New Participants in Mathematics Education: Artificial Intelligence and Digital Tools

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The rapid spread of artificial intelligence is fundamentally transforming our understanding of education and, within that, our concept of useful mathematical knowledge. What kind of mathematical knowledge can be considered useful and relevant in an environment where digital tools and AI-based applications are increasingly capable of supporting or replacing various problem-solving activities?

The presentation examines, on the one hand, the possible effects of the growing presence of artificial intelligence in education, with special emphasis on mathematics education and the classroom role of digital tools [1]. On the other hand, it draws on the experiences of two questionnaire-based studies [2]. One of the studies investigates students' attitudes towards mobile devices and mathematical applications, as well as their familiarity with such tools, while the other examines students' experiences related to the independent exploration of geometry-focused mobile applications.

The presentation also briefly addresses one of the speaker's main areas of interest: the classroom potential of mobile games that are used almost continuously by members of Generation Z and α. The examples presented seek to answer the question of how entertaining digital environments, mathematics education, and the new learning culture shaped by artificial intelligence can be integrated.

[1] C. Walkington, The implications of generative artificial intelligence for mathematics education, *School Science and Mathematics* (2025), 1–10.

[2] A. Máder, M. Szalai, Math Anxiety and Mobile Learning: A Dual-School Survey Analysis, *Teaching Mathematics and Computer Sciences*, submitted for publication.