**Vertically Integrated Partnerships K-16**

**A National Science Foundation Mathematics and Science Partnership**

Awarded October 2002-December 2009

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### Project Description

**Goals**

- Develop a sustainable, Professional Learning Community model for high school science teachers, pre-service science teachers, and college/university faculty.
- Enrich science teacher knowledge in order to improve instruction to better enable students for success on the Maryland Science High School (MSHS) exam.
- Engage college faculty in improving their teaching pedagogy in order to improve the quality of undergraduate science courses and increase student retention in the sciences.

**Indicators of Success**

Increased collaboration among science teachers and faculty on improving instruction.

### Strategies

- Multiple programs, focused on support for inquiry teaching:
  - Teacher- and faculty-designed professional development and associated curriculum guides for high school science teachers.
  - Learning communities of science faculty to inform undergraduate courses.
  - Research experiences for teachers with embedded inquiry-focused learning community.

Informed by program goals and activities, VIP networks were examined in four core program-related areas: inquiry-based teaching and learning, mentoring relationships, student performance on test scores, and student performance on the Maryland Science High School (MSHS) exam.

### Project Challenges

Current/past challenges:

- Problems with collecting student data linked to teachers
  - We were not able to use student achievement data that was linked to specific teachers (for public dissemination) because we hadn’t been clear about this need when constructing institutional partnerships. Data from some schools was brought into the planning, while maintaining a common focus on the MSP’s overall goals.

- Challenges that are ahead:
  - Institutionalizing the lessons of VIP
    - Maintaining the strong network of collaboration among partners, and in setting the lessons of VIP, it’s essential to use the one-size-fits-all approach as initially planned. Among the problems we had, we were unable to recruit many faculty participants.
  - We solved this problem by phasing each institution’s strengths and interests. These were determined democratically, and the faculty themselves were brought into the planning, while maintaining a common focus on the MSP’s overall goals.

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### Learning from Other Projects

- How have other sun-setting MSPs institutionalized their learned lessons?
  - How might newer MSPs be using some of the lessons of VIP?