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A role for language analysis in mathematics textbook analysis.

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Summary: In current textbook analysis research, there is a strong focus on the content, structure and expectation presented by the textbook as elements for analysis. This research moves beyond such foci and proposes a framework for textbook language analysis which is intended to be integrated into an overall framework for mathematics textbook analysis. The language of mathematics plays a pivotal role in mathematics classrooms and textbooks worldwide. However, because of the complexity of this language, generic methods of language analysis are insufficient to effectively evaluate the language of mathematics as it is used in mathematics textbooks. This paper presents a framework for mathematics textbook language analysis. In support of the proposed framework, the paper also presents an initial application of this framework by means of an analysis of the language (English) in lower-level Irish secondary school mathematics textbooks. While this study is based in an Irish context, the framework and findings will be of interest to an international audience particularly those interested in textbook analysis and the language of mathematics and will add value to research in this area.

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