

## A Tale of Two Disciplines: Lessons in Critical Thinking

### Background

In Daniel T. Willingham's article, "Critical thinking: Why is it so hard to teach?" (2007), he emphasized critical thinking practice and perspective by saying, "... if you remind a student to look at an issue from multiple perspectives often enough, he will learn that he ought to do so, but if he doesn't know much about an issue, he can't think about it from multiple perspectives" (p. 21).

In many college degree plans, students are required to take a plethora of general education courses. From science to writing, from history to mathematics, they find themselves bouncing from one classroom to another, which can cause fragmentation of information. In the following project, two instructors found new ways to tear down walls between college departments and disciplines by continuing lessons from a science class to composition and speech classes.

Their project showcases the instructors' collaborative, cross-discipline work that addresses the challenge of teaching students to think critically. It successfully encourages students to comprehend, synthesize, and present information in multiple learning environments with varying classroom experiences.

### Project Description

In her Biology for Non-Majors and Microbiology courses, Dr. Regina Foster teaches students how to locate, read, and comprehend research relevant to their programs. Using original research articles in academic journals, Dr. Foster introduces her students to the skill set needed to read academic research, particularly encouraging them to read carefully for specific details. Students prepare brief and clear responses to specific questions on their own or in study groups, then they have a class discussion about the relevance of the information to current topics being covered in the course. This activity encourages students to think critically by answering questions and discovering how the information connects to their intended career fields. Additionally, it teaches students to navigate technical writing more effectively and recognize relevant portions of research studies. This in turn enables them to retrieve needed material and data more efficiently in the future.

Following this activity in their science courses, some of these same students go on to take Freshman Composition and Introduction to Speech courses taught by Dr. Maria Christian, which emphasize conciseness in summarizing

and presenting information. In either of these courses, students revisit topics introduced in Dr. Foster's classes. Depending on the course, students then either write a comprehensive research essay or they prepare and present an informative speech. These activities encourage further understanding of topics first introduced in Dr. Foster's classes, which contributes to more comprehensive learning. It is a full-circle effect for students as they continue learning a topic in multiple classes in different disciplines.

### Results

This project is an example of how instructors can work together to encourage students to learn in sequence, not in fragments. As a result, the students better develop their critical-thinking skills. Student learning is affected by the emphasis on topic exploration and comprehension across disciplines. Teachers learn to work collaboratively to teach critical-thinking skills through integrated assignments and classroom activities. Awareness that their comprehension and research skills will be used in multiple classes results in students who develop a greater interest in their exploration topics. Returning to Willingham (2007), it is important to "look at an issue from multiple perspectives" (p. 11) because knowledge is not static.

Following this project, the authors noted that their students synthesized information more effectively. As educators, they also enjoyed the opportunity to work together for the benefit of their students.

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### References

Willingham, D. (2007, August 1). Critical thinking: Why is it so hard to teach? *American Educator*, 8-19.