

# Investigating Common Problems of Practice: Connecting High School and University Faculty through SoTL

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## Elon Teaching and Learning Partnership

Prominent authors on teaching and learning at the K-12 level (Going Public With Our Teaching, 2005) and at the University level (Gale, 2008) recently have argued that collaborative communities of inquiry will allow participants to address deeper pedagogical questions and contribute more meaningfully to the collective understanding of teaching and learning. Our project began with the question:

### What happens when teacher-scholars come together across disciplines and across teaching levels to create a collaborative community of inquiry?

We report here on the initial progress of the first cohort of 15 high school teachers and university professors in the Elon Teaching and Learning Partnership, funded by the Arthur Vining Davis Foundations. Our participants teach in the humanities, social and natural sciences: all reported that they feel very confident in their abilities as teachers but almost all were SoTL novices and reported low initial confidence in their ability to carry out classroom research.



### ETLP Timeline

- Spring 2008**
  - recruit and select participants
  - 2 whole group meetings
- Late Summer Institute 2008**
  - form small groups
  - discuss research questions & methods
  - search professional literature
  - consult with guest scholars
  - IRB instruction
- Fall 2008**
  - initiation of projects
  - 2 small group meetings
- Winter/Spring 2008-09**
  - small groups meet monthly
- May 2009**
  - present results at showcase

The following preliminary conclusions are based on interviews with participants, observations of group work, and participant work products (drafts of research proposals, reflective journal entries, IRB applications).

## How do the research questions evolve?

The participants have thus far developed interesting and workable research questions, focusing on transfer, problem solving, critical thinking, writing, metacognition, academic service learning, and student-student interactions. Initial questions were generally broad, many implied a need for experimental manipulation and examination of differential outcomes.



After the 3 day institute, questions were more specific and more likely to be oriented toward a detailed examination of student learning in context, although some were focused on examining the impact of new methods, activities, and materials.

Megan, University English professor  
11 years teaching experience; SoTL novice

Interview - April  
*I'd like to measure whether my students learn more from those on-your-feet, interactive, engaged kinds of teaching than they do from the more traditional me-at-the-front-of-the-classroom, answering questions, or bringing in some kind of written piece about what they've read.*

IRB Proposal - August  
*The purpose of this research is to explore what and how students learn about Early English Drama when participating in interpretation groups during the course of regular classroom assignments.*



Mark M.  
High School English teacher  
12 years teaching experience,  
SoTL novice

Interview - April  
*How does access to technology affect the success of the student in terms of skill and content?*

Reflective Journal - August  
*What are the students' perceptions of using the AlphaSmart when composing a creative text and an informational text?*



## How do methods evolve?

Methods were a big focus of the 3 day institute. Ideas for methods tended to be derived from research questions and influenced by group discussion and conversations with guest scholars. Science-trained participants needed to be convinced that they could use qualitative analysis of student work, reflective journals, & think-alouds.

Christi, High School Biology teacher  
5 years teaching experience, SoTL novice

- Research Proposal - July
- Active Vote Quizzes / Tests
  - Student Work (journals, assignments)
  - Observations (note taking), Interviews (informal) with parents and students
  - Surveys
  - Compare scores of quizzes and tests of individual students

- IRB application - August
- Students will use assessments [provided with Benchmark scores] to evaluate areas of proficiency and below proficiency on tests related to the NC Standard Course of Study in biology.
  - Students will participate in re-teaching strategies on areas where they need improvement. Subjects will also be asked to fill out surveys and participate in informal interviews.



Ayesha, University mathematics professor  
8 years teaching experience, SoTL novice

- Research Proposal - July
- Videotaping classes while students are working to solve a case, as well as calling on individuals or groups for talk-alouds to obtain direct information on problem solving techniques.
  - Compare "student performance" (I'll have to figure out what measure of performance to use) from a control course that is taught using the traditional method and an experimental course(s) taught using the case study approach.

- IRB application - August
- Several groups of students (typically four in a group) will be videotaped (with their permission) during each class as they work through student-designed experiments. Individual students may be asked to do "think alouds" two to three times during the semester.



## What difference does it make that we do this together?

### Diversity led to recognition of commonality

Our central research question examines the effect on participants and their work of working in collaborative groups across teaching levels (high school teachers and college professors), across disciplines (social and natural sciences and humanities), and across classroom research/SoTL experience levels. Gale (2008) suggests that collaborative investigation can take many forms, depending on whether researchers are working in common, connected or comparable settings and asking common, connected, or comparable questions.

Because of their non-shared settings, participants could not assume that others knew what happened in their classrooms. As they described their individual problems of practice to each other, they needed to be increasingly explicit, bringing greater clarity to their own thinking and to their colleagues' understanding. In one of the three groups, the realization that their problems were common across disciplines and teaching levels was a powerful influence, and, over the course of the institute, their projects became more deliberately focused on comparable and connected questions tailored to each of their unique teaching and learning contexts.



Jeffrey (a Biology professor with 10 years teaching and significant SoTL research experience) described the commonality among the projects of his team members.

*[T]here turned out to be three levels at which our projects have meaning. ... [W]e are all interested in critical ways of thinking... We were all interested in different settings for understanding what is going on when students are thinking critically about x and then everybody's x is different...*

*[W]e ended up falling pretty neatly into two groups: First, student thought processes while learning, there are four of us there, and we all are going to share by design and discussion some common methodology... And then Christi and Valerie are interested in a process that would happen after that process, student use of instructor feedback to evaluate their learning, so how do they critically incorporate that back into their frame of knowledge.*

*So it makes a nice package, at the end of this whole project there might be value in thinking about our projects as a collective whole at the top level and then in each group and then meaning in each individual project as well so it kind of fits neatly together.*



## Continuing questions

We have preliminary evidence that it is possible to create a collegial, productive, community of inquiry across the traditional boundaries between secondary and higher education and across disciplines.

- Based on self-report, the participants, who were already confident, experienced teachers, have become more confident in themselves as classroom researchers (from 2.9/5 on a Likert-type scale prior to the institute to 3.9/5 at the end of the institute).
- The group discussions and degree of coordination of projects indicate the participants are coming to view their individual "problems of practice" as exemplars of broader, deeper pedagogical questions, and have come to expect that research is a collaborative activity.

In the upcoming months we will look into these issues more closely. We will also ask:

- How do the research projects continue to change over time?
- How does involvement in classroom research influence the participant's approach to teaching and learning more generally?
- How and when do participants "go public" with their research?
- What impact do the individual projects have on the participants' home departments and schools? How are they viewed and valued by their supervisors?
- How does degree of prior SoTL/classroom research experience influence the participants' experience within the community of scholars?