

## Norms and practices of secondary teachers' formation. The case of Portugal (1915-1930)

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This paper discusses norms and practices of secondary teacher education in mathematics in the beginning of the XXth century in Portugal. Following the educational proposals of the new Republican order (monarchy was abolished in 1910), Normal Higher Schools (*Escolas Normais Superiores*), created in 1911 and operational from 1915 until 1930, play a central role in the training of professionals for teaching secondary disciplines, particularly mathematics. For the first time at the secondary level, teacher education comprises a theoretical study of subjects akin to their future profession and a practical initiation at the school level. In the case of mathematics, reflections on both school mathematics and methods for teaching the discipline are now systematically discussed.

Two Normal Higher Schools integrated in the universities of Lisbon and Coimbra were created. Prospective teachers entered the schools following a *Bacharelato* of three years in the area of the discipline obtained in universities. Entrance examinations were required. For example in 1916, these examinations involved a general part composed of a test on the history of Portugal and another requiring proficiency in French. Candidates should also pass a special part that, in the case of future teachers of mathematics, was composed of two oral quizzes on algebra and geometry and a written solution of a mathematical problem.

The first year of the course involved attendance of a set of disciplines relating to pedagogy and its history, psychology, legislation, hygiene, morals, and special didactics of the discipline. In the second year, prospective teachers taught classes in specific secondary schools, supported by the teachers of those classes. These normal schools were extinguished in 1930 and a distinct model for the formation of secondary teachers was adopted.

This paper, based essentially on documentation preserved at the archives of the University of Coimbra and Biblioteca Nacional in Lisbon, will focus on the analysis of norms and practices leading to the professional knowledge formation of high school mathematics teacher.

Norms are assessed through the study of legislative documents, regulations and bureaucratic materials. Practices are determined following the analysis of several kinds of students' work required for the diverse disciplines (exercises, tests, conferences, written assignments, etc.) and the extensive reports produced at the end of their internship.

Analysis yields the importance of two major influences. On the one hand, as psychology is struggling to be recognized as a "scientific" field, future teachers are required to perform several kinds of psychological and didactical experiments. On the other hand, as beliefs associated with the ideology of the New School movement permeate Normal Schools' curricula, students are

required to inquire on its major propositions and figures. In the particular case of mathematics, trainees are required reflections on mathematical methods — especially heuristics —, and the ways in which they can be transposed to classroom practice.