Sustaining an Elementary Science Methods and Student Teaching PDS

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Buffalo State College
Professional Development
School Consortium

www.buffalostate.edu/pds

- 900 childhood, early childhood and combined teacher candidates
- 400 childhood/special education teacher candidates
- 50 Masters with Initial Certification teacher candidates
- 25 Literacy Specialists
Buffalo State PDS Consortium School Sites

- 22 PDS sites for ELA, Science & Math, and EC methods courses
- 25+ sites for student teaching cohorts
- 1 site for the Literacy Specialist program
Buffalo State PDS Consortium Governance

- Shared Decision Making
- Advisory Council & By-Laws
- Liaison Committees
- Signed Agreements
Buffalo State PDS Consortium Activities

- 4 whole consortium meetings each year
- Fall Annual retreat for professional development and presentations
- Action Research mini-grants
- Additional Professional Development opportunities
Buffalo State PDS
Field Experience Path

Years 1&2:
Intro to Education: 10 hours observation
Intro to Literacy: 10 Hours field experience

Year 3&4
ELA Methods: 6 cr, taught on site at PDS school and includes 40+ hours practice teaching
EC methods: 6 cr, taught on site at PDS school and includes 40+ hours practice teaching
Math-Science methods: 6 cr, taught on site at PDS school and includes 40+ hours practice teaching

Year 4:
Student Teaching: 80+ full days of practice teaching in a cohort at a PDS school
William Street School

- Opened in 1998 as a Grade 5&6 school
- New wing and Grade 4 was added in 2005
- Current enrollment is 1500 students
- About 20 regular teachers at each grade level
- Class size is about 24 students
William Stree
PDS Partnership

• Math-Science Methods course
  – Dave Henry Instructor
  – 16 students
  – Meets twice a week for a total of 8 hours
  – Each student is placed in a classroom for about 8 weeks, most students spend at least 12 hours/week in the classroom

• Student Teacher cohort
  – Phil Gullo Instructor, retired teacher with 30+ years of experience in urban education
  – usually 8 students who stay together for two 8-week placements, the second being at WSS
  – Meet once/week after school for a seminar
William Street School
PDS Partnership

Methods students, student teachers, WSS teachers and college faculty collaborate

- Professional development workshops
- Demonstration lessons
- Action research projects
Science-math methods → student teaching looping

- Selected students from the methods class are chosen to be in the student teaching cohort, so most of the ST cohort has experience teaching at WSS
- Phil Gullo observes them teach during methods!
- Dave & Phil make the ST placements carefully, taking into account strengths, areas in need of improvement, personalities
- Both Phil and Dave are available to mentor Methods student and student teachers
- The student teachers know their placements at WSS before they are done with the methods course, so they can visit the class and learn about their responsibilities
Benefits and results of the WSS-PDS partnership

• Hiring qualified teachers
  – 5 current WSS teachers went through the methods-ST loop
  – 6 Current WSS teachers completed their masters project doing action research under D. Henry’s supervision

• PDS Action research projects
  – Grade 6: Respiratory System
  – Grade 6: Gender difference in teaching and learning mathematics
  – Grade 5: Magnetism and Energy
  – Grade 5: Electric circuits
  – Grade 5: Teaching about the Sun, Earth and Moon
  – Grade 4: Static Electricity and Magnetism
Benefits and results of the WSS-PDS partnership

• Science Curriculum Unit Development
  – Several science units have been developed as part of our PDS partnership
    • Electricity and Energy (grade 4)
    • Static Electricity and Magnetism (grade 4)
    • Sun, Earth and Moon (grade 5)
    • Magnets and Motors (grade 5)
    • Alternative Energy and Global Warming (Grade 6)
Closer look at the Sun, Earth and Moon

– Fall 2003:
  • Grade 5 teachers find out that they are responsible for teaching about the Sun, Earth and Moon.
  • Science Methods student works with D. Henry and teacher to develop two lessons for this unit

– Spring 2004:
  • D. Henry trains science methods students in teaching new lessons
  • Several Science Methods students teach the lessons that were developed

– Fall 2005:
  • Student teacher from Spring methods course completes the Sun, Earth & Moon unit
  • Methods students continue to teach selected lessons

– Fall 2006:
  • Student teacher who developed unit gets hired to teach grade 5, does action research on this unit for her masters project.
  • Methods students continue to teach selected lessons

– Summer 2007:
  • D. Henry does workshop for all WSS grade 5 teachers on Sun, Earth, Moon unit
Benefits and results of the WSS-PDS partnership

Faculty/teacher research

- Three current and several future publications have come out of the WSS-BSC PDS partnership

Helping curriculum alignment (communication)

- D. Henry currently sits on the WSS science curriculum committee. This committee is charged with developing a curriculum map for grades 4-6.
Conclusions

- Combining Math & Science method reduces time for each content area
- Out group v. In group teachers at WSS
- ELA & Math trump science (NCLB)

Challenges

- Combining Math & Science method reduces time for each content area
- Out group v. In group teachers at WSS
- ELA & Math trump science (NCLB)