Standards Mapped Graduate Education and Mentoring Program

Principal Investigator
Dr. Heinz-Otto Peitgen (peitgen@fau.edu)
Professor of Mathematics and Biomedical Sciences
University of Bremen and Florida Atlantic University

Contact
Ana Escuder (aescuder@fau.edu)

Description of the Program
- Partnership between Florida Atlantic University and Broward County School District, the nation’s sixth largest fully-accredited school district
- Dedicated team of researchers, administrators, and teachers provide a strong foundation for the success of the program
- Institute created a new curriculum for graduate-level middle grade teacher education
  - Jointly developed with Broward District
  - Meetings scheduled regularly with the district to coordinate and improve the activities of the program
- Curriculum strongly based on technology and science integration
- After completion, teachers receive a master of science in teaching mathematics degree

Program Components
- Evening Spring and Fall semester classes
- Pedagogy Conferences during each Spring and Fall semester
  - Held on Saturdays
  - Participating teachers plan and deliver workshops
  - Lectures by invited faculty
  - Given to other mathematics teachers from the district
  - Foster communication and cooperation among teachers
- Intensive Summer Institutes
  - Ten days of workshops and lectures for mathematics teachers in the district. Workshops given by participating teachers
  - Summer course where participating teachers receive graduate level credit. Invited faculty give lectures from other states and countries
- Online community, mentoring and leadership training

Goals of Institute
- University Level
  Increase relevance and timeliness of University education for Middle Grade Mathematics teachers
  - Increase University-District Communication
  - Increase faculty awareness with teaching in other grade levels
• District Level
  Enhance the pedagogical content knowledge of SBBC Middle Grade Mathematics teachers to deliver quality mathematics education
  o Foster teacher leaders
  o Build community and networking among teachers
  o Increase technology knowledge

• Student Level
  Demonstrate a positive impact on student classroom performance and standardized tests
  o Evaluation component
  o Quantify the impact of Institute activities

Indicators of Success
• Evaluation Components
  o Monitor and report to NSF and Project leaders
  o Participating teacher interviews, class visits and questionnaires
  o District wide assessment test comparative analysis of classes

• Assessment Findings
  Studies demonstrate that teachers in the program
  o Increased their students scores in the Florida Comprehensive Achievement Test (with statistical significance)
  o Made mathematical knowledge content gains
  o Increased classroom and pedagogical effectiveness
  o Empowered for district wide and state wide leadership

• Leadership and Outreach
  o During the year 2009, the participating teachers and graduates of the program gave over 140 workshops and presentations within the nation, region, district, and their own schools
  o More than 20 of the graduates have assumed leadership positions within the district (curriculum specialists, department heads, coaches)

Technology Emphasis
• Supplement Grant was obtained to develop, train and integrate the use of GeoGebra in the classrooms
  o www.geogebra.org

• GeoGebra, Excel, PowerPoint, design and use of interactive web-materials, use of html editors are part of the classes, workshops, and summer institutes

• Teachers have shown growth in technology literacy

• Teachers have become trainers in technology
  o In the year 2009, 37 workshops were given nation wide by the graduates

• Teachers continue implementing technology in their classrooms