

## **TH!NK: Higher-order Skills in Critical and Creative Thinking**

### North Carolina State University's Quality Enhancement Plan

TH!NK is a campus-wide initiative that is designed to cultivate students' higher order skills in critical and creative thinking. Courses in a wide variety of disciplines are involved in the initiative. In TH!NK courses, students explore disciplinary content through a lens of critical and creative thinking, allowing them to take ownership of their learning and to truly engage their minds. These are skills we all need to be good citizens and to meaningfully contribute to society through our work.

NC State defines critical thinking as the active, persistent, and careful consideration of a belief or form of knowledge. It involves analysis and judgments about knowledge and about the conditions that support the beliefs and conclusions that follow. Creative thinking generates new ideas within or across disciplines. It draws upon or breaks rules and procedures in those disciplines and actively engages students in bringing together existing ideas into a new configuration, developing new properties or possibilities for something that already exists, and discovering or imagining something entirely new.

TH!NK identifies six student learning outcomes that outline critical and creative thinking as interrelated higher-order thinking skills. The plan maps to a developmental path through which students are likely to acquire these advanced skills. Each outcome has associated behaviors and intellectual standards that are applicable across disciplines. Critical and creative thinkers raise vital questions; gather and assess relevant information; reach well-reasoned conclusions and test them against appropriate standards; consider alternative systems of thought or points of view; and communicate effectively to others the analysis or solution to problems.

The first two years of the QEP focus on student learning in approximately 45 courses that primarily serve first-semester, freshman-year students. Participating faculty participate in workshops led by TH!NK Faculty Fellows and staff in the Office of Faculty Development and revise the syllabus and pedagogy in identified TH!NK classes.

Faculty who are implementing TH!NK strategies into courses provide students with opportunities to develop and receive feedback on higher-order thinking skills. They arm students with the intellectual standards for critical and creative thinking, as well as tools to help students reflect on their own thinking (metacognition) so that skills will "stick" from one learning experience to another.

The university is using the scenario-based, NSF-funded Critical Thinking Assessment Test to measure students' critical thinking progress. A faculty-designed activity using a common rubric assesses critical and creative behavior within the discipline. And a student self-assessment captures changes in their beliefs about the nature of knowledge and awareness of qualities in their own thinking. The university will use the results of these assessments to consider the relationship between student achievement and class size, the relative impact of multiple TH!NK courses on students' thinking abilities, and the effectiveness of the strategies to improve students' critical and creative thinking skills. Based on the first two years' results, the university will determine how best to expand the program.

TH!NK is administered by the Division of Academic and Student Affairs under the direction of Dr. Susan Carson, Director of TH!NK and Associate Professor of Plant and Microbial Biology. Dr. Carson may be reached at [sdcarson@ncsu.edu](mailto:sdcarson@ncsu.edu) or 919-515-3803. The TH!NK website ([gep.ncsu.edu](http://gep.ncsu.edu)) carries a full copy of the QEP, a timeline for its implementation, information for students and faculty, and, as they become available, our QEP reports.