

Online Seminar on Undergraduate Mathematics Education

Using Conceptual Analysis to Resolve the Tension between Advanced and Secondary Mathematics: The Cases of Equivalence and Inverse



John Paul Cook and April Richardson



Advanced mathematics is seen as an integral component of secondary teacher preparation, and thus most secondary teacher preparation programs require their students to complete an array of advanced mathematics courses. In recent years, though, both educators and students have questioned the utility of proposed connections between advanced and secondary mathematics. In this talk, we propose using an explicit description of the ways of reasoning that might be advantageous for students' learning to identify coherence between advanced and secondary mathematics. We conclude by identifying some practical takeaways regarding how conceptual analyses might be productively used in this way by secondary school teachers.

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