

MATHEMATICS IN THE SERVICE OF HUMANITY: DATA, DIGNITY, DEMOCRACY AND SOCIAL CHANGE

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A community in the field of mathematics education research has been committed to putting forth teaching and learning of mathematics that is necessary to deal with issues of social justice. In this working group, we focus on mathematics as a tool of advocacy for social change, with a focus on data, dignity and democracy.

Recent events, including the rise of far-right states, war, and occupation have highlighted the power of the global economy, emphasizing the urgent need for advocacy for social change. Integrating a social advocacy component into mathematics education “means connecting the mathematics learned to pressing real-world issues” (Kingan, 2008, p. 238), such as defending dignity, human rights, and the protection of nature. As a starting point, we draw on Nussbaum’s (2013) definition of dignity as the unconditional respect for individuals’ powers of self-definition and democratic participation—expressing opinions while engaging in mutual learning, respect, critical thinking, and dialogue (Hauge et al., 2021). The central purpose of this working group is to invite participants to explore and discuss how mathematics can be used as a tool to uphold human dignity and democracy—and how this approach can drive social change. Research in mathematics education research has focused extensively on democracy and democratic participation, and to a lesser degree on human dignity. For example, explaining that mathematics and its learning and teaching are neither the causes of nor the solution to intolerance and inequity, Valero et al. (2012) argue that decentralisation of the school mathematics curriculum could be an alternative for a democracy that reclaims human dignity. Abtahi (2022) argues for imagining the world from the point of view of others—“people and things whose experiences, contexts and ways of living are very different from our own” (p. 157) as a bases for standing up for human dignity. In this working group, we will analyze various data sets to explore how mathematics can serve as a powerful tool for advocacy and social change. In particular, we propose the following objectives:

1. To explore diverse perspectives about the concepts encompassed by the term human dignity democracy and social change;
2. Explore how mathematics as a knowledge system can lead to more awareness of issues of dignity and democracy leading to possibility of social change?
3. To explore the possibilities and challenges for such incorporation.

The following question will guide our exploration through various activities and discussions: How can a focus on dignity and democracy, through the exploration of

data, make mathematics a tool for advocacy and social change? What challenges and opportunities arise in this process?

□ **Activity A** – Using data from various international UN and NGO-based organizations, we will examine issues where human dignity and democracy are either positively or negatively magnified. Participants will then reflect on these issues and discuss their implications for the teaching and learning of mathematics.

□ **Activity B** – We will explore how and to what extent mathematics can serve as a catalyst for advocacy and social change.

□ **Activity C** – By engaging with mathematics as a system of knowledge, we will analyze social, political, and economic challenges and opportunities.

We propose to organise the sessions as follows:

Day 1 90 mins	<ul style="list-style-type: none">• Introduction to the guiding question and exploration of the key terms. Q & A (15 min.)• Exploration of current literature, on methodological issues in researching human dignity (15 min.)• Small group working on Activity A (30 min.)• Whole-group reflection on implications of activity A (20 min.)• Gathering themes and questions for session 2 and recapitulation. Q & A (10 min.)
Day 2 90 mins	<ul style="list-style-type: none">• A short summary of themes collected in the first session (10 min.)• Small group working on Activity B. (25 min.)• Whole group discussion. Relating the work to our stance towards social change (10 min.)• Small group working on Activity C. (25 min.)• Whole group discussion, Q & A, closing remarks (20 min.)

Acknowledgements

The themes of this WG are related to the project “Developing human rights values in mathematics teacher education: Education with and by youth”, funded by the Research Council of Norway.

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