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**Representations of a mathematical model as a means of analysing growth phenomena.**

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Summary: In the context of qualitative research, this paper presents and analyses the strategies students used and the mathematical ideas that come to light when working with two tasks involving the study of relationships arising between a contextual situation and an associated mathematical model. The results show that by studying the different mathematical representations with the support of digital tools, it is possible for students to develop different analysis strategies that help them to understand the behaviour of the phenomenon and the connections between the associated representations. Extensive use of registers of representation could be seen as a means of interpreting and establishing the relationship between the mathematical model and the corresponding context. These results are an extension of the work on the qualitative study of differential equations and how students interpret them.

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