The mathematics is MInE workshop: developing a teaching model for inclusion and equity

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The purpose of this workshop is to present and elaborate on a teaching model designed to facilitate inclusion and equity in mathematics education. Stemming from "the mathematics is MInE project" and influenced by Ainscow's inclusion and equity framework, the model encompasses core elements for mathematics education to benefit every student. By discussing the core elements, addressing common dilemmas, and exercising professional judgment, we aim to develop the model in order to provide a more inclusive and equitable mathematics education.

## Foundation and purpose of the workshop

The pursuit of inclusion and equity in mathematics education is a multifaceted challenge, deeply embedded in educational policies and practices across many nations. However, it is a complex endeavour filled with intricate processes and dilemmas. Central to this mission is the question of how teaching can provide opportunities for all learners to access learning (Peters & Oliver, 2009). These teaching moments are where complex processes and numerous challenges arise (Kollosche et al., 2019). Addressing the challenges in the dynamic context of inclusive and equitable teaching is crucial for providing access to mathematics for every student (Roos & Bagger, 2021).

We define *inclusion* as creating classrooms where every student feels valued and able to participate fully. It involves tailoring teaching to individual needs, fostering a sense of belonging, and promoting shared visions and values (Roos & Bagger, 2021). We define *equity* as eliminating disparities and providing fair access to quality learning experiences (Roos & Bagger, 2021). By prioritizing inclusion and equity, mathematics education can become more accessible and beneficial to all students, regardless of their backgrounds or abilities. Following from this, the purpose of the workshop is to present and elaborate on a teaching model designed to facilitate inclusion and equity in mathematics education. Stemming from *the mathematics is MInE (Mathematics education for Inclusion and Equity) project* and influenced by Ainscow's (2020) inclusion and equity framework, the model is developed together with teachers and encompasses core elements for mathematics education to benefit every student. These elements are interconnected and organized hierarchically into three levels of complexity (see table 1). Realizing inclusion or equity requires the presence of all three levels and core elements in educational policy, research, and practice. Formulärets nederkantFormulärets överkant

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| **Core elements in Moments of Inclusion** | **Core elements in Moments of Equity** | **Common Dilemmas** | **Professional Judgment at work** |
| Diversified classroom  | Adapting materials and teaching | Managing diversity  | Dispensing justice |
| Individually tailored teaching | Routines and restrictions | Allocating resources | Ensuring fairness |
| Visions and values | Teachers’ opportunities and capacity | Clashing Values | Embracing diversity |

Table 1. The teaching model for facilitating inclusion and equity.

## The structure and timeline of the Workshop

Stage 1 in the workshop is a 5-minute introduction to the *Mathematics is MInE project* and its goals. After that we will have a joint exploration of the core elements of inclusion and equity for 15 minutes. Here the participants will reflect on the interconnectedness of inclusion, equity, common dilemmas, and professional judgment and identify challenges and opportunities in current mathematics education practices, and other core elements that might be a part of the model from a research perspective. In stage 2, building upon stage 1, participants delve into strategies for promoting inclusion and equity in mathematics classrooms. Here the core elements are discussed for 10 minutes in relation to diverse classroom practices, teaching materials and methods related to managing diversity and resource allocation. In stage 3, implementation and improvement of the model is discussed for 10 minutes. Hence, this workshop aims to discuss knowledge and tools needed to create inclusive and equitable mathematics education, ensuring that every student could thrive. By discussing the core elements, we hope to develop the model to be able to provide a more inclusive and equitable mathematics education.

Formulärets överkant

Formulärets nederkant

## References

Ainscow, M. (2020). Promoting inclusion and equity in education: lessons from international experiences, Nordic Journal of Studies in Educational Policy, 6(1), 7-16.

Kolloshe, D., Marcone, R., Knigge, M., Gody Penteado, M., & Skovsmose, O. (2019). Inclusive mathematics education. State-of-the-art research from Brazil and Germany. Springer.

Peters, S. & Oliver, L. A. (2009). Achieving Quality and Equity through Inclusive Education in an Era of High- Stakes Testing. Prospects: Quarterly Review of Comparative Education, 39(3), 265-279. [10.1007/s11125-009-9116-z](http://dx.doi.org/10.1007/s11125-009-9116-z)

Roos, H. & Bagger, A. (2021). Developing mathematics education promoting equity and inclusion: Is it possible? In: David Kolloshe (Ed.), Exploring new ways to connect: Proceedings of the Eleventh International Mathematics Education and Society Conference Volumes 1-3 (pp. 223-226).