

Modelling views of prospective mathematics teachers on mathematics didactics

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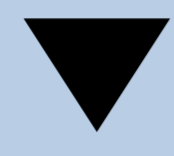
INTRODUCTION

Recent research (Manderfeld 2020, Manderfeld & Siller 2018) indicates that prospective mathematics teacher have different

- understandings of mathematics didactics
- attitudes toward mathematics didactics. } **views**

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It is **unclear** how these views change over time, differ between different groups of prospective mathematics teachers and are interconnected.



I research views of prospective mathematics teachers on mathematics didactics by

- ① **developing a model of such views**
 - ② developing a questionnaire
 - ③ conducting a survey
- focus of this poster

METHODS

The model and the questionnaire are developed on the base of a **literature review** and **qualitative studies**.



literature review

Research on views of (prospective) mathematics teachers on mathematics didactics (e.g., Türker & Turanlı (2013)) and **meta reflections** of mathematics didactics researchers on mathematics didactics (e.g., Törner & Sriraman (2005)) were reviewed.



open-ended questionnaire study

The participants (N=20) of a mathematics education research colloquium answered open questions about the **topics, goals and results** of mathematics didactics. The data was analysed with a thematic analysis (Braun & Clarke, 2020).



document analysis

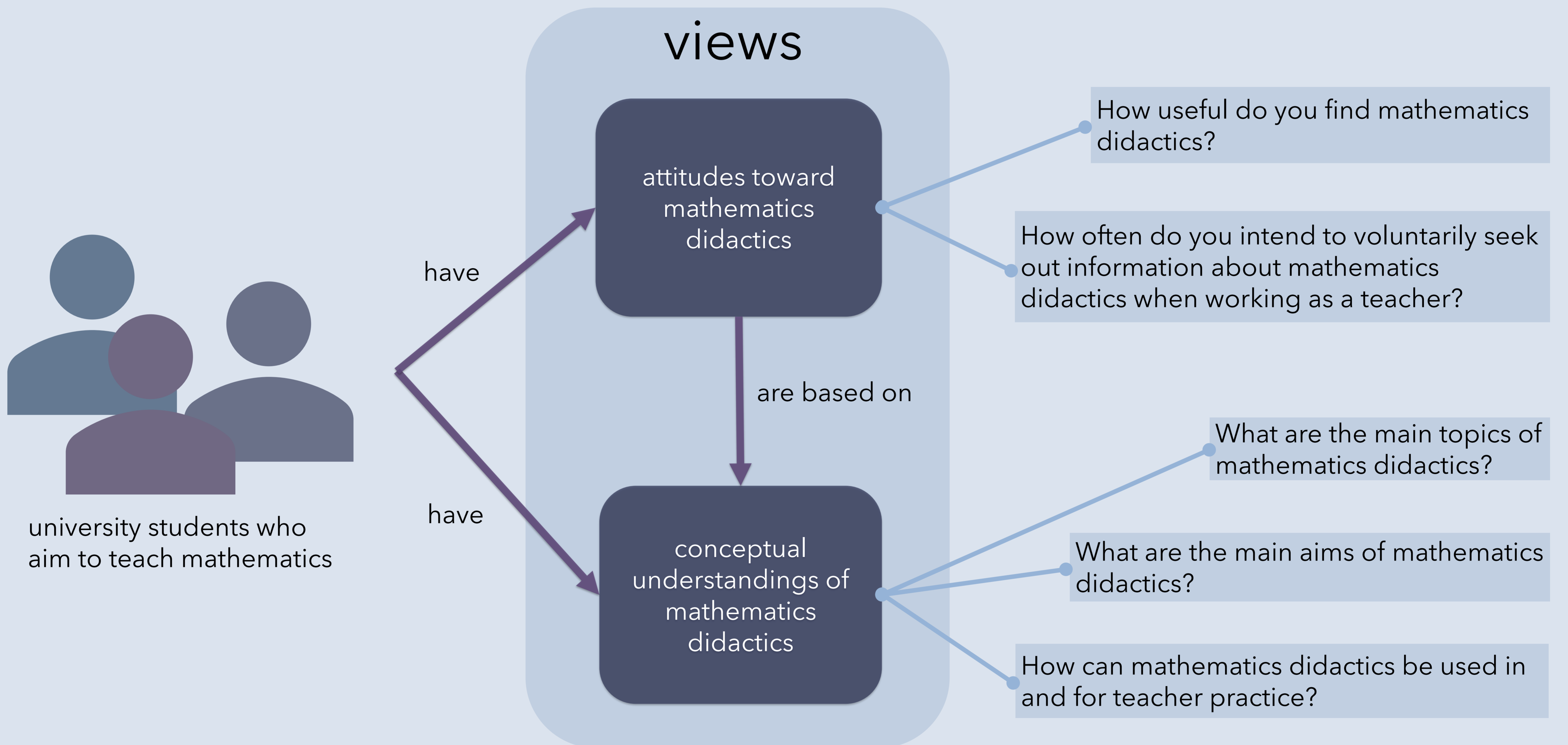
The **titles** of the Thematic Working Groups of CERME-12 and the Topic Study Groups of ICME-14 were analysed with a thematic analysis (Braun & Clarke, 2020) regarding **topics** of mathematics didactics.



qualitative pretest

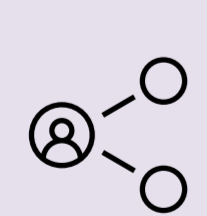
A draft of the **questionnaire** was given to six prospective mathematics teachers. They were encouraged to criticize the questionnaire. The pretest was videorecorded and inductively analysed.

THE DEVELOPED MODEL

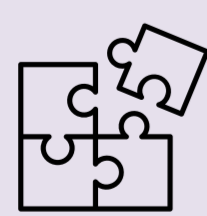


Let's discuss [my model of] views [of [prospective] mathematics teachers] on mathematics didactics!

DISCUSSION



The model helps to **structure** views on mathematics didactics and can serve as a base for creating a questionnaire about such views.



Limitation: the model **only** covers **parts** of the complex views on mathematics didactics.

OUTLOOK

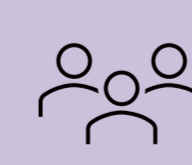
On the base of this model, I'm developing a **questionnaire with pre-defined responses**.

This questionnaire will be used to gain **insights about how the views** of prospective mathematics teachers on mathematics didactics **differ** between



points in time in their studies

e.g., third semester bachelor - third semester master



groups of prospective mathematics teachers

e.g., prospective primary school teachers - prospective high school teachers

LITERATURE

- Braun, V., & Clarke, V. (2022). *Thematic analysis: a practical guide*. SAGE.
- Manderfeld, K. A.-M. (2020). *Vorstellungen zur Mathematikdidaktik: Explorative Studien zu Beliefs, Einstellungen und Emotionen von Bachelor-Studierenden im Lehramt Mathematik*. [Perceptions of Mathematics Didactics: Exploratory Studies on Beliefs, Attitudes and Emotions of Bachelor Students in Mathematics Education.] Springer Spektrum. <https://doi.org/10.1007/978-3-658-31086-8>
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- Türker, N. K., & Turanlı, N. (2013). Developing an Attitude Scale for Mathematics Education Courses via Fuzzy Statistics. *Middle-East Journal of Scientific Research* 13(4), 561-567.

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