

Education Seminar # 3: Units, Lessons, State Standards, and Research Experience Classroom Connection

Speakers: Dr. Glenn Markle and Dr. Jon Breiner from College of Education, Criminal Justice, and Human Services (CECH), University of Cincinnati

Date: June 29, 2009

Time: 3:00 to 5:00 p.m. (2 hours)

Prepared by:

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This seminar was jointly coordinated by Drs. Glenn Markle and Jon Breiner on June 29, 2009 in 641 Baldwin Hall from 3:00 to 5:00 p.m.

During this particular session, the teachers listed and explored the components of a quality lesson or unit plan, such as goals, catch, learning outcomes, standards, grade level, setting, duration, materials needed, activity or activities, review material, essential questions, misconceptions, real world application (A), potential careers (C), societal impact (S), other reference materials (if any), pre- and post-test rubrics, and reflection. These items allowed for rich discussion between the RET participants related to use of lesson plans for the classroom.

The discussion was enhanced with the RET teachers bridging their RET engineering research into classroom ready lesson plans. The teachers were challenged but supported by each other as they explored specific math and science lessons to teach from state standards. Using engineering as a context allowed these teachers to focus on problems for students to solve instead of relying on lecture based instruction.

Likewise, unit plans for the year, specific to the individual teacher's subject area, were created. These unit plans stretched the teacher's thinking by asking them to consider the themes and activities that incorporated ACS in a manner that were meaningful to students and then go back to "fill in" required topics where they fit. Since most RET teachers had over 15 years of teaching experience this was a "backward" approach using engineering problems as a base for math and science content. By allowing the RET teachers to use collaborative groups and share in peer review, both the lesson plans and unit plans were critiqued and made stronger for the classroom implementation. The RET teachers asked that more opportunities for this kind of lesson/unit creation to occur during the summer.