

A COMPARATIVE STUDY ON GERMAN AND ITALIAN PERSPECTIVE TEACHERS' VIEWS OF MATHEMATICS

Andreas Eichler*, [Federica Ferretti](#)[°], Andrea Maffia**

*University of Kassel, [°]University of Bozen, **University of Pavia

International literature is increasingly disclosing the relevance of cultural aspects within the mathematics teaching and learning processes. According to Radford (2003), knowledge is inextricably linked to the activities in which the subjects engage, and this must be considered in close relationship with the socio-cultural context in which the activity takes place. In MAVI 25, Ferretti, Funghi and Blum (in press) discussed the impact of the cultural aspects on affective issues and on curricular issues. Furthermore, Bartolini Bussi, Funghi and Ramploud (2019) have highlighted how teachers' beliefs depend strongly on teachers' culture. Thus, it is of remarkable interest to investigate how and if cultural aspects influence pre-service teachers' beliefs and knowledge.

In MAVI25, Maffia and colleagues (in press) presented a clustering method to analyse answers given to multiple-answer questions about perspective teachers' view of mathematical ability. For this comparative study, we used the same method to cluster answers to the same questionnaire by future students from three different universities: University of Bologna (Italy), University of Bozen (Italy) and University of Kassel (Germany). Among the 460 respondents, 40% are from Bologna, they are students coming from different parts of Italy. 39% of our sample comes from Kassel; the students in Kassel are mostly come from places around Kassel. The remaining 21% are students from Bozen, a bilingual city situated close to the border between Italy and Austria.

First results show that students from all the three universities give less importance to natural abilities. Clusters more populated by students from Kassel are characterized by a strong attention to analytical thinking and creativity, while the percentage of students from Bologna is higher in clusters characterized by attention to flexible thinking and affective factors. Students from Bozen are almost distributed equally in all the clusters, suggesting a mix of cultural beliefs.

References

- Bartolini Bussi, M. G., Funghi, S., & Ramploud, A. (2019). Mathematics Teachers' Cultural Beliefs: The Case of Lesson Study. In *International Handbook of Mathematics Teacher Education: Volume 1* (pp. 131-154). Brill Sense.
- Ferretti, F., Funghi, S. & Blum, S. (in press). Issues about culture, affect and standardized assessment. In Andrà, C., Brunetto, D. & Martignone, F. (Eds). *Theorizing and Measuring Affect in Mathematics Teaching and Learning*. Springer.
- Maffia, A., Rossi Tisbeni, S., Ferretti, F., & Lemmo, A. (in press). A clustering method for multiple-answer questions on pre-service primary teachers' views of mathematics. In C. Andrà, D. Brunetto, & F. Martignone (Eds.) *Theorizing and Measuring Affect in Mathematics Teaching and Learning*. Springer
- Radford L. (1997). On psychology, historical epistemology and the teaching of mathematics: towards a socio-cultural history of mathematics. *For the Learning of mathematics*, 17(1), 26-33.