

Mária Almeida

UIED Agrupamento de Escolas de Casquilhos, Portugal
ajs.mcr.almeida@gmail.com

The ‘New math’ in mathematics teachers training in Portugal (1957-1969)

Abstract

The introduction of the "new math" and teacher training are very interesting topics in the recent history of mathematics education. The “New Math” Reform was a curricular change in secondary school mathematics that occurred in the early sixties. It spread through many countries attempting major changes in content and methods for teaching mathematics. In Portugal, the reform measures introduced in the 1960’s were linked to economic considerations and the new initiatives in mathematics education were aimed at the more able senior students. Some of the new contents were modern algebra, sets, relations and vector calculus. Most of the mathematics teachers were not acquainted with these contents; so they were not ready to teach them. This paper focuses on the training for secondary school (“liceus”) mathematics teachers, in Portugal, and aims to contribute to deepen our knowledge on this topic. We will briefly characterize the teacher education system, in the second half of the 1950s and during the 1960s. We attempt to clarify in which way the new ideas for the teaching of mathematics were discussed and being developed on teacher training courses held in Liceu Normal de D. Manuel II, between 1957 and 1963. Similarly, we will characterize the in-service training for teachers put in place during the Modern Mathematics’ reform, in Portugal. The documents related to the mathematics teachers training in Liceu Normal de D. Manuel II, show that the trainees had become acquainted with the new math ideas on either the application of new contents, or changes introduced in teaching practices. Regarding the in-service training courses, we have noticed that its main purpose was to improve the level of preparation of mathematics teachers on the new concepts and contents that they would be requested to teach shortly afterwards. The teacher training courses held at the Liceus Normais and the continuous in-service training for mathematics teachers did not made available a sufficient number of mathematically qualified teachers on "new mathematics". As the new material was presented to a much more diverse range of pupils, teaching the more abstract new ideas, particularly to weaker students, proved to be difficult for teachers. It is hardly surprising that the attempts to reform the mathematics curriculum did not meet with total success. This paper concerns the history of Portuguese mathematics education and it is based on printed and manuscript sources, as well as on interviews.

Keywords: History of Mathematics Education, Mathematics teachers education, Modern Math.

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