

EPISTEMIC ANALYSIS OF A LESSON ON LINEAR EQUATIONS OF A MEXICAN TEXTBOOK

ANÁLISIS EPISTÉMICO DE UNA LECCIÓN SOBRE ECUACIONES LINEALES EN UN LIBRO DE TEXTO MEXICANO

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Keywords: Algebra and Algebra Thinking, Teaching tools and resources

Mathematics teachers use many resources to prepare and teach their classes. Official syllabi or academic texts might be a part of them, but as said by Kajander & Lovric (2009) “most teachers still use the textbooks as their primary resource” (p. 173). In this regard, analysing textbooks is important not only for identifying the author’s meaning on the different mathematical objects but also, to be aware of the possible conflicts that may arise while using them. This study identifies the promoted epistemic and teaching paths, and possible semiotic conflicts, of a lesson on linear equations in the textbook *Matemáticas 1* by Block, D., García, S., & Balbuena (2018).

The Ontosemiotic Approach (OSA) (Godino, Batanero, & Font, 2007) proposes types of primary mathematical objects: language, situations, concepts, propositions, procedures, and arguments. In this regard, the *epistemic path* is defined as the distribution of these six components along the didactic episode. From this perspective, the *teaching path* describes the actions that the teacher (or, in this case, the textbook) is doing: motivating, assigning, regulating, or evaluating. Also, a *semiotic conflict* is “any disparity or difference of interpretation between the meaning ascribed to an expression by two subjects” (p. 133).

This study analyzes lessons where linear equations are studied, which correspond to sequences 5 and 12. Each sequence is divided into 4 and 3 lessons, respectively, and, at the end of each sequence, there is a section titled “math lab”, where review activities are proposed.

In every unit of analysis, we determine the primary objects that are studied and the order in which they appear, giving as a result the *epistemic path* promoted by the textbook. Also, we identify possible *semiotic conflicts* and the *teaching path* promoted in the study of linear equations.

In this poster we will share findings addressing the following objectives:

- a) Identify the primary objects studied in each unit of analysis.
- b) Describe the epistemic path promoted by the textbook.
- c) Identify possible semiotic conflicts in each unit of analysis.
- d) Describe the teaching path promoted by the textbook.

All of them, in the context of the study of linear equations in the aforementioned textbook.

References

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