

# SCAFFOLDING MATHEMATICAL UNDERSTANDING WITH MATHSCASTS

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## ABSTRACT

Screencasts (or MathsCasts; <http://mathscasts.org/>), now widely used in higher education in Australia, have pedagogical benefits when used for instructional purposes, as learners have flexibility in accessing the resources at their convenience, and can view models and exemplars of particular concepts and operations. By accessing video-based instruction that combines multiple media formats, students from many disciplinary areas are able to access support where and when they require it, without needing to visit a campus support centre. We provide an overview of the pedagogical benefits of screencasts by applying a Vygotskian learning framework that illustrates how MathsCasts act as scaffold to improved understanding. Data gained from an evaluation study shows the self-regulatory processes used by learners during learning and the role of screencasts in prompting, supporting, and engaging students to learn, anywhere, anytime, anyhow. The paper provides recommendations on the design of screencasts and illustrates how they can be used to support students' conceptual understanding.

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