

**ZMATH 2016e.00475**

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**Screencasts: formative assessment for mathematical thinking.**

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Summary: Increased attention to reasoning and justification in mathematics classrooms requires the use of more authentic assessment methods. Particularly important are tools that allow teachers and students opportunities to engage in formative assessment practices such as gathering data, interpreting understanding, and revising thinking or instruction. Screencast applications on mobile devices enable teachers to collect multiple modes of communications, which students use to generate mathematical explanations. As students' explanations are recorded in the moment and contain verbalizations, written notations, and virtual gestures, teachers are able to gain insights into students' understanding in greater depth than any one mode individually. Additionally, misconceptions and mistakes, which are often lost in written work, are documented and can be identified to specifically target interventions. In this report, a student-generated screencast example will highlight how this technology can be used as a formative assessment tool. Also discussed are potential limitations when using the technology in classrooms and possible solutions.

*Classification:* D60 U50 U70

*Keywords:* screencasts; formative assessment; mathematical explanations; mobile devices

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