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An argument for the unconventional in undergraduate mathematics education

This presentation reports on research from several studies which attend to undergraduate students' mathematical argumentation, reasoning, and value judgments. Some of the questions explored include: What do mathematics majors consider when interpreting the validity of an argument? What underlies their choices when deciding on a particular strategy or approach? and, How may such research inform instructional practice at the undergraduate level? An argument is made in favour of the unconventional, both as a lens through which to understand mathematics learning and as means through which mathematics learning may be fostered.