

Diversity in Mathematics Teacher Education

4 ECTS credits

Course code: UM022FN
Valid from: 2020 03 01
Approved on: 2020 01 21

Time and Place

May 16-18, 2022, from 9:00 to 17:00
Svante Arrheniusväg 20A, E-house
Department of Teaching and Learning, Stockholm University

Registration

Deadline for registration is May 1st, 2022.

Organizers

This PhD course/research seminar is organized within the framework of the STINT project NetDiMaTE, and in collaboration between:

- Department of Teaching and Learning Stockholm University, Sweden
- Center for Advanced Research in Education, University of Chile, Chile
- Institute of Mathematics, Pontifical Catholic University of Valparaiso, Chile
- Department of Science, Environment, Society, Malmö University, Sweden

Course Description

Transnational reports point to the correlation between students' disparities, including gender, socio-economic disadvantages, racial and ethnic differences, immigration background and low-performance in mathematics (e.g., OECD, 2014). Sharp inequities in mathematics education seem to undermine these students' opportunities to access higher education and to break the poverty circle in which they live. Therefore, the connection between students' position of disadvantage and the access to quality mathematics education is a problem to tackle by research in the field of mathematics education (see Valero & Meaney, 2014). This is an issue that is clear in countries such as Chile and in Sweden, which has over the past years taken in substantial number of immigrants. But it is also evident in many other countries in Scandinavia and in Europe.

Internationally, teachers' work and teacher education are key for the inclusion of disadvantaged students (Darling-Hammond, 2017). In particular, teacher's knowledge to teach with quality and equity has received attention. Based on the different cultural, racial and social experiences between teachers and marginalized students, some researchers contend that a different type of understanding is needed to teach mathematics in diverse school settings (e.g., Gutierrez, 2013). Beyond content and pedagogical content knowledge, mathematics teachers working with

marginalized students need preparation for everyday realities and complexities of schools and classrooms. However, this is not a key component of many mathematics teacher education programs, nor is it a well-researched issue (Osterling & Christiansen, forthcoming). Currently, the question that remains is how to educate teachers to support the mathematics learning of diverse student populations, so that quality and inclusion can go hand in hand. This needs to build on existing work on linking theory and practice (see Ramdhany, Venkat & Christiansen, 2018), as well as how to research quality of mathematics education.

Many countries stand in a similar predicament concerning the efforts to improve mathematics teacher education in ways in which quality for high achievement and inclusion of disadvantaged students are simultaneously possible. However, the conditions of teachers' work and teacher education differ greatly among countries. Therefore, it is of relevance to engage in an exploration of the theoretical, methodological and practical implications of research on mathematics' teachers' views and knowledge on how to deal with issues of inclusion and achievement in mathematics.

Aims

- To discuss distinctive research approaches to notions of inclusion and diversity in mathematics education and mathematics teacher education.
- To identify theoretical and methodological challenges in relation to issues of inclusion and diversity in mathematics education research.
- To unpack different ways of approaching the construction of otherness in mathematics education to rethink mathematics teacher education in different social contexts.

Program

The seminar is designed in 5 different thematic blocks. In each block, there is a variety of activities involving panel lectures from the team of guest professors, and group discussions on the students' and senior researchers' own projects. The sessions will be facilitated as to maximize conversation among participants across field of research and context of work. At the end of each block there will be a summary of main points, and some commenters will raise the general points of discussion during the sessions.

Monday 16th of May

9:00 – 9:30 **Welcome to the seminar and presentation of program and activities**

9:30 – 12:00 **Block 1: Trajectories into researching issues of diversity in mathematics teacher education**

This block has the intention of introducing the seminar by coming close to the narratives of researchers about how they have become interested in researching issues of diversity in mathematics teacher education. Lecturer's short presentations will be followed by participants' reflections on why they are interested in this topic and what is central concern for them now. With small group discussions, an exercise of mapping central concerns of research will be carried out as a chart for the course discussions to address during the following blocks.

12:00 – 13:00 Lunch

13:00 – 16:00 Block 2: Contexts of diversity in mathematics education

This block focuses on unfolding the contexts for diversity in mathematics teacher education. The intention is to build an understanding of how diversity enters the scene of mathematics teacher education through the analysis of the elements that are part of the broad network of mathematics education practices and institutions. Participants are engaged in an examination of their own local contexts.

16:00 – 17:00 Summarizing blocks 1 and 2

19:00 Dinner

Tuesday 17th of May

9:00 – 12:00 Block 3A: Diversity and Otherness in Mathematics Education: Theoretical and Methodological Challenges

This block has the intention of discussing theoretical and methodological challenges in approaching issues of diversity in mathematics education. The main focus will be the use by researchers of theories and methods to study different markers of diversity (gender, racial, ethnic, class, ability) in the field. Lecturers' short presentations will be followed by participants' reflections on how these theoretical and methodological approaches have contributed to understand practices and discourses that contribute to the construction of otherness in the mathematics education system of practices. With small group discussions, an exercise of mapping central concerns of research will be carried out as a chart for the course discussions to address during the following blocks.

12:00 – 13:00 Lunch

13:00 – 16:00 Block 3B: Unfolding Notions of Diversity and Otherness in Mathematics Education Research

This block focuses on the discussion of how theories and notions of diversity and otherness are unfolded in particular research projects and their results, and how they have been articulating both theoretical perspectives and methodological strategies. The core of the discussion is revisiting the findings in relation to the larger societal contexts and the possible implications of the research. With small groups, PhD students' projects will be presented and discussed. The discussion will lead to mapping central concerns of research. These will be presented in plenary at the end of the day.

16:00 – 17:00 Summarizing block 3

19:00 Dinner

Wednesday 18th of May

9:00 – 12:00 Block 4A: Articulating Diversity and Otherness in Mathematics Teacher Education

This block focuses on the discussion of how theories, methods and notions of diversity and otherness are unfolded in particular research projects and their results, and how they have been articulating both theoretical perspectives and methodological strategies. The core of the discussion is revisiting the findings in relation to the larger societal contexts and the possible implications of the research.

12:00 – 13:00 Lunch

13:00 – 16:00 Block 4B: Diversity and Otherness in Policies of Mathematics Teacher Education

This block focuses on unfolding the contexts for diversity and otherness in mathematics teacher education. The intention is to build an understanding of how diversity and inclusion enter the scene of mathematics teacher education through, for example, the analysis of national teacher education policies and practices of teacher education. Participants are engaged in an examination of their contexts.

15:00 – 17:00 Block 5: Challenges to and Opportunities in Researching Mathematics (Teacher) Education

This panel closes the seminar by discussing the challenges both for research and for bringing research into teacher education. The intention is to identify key issues for further research, but particularly think of how there could be strategies for feeding teacher education with research results in ways that may qualify student teachers for dealing with a changed student body.

17:00 - 17:30 Closing of the Seminar and Future Collaboration

19:00 Dinner