

Einladung

Würzburger Mathematisches Kolloquium

Julius-Maximilians-Universität Würzburg • Institut für Mathematik

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How Do Pre-Service Teachers Use AI during the Modelling Process? Analysing ChatGPT's Role in Solving Fermi Problems

Montag, 13. Januar 2025 • 14:15 Uhr

Seminarraum SE41 • Humboldt-Bau (Emil-Fischer-Straße 41, 97074 Würzburg)

Der Vortrag wird auch als Zoom-Meeting übertragen: go.uni-wue.de/ifmcolloquium-zoom

Abstract. In recent years, the use of AI systems has increased, particularly in the field of education. It is a tool that could be useful in solving modelling problems, such as Fermi problems. These types of problems are suitable for introducing modelling in primary classrooms. However, little is known about how the use of this tool influences the problem-solving process and how this technology can be profitably used to solve real, open and complex problems. In this seminar I will present the results of a study that has two aims. Firstly, we want to find out which problem-solving environment (including the use of ChatGPT) is most effective for future teachers to develop complex strategies and use them flexibly throughout a sequence of Fermi problems. In addition, we are interested in characterising the use of ChatGPT by pre-service teachers in solving modelling problems and in analysing the influence of the type of previous experience in solving simple real-world problems on their subsequent interaction with the AI. To this end, we present a two-stage quasi-experimental study involving $n=137$ pre-service primary school teachers. Analysis of their solutions and interactions with ChatGPT will allow us to answer our research questions and draw implications for the educational use of AI in the process of solving modelling problems.



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