

Reaction to  
“Teaching and Learning with Dynamic Geometry Programs in Student-Centered  
Learning Environments: A Mixed Method Inquiry”

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I found that the research revealed what I would have expected with regard to the introduction of Geometer’s Sketchpad into the classrooms of teachers that were unfamiliar with the software. It is not surprising that some of the instructors were unhappy or uncomfortable with a drastic change in the delivery of mathematics that occurred over a four-day period. The fact that the authors identified the teachers with the least amount of experience (at four years each) as those whom they thought could successfully incorporate the technology into future lessons is not surprising. The more experienced teachers (with 15 and 20 years of experience) had the most difficulty adapting to the introduction of an open-ended learning environment. There are probably two equally important reasons for this:

- 1.) The instructors have become accustomed to teaching the material in a certain manner over the years and never had a reason to change their style.
- 2.) The seasoned instructors have not been exposed to new technology in the same quantities as their recent colleagues, who probably had more recent technology training during their certification.

A more extensive tutorial on the software would need to be provided for the teachers who have been away from educational technologies for longer periods of time. In addition to this, courses would be needed to prepare any teachers for the use of exploratory mathematics in the classroom for the first time.

One of the important aspects of the experience that the article hit on was the fact that the activity was guided. The guided aspect of OELE’s is difficult for any instructor to nail down regardless of familiarity with up to date technology. If too much instruction is provided, the activity becomes reduced to a computer tutorial with procedural understanding. If not enough instruction is provided, the students will become either frustrated or off task due to uncertainty or disinterest. Student driven lessons cannot be prepackaged for teacher delivery, they must be prepared for and then carried out by the teachers and students. There is always a chance that a lesson of this nature will go in a direction that was unexpected and, with that occurrence, the instructor must be prepared to make a decision as to whether the topic is one capable of covering or if it is better to come back to the concept another day. Teaching in a student centered classroom is more like giving directions to a friend over the phone who does not have a map and only knows what is around them, as opposed to inputting commands for a robot to get from point A to point B. People do not always perceive things in the same way and this aspect makes OELE’s both challenging and interesting.

With teacher opinions aside, it was encouraging to see that students are more engaged and interested in learning in these types of environments even if they are not accustomed to it. It is even more encouraging to see that students admitted to having to think during the program as recorded in the mean scores from the student surveys.