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Adapting assessment to instrumental genesis.

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Summary: The development of information and communication technology together with its usage can be considered as instrumental genesis, triggered by instrumentation and instrumentalisation. The former means that a person can use the tool, whereas the latter means that the tool also shapes the actions and the character of the knowledge constructed with the tool. Mathematics assessment is still based on quite stereotypical tasks that very often are also a complement to the problems that exist in real life. This article argues why conventional task types cause a dead end in assessment when technology is implemented. It represents prototypes for new kinds of problems to be used for assessment independently of whether they are solved by using technology or not. The considerations are embedded in key research issues in mathematics education and are supported by empirical findings.

Classification: D60 U70 D50

Keywords: educational media; information and communication technology; instrumental genesis; educational diagnosis; achievement measurement; problem posing; conceptual knowledge; procedural knowledge