

Maximizing
Impact:
Leveraging
Assessment and
Accountability
to Drive
Student Learning

National Conference on Student Assessment



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Maximizing Impact: Leveraging Assessment and Accountability to Drive Student Learning

Designing Professional Learning to Support Teachers' Use of an Innovative Assessment System Intended to Inform Classroom Instruction

Wednesday, June 24, 2025 | 1:00–1:45 p.m.

SPEAKERS

Brooke Nash • Accessible Teaching, Learning, and Assessment Systems (ATLAS)

Mary Majerus • Missouri Department of Elementary and Secondary Education



TOPICS

- Introduction and study context
 - Session learning objectives
 - Overview of the PIE assessment model
- Professional learning: the design and development process
- Implementation and pilot study feedback
- Discussion

Introduction and Context

STUDY CONTEXT

- The Pathways for Instructionally Embedded Assessment (PIE) is a CGSA funded project aimed at developing a proof-of-concept innovative assessment, piloted in classrooms during the 2024-2025 school year.
- The overarching goal of the pilot study was to evaluate PIE assessment results for multiple potential purposes (i.e., as a proof of concept for statewide assessment), the focus of this session is on supporting teachers in their understanding and use of the PIE instructionally embedded assessments in their classrooms for instructional purposes.

LEARNING OBJECTIVES

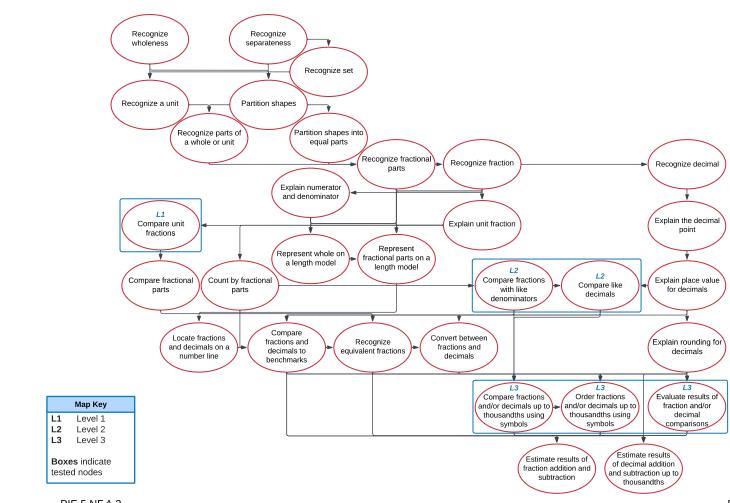
- 1. Describe key characteristics of a professional learning solution designed for teachers to develop proficiency in: Using learning pathways to create customized PIE assessments. Administering PIE assessments. Interpreting and using PIE assessment data to inform classroom teaching.
- 2. Describe how teacher feedback can be incorporated at different points in the iterative design/development process to promote the effectiveness of professional learning.
- 3. Identify ways this approach could be used in the design and development of professional learning that would support their own assessment rollout to districts/schools/teachers.

OVERVIEW: PIE ASSESSMENT MODEL

- 1. Learning Pathways
 - Aligned to standards
 - Research based
- 2. Instructionally Embedded Assessment Delivery
- 3. Actionable Results

Learning Pathway Map

PIE.5.NF.A.3 Learning Pathway Map View



PIE.5.NF.A.3

PIE.5.NF.A.3

Mathematics

Number Sense and Operations in Fractions (NF)

Grade 5

This document provides (a) the target grade-level content standard; (b) three levels of a learning pathway aligned with the learning target; (c) the knowledge, skills, and understandings associated with each level; and (d) a map view of the full learning pathway.

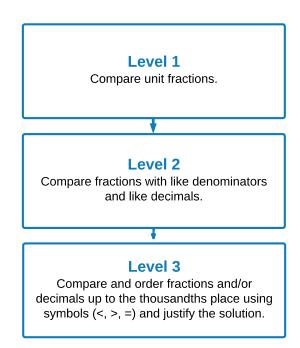
Learning Target

5.NF.A. Understand the relationship between fractions and decimals (denominators that are factors of 100).

3. Compare and order fractions and/or decimals to the thousandths place using the symbols >, = or <, and justify the solution.

Learning Pathway in Three Levels

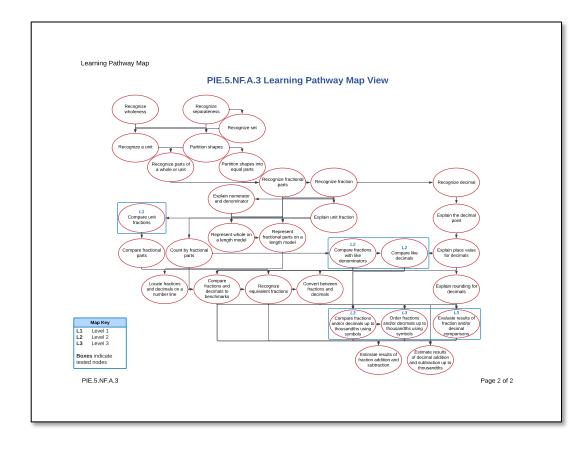
The learning pathway presents three vertical levels that consist of knowledge, skills, and understandings that build toward and meet the learning target. **Level 1** represents emerging concepts and skills related to the learning target. **Level 2** represents concepts and skills approaching the learning target. **Level 3** represents the learning target and aligns with the grade-level content standard.



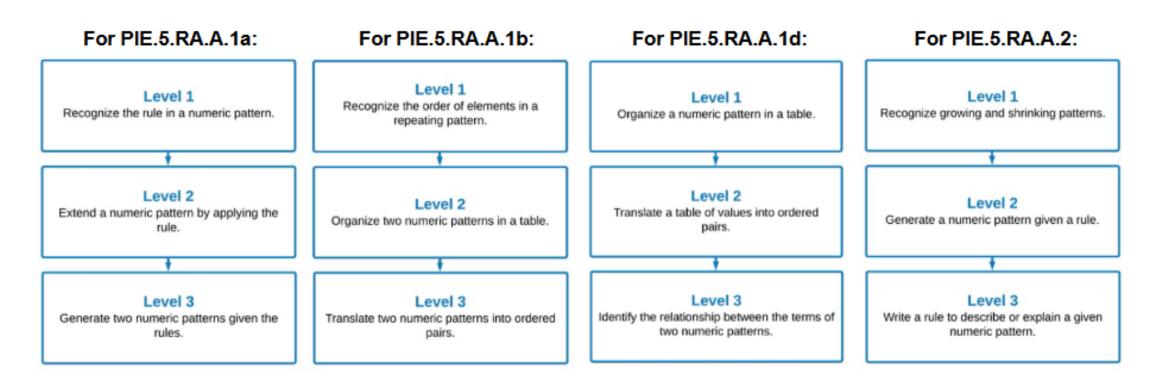
PIE.5.NF.A.3 Page 1 of 2

Learning Pathway Map

Learning Pathway Map PIE.5.NF.A.3 Mathematics Number Sense and Operations in Fractions (NF) This document provides (a) the target grade-level content standard; (b) three levels of a learning pathway aligned with the learning target; (c) the knowledge, skills, and understandings associated with each level; and (d) a map view of the full learning pathway. Learning Target 5.NF.A. Understand the relationship between fractions and decimals (denominators that are factors of 100). Level 1 3. Compare and order fractions and/or decimals to the Compare unit fractions. thousandths place using the symbols >, = or <, and justify the solution. **Learning Pathway in Three Levels** Level 2 The learning pathway presents three vertical levels that Compare fractions with like denominators consist of knowledge, skills, and understandings that build and like decimals. toward and meet the learning target. Level 1 represents emerging concepts and skills related to the learning target. Level 2 represents concepts and skills approaching the learning target. Level 3 represents the learning target and Level 3 aligns with the grade-level content standard. Compare and order fractions and/or decimals up to the thousandths place using symbols (<, >, =) and justify the solution. PIE.5.NF.A.3 Page 1 of 2 © 2024 Accessible Teaching, Learning, and Assessment Systems (ATLAS), the University of Kansas

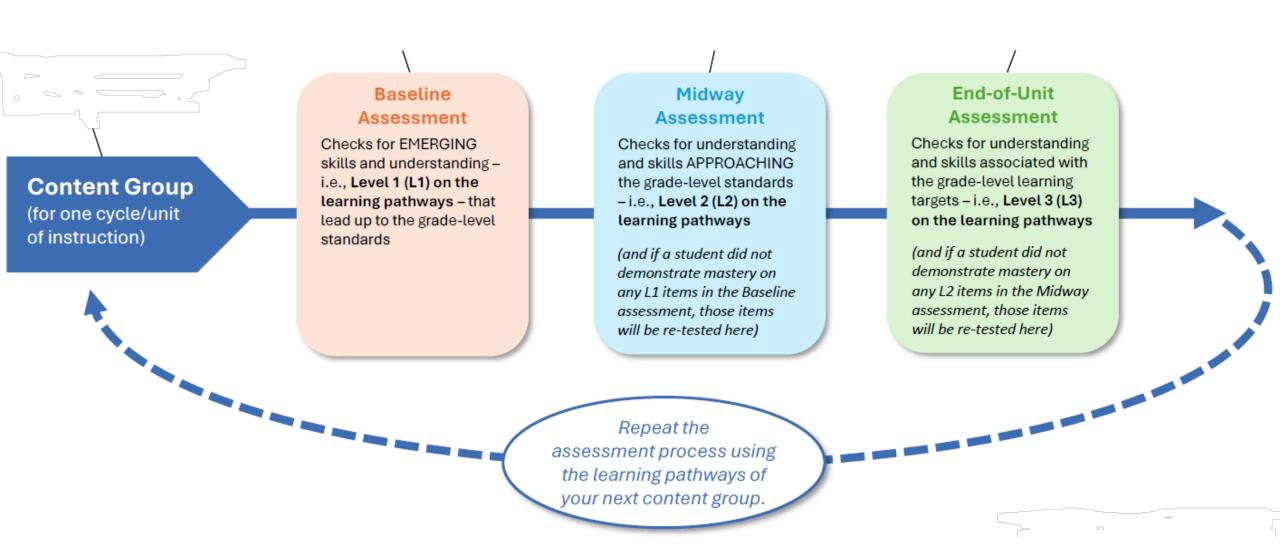


One Example Content Group with Pathway Levels



Four learning pathways in Ginnie's "Number Patterns" content group

Instructionally Embedded Assessment Cycle



CLASSROOM ASSESSMENT LITERACY

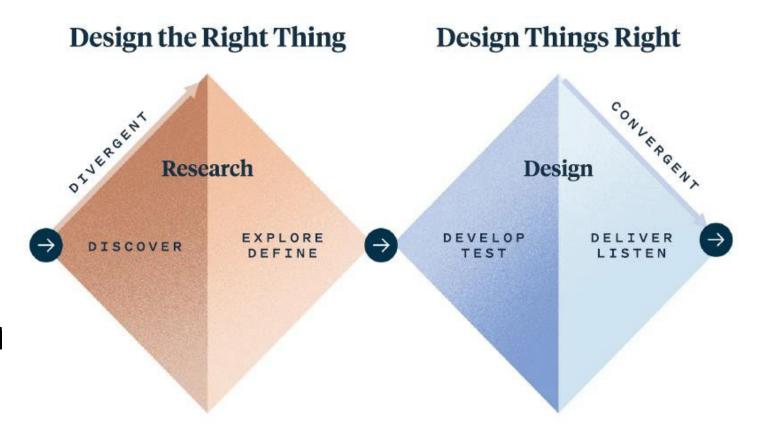
- An assessment system is useful only when educators understand how and when to use it, interpret its results, and apply results to their instruction.
- Given that the PIE approach is different from current practice, effective professional learning that covered the fundamental concepts necessary for administering instructionally embedded assessments and using the diagnostic results they produce, was critical to classroom utility.

Professional Learning: The Design and Development Process

A Model for Design:

The "Double Diamond"

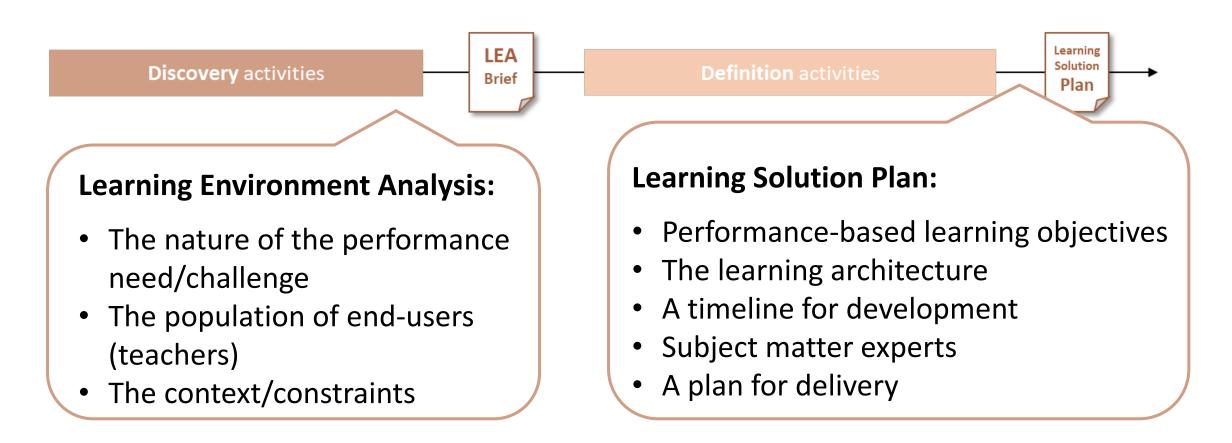
- 1. Discover
- 2. Define
- 3. Develop
- 4. Deliver (and lister



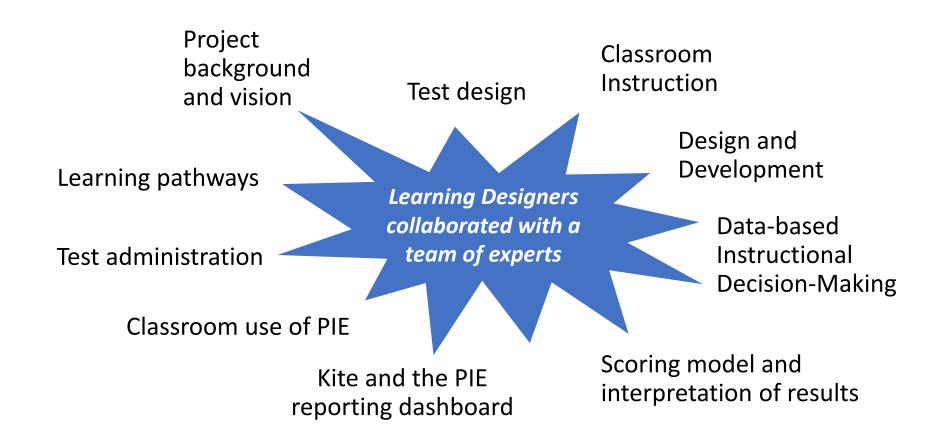
Graphic adapted from Maestro. The Double Diamond Framework is a classic model developed by The Design Council.

The Research Diamond

Time is taken at the beginning of a project to **discover** how professional learning can contribute, **explore** options, and **define** an appropriate learning solution:



A Wide Array of Expertise Among Collaborators Define and Develop



Professional Learning:

Teacher Focus Groups – Step 3: Develop

We Asked About:

Content Clarity and Effectiveness

Learner Engagement Module Functionality and Accessibility

Professional Learning:

Teacher Focus Groups Feedback

Supportive:

- ✓ Module has a good flow and a logical sequence.
- ✓ Module is streamlined; information is concise, and there's no extraneous material.
- ✓ Module is easy to navigate.

Constructive:

- ✓ Strengthen message to promote understanding
- ✓ Additional clarification on key concepts
- ✓ More interactive and practical elements
- ✓ Need implementation support

The modules featured all three elements of effective training:



✓ Demonstration

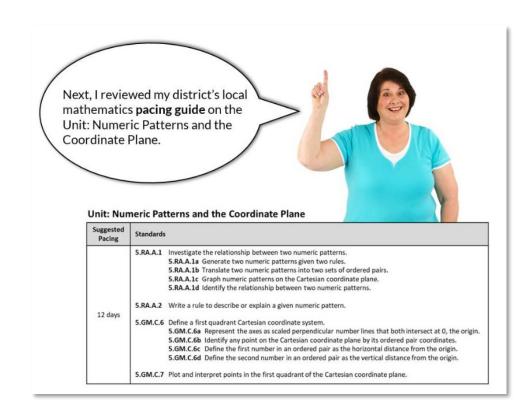
1. The Grade-level Content Standards

You will use the set of 25 priority content standards for Grade 5 math included in the PIE project.

The domains for these standards are:

- Number sense and operations in fractions
- Relationships and algebraic thinking
- Geometry and measurement
- Data and statistics

Note that there are four priority standards <u>not</u> included in PIE: 5.GM.C.6b, 5.GM.C.6c, 5.GM.C.6d, and 5.GM.D.9



Draft your content groups.

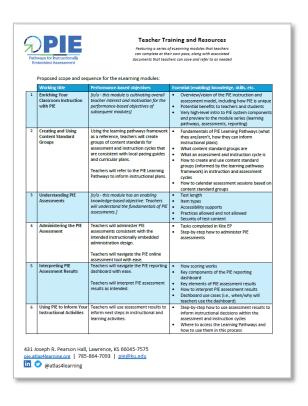
✓ Practice



As you relate the learning pathways to your local pacing guide, identify natural bundles of two to five standards that make sense to cluster or teach in conjunction with one another, or are instructionally integral to one another, or are linked together in meaningful ways for instructional purposes.

Continue doing this until you draft a full set of content groups that address all of the learning pathways. Then, check for consistency and make adjustments as needed to finalize your content groups.

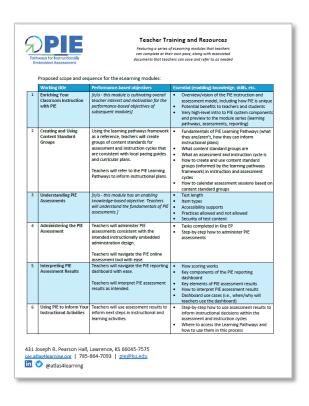
The Learning Solution: Scope & Sequence



A series of six eLearning modules:

- 1. Enriching Your Classroom Instruction With PIE
- 2. Creating and Using Content Standard Groups
- 3. Understanding the PIE Assessment
- 4. Administering the PIE Assessment
- 5. Interpreting PIE Assessment Results
- 6. Using PIE to Inform Your Instructional Activities

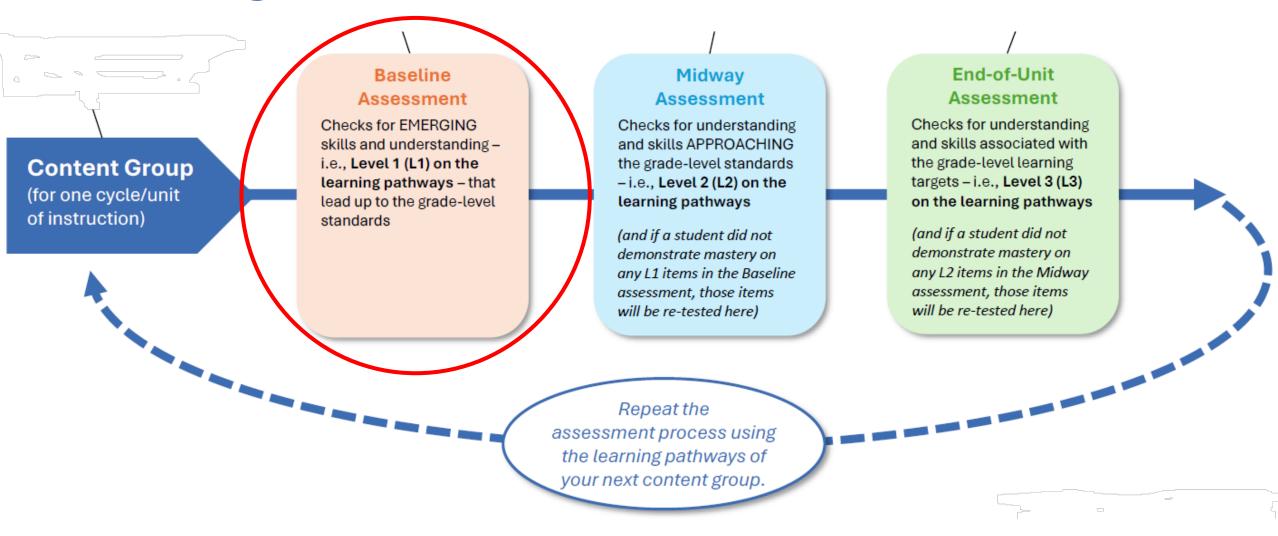
The Learning Solution: Scope & Sequence (2)



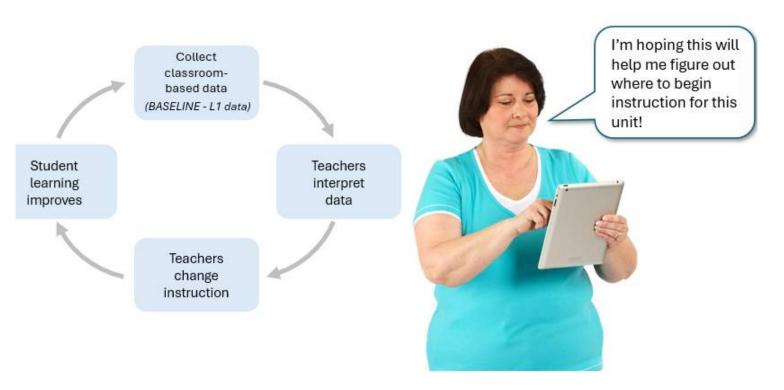
A series of six eLearning modules:

- 1. Enriching Your Classroom Instruction With PIE
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6. Using PIE to Inform Your Instructional Activities



Ginnie administers the PIE Baseline assessment to see where her students are relative to the learning standards of her first content group, "Number Patterns."





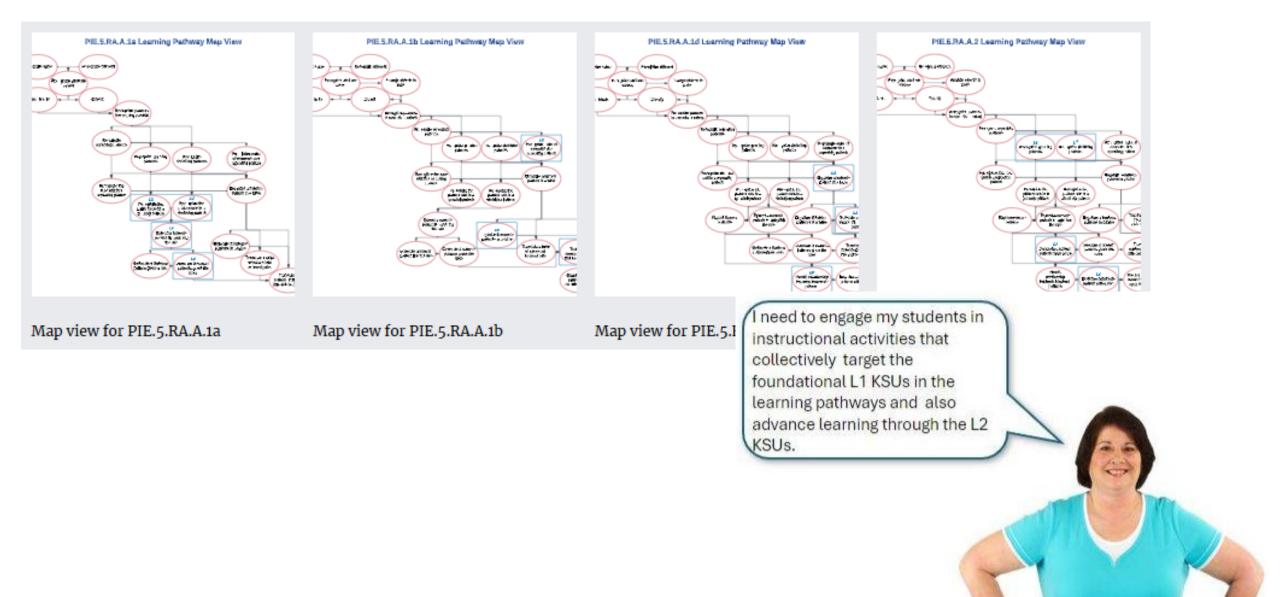
| Student | PIE.5.RA.A.1a | | | PIE.5.RA.A.1b | | | PIE.5.RA.A.1d | | | PIE.5.RA.A.2 | | |
|------------|---------------|----|----|---------------|----|----|---------------|----|----|--------------|----|----|
| | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 | L1 | L2 | L3 |
| 1 | 1 | | | Х | | | х | | | х | | |
| 2 | ~ | | | х | | | х | | | х | | |
| 3 | х | | | ~ | | | ~ | | | ~ | | |
| 4 | х | | | х | | | х | | | х | | |
| 5 | ~ | | | × | | | х | | | ~ | | |
| 6 | Х | | | ~ | | | ~ | | | X | | |
| 7 | х | | | х | | | х | | | х | | |
| 8 | х | | | ~ | | | х | | | х | | |
| 9 | ~ | | | х | | | ~ | | | ~ | | |
| 10 | Х | • | | ~ | | | х | | | × | | |
| 11 | ~ | | | ж | | | ~ | | | ~ | | |
| 12 | х | | | ~ | | | х | | | × | | |
| 13 | X | | | ~ | | | х | | | × | | |
| 14 | _ | | | х | | | ~ | | | х | | |
| 15 | | | | х | | | Х | | | x | | |
| 16 | Х | | | х | | | х | | | х | | |
| 17 | ~ | | | ~ | | | ~ | | | ~ | | |
| 18 | х | | - | V | | | х | | | х | | |
| 19 | ~ | | | х | | | ~ | | | х | | |
| 20 | | | | х | | | Х | | | ~ | | |
| 21 | | | | х | | | Х | | | ~ | | - |
| 22 | | | | Х | | | х | | | х | | |
| % Mastered | 41% | | | 36% | | | 32% | | | 32% | | |

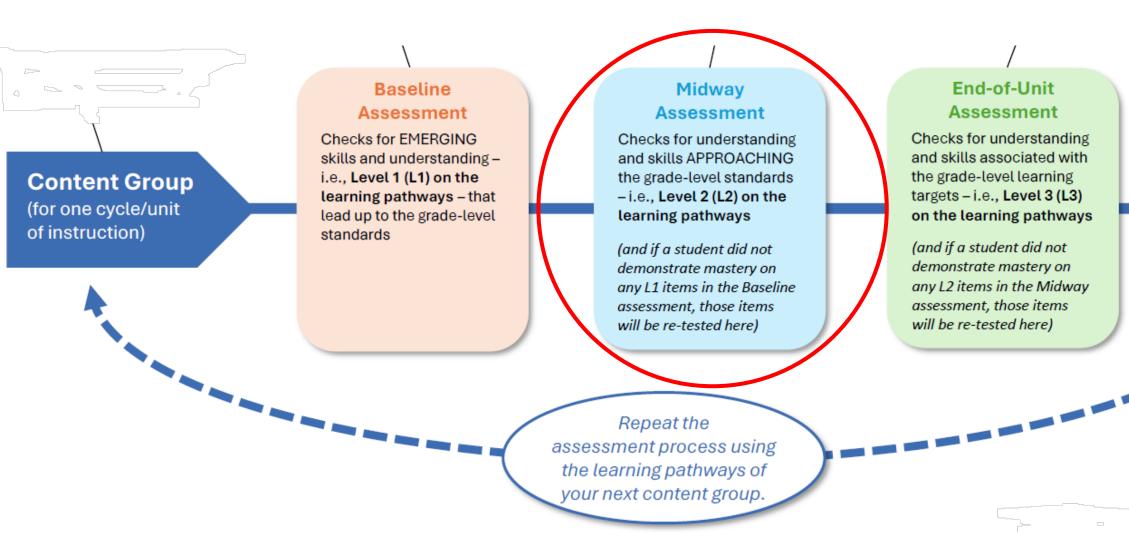
Time to refer to the PIE Learning Pathways!

Given that so many of her students did not demonstrate mastery at Level 1, Ginnie reviews the KSUs leading up to and including Level 1 for all the learning pathways in the content group.

I may need to adjust my original instructional plan.





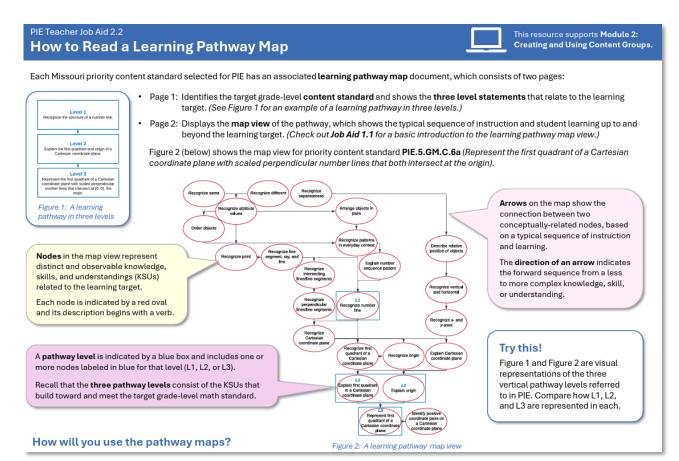


Ginnie is wondering if the decisions she made based on the Baseline data worked to support student learning.

Let's compare the results from the Baseline and Midway assessments for Ginnie's class:



Job Aids



- 1. PIE Learning Pathway Map View
- PIE Assessment and Instruction Cycle
- 3. How to Read a Learning Pathway Map
- 4. How Test Length Relates to Your Content Groups
- 5. How to Read PIE Assessment Reports
- 6. Driving Your Instructional Decisionmaking with Data

VARIETY OF INTERACTIVE COMPONENTS

- Job Aids
- Active links to explore ways reports could be used to support instruction
- Quick quizzes at the end of the modules
 - Able to repeat quiz as needed
 - Prompts provided for each quiz response
- Opportunities to reflect at the end of module and ask questions regarding the content

Implementation and Feedback from Educators

Pilot Study Data

- Total pilot study sample = 55 teachers in 32 schools across 28 districts
 - 1,572 5th grade students
- Feedback about the eLearning course was collected via survey and interviews
 - Survey = 47 teachers
 - Interviews = 8 teachers

Supporting Learning Transfer

- User manuals
- Kite Service Desk
- Communications (project emails, monthly newsletter)
- DESE Office Hours
- On-site visits

Format of the Professional Learning Course

- The format (videos and aids) was helpful, especially for visual learners.
 - "I did not have any trouble transitioning between my training and understanding what to do, because there were enough activities embedded in the training that exactly matched what I was gonna be doing."
- However, some teachers indicated they would have benefitted from more hands-on experience as part of the training.

Course Content - Creating PIE Content Groups

- Over 95% of teachers agreed or strongly agreed that overall, the PIE training modules and resources/job aids helped them know how to create content groups for assessment and instruction.
- However, some teachers noted that they would have benefited from more training and examples of how to create PIE content groups as this was a new concept for teachers.

Course Content - Implementing Assessment and Instruction Cycles

- Almost 85% of teachers agreed or strongly agreed that the training modules and resources/job aids provided them with the knowledge and skills to implement cycles of assessment and instruction.
- However, some teachers mentioned wanting more information and examples of aligned instructional activities.

Course Content - Using Assessment Data to Inform Instruction

- More than 75% of teachers agreed or strongly agreed that the PIE training modules and resources/job aids helped them understand how to interpret and use data to inform instruction.
- Some teachers indicated that while they had awareness of the concepts or even felt ready to start using results to inform instruction, they felt like they needed more practice or hands-on experience to feel fully prepared.
- A few teachers perceived a gap in content regarding the individual student learning pathway profile.

Learning Transfer

- Participants said they were able to troubleshoot and answer questions that arose by revisiting their training materials, the printed materials they received, or getting support from the PIE administration team. One participant said PIE staff and Service Desk provided good, responsive support.
- Some teachers benefited from working together in teams which they felt supported their shared understanding of the system and what to do.
- Several teachers noted that the technical assistance received from DESE staff was amazing!

Next Steps

- Balance between providing more information in the eLearning course (e.g., more hands-on activities) versus time spent on training activities
 - Additional content groups examples accessible via the course
- Use teacher activity in the eLearning course to trigger communications about progress, next steps
- Community board responses inside the modules once teacher has responded to a prompt
- Establishing communities of practice

Discussion

WHAT ARE YOUR THOUGHTS?

- How can the approach be used to refine or develop solutions that support PL for things like classroom assessment literacy in your district or schools?
- What in the design system gave you pause or made you think more deeply about engaging and learning in PL opportunities?

Don't forget to log in the mobile app to complete the session survey!



THANK YOU

Save the Date - #NCSA2026

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