

Course Restructuring for the Teaching of Critical Thinking

Laikhe Jones
Rick Rudd
University of Florida

Introduction

Colleges of Agriculture across the nation are revamping curricula to strengthen the knowledge base of graduates entering the agriculture profession. Although many colleges of agriculture have initiated needed curricular changes during the decade, much of the instructional delivery remains basically unchanged. Students often sit passively in their seats while the professor lectures on the given subject matter. Given such a learning environment, students are often as cognitively engaged as they are physically engaged! Is it little wonder why many are concerned about the ability of our graduates to think critically after their college experience?

I

n response to this criticism, the Department of Agricultural Education and Communication at the University of Florida developed and implemented a proposal, *Course Restructuring for the Teaching of Critical Thinking*, funded by a USDA Challenge Grant. This two-year project was designed to assist faculty in restructuring their courses to foster a learning environment conducive to critical thinking. The objectives of this study were: (1) to determine the impact of course restructuring on student's ability to think critically; (2) to develop and implement curricula design and materials; and (3) to prepare faculty for enhancement of teaching for critical thinking.

Methodology

This two-year project involves a group of ten faculty members from two campuses at the University of Florida who strongly believe that students can be taught to become critical thinkers. Dr. Rick Rudd and Dr. Matt Baker served as co-principal investigators of this project. The remaining faculty represented the following academic units with the College of Agriculture and Life Sciences: Animal Science, School of Forest Resources and Conservation, Environmental Horticulture, Entomology and Nematology, Family and Community Services, Agronomy and Horticultural Sciences.

Faculty participants attended informative workshops on implementing strategies for integrating critical thinking activities into course content. Researchers used the California Thinking Disposition Inventory (CCTDI) to measure students' disposition toward critical thinking. The CCTDI measures seven constructs: analyticity, self-confidence, inquisitiveness, maturity, open-mindedness, systemacity, and truth seeking. Students were surveyed before and after faculty workshops to determine the effects of intervention. Faculty redesigned courses to improve students' ability to think critically about a discipline.

Results

Crunkilton (1996) asserts that a faculty member's behaviors, actions, teaching techniques, and instructional aids influences students' ability to think critically about a discipline. Essentially, students can be exposed to critical thinking strategies to encourage critical thinking.

Faculty who participated in the project attended 10 workshops to learn about teaching for critical thinking in their classrooms. The faculty members then examined their courses and identified the fundamental and powerful concepts to be taught as well as strategies for teaching that would help their students think critically in and about their discipline. In all, 10 courses were redesigned to teach for critical thinking. The faculty in the participating departments have become advocates for teaching for critical thinking in their department and in the College of Agricultural and Life Sciences. . In fact, one of the most impressive results of this project has been the collaboration of the various units with the University of Florida toward studying strategies to foster a learning environment which enhances critical thinking.

In addition, a web site has been developed to disseminate the critical thinking workshops via streamed video and to share critical thinking recourses with interested faculty around the country.

Future plans/advice to others

Students learning styles and critical thinking disposition were assessed at the beginning of this project and will be compared with scores at the conclusion of the redesigned class. Research findings will be disseminated via website (handouts, fact sheets, model course syllabi, and evaluation results), workshop videotapes, and professional presentations. Also, participating faculty members will conduct workshops and seminars to expose colleagues to strategies for implementing critical thinking activities. Students can be taught to think critically, but it takes additional effort on the part of the faculty to institute such a change

Costs/Resources Needed

As an incentive for participating in this case study, each faculty was awarded a \$2,000 mini-grant to fund supplemental resources to enhance teaching for critical thinking. Videotape and World Wide Web will be the primary instructional tools for disseminating research findings and providing supplemental references to assist faculty in enhancing students' critical thinking skills. The University of Florida/Institute of Food and Agricultural Sciences Educational Media Services was provided with \$5,000 for developing videotapes of faculty workshops.