Experience and Directions in Teaching Mathematics

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Teaching Experience

- 2006-2008: Middle-School Maths and Science Teacher in The Gambia, West Africa through US Peace Corps
  - ▷ All students ESL
    - – Integration of vocabulary and spelling with lessons
    - – Careful choice of assessment tools
    - – Library development
  - ▷ Rote memorization standard pedagogy; first generation students
    - – Slow but consistent introduction to new methods
    - – Discussion of methods and goals
    - – Adult education

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  Louis Stokes Alliance for Minority Participation

  ▷ Inquiry-based calculus
  ▷ After-school study group
  ▷ Seamless Transition Program

- 2014: University of Illinois
  Education Justice Project

  ▷ Workshops: SAT prep, graph theory, and Python
  ▷ tutoring

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    - ▷ Merit Program: concept-based active learning community
    - ▷ Blended online
        - – Video tutorials
        - – Optional in-person recitation
        - – Peer grading
        - – Online discussion boards
    - ▷ Mentoring new graduate and undergraduate TAs
    - ▷ Standalone teacher
    - ▷ Standard recitation sections

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Ideas for the Future

Identifying Directions for Development

Student-Based

- Online suggestion box
- Informal early feedback
- Follow-up with senior students

Instructor-Based

- Input from faculty in other departments
- Instructor review of materials from outside classes

Research-Based

- Close relationship with Department of Curriculum and Pedagogy
- Identify resources: Canadian Council on Learning; Society for Teaching and Learning in Higher Education

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Project Proposal: Everyone Teaches

Problem: Talented students lacking background become frustrated with mathematics as they struggle to succeed in class.

Proposal: Partner with remedial classes and local schools to involve such students as tutors to younger learners.

Provide necessary training to ensure a quality tutoring experience.

Expected outcomes:

- Benefit students being tutored
- Solidify mathematical fluency of tutors
- Foster an understanding of education as an ongoing process
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