

Designing Assessments to Support Instruction

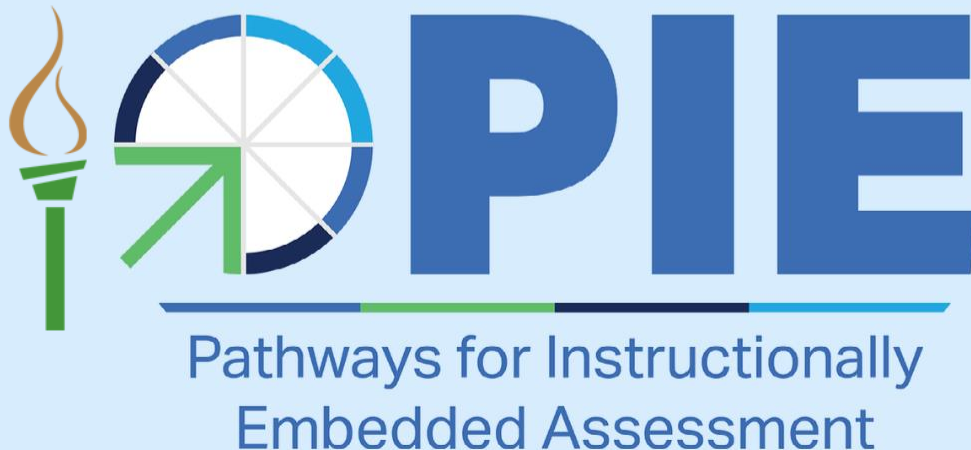
NCME 2024

Brooke Nash*, Mary Majerus**, & Shaun Bates**

Brian Gane* (Presenter)

* University of
Kansas, ATLAS

** Missouri
Department of
Elementary and
Secondary
Education



KU
ACHIEVEMENT
& ASSESSMENT
INSTITUTE

The University of Kansas

Accessible Teaching, Learning,
& Assessment Systems

The Call for New Models of Assessment

- State education agencies are increasingly focused on new and innovative assessment approaches that can meet two objectives:
 - 1) provide teachers with information on student progress throughout the year at a grain size useful for informing instructional decisions, and
 - 2) provide an end-of-year summary of student achievement for accountability and program evaluation.

Current Assessment Models

- May be unrelated to when instruction and learning occurs in the classroom.
- By design, may not produce results at a grain size useful for informing instructional decisions.
- Interim assessments have not been used widely for accountability purposes as the flexibility allowed for in ESSA requires additional innovation.
- Interim assessments are not always aligned to the curriculum, posing challenges for teachers in using data to inform instruction.

What Is PIE?

- Pathways for Instructionally Embedded Assessment (PIE) is a Competitive Grants for State Assessments (CGSA) funded project led by the Missouri Department of Elementary and Secondary Education, aimed at exploring an integrated model of assessment.
- PIE uses an assessment model based on learning pathways that embeds assessment into instruction throughout the year.
 - As a proof of concept, we are also evaluating if future PIE assessment results could be used for end-of-year reporting.
- The PIE proof of concept model is based on 5th grade content standards in mathematics.

- ❖ PIE is aimed at helping teachers use assessments and assessment results to support mathematics classroom instruction.



PIE System Components

- Instruction and Assessment Planner
 - Teachers choose content groupings for assessment and instruction
 - Content groupings to be informed by:
 - The PIE learning pathways framework
 - Local curricular plans and district pacing guides
- Reporting Dashboard
 - On-demand reports of student progress
 - Student mastery of learning pathway levels
 - Diagnostic classification modeling enables fine-grained reporting
 - Includes class and student level reports

Research Purpose

- Stakeholder input vital for assessment development
 - Teacher focus groups
- Inform design of the instruction and assessment planner and the reporting dashboard
- Inform supplemental teacher resource and materials development

Guiding Questions

1. How do teachers interact with the Instruction and Assessment Planner tool?
2. How do teachers interpret and anticipate using the information in the reporting dashboard?

Methods

- Two focus groups conducted via Zoom
- Semi-structured interviews using protocol
- 11 educators
 - 10 of 11 educators were white and female; 8 of 11 had a Master's degree
 - Presented with background information and detailed mockups of PIE system components
 - Asked to provide feedback
- Transcripts analyzed based on codebook
- Two independent raters, third coder review
- Data analyzed for themes and patterns using Dedoose software

Results: Creating Content Groups

- Positive feedback about a system that can help teachers align content as needed

“I feel if there's a choice to group these, however I feel like grouping them, then I can match it up with the scope and sequence with the district... So you can kind of pick and choose where they go and I don't have to change my scope and sequences throughout the district.”

- Challenges encountered for overlapping standards and outlier standards
- Helpful suggestions for training and professional development

Results: Instruction and Assessment Planner

- Preferred simple yet comprehensive layout
- Advocated for preview of test content
 - *“Let's say you selected a standard before you actually lock it in...it'd be cool if you clicked on it and then three or four questions would pop up next, would be like, these are the four questions your kids will get if you click on this one. And then if there's one of the four you don't like, you could like hit like a little refresh and a new one would pop up to replace it until you get to the four that you feel like are good representations of what you've taught up to that point... if it is like a big bank of questions, it'd be nice to have some say in what is used...based on what you've taught and what you haven't taught.”*
- Other suggestions provided for clarity and simplicity of user-interface

Results: Reporting Dashboard – Class Report

- Could support district-level collaboration
- Positive reactions to the mastery icons and design
- Positive reactions when asked to consider benefit of partial mastery icon
- Suggested an indicator for total number of students at mastery
 - *“I really like that idea [of having the number of students mastered out of all students,] too. It would be a really fast reference that you could quickly look at instead of having to like take time to do the math or something.”*
- Discussion around how “mastery” was operationally defined, particularly in the context of the test design.

Results: Reporting Dashboard – Individual Report

- Simplified views that can be expanded for more detail
- Option to group by standards tested and not tested
- Simplified parent mode

“I think for parents, definitely less is more. You want to get to the point that you’re trying to get to as quickly as you can, because this is a lot, and it's a lot for a teacher and we work with this verbiage every day and we work with these standards every day, but to hand this document to a parent who does not work with this, it's going to be a lot. And we've talked about that a lot in our district as we move towards SBG and how much is too much and what do we want to share with parents and things like that. We want to let the parents know what their kid knows, right? But at the same time, like this is kind of a lot for a parent to try to analyze on their own.”

Discussion

- Instruction and Assessment Planner
 - Creating content groups based on learning progressions aligned to content standards was a new concept that will need teacher training and supports.
 - Also highlights the need for a simple yet comprehensive tool to support use.
 - Teacher training on test design
- Reporting Dashboard
 - Participants had favorable perceptions of the information provided in the reports but were unclear about how the mastery statuses were determined
 - Training will need to address teachers' understanding of test design and scoring model.

Takeaways and Next Steps

- Teachers provided useful feedback for informing next steps in the design of PIE system components and resources to support teachers.
- By working with teachers in the design process, we hope to provide educators more opportunities to inform assessment design and instructional uses of data.
- Full system pilot study in classrooms during next school year 2024-2025
- Teacher use of training and resources and the enhanced planner and reporting dashboard, will be evaluated, along with their instructional practices, uses of the assessment data, and perceptions of the system and future uses.

Email questions to Brooke
Nash at bnash@ku.edu

THANK YOU!



Pathways for Instructionally
Embedded Assessment