

Digital technology and its various uses from the instrumental perspective

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Abstract:

In 1985, Pea contrasted the use of computers in an amplification and reorganization metaphors: in the former, technology allows performing tasks faster, more efficiently and accurately, whereas in the latter, technology qualitatively changes “both the content and flow of the cognitive processes engaged in human problem solving” (p. 170). In this talk, we take dynamic geometry as an example of digital technology to illustrate various ways in which it can be used, referring to the SAMR model (Puentedura, 2006). Drawing on the instrumental approach (Rabardel, 2002), for each kind of use, we analyze the role of the drag mode to highlight a variety of instruments that can be developed and the corresponding conceptualizations. We conclude with some implications bringing to light challenges that mathematics teachers face with the use of technologies.

References:

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