

Speaker:

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Position: Assistant Professor Mathematics Education

Title: A 'rubrics cube' for the teaching and learning of mathematics

Intended Audience: High School

Type of Presentation

Preferred: Short Presentation (less than 20 minutes)

Description:

The theme of this vignette is about efforts to improve learning that emphasizes and encourages learner ownership more than teacher or instructor control. But first, a vignette within a vignette...

I like games and puzzles, and metaphors. The rubics cube was popular when I was an early high school student. A good friend of mine, whose nickname was 'fast Eddie' because he approached everything at a slow methodical thoughtful pace, doubly earned his nickname because he could solve the rubics cube consistently under twenty seconds. My fastest times are not important to this vignette. What is important is the little aha moment I had remembering my friend 'fast Eddie' and the rubics cube. The rubics cube became a metaphor for teaching and learning mathematics in which the faces are various perspectives to the teaching and learning of mathematics. Each coloured face represents a different perspective, for example, how we are thinking about mathematics, how one is a learner of mathematics, how one is a teacher of mathematics, etc.

So, to come out of that nested vignette I will position a 'rubrics cube' of the teaching and learning of mathematics as the center of this larger vignette.

I have been a secondary school mathematics teacher, an Associate teacher to teacher candidates in my secondary school classroom, and I am now a B.Ed. program instructor of a mathematics teaching and learning theory course. Principles of formative assessment (for example see Black & Wiliam, 2009) or assessment for learning means that in all of these contexts I get to be a collaborator in learning. As a collaborator in learning I offer feedback on learners' efforts, assisting in their development of their teaching and learning of mathematics. A strategy I have grown to appreciate as a valuable formative assessment and feedback tool to help learners simultaneously become better self-assessors and peer-assessors is the rubric. This vignette presents rubrics for three of the faces of the 'rubrics cube' of the teaching and learning of mathematics – learning skills, professional practice, and thinking mathematically.