SPANISH SCHOOL ENCYCLOPEDIAS (1901-1965)

An unexplored source for the History of Mathematics Education in Spain

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Since the 19th century, and until the second half of the 20th century, Spanish primary education was organized in grades. The name of such grades, as well as their number, varied over time. However, in general terms, we can affirm that, for over a century, Spanish primary education consisted of four grades: 6-8 years (usually called first or elementary grade), 8-10 years (second or medium grade), 10-12 years (upper or improvement grade), and 12-14 years (extension or professional initiation grade). Between 1901 and 1965, mandatory education was usually restricted to the period 6-12 years (Galera Pérez, 2018). By a Royal Decree from October 26, 1901 the cyclic nature of Spanish primary education was officially established: "Each of the three grades into which this education is divided will embrace all the subjects indicated, distinguished only by the breadth of the program and by the pedagogical character and duration of its exercises" (Gaceta de Madrid, year CCXL. Madrid, October 30, 1901. No. 303, p. 497). This Royal Decree also established the different subjects that had to be covered during primary education, in particular, Arithmetic and Geometry. However, no official syllabi for this level were published until 1953. According to different authors (Escolano Benito, 1997; Viñao, 2001), the newly established cyclic nature of primary education was one of the main factors that led to the flourishing and popularization of the so-called school encyclopedias. These particular textbooks (see Figure 1) were defined by two main characteristics: each book corresponded to one grade rather than to one school year (different letter size was often used within a book in order to organize the contents into school years), and they contained all the subjects in one single volume.



Figure 1. The four encyclopedias by the same publisher.

This type of textbooks already existed in Spain since the last quarter of the 19th century. They were cheap, they were adapted to the context of unitary schools in which students of different ages shared the same classroom and, in the absence of official syllabi, they provided the teachers with a ready-made, easy to implement lesson plan. All these factors also explain the great popularity of school encyclopedias in Spain during the first half of the 20th century. In spite of their popularity and their extensive use during almost a century, very little research on school encyclopedias has been carried out from the point of view of History of Mathematics Education in Spain. Nevertheless, works such as (Santágueda-Villanueva & Goméz, 2021) clearly illustrate their interest as a source material. We now mention various possible approaches that take into account some of the elements pointed out by Schubring (1987), such as the necessity of considering the role of the textbook author.



Figure 2. *Nueva Enciclopedia Escolar* (second grade). Editions from 1931, 1940, 1944, and 1955.

First, we can take into consideration the fact that there usually exist many different editions of a given encyclopedia (see Figure 2). This allows us to carry out longitudinal case studies in which we can take into consideration contextual elements, not only educational (publication of official syllabi in

1953, for example), but also social (the Spanish Civil War from 1936 to 1939, for instance). This type of approach can be used to analyze the possible evolution in the treatment of particular topics, or to describe how the evolution in the society was reflected (or not) in aspects like the context of the proposed problems.



Figure 3. School encyclopedias with different author profile. Teachers association (left), individual (center), and religious order (right).

A second possible approach takes into account that the popularity of school encyclopedias entailed the publication of this form of textbooks by many different profiles of authors and publishers. We can find collaborative works promoted by teachers' associations, more traditional publications written by a single author, or religious orders that published textbooks initially, but not only, to be used in the context of their own schools (Figure 3). In this way, it might be interesting to research about the possible dissemination of novel pedagogical ideas depending on the background and ideology of the authors and editors. Finally a third interesting approach is related to the fact that some publishers had in their catalogue both encyclopedias and textbooks for the different subjects. As we mentioned before, one of the defining characteristics of school encyclopedias was that they contained all the subjects in the same volume. However, we must note that they were not just the result of putting the different textbooks together. In Figure 4, for instance, the encyclopedia devoted 20 pages to Arithmetic and 8 pages to Geometry. However, the textbooks had 134 and 66 pages, respectively. It is quite possible that these books were intended to be used in different socio-economical contexts. This means that, even if education was mandatory for those ages (grade one corresponded to ages 6-8), the training given to the students could greatly differ according to the type of textbook that was used which, in turn, could depend on several variables (type of school, demographic group, being in a rural or urban area, etc.). This was true also after the publication of the official syllabi in 1953. Consequently, it seems interesting to compare the treatment of different mathematical topics both in encyclopedias and in regular textbooks (Villanueva Baena, 2015).



Figure 4. School encyclopedia, Arithmetic and Geometry textbooks (grade 1) from the same publishing house.

We think that these ideas illustrate the potential of school encyclopedias as a fruitful source for the History of Mathematics Education in Spain. In the near future, we intend to explore some of them.

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