Validation of Dynamic Learning Maps Instructionally Embedded Assessments

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DYNAMIC® LEARNING MAPS

Dynamic Learning Maps® (DLM®) Alternate Assessments

- Administered to students with the most significant cognitive disabilities
- Operational since 2015
  - Currently used by >20 states for state accountability purposes
- Grades 3-8, high school for English language arts (ELA), mathematics, and science

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Test Design

- Based on a research-based learning map model of interconnected skills
  - Foundational skills through college- and career-ready expectations
- To provide all students access to grade-level academic content, each content standard available at different levels of complexity measuring nodes in the learning map
- Short assessments (3-9 items) measuring standard and level

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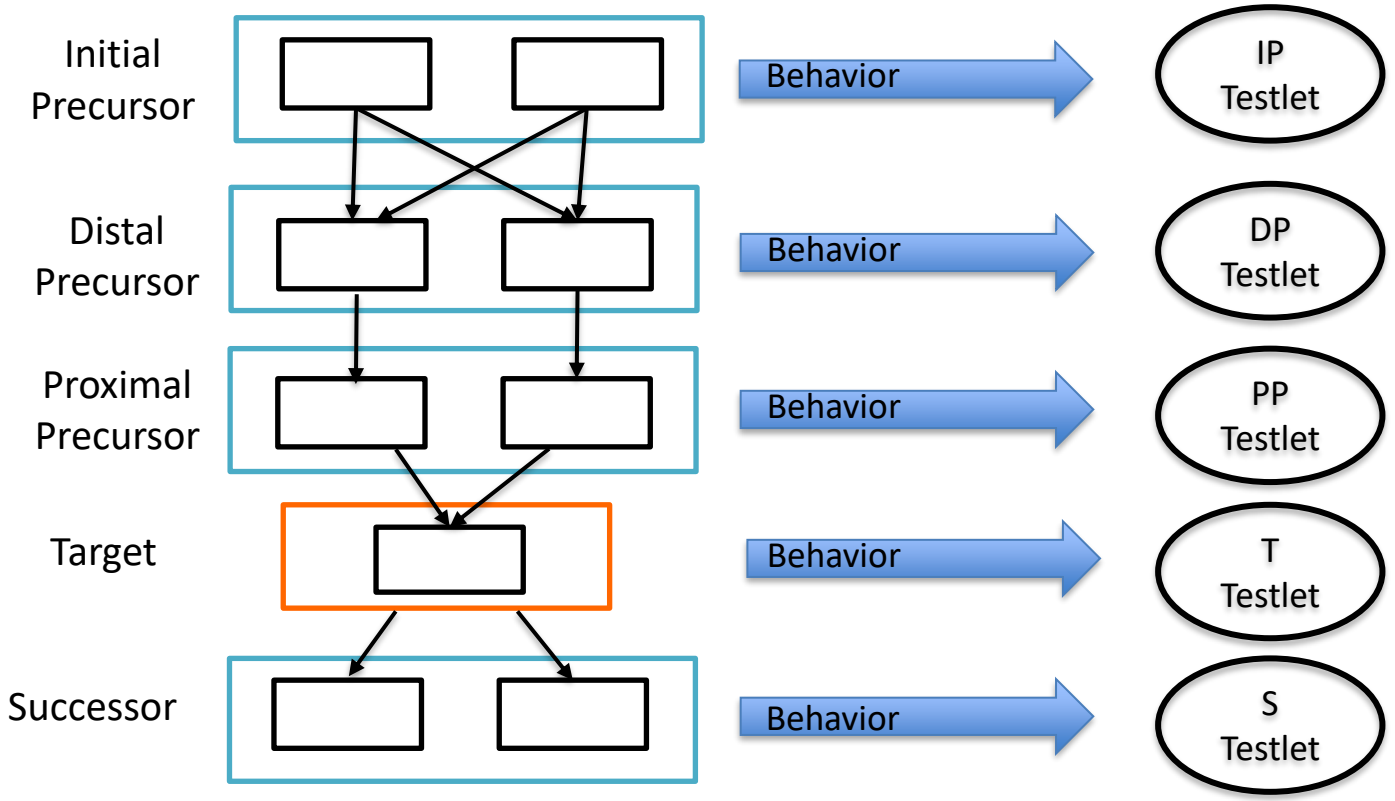
Content Standards Available at Different Levels

Connects the learning map …

…to the items delivered.



*Science has 3 levels: **Initial**, **Precursor**, and **Target**

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Instructionally Embedded Model

- 6 states use the Instructionally Embedded Model, which uses embedded assessments to inform instruction and for state accountability purposes
- Two 15-week testing windows
  - Fall (September-January) and spring (February to June)
- Embraces teacher choice
  - When and how often to test within the window, relative to instruction
  - Which standards, from a set of constraints (e.g., choose 3 of 6)
  - Level(s) of assessment (system provides a recommendation)

Scoring & Reporting

- Scored using a diagnostic classification model
  - Skill mastery determined by probabilities
  - Reported as profile of mastered skills
- Mastery results available throughout the year
- Summative scoring combines all responses collected during the year to determine highest level mastered for each standard

REPORT DATE: 01-19-2022
SUBJECT: English language arts
GRADE: 10

Individual Student End-of-Year Report
Learning Profile 2021-2022

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Dynamic Learning

NAME: Student DLM
DISTRICT: DLM District
SCHOOL: DLM School

DISTRICT ID: DLM District
STATE: DLM State
STATE ID: DLM State ID

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.

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

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. For more information, including resources, please visit https://dynamiclearningmaps.org/states.

Scoring & Reporting (cont)

- Profile-based standard setting method assigns cuts for four performance levels based on mastered skills (Clark, Nash, Karvonen, & Kingston, 2017)
- Summative score reports summarize results at two levels
  - Learning Profiles summarizes mastery of skills
  - Performance Profiles summarizes overall performance for each subject

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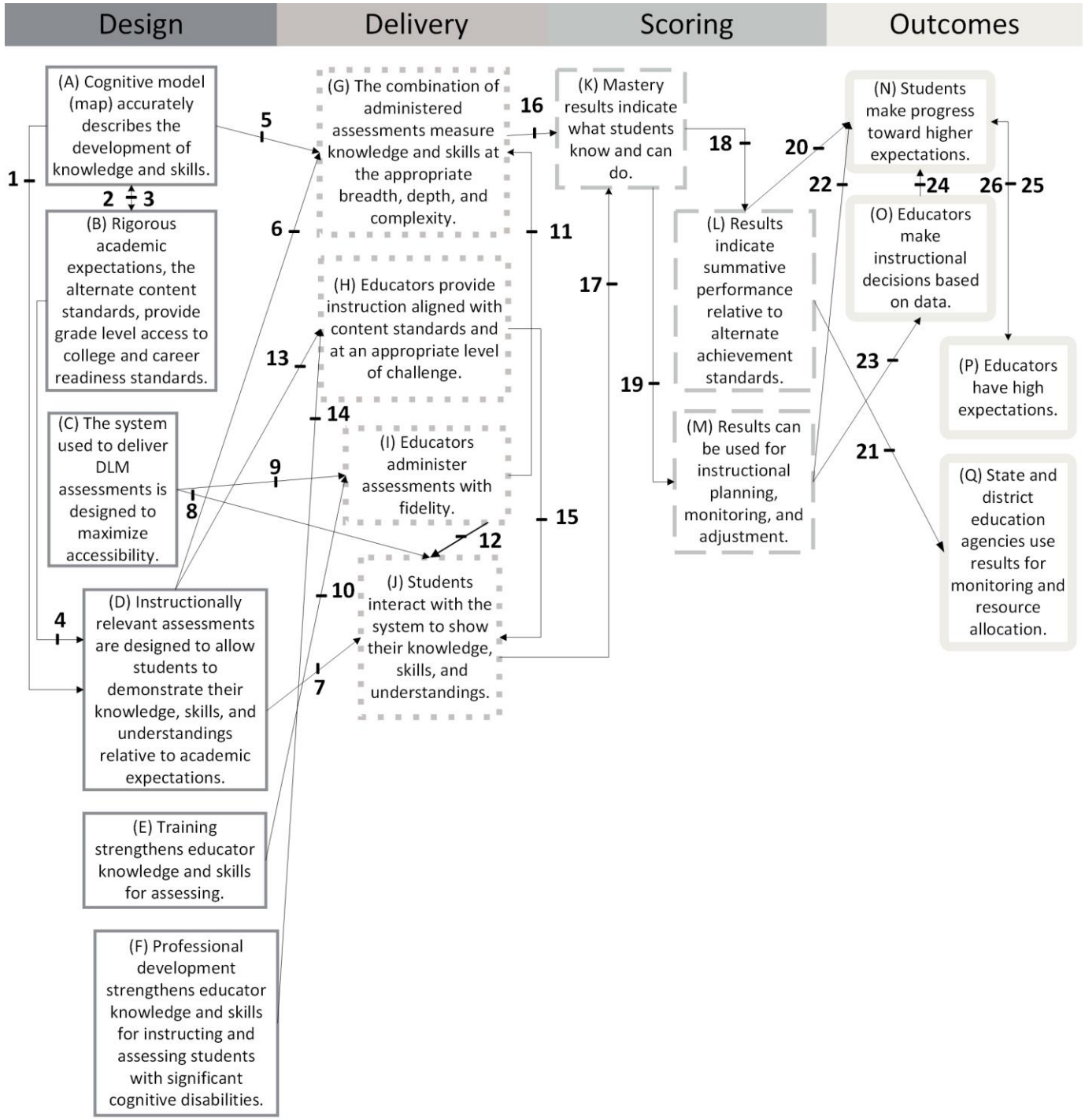
Validation

- Argument-based approach to assessment validation
- A theory of action outlines how the DLM instructionally embedded system will function in order to elicit the desired outcomes
  - Made up of claims organized into 4 sections: design, delivery, scoring, and outcomes
  - Relationships between claims are depicted with numbered arrows
  - Claims have underlying propositions that must be evaluated
  - Evidence is collected to evaluate each proposition
- Set of evidence is evaluated and full argument documented to synthesize quality of evidence collected to date

Theory of Action



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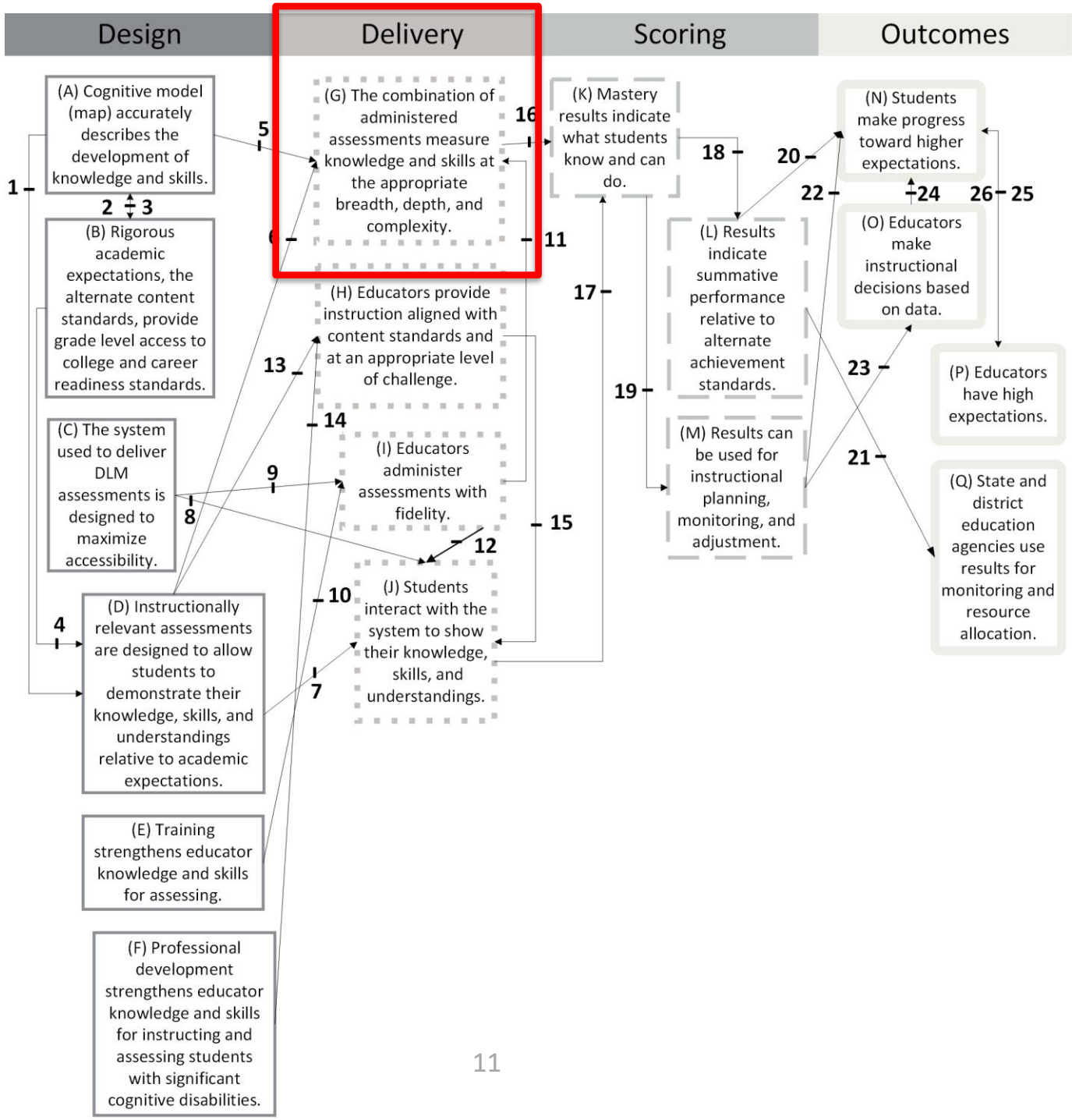
Theory of Action



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Example

Claim (G):
The combination of administered tests measure knowledge & skills at the appropriate depth, breadth, & complexity

Proposition (1):
Administered assessments cover the full blueprint

Proposition (2):
Administered assessments are at the appropriate level

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Example

Claim (G):
The combination of administered tests measure knowledge & skills at the appropriate depth, breadth, & complexity

Proposition (1):
Administered assessments cover the full blueprint

Evidence:
Teacher selection patterns from the system

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Types of Evidence

- Mix of procedural and empirical sources
- Organize according to five sources defined in the *Standards for Educational and Psychological Testing* (AERA, 2014)
  - Test content
  - Response process
  - Internal structure
  - Relations to other variables
  - Consequences

Some Unique Evidence Sources

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

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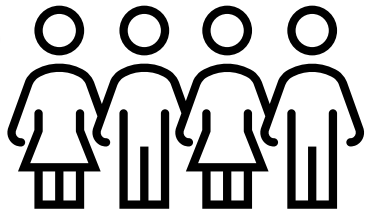
Feedback on Instructionally Embedded Model

"I thought once you get in and you do it once, it's easy to do, I felt."

"progressive data within one standard was very hard to establish before I was introduced to the DLM"

"I think the flexibility is really helpful especially the windows of time to provide the assessments. we have students that are gone for extended periods of time more than in a typical classroom and so if we didn't have such a generous window, I think it would be really hard to meet those deadlines."



"If we could expand our window of testing, too, to get it completed for people that do have 15 students. I think it's like two, maybe three weeks? If we could expand it out some to give us a little bit more time to present the materials, that might help."

I had 12 kids. That was a nightmare because we also have the early literacy alternate assessment, too, so it's a lot.

"I really like it compared to the old format that we used where we had the binder that was this thick of alternate assessments"

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Validity Argument

- Full argument in technical manual
  - Updated annually to reflect new evidence
- Summarizes strength of evidence relative to claims
  - Avoid confirmation bias (Kane, 2006)
  - Include areas for continuous improvement

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For more information

- Clark & Karvonen (2020) *Constructing and Evaluating a Validation Argument for a Next-Generation Alternate Assessment*
- Clark & Karvonen (2022) *Instructionally Embedded Assessment: Theory of Action for an Innovative System*

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