



RESEARCH SYNOPSIS

Teacher Rating of Student Mastery Study: Pilot

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ABOUT THIS STUDY

- Evaluates whether students' DLM assessment results are related to teacher ratings of student mastery.
- In 2019, we **piloted** a survey data collection process within selected grades to evaluate the feasibility of scaling the study to all grades and subjects.
- In future phases, we will compare teachers' ratings of linkage level mastery to results from the DLM assessment.

The objectives were twofold:

1. Pilot a new data collection process using Qualtrics online surveys, and evaluate its feasibility to scale to larger samples
2. Gather more information on how teachers think about mastery for students with significant cognitive disabilities

BACKGROUND

- DLM assessments measure alternate content standards, called Essential Elements.
- Essential Elements are measured by nodes in the underlying learning map model at five levels of complexity to provide all students with access to grade-level academic content.
- In ELA and mathematics there are five levels, while in science there are three levels. The Target represents the grade-level academic target measured by the Essential Element.

DATA COLLECTION

During early 2019, DLM staff invited local education agency representatives to volunteer their districts to participate in the research study. Thirty districts were volunteered, resulting in a pool of 298 schools. Teachers from those schools were eligible and invited to participate if they taught at least one student who was rostered to take fourth grade English language arts (ELA), seventh grade mathematics, or high school science DLM assessments in 2018-2019.

We identified 723 eligible teachers and directly e-mailed the study information, directions, and link to the Qualtrics survey. Each teacher was instructed to provide ratings for just one of their students; we selected the student randomly from the teacher's roster of students. We received completed responses from 95 (13%) teachers across six consortium states: four Integrated Model and two Year-End Model states.

Model	Grade 4 ELA	Grade 7 Math	High School Science	Total
Integrated	3	6	16	25
Year-end	25	25	20	70
Total	28	31	36	95

PROCESS

When completing the survey, teachers indicated whether they believed the student had mastered each linkage level for each Essential Element. An example set of linkage levels is shown below for a seventh grade mathematics Essential Element. Teachers provided master ratings of either mastered, not mastered, or not taught for each linkage level.

Essential Element	Initial Precursor	Distal Precursor	Proximal Precursor	Target	Successor
M.7.EE.1	Combine and partition sets	Demonstrate properties of addition/multiplication	Apply properties of addition and multiplication	Recognize equivalent expressions	Write two equivalent expressions for word problems

Science contains just Initial, Precursor, and Target linkage levels for each Essential Element

FINDINGS

The **first objective** of this study was to pilot a new data collection process. The low response rate observed during the pilot indicates that sending email invitations to respond via Qualtrics was not an effective data-collection method. Alternatives will be considered for future phases of the study.

TAKEAWAYS

- Despite districts volunteering to participate, emailing teachers participation information was not an effective recruitment strategy.
- Sixteen percent of participants who began the survey did not complete it (n = 19). This may indicate that it was confusing or burdensome for some to complete.
- Teachers felt confident about how they rated their students' skill levels, but were mixed regarding how appropriate those expectations were.
- The rating task included Successor linkage levels that extend beyond grade-level academic expectations. This may have influenced teacher responses to whether the linkage levels reflected realistic expectations for students with significant cognitive disabilities.
- Teachers expressed a variety of definitions for mastery. Many identified aspects of mastery not strictly captured by DLM assessments, suggesting potential challenges to comparing teacher ratings of mastery with DLM results for validity purposes in the future.

"Mastery, to me, means that the child can perform the operation with no prompts, no supports in place whatsoever, that they are 100% independent, relying on their own skills and knowledge."

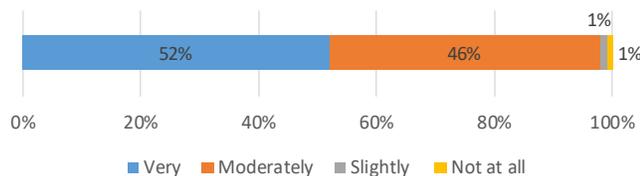
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FINDINGS CONTINUED

Analyses of the correspondence between student DLM results and teacher ratings of mastery will require that we separate samples by grade, subject, and model. The small sample size collected during the pilot did not support reliable calculation of the relationship between teacher ratings and student performance on DLM assessments. The **second objective** of this study was to gather more information about how teachers view skill mastery for students with significant cognitive disabilities who take DLM assessments. Teachers provided this information in a short exit survey about the student and the mastery ratings they provided.

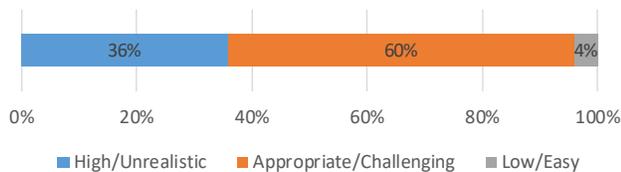
Confidence in Ratings

We asked how confident teachers were in their ratings of their students' skills in the subject. Nearly all teachers were confident in their ratings of the student's skills (98%), and over half said they were very confident (52%). Confidence in ratings did not appear to differ among the grade levels or subjects.



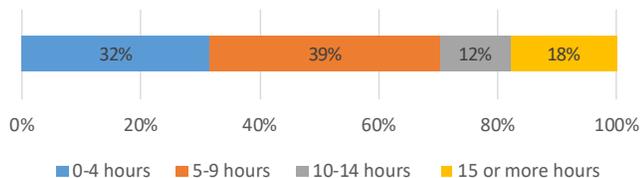
Realistic Expectations

We next asked how realistic teachers found the expectations detailed in the linkage levels. A majority of teachers felt that the learning expectations were appropriate (60%), but over one third thought expectations were too high and unrealistic (36%). This may be due to the inclusion of the Successor linkage level in ELA and mathematics ratings.



Teaching Time

We asked teachers to approximate how many hours per week they spent instructing the student in the subject. Seventy percent of teachers reported spending nine hours or less with the student in the subject.



Mastery Definitions

Finally, we asked teachers to briefly describe how they thought about "mastery" while they completed their ratings and what mastery looks like in their opinion and experience. These open-ended responses ranged from very specific rates of successful demonstration (e.g. "80% accuracy with multiple adults in 4/5 trials across different weeks") to more general evaluation as to whether the student "fully grasps the concepts and ideas". Many responses mentioned "independent" demonstration as key to mastery and a handful mentioned the concept of "generalizing" the skills from one setting to another.