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INFUSING CRITICAL THINKING SKILLS IN
TELECOURSE INSTRUCTION

by

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Overview

At a time when critical thinking has gained acceptance as a fundamental base from which instruction occurs, educators are facing the double-edged sword of the use of educational technology. Carefully designed courses which seek to infuse critical thinking skills must now make the transition to the electronic medium. As the field of distance learning continues its growth in constructing the classrooms of the future, so must the process of teaching these distant learners critical thinking skills. The purpose of this paper is to frame the question of how these skills can be taught to this group of learners. The identification of who these telecourse students are, what special needs in critical thinking they might have as telecourse learners, and what obstacles may exist in this newly created learning environment, will be investigated. The process of infusing critical thinking skills in a psychology telecourse will serve as a case study for this discussion.

Recognizing and Understanding the Format of Instruction

Prior to accepting the format of telecourse instruction as a viable method from which to instruct, faculty and administrators must recognize the opportunities and options that telecourse instruction provides. At the same time they need to recognize telecourses' limitations and the differences from a traditional classroom model of instruction.

This acceptance process is primarily based on the recognition of who telecourse students are and their reasons behind seeking this mode of instruction. Many studies researching these questions have been conducted and should be examined prior to the adoption of telecourse instruction. The Corporation for Public Broadcasting/Annenberg Project oversaw such a research project and subsequently developed a telecourse student profile.

This profile generally identifies telecourse students to be over 26 years of age, highly motivated, goal oriented, and for whatever the reason, unable to attend the traditional classroom setting. (Brey, 1988)

To measure learning effectiveness in telecourses, Coastline Community College in Fountain Valley California, evaluated student success when compared with success in traditional classes in the same discipline. Their findings indicate that these students' performances were equal, and in many cases superior, to their traditional classroom peers, with one qualification: the telecourse student had fit the characteristic profile of who the telecourse was designed for. (Michael, 1985)

Consequently, the potential to teach critical learning skills to telecourse students can be made more effective when considering that these students are highly motivated and goal oriented, when designing a telecourse.

Specific Application

During the recent development and adoption of telecourses at a community college in South Carolina, there was a unique opportunity to review other colleges' efforts to offer and administer telecourses with a focus on how they attempted to teach thinking skills. As a result, the decision to create an introductory psychology telecourse with a strong emphasis on the teaching of critical thinking skills, was made. Based on a combination of existing and originally produced video programs, the faculty developer integrated materials and concepts generally reserved for the traditional classroom in a format which allowed the students to develop problem solving and decision making skills.

Psychology is an ideal discipline to teach the caveats of critical thinking. The parameters of the discipline--from its theoretical framework to its scientific rigorousness, pose a natural environment for a dialogical and dialectical process to occur. Unless a hypothesis or theory can be proven using various scientific methodologies, it remains only a tentative explanation in psychology, and therefore questionable. Overall, the discipline's content allows for an analysis of assumptions, the examination of the evidence, the consideration of other interpretations and a tolerance of the uncertainty of knowledge gained through empirical inquiry. Such criterion for thinking critically are proposed by various writers (e.g., Wade, 1990; Paul, 1991).

Psychology, like the hard sciences, was founded in the belief that instruction should be through the study of hard fact. Today, even the hard sciences question that approach. (Rigden, 1991). Rather, the brilliance of learning any subject, inclusive of the physical sciences, is in the discovery process of leading the student to the underlying concepts through their independent questioning and problem solving (e.g.s., Nosich, 1991; Rigden, 1991).

Elements of Telecourse Design

In a traditional class, dialogical and dialectical thinking occurs through both instructor-student interaction and peer interaction. Through this shared process, feedback becomes immediate; students are made active and can rather quickly judge their level of understanding (Chickering, 1987).

However, in telecourse instruction the students and instructor rarely meet face to face. This makes it more difficult to facilitate feedback which is considered fundamental to the teaching of critical thinking skills. When, and if, class discussion (student to faculty; student to student) occurs in a telecourse, it is generally delayed from the time

questions originally arise.

Understandably then, telecourses must include a strong element of interaction. It has been argued that it is viable for telecourses to be structured for interactions such as between instructor and student as well as student to student interaction. The process of insuring this interaction, and at the proper juncture for the student to make important connections, is the challenge of those who administrate over distance learning telecourses..

The importance of "interaction" in the telecourse design becomes a vital element to be added to the instructional process. Feedback, as a primary tool to facilitate interaction and ultimately dialectic communication, is ESSENTIAL for the student to remain interested and steered forward for success. Many techniques for encouraging an interactional process can be used. It then follows that these techniques must be continually re-viewed, evaluated and improved. Several techniques include the following:

- * Mandatory orientation session to develop the lines of communication and comfort with the method of instruction. It also serves to reinforce the manner of interaction with the instructor via telephone.
- * Requiring phone check-in assignments at frequent intervals during the telecourse program. This allows students to overcome discomfort with the technique and allows the instructor to monitor progress.
- * Produce a live call-in program on cable television, for the students to pose questions to their instructor and to review important segments of the video/lecture portion of the class.
- * Schedule a weekly or periodic audio conference with the instructor. This serves the same purpose as the above, yet does not require its extent of time or technology.
- * Hold on-campus optional study sessions or individual student-instructor meetings.
- * Develop and encourage student peer support by creating and fostering their contact and cooperation.
- * Instructor conducts spot phone checks to assist students who may be hesitant to initiate contact.

Keeping the issue of separation of instructor and student in mind, coupled with the tools and resources available to a telecourse developer or instructor, the method of building interaction also involves a more individualized interaction of the student with the subject being studied. To develop deductive, hypothetical learning into the telecourse format, one needs also to take a serious look at the design and overall organization of the selected course. While the debate continues on whether critical thinking skills are enhanced in more structured (e.g. Beyer, 1985; de Bono, 1985; Ruggerio, 1987; Sternberg, 1984) or non-structured (Paul, 1984 and 1987; Baer, 1988) classroom situations, it seems when instruction occurs through telecourses, it may mean a more structured approach to the learning process initially (Sachs, 1991). However, other opportunities for the advanced student to explore other learning techniques must also be promoted throughout the telecourse format.

A project by three Virginia community colleges resulted in a set of recommendations to overcome the problems posed by the separation of student and instructor. This study suggests means of addressing four other areas associated with the teaching of critical thinking, through a telecourse format (Sachs, 1991):

1. the teaching of problem solving;
2. the teaching of evaluating information;
3. the teaching of decision making; and
4. the implementation of shared responses among peers.

In particular, it seems that Sachs (1991) is suggesting that in teaching distance learners, there must be a written set of instructions or objectives for students to work with. This not only helps to master the content of the material, but simultaneously allows students to develop their thinking skills. In the process of setting these objectives, students should not feel that they need to "find" the correct answer for each specific objective, but they can return to each question later in the course, as their knowledge, and more critically, as their understanding of material evolves.

In recognizing that by the very nature of the telecourse design, student contact is minimal, the role of didactic communication must be minimized via the creative structuring and rethinking of how to present course content.

Infusing Critical Thinking Skills During Development of a Telecourse in General Psychology

In articulating the traditional psychology course into a psychology telecourse, it became apparent to the instructor that the telecourse needed to be designed in a similar structure as the traditional course, specifically because of her pedagogic beliefs. When a standard chapter by chapter sequence is used, it seems students perceive the material as separate, factual and to be memorized, and subsequently, to be forgotten after testing; the underlying concepts and applications are many times lost (Ridgen, 1991). A case in point: In a traditional psychology course, if an instructor presents a theory in one chapter, let's say, personality, students generally become lost as to how it might apply to theories of abnormal behavior.

In an attempt to overcome such obstacles in concept building, the instructor organized the telecourse syllabus and lectures with less chapter boundaries. It would have been a contradiction of instructional method, if the articulation had allowed for the organization of content to follow the traditional mode. Consequently, the telecourse version was constructed with limited chapter boundaries and incorporates sections of multiple chapters (with similar themes) and an assortment of video presentations. The objective here was to get students to actively organize parts of selected chapters/videos and to think--analytically, comparatively, hypothetically and critically. Even in an introductory course, the issue becomes one of how to organize content with some level of depth in order to develop critical thinking skills and applications.

The syllabus for the telecourse is in many ways similar to the traditional course syllabus. Their macro-goals which purport to critical thinking tenets are the same. These include the student's understanding:

- of not only the theoretical perspectives of the discipline but also of the assumptions behind the theories and of their applications;
- the scientific nature of the discipline and how the methodologies are used in analyzing data;
- of the conclusions and inferences which can be drawn from psychological research and theories;

- of the changing nature of what is typically perceived as 'fact'.

Ultimately, students should be able to use critical thinking skills such as comparing, contrasting, questioning, applying knowledge from various psychological theories and researching more advanced courses and in their everyday life.

There are also significant differences between the traditional course and the telecourse syllabi. An additional unit to the telecourse was added for students to make the same type of comparisons which would normally result from the interactional process in the classroom. Moreover, there is more structure to the telecourse syllabus by creating a student guide-book which defines assignments and procedures, which the student should complete prior to their examination. Each unit and subunit has objectives that students are asked to answer both before and after they have read the text and have viewed videos (see Sachs, 1991).

According to Beaudoin (1990), such objectives are to be viewed as a dialogue between the instructor and student and not as a directive. These objectives then bridge the gap between classroom instruction and the independent study of the telecourse. Because of the organization of the course, the same or very similar objectives at times appear in later units, with the expectation that students have a deeper level of understanding of the psychological concepts. Finally, the study guide, which accompanies the textbook, is mandatory for the telecourse. This supports the goal of finding alternatives to help the telecourse student through the conceptual thought process.

In designing this telecourse, it was apparent that using a single video series would probably not satisfy all the instructor's goals. One important criterion in selecting a base of video materials, was in feeling confident with the content and presentation of information. More succinctly, it was how the designers of the video materials viewed their objectives in their content presentation. Once the selection was made which seemed related to traditional lecture content (Coast Telecourses), additional cut and pasting of other video programs from a variety of media sources was done to try to create the ideas also presented in the traditional classroom. Included in this package of video materials are several original presentation/lectures. Since the development of the telecourse, the instructor has brought several of these media sources to the traditional lecture in order to amplify concepts presented through discourse.

A last major issue was how students would be tested in the telecourse. Because telecourse students ultimately don't have well delineated lectures, the decision was made to combine a take-home essay component with an on-campus multiple choice exam. The essay exams are created so that the student needs to think about the content, and not just repeat so-called "facts." As examples, they are asked to compare the assumptions of various theories, or they are asked to apply several theories to an hypothetical case. They have to submit the essay part when they take the in-class portion. The multiple choice questions are designed to ask similar questions as the essay questions. Overall, the testing is fundamentally designed for students to look at alternative solutions to various problems and to develop the abstract, hypothetical reasoning expected in understanding concepts (Sachs, 1991). Students are mailed their exam grades, usually within a week of completing each exam. They are also informed during their orientation, that they should discuss their performance on both exam parts with the instructor, either over the phone or during office hours. By scheduling these conferences feedback between the instructor and student is supported.

Conclusion

As an instructor, who truly believes that learning happens via interaction, I now understand that interaction can take different forms: It need not only occur in a traditional classroom setting. Rather, the way in which information is organized, the kind of student one is working with, and the openness for an unique challenge, both for the instructor and student, allows for learning. While some may argue that using T.V. as a means of learning, creates passivity in the learning process, the counter argument is that using the media can help create active learners (Beaudoin, 1990). It is all contingent upon the structure of the situation: For the instructor it means feeling comfortable with the content material, text, and the selection of visuals; for the student it means that they will have to take over the role of instructor--they will have to organize the visuals with the text. How more active in one's learning can one become. Ultimately, I have as an educator, developed better ways of using visuals in the classroom.

In the process of designing and implementing a telecourse, the instructor needs to become cognizant that her role changes; the instructor is critical in the initial design (and revisions) of the course, but then the primary role becomes that of a monitor and evaluator of these geographically distant learners. (Beaudoin, 1990) Undoubtedly, it is a challenge.

As new distance learning programs are being developed, we must fundamentally begin by implementing critical thinking objectives from the outset. Asking faculty to develop critical thinking into existing curriculum can often be a losing proposition if they are unable to receive the support needed to successfully do so, or see the incentive for doing so. On the other hand, many institutions moving into and developing distance learning programs offer training, support and incentive to encourage faculty participation and to insure the outcome of high quality courses.

Consequently, it can be highly beneficial to include critical thinking as a basic component in the training for telecourse faculty and as a part of the design process for these distance learning courses. That way, the incentives, resources and ongoing encouragement can support both initiatives and build towards their combined success.

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