and access information. In traditional classes, the quality and depth of exchange and collaborative problem-solving is largely defined by the total experience and knowledge of the class members, and perhaps the availability of textbooks and instructional packets brought into the classroom. In the distance education environment, learners have extensive access to all resources within their physical environment, and within the virtual (Internet) environment, as they make contributions and engage in collaborative problem-solving activities. This increases the opportunities for in-depth, high-quality information exchange.

To foster critical thinking and discourse in education, we suggest that the course includes critical thinking strategies, such as clarity of objectives and of expectations, and a Socratic perspective in encouraging and offering discourse. These recommendations are reiterated in current literature oriented toward effectiveness in distance education course design (ADEC, 2001)

Learner Attributes and Cultural Dynamics in Distance Education

Students in traditional classroom-based learning environments may come from a variety of social and learning backgrounds in terms of their social culture and their learning culture. However, they exercise and develop

their academic growth within a fairly fixed community, operating within the culture and values prescribed by the institution. This differs significantly from distance learning environments, in which learners continue to operate within their own social and cultural contexts and, thus, more readily integrate this familiar context within a distance learning environment. It is therefore likely that critical discourse and thought in such distance learning contexts is fundamentally different in nature from classroom-based contexts. This notion should be explored further through collaborative efforts of learning specialists and practitioners in both traditional and distance education settings.

In addition, because distance learners generally continue to operate within the professional and social contexts that are part of their local communities, these students bring into the classroom context "real-world" experiences that provide a testing ground for developing and applying critical thought. In traditional learning contexts, it is more often the case that learners remove themselves from their local community, in the interest of pursuing their studies. In terms of having opportunities for testing and applying critical thought, these students typically operate within "real-world-like" experiences. The implications of this are numerous for the overall value of the learning experience. First, distance learners have more opportunities for practicing the transfer of skills to genuinely situated contexts, given that they are immersed, on a day-to-day basis, in these contexts. In addition, the benefits from real-world experiences allow distance learners to collaboratively exchange and reflect on authentic experiences, thereby ostensibly enhancing the overall learning culture and process. Finally, because learners operate within diverse contexts, they are able to offer each other a great variety of experiences and insights, increasing opportunities for the class as a whole to negotiate the complexity and ambiguity of the world, and increasing opportunities for careful reflection on the role

of critical thought and discourse in interacting with this complexity and ambiguity.

FINAL CONSIDERATIONS

Research in educational design presently argues in strong support of the notion that essential skills for negotiating real-life complexity cannot be developed in isolation from the authentic context in which such skills are to be applied (Bransford, Brown, & Cocking, 2000). Current research supports the notion that discovery-oriented learning environments are essential for the development and effective transfer of higher-order skills applied in critical thinking, discourse, and problem-solving (Bransford, et al., 2000). Because distance learning environments differ from classroom-based environments in ways that are central to the notion of "authentic practice," the strengths and weaknesses of each of these environments for developing and applying critical thinking and discourse should be considered.

Finally, distance education is in an excellent position to explore how different media affect the learner's cognitive processes in different ways. In considering the cognitive processes essential to higher-order cognitive functioning, the effect of differing media on the development of such skills should be explored further (Cradler, McNabb, Freeman, & Burchett, 2002). Such inquiry must seek to address the fundamental goals of modern educational design, in which the primary effort is to develop individuals capable of critically interacting with a complex and changing world, and capable of adapting their learning and cognitive processes as their realities change and evolve (Facione, 1998).

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