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Daily life traits in arithmetic word problems: a glance on 1950s school notebooks

Abstract :

The paper focuses on the representations of everyday life in arithmetic word problems studied in elementary school in the 1950s, in Rio Grande do Sul, in the south of Brazil. During this period, there is a strong expansion of elementary education and teacher training institutions. In the country, the Progressive Education ideology is in vogue. The methodological guidelines to teachers highlight the use of active methods, valuing children's prior knowledge and extracurricular experiences (Peres 2000). According to these guidelines, arithmetic word problems should occupy a prominent place in the teaching of mathematics evoking lived situations and preparing for solving problems of daily life. From the new purpose assigned to arithmetic problems, follows a new format and a new role assigned to teachers. Problems should no longer be presented in long lists of similar problems, nor copied from textbooks. Formulated by the teacher or by the student, they should present situations familiar to the students, involving the same difficulties as in real life and credible data. Manuals and pedagogical magazines would guide teachers in the writing of word problems and their approach in the classroom. The work seeks to confront the emanation and the implementation of these guidelines, from the cross-checking of official documents, magazines and elementary school notebooks made available digitally in the collection *Cadernos Escolares* at the Institutional Repository of the Federal University of Santa Catarina. In the arithmetic problems present in the notebooks, mixtures of creations and reproductions, themes of childhood and adult life, elements belonging to and strangers to the local reality can be identified. The comparison between the sources allows us to observe traces of a changing school culture, tensioned by contradictory movements. On the one hand, the increase in initial teacher training enables the creation of a professional identity that values the exercise of autonomy, creativity, and authorship. On the other, the teaching activity is regulated through the standardized school exams to which the students are submitted. Teachers should, at the same time, prepare their students to solve life problems and to pass the exams (Búrigo 2015). In the writing of the problems, elements of the Progressive Education precepts and of traditions that go back to the French books of century XIX, and by inheritance to the commercial Arithmetic books of the Renaissance (Swetz 1992) are interspersed. Considering this finding, we discuss the possibility of depicting school arithmetic problems as creations of the school culture in the sense proposed by Chervel (1988). Búrigo, E. Z. (2015). Strong, intermediate and weak pupils: the teaching of mathematics in elementary schools in the State of Rio Grande do Sul. *RIPEM International Journal for Research in Mathematics Education*, 5(2), 3-17. Chervel, A. (1988). L'histoire des disciplines scolaires. *Réflexions sur un domaine de recherche. Histoire de l'éducation*,

38, 59–119. Peres, E. T. (2000). Aprendendo formas de pensar, de sentir e de agir: a escola como oficina da vida - discursos pedagógicos e práticas escolares da escola pública primária gaúcha (1909-1959). Unpublished doctoral dissertation, UFMG, Brazil. Swetz, F. (1992). Fifteenth and sixteenth century arithmetic texts: what can we learn from them? *Science & Education*, 1, 365-378. The collection is accessible online: <https://repositorio.ufsc.br/handle/123456789/160300>.