**Impact Sheet**

Pinzón, A., & Gómez, P. (2022). Study of the effects of a mathematics teacher education program: What went wrong? *Implementation and Replication Studies in Mathematics Education*, *3*(1), XX–XX. DOI: 10.1163/26670127-bja10010

**Problem Addressed**

The problem addressed in the paper is the difficulty in accurately evaluating the effects of a teacher education program on teachers’ implementation practices — where *implementation practices* refer to the teacher’s enactment of his or her planned activity in the classroom. As part of the context of the reported research, the authors refer to a previous study conducted to evaluate the effects of a mathematics teacher education program on teachers’ planning, implementation, and evaluation practices. The evaluation of the program’s effects yielded unexpected results that suggested the program had little to no effect on the teachers’ practices as observed. Nevertheless, upon conducting interviews with a sample of teacher graduates from the program, it was found that the program did have effect on their implementation practices. Examples were increased student participation, teamwork, and conceptualizing students’ errors as a learning opportunity. Still, the original evaluation study did not capture these effects.

The research paper thus highlights the limitations of the original study’s instruments and procedures, which failed to measure these effects. It discusses the need for a more comprehensive evaluation approach to understand better the impact of the teacher education program on teachers’ practices.

**What is Implemented?**

The paper illustrates the implementation of a didactic analysis model (Gómez, 2002; Gómez, 2018) in the design of a professional development program for mathematics teachers. This model proposes a conceptualization of the mathematics teacher’s activities to plan, implement, and evaluate didactical units. The study focuses on understanding whether the innovation — the professional development program — achieves the desired outcomes for the target population, and in which sense.

The paper highlights the importance of understanding both successful and unsuccessful outcomes of teacher education programs, which can provide valuable insights for future improvements. It also emphasizes the need to refine the evaluation instruments and procedures to capture better the full range of effects of teacher education programs on implementation practices. The study contributes to the understanding of the interplay between various subsystems, such as the teacher, the school, and the training program, in determining the impact of teacher education programs on implementation practices.

**Implications and Significance**

This paper contributes to the implementation research theory and practice by providing insights into the complexities of evaluating teacher education programs and the potential shortcomings of existing evaluation instruments and procedures. It also offers valuable suggestions for improving the evaluation of such programs, which can ultimately lead to better informed, evidence-based educational policies and practices.

In addition, the paper suggests directions for future research, such as designing questionnaires to better address teachers’ experiences, exploring the impact of teacher profiles on curricular practices, and incorporating student perspectives to gain a more comprehensive understanding of implementation practices.

**References**

Gómez, P. (2002). Análisis didáctico y diseño curricular en matemáticas [Didactical analysis and curriculum design in mathematics]. *Revista EMA*, *7*(3), 251–293.

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