

Mathematics Teaching as a Cultural Activity Project (MATHCAP)

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Overarching Purpose of MATHCAP:

To engage secondary mathematics teacher candidates at the University of Maryland (UM) College of Education in experiences that support their capacity to view mathematics teaching and learning as a cultural activity by comparing and contrasting mathematics teaching and learning environments in different geographical locations, with a particular focus on the United States and Ethiopia.

Components of MATHCAP:

1) *UM Session Meetings*

Three 90-minute sessions with UM secondary math teacher candidates.
Session topics will include:

Preparation & Demand

- How are secondary mathematics teachers prepared in varying contexts?
- What are the certification requirements?
- What are the routes to certification?
- Do all subgroups of the society's population have access to mathematics teacher preparation?
- Is there a shortage or surplus of mathematics teachers in different societies?

The Profession

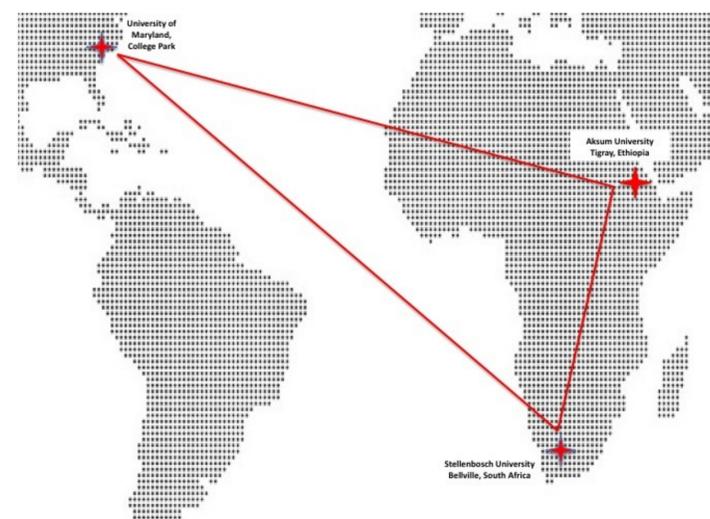
- What is the history of the mathematics teaching profession?
- How is the profession currently perceived by society?
- Is there high turnover in the profession or is it typically a 'life-long' experience?
- What are the school & classroom contexts in which teachers teach mathematics?
- How do contexts change across geographical location within a country?

Curriculum & Instructional Practices

- What mathematics is taught in secondary schools?
- What materials are used?
- How are classroom sessions structured?
- To what extent does the teacher model and explain problems and concepts?
- What are students doing in math classrooms?
- What role does the mathematics teacher take in the classroom?
- How is students' mathematical knowledge assessed?

3) *Public Forum for D.C.-area Ethiopian Community*

Using the first two components of the MATHCAP project as sources for examination and discussion, UM will host a forum in Spring 2010 for local residents interested in improving secondary mathematics teacher education in the United States and Ethiopia.



2) *Facebook group*

Students at UM, Aksum University in Tigray, Ethiopia and Stellenbosch Univ. in Bellville, South Africa will engage in exchanges around a series of prompts, including reflections on:

- Their mathematical experiences as school students
- Their motivations to become secondary mathematics teachers
- What it will be like to teach secondary mathematics in their local contexts
- Contexts/conditions of the mathematics classrooms they will enter
- Mathematics content they will teach
- Curriculum materials they will use
- Pedagogical approaches to the mathematics content they will teach
- Approaches to contextualizing math problems in school students' local culture, surroundings & environments