

# TEACHER TRAINING IN MATHEMATICS TEACHING USING DIGITAL TECHNOLOGY

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The literature has identified the importance of using technology for a more effective approach to teaching mathematics (e.g., Cai & Howson, 2013), which requires the implementation of Professional Development Programs (PDP) for in-service teachers.

We research the impact and sustainability of PDP (Zehetmeier & Krainer, 2011) on pedagogical practices with TPACK (Koehler et al., 2013) as a reference model. Methodology includes Parallel mixed methods design (Creswell, 2011), with qualitative and quantitative data analysis. The participants are 250 teachers who attended PDP, in eight courses, from 25 to 50 hours, in Mathematics Teaching using Milage Learn+ ([www.milage.io](http://www.milage.io)) or GeoGebra ([www.geogebra.org](http://www.geogebra.org)), in which the proposed activities were done in an educational context, so that they could be immediately applied in teaching practices, still during teacher training. Data was collected from the reports made by the teachers and from questionnaires applied to them at two moments: at the end of the PDP and one semester after it. Based on the data analysis, at the end of the PDP teachers showed high levels of satisfaction with the effectiveness of the programs. However, six months after the PDP, while the technology is used regularly by most of teachers, many still do not propose tasks for students to use it, namely specific practices developed in the PDP that mobilize the full potential of technology, which compromises its sustainability. Thus, there is a need for further research on how to promote the sustainability of PDP of this nature.

## References

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