

TRANSFORMING LEARNER MINDSET THROUGH CREATIVE AND COST EFFECTIVE FORMATIVE ASSESSMENT

A ROUNDTABLE PRESENTATION

Martha Y. Parrott, Northeastern State University

EXTENDED ABSTRACT

This session focused on how to transform learning by creating a classroom culture where mistakes are valued and struggle is perceived as worthy and necessary. This type of classroom culture doesn't happen by chance. Rather, it is something we must work at every day. So how do we make it happen? The first step lies in supporting growth mindset. The research of Dweck (2016) and Boaler (2016) helps us more deeply understand the impact of growth and fixed mindsets on student learning. Students with a fixed mindset are less likely to persevere in the presence of mistakes or challenge while those with a growth mindset are likely to persist and turn those mistakes into learning opportunities. Equally important is the role of instructors who must explore student thinking to uncover what students know and what their misconceptions may be. We must not be content with right answers for wrong reasons all of which can be uncovered through formative assessment opportunities (Keely and Tobey, 2011).

During this discussion-based session, we explored strategies and best practice useful to the higher education classroom:

- 1) The dialogue focused on brain research as described by both Dweck (2016) and Boaler (2016) and how these findings help us know more about how to support growth mindset within ourselves and then in our students.
- 2) When growth mindset is in place, students will be more willing to struggle. Attendees examined what productive struggle looks like in the classroom and how to support students as they move through the struggle. How we handle student mistakes will either contribute to or take away from their willingness to persevere and struggle over time.
- 3) Formative assessment has a positive impact on student learning, yet in many classrooms, formative assessment is a missed opportunity. Formative assessment can help us uncover student thinking so that we can plan intentionally for intervention appropriate to the mistakes and error patterns our students make during or beyond the class hour (Keely and Tobey, 2011). Examples of low-cost and no-cost formative assessment strategies guided the discussion.
- 4) To make this a shared experience, attendees collaboratively discussed their own teaching experiences related to struggle, mistakes, and how they uncover student thinking through cost-effective formative assessment.

Building a classroom culture where mistakes are valued is linked to mindset, productive struggle, and on-going formative assessment. It is what we do with student mistakes that matters

most. Taken together, these become the attributes which promise to transform student mindset and learning in ways that will prepare students for all that is possible.

SELECT REFERENCES

Boaler, J. (2016). *Mathematical mindsets: Unleashing students' potential through creative math, inspiring messages, and innovative teaching*. San Francisco, CA: Jossey-Bass.

Dweck, C. S. (2016). *Mindset: The new psychology of success*. New York: Penguin Random House, LLC.

Keely, P. & Tobey, C. R. (2011). *Mathematics formative assessment: 75 practical strategies for linking assessment, instruction, and learning*. Thousand Oaks, CA: Corwin and NCTM.

For further information, contact the lead presenter:
Martha Y. Parrott
Assistant Dean, Professor of Mathematics, and DaVinci Fellow
Gregg Wadley College of Science and Health Professions
Northeastern State University
3100 East New Orleans Street
Broken Arrow, Oklahoma 74014
Phone: (918) 449-6474
E-Mail: parrott@nsuok.edu