

A Reflective Journey into Technology Integration with Desmos

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ISTC 735

## Section 1: The Experience

One very meaningful and powerful learning experience I've had as a teacher was leading a two-part professional development series on Desmos. The first part of the PD was delivered to the staff within my school, and later as part of the Maryland Society for Educational Technology (MSET) school year PD series on technology integration. As the math department chair and a member of the instructional leadership team, I was asked to demonstrate how Desmos could be used to engage students in fully online settings.

Looking back on this experience, I can see how my planning and facilitation were guided by both *The Innovator's Mindset* by George Couros (2015) and Spiro's Cognitive Flexibility Theory (CFT), particularly the Integration Model. I wanted to model a PD session that was not only informative, but also innovative and learner-centered.

In the first session, titled *Desmos: Not Just for Math*, I invited educators from various content areas to experience Desmos from the learner's perspective. Participants engaged in interactive challenges, matching activities, card sorts, and digital games, seeing firsthand how Desmos could apply across disciplines, including science, language arts, social studies, and even art. Teachers weren't just learning a tool; they were immersed in an experience that demonstrated how technology can be used across ill-structured domains, blending examples and cases to promote deeper, transferable understanding.

The second session, focused on *Formative Assessment*, showcased how Desmos supports responsive and reflective teaching practices. We explored real-time feedback features, class-wide data snapshots, and tools like sketch pads and reflection prompts. The goal was for teachers to see how data could be gathered and used seamlessly in digital learning spaces.

Throughout both sessions, I designed opportunities for participants to explore, collaborate, and reflect. Just as CFT emphasizes the importance of transferring knowledge to new contexts, this PD encouraged educators to reimagine Desmos as a tool for flexible and innovative teaching. As Couros (2015) reminds us, innovation is not about using technology for its own sake. It's about using it to rethink and transform learning in ways that empower both teachers and students to thrive in complexity.

## **Section 2: Peer Response Summary**

After sharing this experience with my peer and group partner, Todd, I had the opportunity to reflect more deeply on the impact of the PD. Todd's feedback helped affirm that the core messages of the sessions were clear and meaningful to participants.

He emphasized that the immersive, cross-curricular approach of the PD stood out as a powerful factor in its success. As Todd noted, the ability of educators to see Desmos in action across content areas made the experience relevant and engaging, especially for those who might otherwise view Desmos as "just a math tool." His observation underscored one of my key goals: that teachers from all disciplines would walk away seeing Desmos as a tool to support student-centered learning, reflection, and assessment.

Todd also offered valuable personal insight, sharing how he had successfully used Desmos in his science classroom to support data analysis, reading, and writing skills. His comment mirrored the feedback I often receive from colleagues. They are usually surprised that Desmos could be extended beyond mathematics. I appreciated that Todd made the connection to

Couros's (2015) ideas about innovation, particularly the notion that meaningful tech integration comes from using tools to elevate and reimagine instruction, not from the tools themselves.

Importantly, Todd offered constructive feedback about how the PD could be made even more impactful. He suggested that participants be given time to create and share their own Desmos activities, and that real-time feedback, possibly using Desmos itself, be used to adapt instruction in the moment. He also recommended personalizing learning pathways through breakout groups based on participant comfort level. These suggestions align with best practices in adult learning and PD facilitation and reflect the kind of collaborative reflection that Louie et al. (2003) describe in their study of self-study in teaching. They argue that learning is deepened when educators engage in joint meaning-making and reflection, a process Todd and I experienced in our feedback exchange.

### **Section 3: Final Reflections**

Reflecting on this project and the feedback exchange with Todd, I've gained a deeper appreciation for the value of collaborative self-study and peer feedback in advancing teaching practice. What began as a personal reflection on a meaningful PD session has now evolved into a deeper understanding of how professional development can truly model innovation, flexibility, and responsiveness.

Todd's reflections not only validated the strengths of the PD but also pushed me to think about how to improve future sessions. The idea of incorporating breakout groups, giving participants time to create their own activities, and using Desmos to gather real-time feedback

are now top priorities for future iterations. These additions would create more space for voice, choice, and differentiation which are hallmarks of an innovative, learner-driven PD.

This experience also reinforced Couros's (2015) belief that innovation is a mindset. It's about constantly seeking better ways to do things, not because what we're doing is wrong, but because there is always room to grow. Through this process, I've been reminded that we as educators must model the kinds of learning we want our students to experience.

Finally, the feedback exchange reminded me of the value of community and dialogue in professional learning. As Louie et al. (2003) emphasize, collaborative reflection fosters a deeper understanding of practice and supports transformative change. I'm grateful for the opportunity to engage in that kind of professional dialogue with Todd, and I look forward to continuing this work, not only with Desmos, but with a mindset that embraces innovation, connection, and continual growth.

## References

Couros, G. (2015). *The innovator's mindset: Empower learning, unleash talent, and lead a culture of creativity*. San Diego, CA: Dave Burgess Consulting, Incorporated.

Louie, B.Y., Drevdahl, D., Purdy, J.M., & Stackman, R.W. (2003). Advancing the scholarship for teaching through collaborative self-study. *The Journal of Higher Education*, 74(2), 150–171.