

BILINGUALISM IN PHYSICS TEACHING FOR A DEAF PRESERVICE TEACHER

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CONTEXT AND RESEARCH OBJECT

We present the results of inclusive actions carried in order to support the learning of a Deaf student undertaking an undergraduate course training science teachers for rural education. We outline the development of the supervised internship for this student. These actions were carried out by two internship advisors with some fluency in one of the Brazilian Sign Languages (Libras). This Deaf preservice teacher went through the language acquisition process late and showed significant difficulties with Libras, with Portuguese and, consequently, with the scientific language. In addition, she did not learn the physics content that should have been taught in the internship, Simple Harmonic Motion (SHM), either in high school or during college. Thus, several coordinated actions were necessary for her to learn the content to be able to teach it. This led us to question how we design teaching physics content and assessment to meet Deaf students' needs in the university.

THEORETICAL-METHODOLOGICAL FRAMEWORK AND METHODOLOGY

Based on Cultural Historical Activity Theory (Leontiev, 1988; Engeström, 2002), the research was limited to a study of the process of learning SHM by a Deaf preservice teacher. Monitoring was carried out in Libras, without interpretation into Portuguese, from the perspective of Deaf Education by Bilingualism, that is considering the sign language as the student's first language (L1) and the written modality of oral language, their second (L2) (Brasil, 2005). The research data were collected through two video recordings: (i) SHM teaching interventions for her, specifically an experiment with a simple pendulum to study its period of oscillation; and (ii) a simulation of the Physics internship regency conducted by her.

BILINGUAL LINGUISTIC MEDIATIONS IN SCIENTIFIC LITERACY

The research findings could be expressed into five categories (actions): (1) to anchor the communication process in visual resources, such as pictures and words written on the board, mobilizing the memory of mathematical and Physics concepts; (2) take care of the reading process in lexicalized Portuguese, which involves word-by-word signaling and compromises the meaning of the passages read; (3) to be aware of the scarcity of vocabulary in Libras for Maths and Physics concepts, which results in the imprecision of signs used for different concepts, such as 'oscillation' and 'swing of the simple pendulum'; (4) to use spontaneous classifiers (gesture markers) that allow evidencing with precision the meaning of concepts, such as 'periodic wave' and 'arithmetic mean'; (5) to mobilize memory for precise signaling of concepts such as 'period' and the relationship between arithmetic mean and repetition of the pendulum swing. These categories indicate teaching content and assessment criteria that must be considered to meet a Deaf student's needs from a perspective of inclusive Deaf Scientific Education through Bilingualism.

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