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Monday, February 19, 2007

Science/Mathematics Education Program Evaluation Meeting Minutes

Faculty of the Science and Mathematics Education Department met to discuss the findings of assessment measures as required by SACS. Present at this meeting were: Cynthia Ledbetter (dept. coordinator for SACS) Tom Butts (Interim dept. chair) and faculty members Titu Andreescu, Mary Urquhart, Homer Montgomery, and Barbara Curry.

Goals of this exercise were discussed and the group divided between Science Education (Urquhart, Montgomery, and Curry) and Mathematics Education (Butts, Andreescu) Ledbetter worked with both groups for guidance and clarification.

Mathematics Education: Butts and Andreescu addressed the following mathematics education measures that were partially met:

- Measure 1 (Fall 2006): There was a diversity of mathematics ability among the students. While most were ready to grasp important problem solving techniques and apply them creatively, a few experienced difficulties in understanding the subtleties of the problems discussed and were not able to articulate their thinking process.
- Measure 6 (Fall, 2006): Most units contained class examples/discussion based on examples found in high school textbooks and articles from professional journals for high school teachers. Most units contained a task that required teachers to analyze a lesson found on the Internet. Work was assessed on (1) the insightfulness to recognize features of a successful lesson in class discussion, and (2) quality of the responses to the Teacher Reflection Questions and the analysis of the lesson plan given. All of the teachers gave adequate responses; many of them showed great creativity in their responses. The teaching experience of the teacher often played a role in the quality of their responses.
- Measure 7 (Fall, 2006): Most units contained an essay question asking the teacher to examine and evaluate materials found at an Internet site. Part of the question involved examining several Internet sites and choosing one site. All teachers found this task valuable and most were able to critically analyze the material at the site. The teaching experience of the teacher often played a role in the quality of their responses.

All measures were evaluated and strategies were determined to address the programmatic goals. These were discussed by the entire faculty and changes were suggested for the next semester these classes are to be taught.

Science Education: Urquhart, Montgomery, and Curry addressed the following science education measures that were partially met:

- Measure 1 (Fall 2006): Students' presentations reflected their ability to adequately appraise and evaluate perceived solutions related to the various issues presented in terms of their validity or invalidity for economic and political issues, social and moral issues, and issues of technologic and scientific accuracy. They were able to judge, formulate, and develop lessons for the age-group of their respective responsibilities to address, in an appropriate format, critical topics related to the subjects of discussion. They composed valid arguments related to these critical issues, and related them on tests and exams. They provide valid arguments related to these critical issues, and related them through exams and lesson plans. Ninety-eight percent of students met the target performance level (90%). Two percent did not; these students were given remediation.
- Measure 2 (Fall 2006): Most students produced professional presentations and review of literature papers from the current body of published research that met the target

performance level (90%). Those who did not received a grade of incomplete, requiring them to re-do their work and submit it again.

- Measure 4 (Fall 2006): Students initially missing target levels for conceptual understanding on essay questions were asked to redo the questions until target level was reached. Concept questions (multiple choice) were addressed in class or individually until students demonstrated an understanding of the correct answer and the reasoning behind the incorrect distracters. Interactive discussions and journal entries reflecting problems and possible solutions were utilized. Students were able to write scientific abstracts and convert these to Podcasts.
- Measure 8 (Fall, 2006): Students develop problem-solving techniques, an interest in extending learning through projects and essay-style questions, and an awareness of science in their everyday world, and its applicability to other parts of the regular pre-college curriculum.
- Measure 9 (Fall, 2006): Students demonstrated the ability to reflect on their own learning and how to assess address common misconceptions in their own students. They suggested methods for solving the day-to-day issues of classroom

All measures were scrutinized and evaluated for change to be implemented in the next grading term. Proposed changes were discussed by the entire faculty and marked for implementation at the next instructional period.

Ledbetter was charged with translating the changes into the SACS format and entering them in the website.