

SUPPORT MATHEMATICS TEACHERS' TECHNOLOGY TRAINING IN PORTUGUESE-SPEAKING AFRICAN COUNTRIES (PALOP)

José Manuel Dos Santos Dos Santos, Astrigilda Silveira, Zsolt Lavicza

Centre for Research and Innovation in Education - Porto Polytechnic School of Education, Cape Verde University, Johannes Kepler University - School of Education

In our presentation, we will outline results from the implementation of a project aiming to support, by developing culture-sensitive professional development, mathematics teachers in PALOP in the integration of technology into their practices. Participants of this project were mathematics teachers from Cape Verde, Mozambique, and Angola. In PALOP Portuguese is an official language, among other local languages, being a factor of national unity. Also, since the independence of these states, there are strong cultural and cooperation relations with Portugal, particularly in education. Consequently, in the PALOP, mathematics curricula, teaching materials and textbooks have many affinities and have been influenced by the curricular options in Portugal, so it was essential to start from this context to develop this project.

Our vision of professional development of teachers is not common in PALOP. However, this project encourages teachers to develop their skills in mathematics and education in the context of their practices and in autonomous lifelong learning. Strategically, offered training courses promotes a systematic reflection on teachers' practices, encouraging research in the classroom, through the development of teaching experiences (TE), without neglecting the publication of the results of TE developed during training. GeoGebra is used in the project because: allow the teaching of various topics of school mathematics by multiple approaches; facilitate the b-learning training project; support a large global community of Portuguese-speaking teachers; it is a free software for educational use. In our research, the sources of qualitative data are diverse, namely the TE developed by the participants, therefore the models of progressive TPACK, considering the Rogers decision process and innovation model (Lyublinskaya & Kaplon-Schilis, 2022), was crucial to guide the research. In addition, training improvement uses an inventory of teachers' practices and knowledge in GeoGebra, applied before and after training courses, already in use since 2016. Thus, we will outline how participants promoted changes in their practices, using technology in their classrooms to promote mathematics learning, highlighting how the context was crucial to the project's achieved results.

References

Lyublinskaya, I., & Kaplon-Schilis, A. (2022). Analysis of differences in the levels of TPACK: Unpacking performance indicators in the TPACK levels rubric. *Education Sciences*, 12(2), 79. <https://doi.org/10.3390/educsci12020079>