Lessons learned from Dynamic Learning Maps Alternate Assessment System

Meagan Karvonen
Amy Clark
Dynamic Learning Maps (DLM)
Alternate Assessments

• Computer-based assessments for students with the most significant cognitive disabilities
• Grades 3-8, high school
• Operational since 2015
  – Currently used by >20 states for state accountability purposes
  – 6 of those states use the instructionally embedded model
Instructionally Embedded Design

• Blueprints have flexibility with some constraints
• Short assessments (5-9 items) measuring each standard
  – Items available at 5 complexity levels - provide access to content
  – System recommends complexity level; teachers can accept or override
• Administer adjacent to instruction
• Results
  – Mastery throughout the year
  – Summative results based on all responses during the year
Student’s performance in 10th grade English language arts Essential Elements is summarized below. This information is based on all of the DLM tests Student took during the 2021–2022 school year. Grade 10 had 19 Essential Elements in 4 Areas available for instruction during the 2021–2022 school year. The minimum required number of Essential Elements for testing in 10th grade was 10. Student was tested on 11 Essential Elements in 4 of the 4 Areas.

Demonstrating mastery of a Level during the assessment assumes mastery of all prior Levels in the Essential Element. This table describes what skills your child demonstrated in the assessment and how those skills compare to grade level expectations.

<table>
<thead>
<tr>
<th>Area</th>
<th>Essential Element</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4 (Target)</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELA.C1.2</td>
<td>ELA,EE.RL.9-10.1 Identify concrete details in a familiar story</td>
<td>Identify questions by referring to a text</td>
<td>Cite textual evidence for explicit information in text</td>
<td>Discriminate between explicit and implicit citations</td>
<td>Determine a narrative’s explicit meaning</td>
<td></td>
</tr>
<tr>
<td>ELA.C1.2</td>
<td>ELA,EE.RL.9-10.2 Identify the forward sequence in a familiar routine</td>
<td>Identify main idea</td>
<td>Identify details related to the theme of a story</td>
<td>Recount events contributing to the theme using details</td>
<td>Recount main events related to the theme</td>
<td></td>
</tr>
<tr>
<td>ELA.C1.2</td>
<td>ELA,EE.RL.9-10.4 Identify descriptive words</td>
<td>Identify the words or phrases to complete a literal sentence</td>
<td>Determine the meaning of idioms and figures of speech</td>
<td>Determine the meaning of words and phrases</td>
<td>Determine the meaning and impact of words and phrases</td>
<td></td>
</tr>
<tr>
<td>ELA.C1.2</td>
<td>ELA,EE.RL.10.1 Identify concrete details in a familiar informational text</td>
<td>Identify concretes details in an informational text</td>
<td>Cite textual evidence for inferred information</td>
<td>Discriminate between citations for explicit and inferred information</td>
<td>Cite evidence for a text’s specific meaning</td>
<td></td>
</tr>
</tbody>
</table>

Levels mastered this year: 
No evidence of mastery on this Essential Element: 
Essential Element not tested: 

This report is intended to serve as one source of evidence in an instructional planning process. Results combine all item responses from the full academic year. Because your child may demonstrate knowledge and skills differently across settings, the estimated mastery results shown here may not fully represent what your child knows and can do.
A Short History: 2015 Integrated Model

• Long instructionally embedded window + short spring summative
  – How states reached this decision
  – Steps to encourage blueprint coverage

• Conversations about improving the model ~2017
  – Length of windows
  – Technical considerations (e.g., reliability)
  – Supporting implementation with fidelity
Current Instructionally Embedded Model

- Two 15-week testing windows
  - Fall (September-January) and spring (February to June)
  - Both have the flexibility of when and what to test

- Required some supports to make the transition
  - Test management
  - Reporting
  - Monitoring tools
Impacts of the Changes

• Usability
  – Fall 2021 focus groups
• Blueprint coverage
• Student achievement
## Change in Blueprint Coverage

<table>
<thead>
<tr>
<th>Met or Exceeded</th>
<th>Integrated 2018–2019 (%)</th>
<th>Instr Embedded 2020–2021 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELA</td>
<td>75.6</td>
<td>95.9</td>
</tr>
<tr>
<td>Mathematics</td>
<td>78.8</td>
<td>94.5</td>
</tr>
</tbody>
</table>
Lessons Learned

- Supportive conditions
- Validity
- Technical adequacy
- Communication
Lesson #1

The right people with a shared vision and openness to change can figure out how to make it happen.
Lesson #2

Recognize and question assumptions.

All of them.
Teachers make sound instructional decisions based on data from the assessments.

The combination of testlets administered throughout the year measure knowledge and skills at the appropriate breadth, depth, and complexity.

Testlets align to the Essential Elements and are free from construct-irrelevant variance.

The assessments are designed to allow students to demonstrate their knowledge and skills in relation to academic expectations.

The system used to deliver DUM assessments is designed to maximize accessibility.

Educators understand their students’ personal needs and preferences and correctly document students’ needs within the assessment system.

Students know how to interact with the assessment system.

The Essential Elements provide grade-level access to CCSS and prepare students for college, careers, and citizenship.

Parents and teachers have high expectations regarding what students are able to achieve.

Teachers provide instruction aligned with Essential Elements and at a complexity level that provides an appropriate level of challenge for each student.

The learning map pathways accurately describe the development of knowledge and skills.

Professional development strengthens educator knowledge and skills for instructing and assessing students with the most significant cognitive disabilities.

Teachers administer the assessments with fidelity so students can respond to the items as intended.
Lesson #3

Articulate the rationale for every design decision.

(This will help with lessons 4 and 5.)
Lesson #4

Be ready to do the methodological work.
Design

(A) Cognitive model (map) accurately describes the development of knowledge and skills.

- Literature synthesis
- Sequence of internal and external reviews, following criteria
- Procedural evidence
- Empirical evidence (less sophisticated)
- Empirical evidence (more sophisticated)
Example Evidence for Instructionally Embedded Assessments

- Map model
  - External review
  - Model-based validation
- Test assignment
  - Teacher selections of standards, levels
  - System recommendations
- Implementation fidelity
- DCM scoring
  - Model fit
- Reliability
- Standard setting
  - Profile-based method
- Score reporting
  - Design of mastery-based reports
  - Interpretation and use of mastery results
Lesson #5

Figure out how to communicate about it.
Still Figuring Out

• Districts still following a more traditional summative approach
• Useful measures
  – Through-year progress in a DCM world
  – Aggregating heterogeneous student data for teacher use
Questions?