A school district-university partnership

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Project FOCUS

- Fostering Our Community’s Understanding of Science
- Began with a conversation
- Many elementary school teachers have had little opportunity to obtain a science background
- Effective science teaching is time consuming
  - Lesson preparation
  - Materials preparation
- Science hasn’t been part of high-stakes testing at the elementary school level
The partnership

- Started with a mother of elementary-aged children and myself
- Had discussion with the principal of her children’s school
- Then talked with several teachers at the school
- Added UGA students who were passionate about science and kids
- I provided funds for a TA from the (then) UGA Department of Science Education
Specific goals for the program included:

- Improve the science experiences of elementary students
- Provide experiences to students and teachers that will bring about positive attitudes about science
- Improve the science content knowledge and confidence of participating elementary teachers
- Increase support for elementary school science teaching
- Develop a sense of community involvement for UGA students that will continue after graduation
- Enhance the communication and leadership skills of UGA students
The structure

- Created a 3-credit, graded A/F course, initially as a special topics course within departments of the UGA College of Agricultural and Environmental Sciences (CAES)
- After two years, developed a specific interdisciplinary Project FOCUS class in the college
- Students had to apply to the program, indicating:
  - GPA (2.5 minimum)
  - Number of college-level science credits they’ve earned (12 minimum)
  - Experiences with children
  - Reasons for taking the class
  - Have a class schedule that would allow spending 3 hours a week in the elementary classroom
The structure (continued)

- Ten students enrolled initially (two graduate and eight undergrad)
- We asked teachers who were interested in the program when they taught science, then matched student and teacher schedules
- Held a full-day orientation at the elementary school for the UGA students the first Saturday of the semester
Orientation
Orientation
The requirements

- Students spend 3 hours each week for a total of 40 hours/semester in the elementary school classroom.
- The specific role of the UGA student in the classroom is left to the teacher/student partnership to determine, but must be active.
- Students work closely with their partner teacher:
  - Obtain, modify or create the lesson plan
  - Gather materials needed for hands-on exercises
  - Teach the topic to the children
The requirements (continued)

- Students also spend one hour a week in a reflection section led by the doctoral science education student.
- Topics covered include GPS, lesson planning, teaching methods, diversity, disadvantaged children and other relevant items.
- Each week students write a reflective journal entry on a topic relevant to the course.
- TA evaluates these journals.
- TA is direct liaison to schools, principals and teachers.
- TA observes each student in the classroom at least once.
Grades for UGA students

- Teacher evaluations (3 @ 10% each) 30%
- Reflective journals 20%
- Reflection sessions 20%
- Summary reflection 10%
- Overall professionalism and participation 15%
- Best lesson presentation 2.5%
- UGA club presentation 2.5%
The elementary schools
So what has happened?

- Second semester we had 6 students
- Course was initially designed only for CAES students
- I was told that wasn’t fair
- Opened the class up to all qualified students at UGA
- Word of mouth, student recruitment and “looks good on the resume” kicked in
Who enrolls?

- About 75 majors
- About 55% either biology or biological science majors
- Almost all science majors have been represented (animal science, chemistry, computer science, genetics, horticulture, microbiology, etc.) as well as advertising, finance, French, history, magazines, Spanish, sociology and others
- Large number of pre-professional students (pre-med, pre-nursing, pre-dentistry, pre-vet)
- Average GPA is 3.49
- Average enrollee has completed 35 science credits (9-12 courses)
- About 80% female
How many enroll?

- Started in fall 2002, so this fall is our 13th anniversary
- Enrollment spiked at 80/semester, has settled to about 60 each term
- Roughly 1,300 students have participated in the program
- Not unique students, since about 15-20% repeat the class at least once
- A corresponding 1,300 teachers have also participated (also not unique teachers)
- Roughly 26,000 children have participated
- Generally 7-8 elementary schools all in Clarke County
- Moved into middle schools two years ago
Cost of the program

- Portion of my faculty salary
- TA salary (added a second TA about 9 years ago)
- Currently one TA salary paid by CAES and the second funded through BOR grant
- Provide $30/student for supplies (BOR grant)
- Students pay tuition to participate
- They also pay their own travel costs to the schools (usually personal vehicles but some public transportation)
Excellent TA support
Impact

- We have had excellent TA support, including addition of a second TA once enrollment grew to 60.
- Several have used Project FOCUS as the subject of their doctoral research, finding that FOCUS increased UGA students’ management of their own learning process and that FOCUS teachers have gained knowledge and experience in teaching science.
- We have not studied impact on children’s understanding of science for various reasons.
Teacher comments have included appreciation for the extra adult in the classroom that can provide more individualized and flexible teaching.

Teachers appreciate the enthusiasm brought by the UGA students.

Teachers comment on the lessons and materials students are able to create and provide.

Teachers appreciate the fresh ideas as well as the science background the students bring to the classroom.
Several years ago we sent a survey to all UGA students who had participated in FOCUS from fall 2004- spring 2011 and who had graduated from UGA (475 unique alumni)

Surveyed a corresponding group of graduates with same majors and same time out of school, but who had not done Project FOCUS (2000 alumni)

Higher Education Research Institute’s (HERI) Life After College Survey: A Survey of Former Undergraduates (LAC)

Project FOCUS participants are:
  ◦ More likely to be involved in community activities
  ◦ More likely to be interested in solving community problems
  ◦ More likely to be a leader in community activities
  ◦ More likely to volunteer
  ◦ More likely to be connected back to UGA through alumni activities
Impact (continued)

- About 10-15% of the participants changed or are considering changing their career objectives and plan to be involved in teaching at some level.
- PRISM grant program provided financial support for TA salaries that has morphed into the current BOR support.
- BOR had grant program several years ago to “Replicate Project FOCUS” on other campuses of USG.
- UGA was designated an Engaged University by the Carnegie Foundation, citing Project FOCUS as one of three key examples of UGA community engagement.
Expansion

- REFOCUS
- Retirees Enhancing FOCUS
- AAAS two-year grant
- Led by Dr. Julie Luft in Science Education
- Brings retirees into the school classroom
- They share their life experiences, show practical applications, and the value of science
More information

- http://www.caes.uga.edu/academics/focus/
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Thank you

Questions or comments?