DYNAMIC®
LEARNING MAPS

Instructionally Embedded Assessment: Patterns of Use and Outcomes

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Executive Summary

Dynamic Learning Maps® (DLM®) alternate assessments measure the knowledge, skills, and understandings of students with the most significant cognitive disabilities relative to grade-level alternate content standards (Essential Elements; [EEs]). States participating in the integrated assessment model prioritize teacher choice in the selection of content measured and timing of assessment administration. Students demonstrate their knowledge and skills throughout the year via instructionally embedded and spring assessments.

This report provides an overview of patterns of use, within intended flexibility, and outcomes for the 2017–2018 administration of instructionally embedded assessments, including a summary of participation, teacher decisions, and teacher perceptions.

- Peak embedded assessment administration occurred in the weeks between Thanksgiving and winter break and the last weeks of the window in February; however, teachers created instructional plans at a consistent volume throughout the embedded window.
- Most testlets (72%) were administered within 35 days (five weeks) of the teacher creating the instructional plan.
- While the largest number of students completed all embedded assessments in five days or fewer (i.e., one week; n = 2,700, 23%), the second most prevalent span between the student's first and last embedded testlet was 70-85 days (i.e., 10-12 weeks; n = 2,085, 18%).
- Nearly all students had a median of <10 days between completed testlets.
- Most students assessed on either the exact number of testlets required by the blueprint (61%) or took one additional testlet (9%); however, meeting blueprint sampling requirements remains a challenge (e.g., "Select at least one RL and one RI."). Teacher coverage of the blueprint appears to be unrelated to student complexity band or overall achievement, suggesting a need for further training.
- Of students not meeting blueprint sampling requirements (40%), only 4% had a documented special circumstance or exit code.
- Teachers created instructional plans at the level recommended by the system 80% of the time. If adjusting the linkage level, it was typically down one level (12%) and after administering a testlet at the system-recommended level.
- Only 30% of students assessed on an EE more than once, and usually only a second time. The most common intervals between testlets administered for the same EE were zero or 75 days, and most (71%) were administered at different linkage levels.
- The number of students assessed per teacher ranged from 1-22, with most teachers (66%) creating instructional plans and administering testlets to three or fewer students, and administering 50 or fewer testlets (74%).
- Most teachers (81%) reported generating at least one progress report during the window and typically used the reports to document progress on IEP goals (60%) or share results with parents (55%). Only 58% reported using the blueprint coverage extract.

Findings provide some evidence of fidelity of implementation and identify areas for continued improvement. Recommendations include providing additional guidance and training on the availability of progress reports and extracts to support teachers in meeting all blueprint requirements, and encouraging teachers to use assessment results as part of ongoing instructional cycles to provide greater depth and breadth of instruction throughout the year.

1. Purpose of the Report

Consortium states administering Dynamic Learning Maps® (DLM®) alternate assessments select from one of two assessment models: an integrated model that combines assessment results from throughout the full academic year, and a year-end model that summarizes student achievement based only assessments taken during a spring assessment window. Instructionally embedded assessments are made available to all students and teachers in the DLM Consortium. However, only states participating in the integrated model require students to take instructionally embedded assessments.

Because results from the assessment system are used for a number of purposes, including (1) instructional planning, monitoring, and adjustment, (2) reporting student achievement to a number of audiences, (3) inclusion in accountability reporting, and (4) informing program improvements in subsequent years, examining fidelity of embedded assessment use is of critical importance. This report describes patterns of use of the DLM instructionally embedded assessment system during the 2017–2018 academic year and discusses implications of the findings for supporting teachers and making improvements to better support intended uses of results. The report is meant to be a resource for consortium state partners to better understand how teachers use the system. The report also contributes to the body of available research on teacher use of instructionally embedded assessment systems and the assessment of students with significant cognitive disabilities.

2. Overview of Integrated Model

DLM alternate assessments measure what students with the most significant cognitive disabilities know and can do relative to grade-level academic expectations. These students often demonstrate a range of communication skills. Only 76% use speech to communicate, and of those, 71% regularly combine three or more words (Nash, Clark, & Karvonen, 2016). Beyond speech, students may use sign or symbols to communicate; 19% of students communicating via augmentative or alternative communication device.

Historically, alternate assessments allowed for greater teacher flexibility in the selection of content by which student achievement was measured. This included decisions on the breadth of content included in portfolio measures and teacher interpretations of student behavior for performance measures (Altman et al., 2010; Kohl, McLaughlin, & Nalge, 2006; Thompson & Thurlow, 2003).

To better meet the needs of students with significant cognitive disabilities, states participating in the integrated assessment model of the DLM alternate assessment prioritized flexibility in the selection of assessment content and timing of administration. Students complete instructionally embedded assessments throughout the year following instruction on content selected by the teacher. Results from assessments taken throughout the year summarize student achievement relative to grade-level expectations and serve as summative measures for states' large-scale assessment systems.

Because the integrated model assessment design features may affect how teachers use the assessment system, this report provides analyses and results that only include data from states participating in the integrated model in English language arts (ELA) and mathematics[1]. The integrated model test blueprint specifies the available alternate content standards, called Essential Elements (EEs), for each

[1]Science instructionally embedded assessments are optional for all states and are therefore not included in this report.

grade and subject (ELA[2] and mathematics[3]). Blueprints organize EEs into overarching conceptual areas and claims. Blueprint coverage requirements specify constraints teachers must meet in selecting EEs for instruction and assessment (e.g., choose three EEs from among those in Conceptual Area 1.1). An example blueprint document can be seen in Appendix A. Teachers can also choose to extend beyond these requirements to meet individual students' academic goals.

2.1. Instructionally Embedded Assessment Pool

Teachers create instructional plans for the EEs and levels of their choosing in an online system called Educator Portal. Five linkage levels are available for each EE. The Target level is the grade-level expectation. Three precursor levels (Initial Precursor, Distal Precursor, and Proximal Precursor) measure nodes in the underlying map that lead up to the grade-level expectation. A Successor level is available for students extending beyond the grade-level expectation. Following instruction, a testlet (short assessment of 3-9 items) measures the selected EE and level. Teachers can create as many instructional plans as they choose to meet blueprint requirements and individual student academic needs.

Testlets are available for every EE and linkage level on the integrated model blueprint. Table 1 summarizes the expected number of EEs to meet minimum blueprint coverage requirements and the total number of EEs available for each grade and subject.

Table 1. Essential Elements Expected for Blueprint Coverage and Total Available, by Grade and Subject

	English language arts		Mathematics	
Grade	**Expected *n***	**Available *N***	**Expected *n***	**Available *N***
3	8	17	6	11
4	9	17	8	16
5	8	19	7	15
6	9	19	6	11
7	11	18	7	14
8	11	20	7	14
9–10	10	19	6	26
11–12	10	19	—	—

Note: High school mathematics is reported in the 9–10 row. There were 26 EEs available for the 9-11 band, and 6 were required in each grade. While EEs were assigned to specific grades in mathematics blueprint (eight EEs in grade 9, nine EEs in grade 10, and nine EEs in grade 11), a teacher could choose to test on any of the high school EEs, as all were available in the system.

Testlets are delivered on a computer using the Kite® Student Portal; however, many testlets, especially at lower linkage levels, are administered directly by teachers who enter student responses into the computer. Table 2 summarizes the number of computer-delivered and teacher-administered testlets available for each subject at each linkage level. In total, there were multiple testlets available

[2]https://dynamiclearningmaps.org/sites/default/files/documents/Manuals_Blueprints/ela_im_blueprint.pdf
[3]https://dynamiclearningmaps.org/sites/default/files/documents/Manuals_Blueprints/math_im_blueprint.pdf

at 640 linkage levels in ELA (86%) and 201 linkage levels in mathematics (38%). A more detailed breakdown by grade and Essential Element can be seen in Appendix B.

Table 2. Number of Available Instructionally Embedded Assessments, by Subject, Linkage Level, and Administration Type

	English language arts		Mathematics	
Linkage Level	**Computer**	**Teacher**	**Computer**	**Teacher**
Initial Precursor	0	297	0	128
Distal Precursor	184	123	137	0
Proximal Precursor	226	103	133	5
Target	197	96	141	9
Successor	486	96	394	0
Total	*1,093*	*715*	*805*	*142*

3. Participation

During the 2017–2018 academic year, instructionally embedded assessments were available from September 20, 2017, to December 20, 2017, and from January 2, 2018, to February 28, 2018. Four states participated in the integrated assessment model: Iowa, Kansas, Missouri, and North Dakota. Table 3 shows the number of participating students, teachers, schools, and districts for each state. Across the states, 11,851 students completed 177,836 test sessions (i.e., testlets) during the instructionally embedded window. These test sessions were administered by 3,800 teachers in 2,704 schools, across 905 school districts. All analyses in this report are limited to students who completed at least one testlet. That is, any student that was enrolled but did not complete any testlets is excluded from the analyses and not included in any counts of students.

Table 3. 2017–2018 Instructionally Embedded Participation Summary

State	Students	Teachers	Schools	Districts	Test Sessions
Iowa	2,883	932	686	260	50,673
Kansas	3,068	998	698	203	45,120
Missouri	5,534	1,719	1,190	387	77,118
North Dakota	366	151	130	55	4,925

3.1. Student Characteristics

Prior to administering DLM assessments, educators complete a First Contact survey for each student, which is a survey of learner characteristics. The survey includes sections on academics, communication, classroom setting, and technology use, among others. Responses from the ELA, mathematics, and expressive communication portions of the survey are included in an algorithm to calculate the student's complexity band for each subject.[4] The complexity band is used to

[4]For more information, see Chapter 4 of the *2014–2015 Technical Manual—Integrated Model* (Dynamic Learning Maps Consortium [DLM Consortium], 2016).

recommend a linkage level during instructionally embedded assessment and is intended to provide an optimal match between the student's knowledge, skills, and understandings and the testlet content. Table 4 summarizes the number and percentage of students placed in each complexity band. Overall, the majority of students were placed in Band 1 and Band 2, which correspond to a recommended linkage level of Distal Precursor or Proximal Precursor, respectively. In both subjects, fewer than 10% of students were assigned to Band 3, which corresponds to a recommendation of the Target linkage level.

Table 4. Distribution of Student Complexity Bands, by Subject

		English language arts		Mathematics	
Complexity Band	**Recommended Linkage Level**	***n***	**%**	***n***	**%**
Foundational	Initial Precursor	1,966	16.6	2,020	17.0
Band 1	Distal Precursor	4,468	37.7	4,650	39.2
Band 2	Proximal Precursor	4,306	36.3	4,435	37.4
Band 3	Target	1,111	9.4	746	6.3

Note. The Successor linkage level is not recommended by the system, but teachers may select it if they choose.

4. Instructionally Embedded Assessment Implementation

DLM instructionally embedded testlets are intended to be flexibly delivered. Teachers make decisions regarding when and how often students should be assessed based on their individual academic goals. Patterns of use can provide insight into the fidelity of implementation by evaluating the extent that use of the system is consistent with expectations for administration.

4.1. Instructional Plans

An instructional plan begins with content selection (plan creation) by the teacher, and ends with the administration of the assessment. When implemented with fidelity, DLM assessment administration should be embedded into instruction, with students assessing throughout the window as instruction occurs. Teachers make the determination as to when students are ready to assess following instruction. Because students have unique academic goals and require varying amounts of instruction to meet those goals, variation in administration patterns is expected. In general, it is expected that completion of DLM testlets would gradually increase following the opening of the instructionally embedded window, as instruction is provided.

Because students have unique academic goals and require varying amounts of instruction to meet those goals, variation in system use is expected. In general, it is expected that teachers will begin creating instructional plans following the opening of the instructionally embedded window and continue creating plans and administering testlets as instruction occurs throughout the window, gradually tapering off at the end of the window as teachers meet all requirements. However, some states and districts provide teachers with guidelines that may inform their use of the system throughout the embedded window. For instance, teachers may elect to create all instructional plans

for all students up front or create plans on the fly as instruction and assessment occur. Figure 1 shows the distribution of instructional plans created by day of the instructionally embedded window. Creation of instructional plans spanned the full window and was largely consistent in volume, with slightly fewer plans created just prior to winter break and in February.

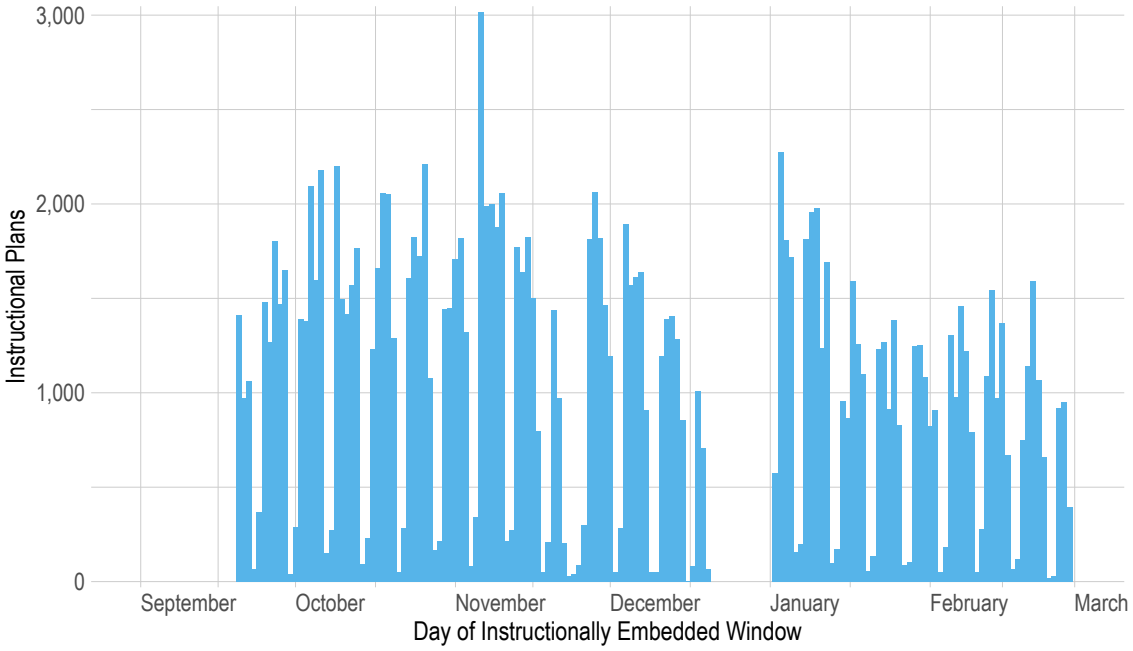


Figure 1. Distributions of teachers' created instructional plans.

Following the creation of instructional plans, teachers determine when their student is ready to complete the assessment. Guidance indicates teachers should deliver instruction until he or she determines the student is ready for assessment (DLM Consortium, 2017b). Figure 2 shows the distribution of testlets completed by day of the window. The volume of testlets completed gradually increases prior to winter break (gap in the figure between December and January labels). Following winter break, the number of testlets completed per day remains steady before increasing again in the final weeks of the window. This suggests that although students complete testlets throughout the full window, testlet completion is at its highest in these two intervals.

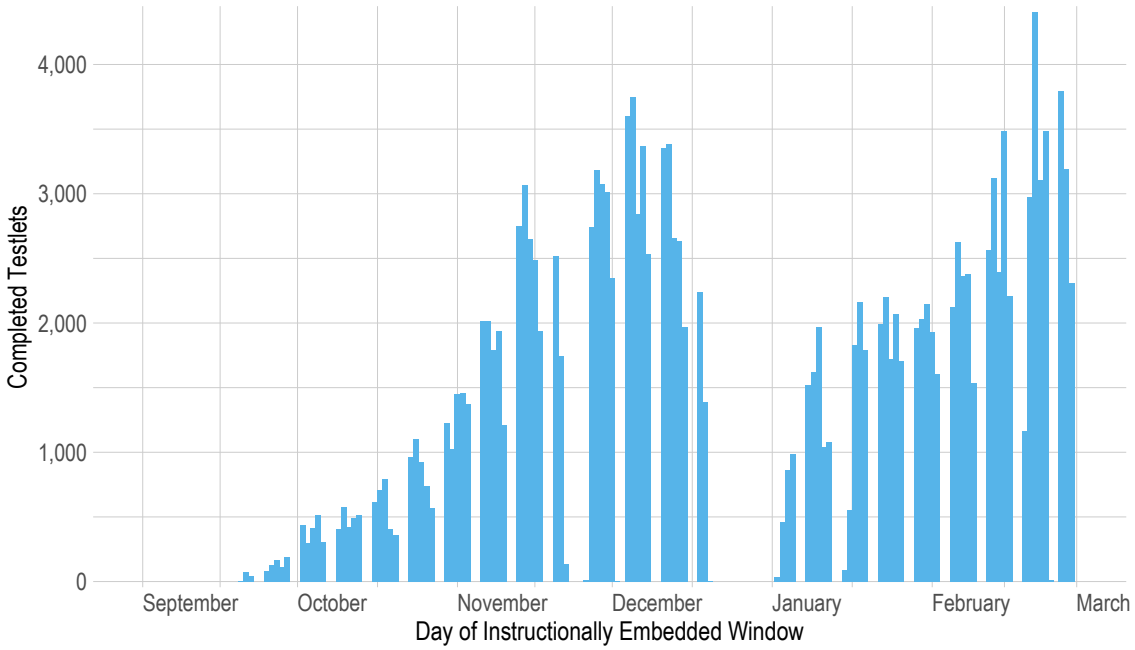


Figure 2. Distribution of student testlet completions during instructionally embedded window.

The contrast between the patterns of instructional plan creation (Figure 1) and testlet completion (Figure 2) suggest that teachers create plans and provide instruction throughout the full instructionally embedded window.

Figure 3 shows the distribution of time elapsed between instructional plan creation and the administration of the testlet for both ELA and mathematics, providing some indication of the amount of instructional time provided prior to testing. Overall, there was a median time elapse of 16 days between plan creation and administration for both ELA and mathematics testlets. However, the distribution is heavily skewed to the right. Overall, the distribution suggests a strong prevalence for teachers to create the instructional plan and administer the assessment in close proximity. Teachers rarely create plans at the beginning of the window and wait until the very end to assess their students.

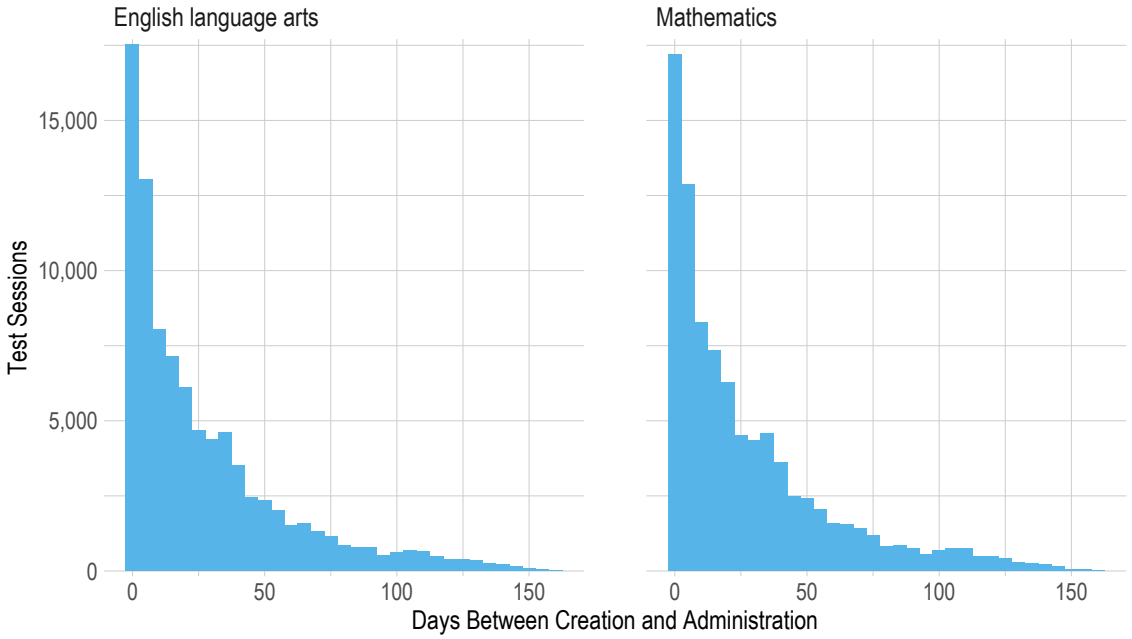


Figure 3. Distribution of days between plan creation and testlet administration.

Figure 4 further illustrates the time lapse of instructional plan creation and testlet completion. The figure shows the total plans created and testlets completed by day of the embedded window. There is a steady, nearly linear progression of plans created, with larger gaps between total plans created and total testlets delivered earlier in the window. In contrast, the completed testlets have an almost exponential pattern leading up to winter break, and again leading up to the close of the window at the end of February.

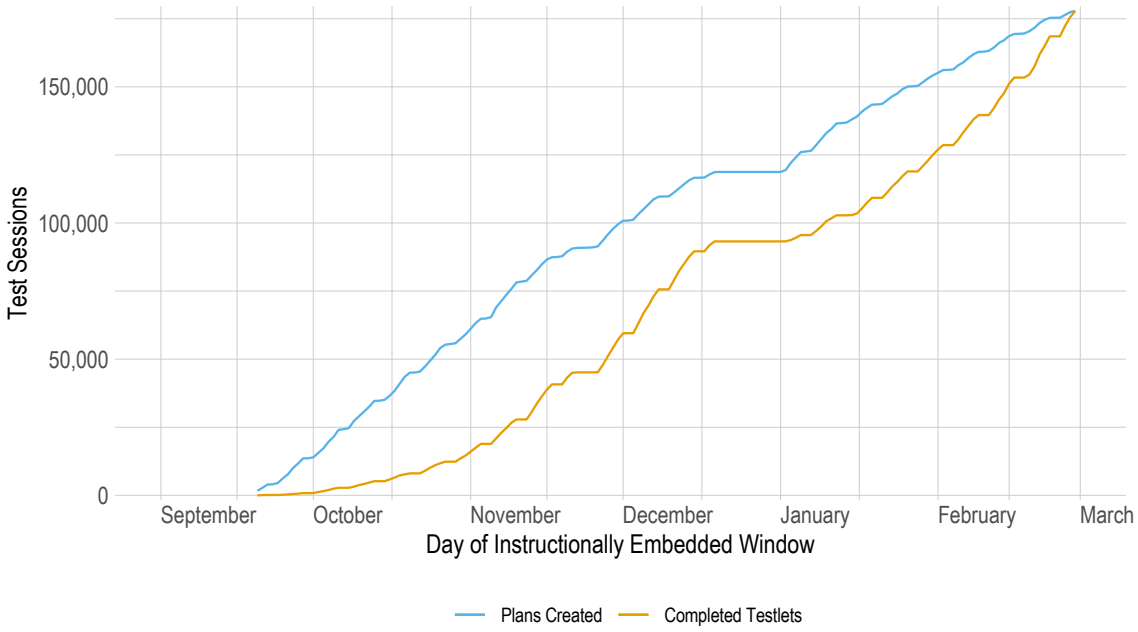


Figure 4. Cumulative distribution of created and completed testlets.

Patterns of testlet completion can be further studied at the individual student level by examining the number of days between the student's first and last administered testlet. The instructionally embedded window spanned a total of 161 days in 2017–2018 (September to February, including weekends). Figure 5 shows the distribution of student-level window lengths (i.e., the number of days between a student's first and last administered testlet). The distribution is bimodal. One group of students (n = 2,700, 23%) completed all embedded testlets in five days or fewer (i.e., all embedded testing was completed in a single week). Additionally, nearly a third of students (n = 3,462, 29%) completed all testlets within a two-week period. However, a second group of students (n = 2,085, 18%) completed testlets over a span of 70-85 days. This spread of testlets across a greater portion of the window is more consistent with the intended use of the assessment system.

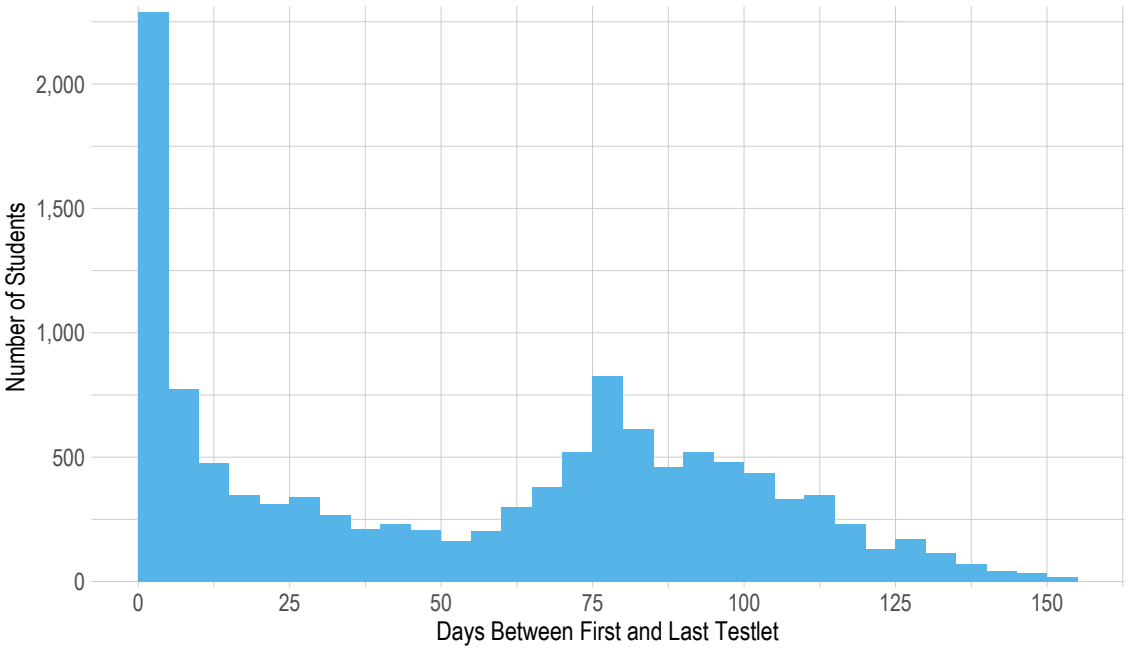


Figure 5. Distribution of student-level testing window length.

A limitation of summarizing the number of days between a student's first and last testlet is that the method is unable to account for patterns of testlet administration within the span of days. For example, there is a clear difference between a student who takes one testlet and then another 50 days later, without taking any testlet administration in between, and a student who takes a testlet every three days for 50 days. Figure 6 shows the median number of days between a student's administered testlets. Nearly all students have a median span of less than 10 days between completed testlets. Note, however, that these median values do not convey variability of within-student patterns.

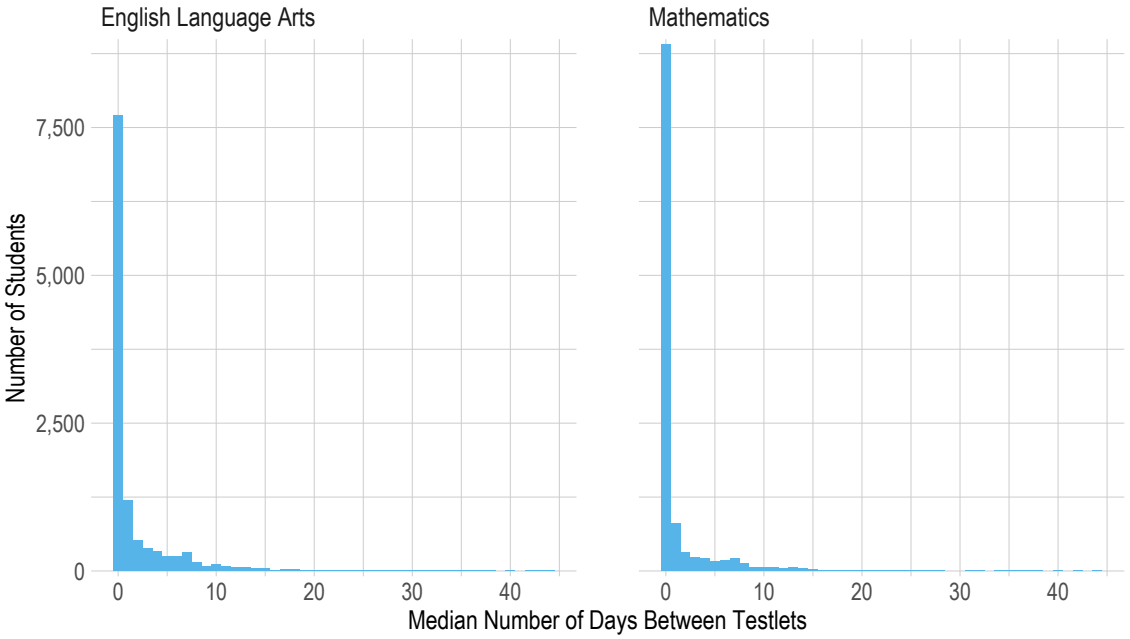


Figure 6. Distribution of median days between completed testlets, by subject.

4.2. Essential Element Selection

As described previously, during the instructionally embedded window, teachers determine how many and which EEs a student assesses on by creating instructional plans. This choice is guided by the subject and grade-level blueprints, which specify the available EEs and sampling requirements within claims and conceptual areas. An example blueprint document can be seen in Appendix A. This section describes educator EE selection.

4.2.1. Number of Essential Elements Assessed

The blueprint for each grade and subject specifies the total number of EEs that must be assessed in order to fulfill blueprint coverage requirements (see Appendix A). Figure 7 shows the number of EEs that each student assessed on, relative to the number required for their grade and subject (see Table 1). In ELA, 73% of students assessed on at least the number of required EEs across all grades, with 56% assessing on exactly the required number. Similarly, in mathematics, 84% of students assessed on at least the number of required EEs, with 66% assessing on exactly the required number.

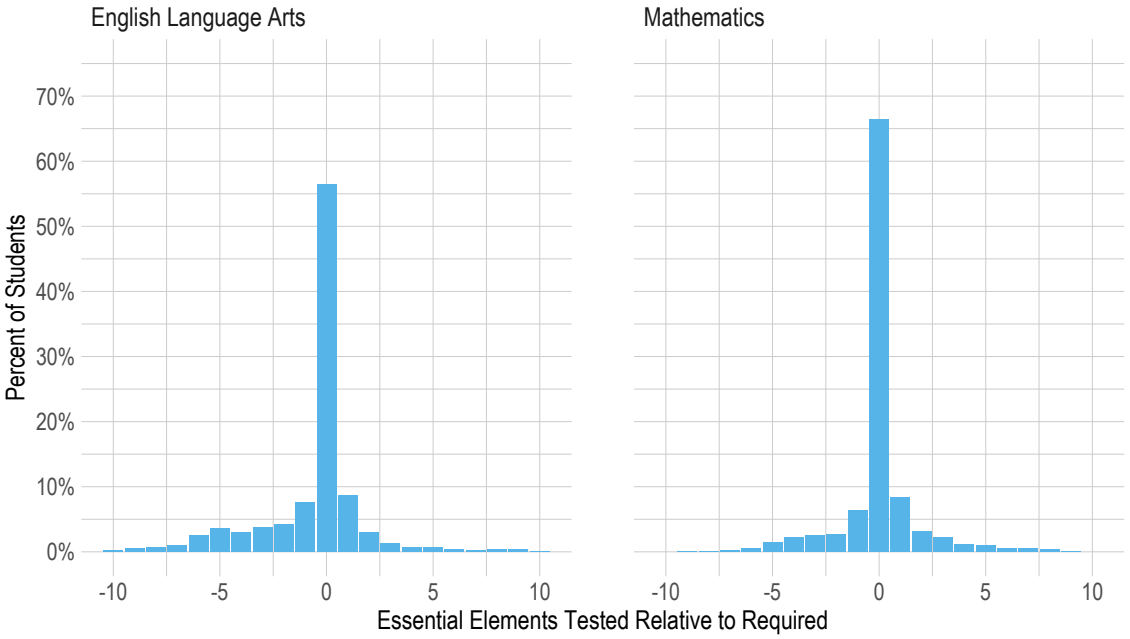


Figure 7. Number of Essential Elements assessed relative to required.

4.2.2. Essential Element Selection Frequency

Although teachers are provided some guidance on EE selection (e.g., "Choose at least three EEs, including at least one RL and one RI" in Appendix A, Figure 19), teachers have the flexibility to choose any EEs to fulfill those requirements. As an example, Figure 8 shows the selection frequency for grade 3 ELA EEs. In conceptual area ELA.C1.1, ELA.RI.3.1 and ELA.RL.3.1 were selected much more often than ELA.RL.3.2 and ELA.RI.3.5. In contrast, the EEs in conceptual areas ELA.C1.2 and ELA.C1.3 had a fairly even distribution of selections. Conceptual area ELA.C2.1 consists of the writing EEs for grade 3. Because all writing EEs are assessed together on a single testlet, the selection frequency was identical for these two EEs. The complete set of EE selection frequency results can be found in Appendix C, Figure 23 and Figure 24.

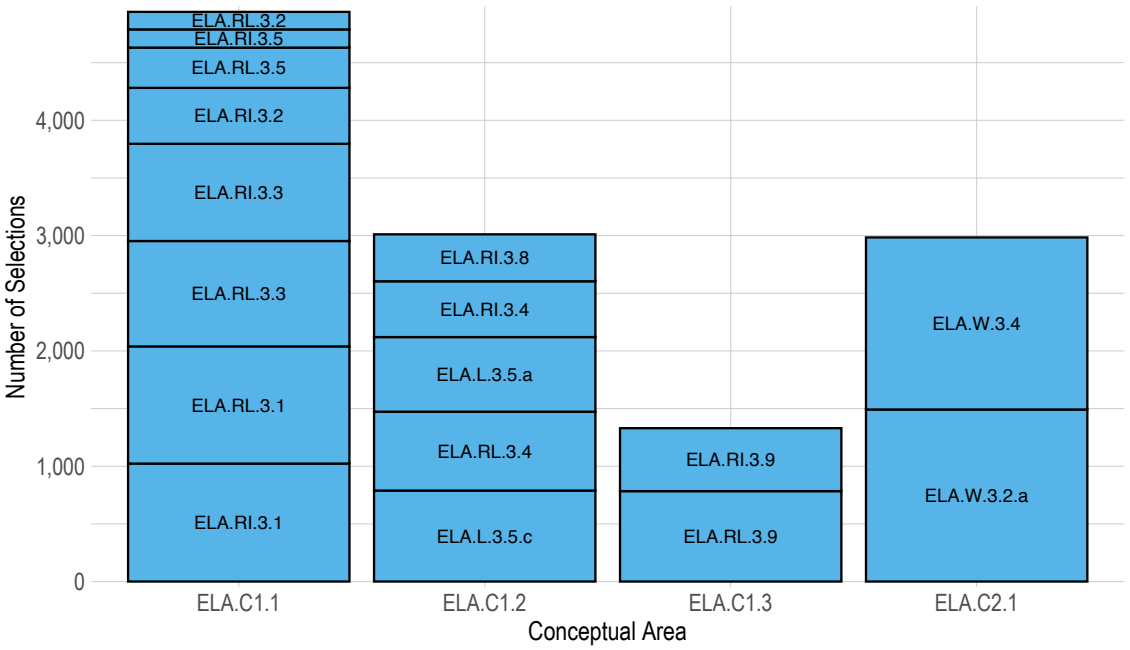


Figure 8. Selection frequency for grade 3 ELA Essential Elements.

4.3. Blueprint Coverage

DLM integrated model blueprints were designed to give teachers flexibility in sampling EEs from grade-level claims and conceptual areas. Teachers select EEs that fulfill blueprint sampling criteria (e.g., "Choose 2 EEs from different conceptual areas," or "Choose 2 EEs, one from RL and one from RI."). Thus, teachers not only have a specific number of EEs on which to instruct and assess students, but also requirements for types of EEs that must be included in their selection. Therefore, it is possible for teachers to assess the correct number of EEs without fully meeting blueprint coverage if they do not select EEs that meet all requirements. Teachers can also choose to assess additional EEs beyond blueprint requirements. For example, the grade 3 ELA blueprint requires a total of eight EEs to be assessed, but has 17 available. Teachers could choose to assess the student on more than the required eight EEs. Table 5 summarizes the number of students in each of three categories: met blueprint coverage expectations exactly, exceeded blueprint coverage expectations, and did not meet blueprint coverage expectations. Overall, 61% of students met or exceeded the blueprint requirements (including sampling constraints) for ELA, and 60% of students met or exceeded the requirements for mathematics.

Table 5. Summary of Blueprint Coverage, by Subject

Blueprint Coverage	English language arts	Mathematics
Met	5,686 (48%)	5,446 (48%)
Exceeded	1,512 (13%)	1,375 (12%)
Not met	4,611 (39%)	4,583 (40%)
Met or Exceeded	*7,198 (61%)*	*6,821 (60%)*

4.3.1. Relationship to Student Characteristics and Performance

The distribution of blueprint coverage by complexity band is shown in Table 6. The distribution of students across complexity bands is fairly consistent within blueprint coverage category. In both ELA and mathematics, 10-15% of students in each complexity band exceeded blueprint coverage. Similarly, 41-51% of students met blueprint requirements and 36-46% did not meet requirements for complete blueprint coverage.

Table 6. Number and Percent of Students in Each Complexity Band, by Blueprint Coverage and Subject

	Blueprint Coverage			
Complexity Band	**Exceeded**	**Met**	**Not met**	**Met or Exceeded**
English language arts				
Foundational	255 (13%)	1,005 (51%)	699 (36%)	1,260 (64%)
Band 1	535 (12%)	2,213 (50%)	1,705 (38%)	2,748 (62%)
Band 2	553 (13%)	2,009 (47%)	1,728 (40%)	2,562 (60%)
Band 3	169 (15%)	459 (41%)	479 (43%)	628 (57%)
Mathematics				
Foundational	195 (10%)	920 (49%)	746 (40%)	1,115 (60%)
Band 1	527 (12%)	2,199 (49%)	1,749 (39%)	2,726 (61%)
Band 2	558 (13%)	2,034 (47%)	1,755 (40%)	2,592 (60%)
Band 3	95 (13%)	293 (41%)	333 (46%)	388 (54%)

Four performance levels are used to report student achievement on DLM assessments: *Emerging*, *Approaching the Target*, *At Target*, and *Advanced*. Table 7 summarizes the distribution of students achieving at each performance level by blueprint coverage category. Performance level results are based only on testlets completed during the instructionally embedded window and therefore do not include any testlets taken during the spring window. As would be expected, as performance level increases, the percentage of students that meet or exceed blueprint coverage expectations increases. This is because the performance level is based on the total number of linkage levels mastered across all assessed EEs. Testing on fewer than the number of required EEs results in fewer opportunities to master linkage levels and is more likely to result in a lower performance level. Interestingly, in both ELA and mathematics, at least 50% of the students achieving at the *Advanced* category assessed on more EEs than required. However, only 42% of students in ELA and 24% of students in mathematics who exceeded the blueprint achieved at the *At Target* or *Advanced* categories.

Table 7. Number and Percent of Students in Each Performance Level, by Blueprint Coverage and Subject

	Blueprint Coverage			
Performance Level	**Exceeded**	**Met**	**Not met**	**Met or Exceeded**
English language arts				
Emerging	508 (9%)	2,437 (45%)	2,509 (46%)	2,945 (54%)
Approaching the Target	368 (11%)	1,747 (52%)	1,233 (37%)	2,115 (63%)
At Target	451 (17%)	1,395 (53%)	789 (30%)	1,846 (70%)
Advanced	185 (50%)	107 (29%)	80 (22%)	292 (78%)
Mathematics				
Emerging	612 (9%)	3,258 (47%)	3,005 (44%)	3,870 (56%)
Approaching the Target	435 (12%)	1,796 (51%)	1,323 (37%)	2,231 (63%)
At Target	237 (29%)	354 (44%)	222 (27%)	591 (73%)
Advanced	91 (56%)	38 (23%)	33 (20%)	129 (80%)

4.3.2. Compressed Blueprint Coverage

Student completion of testlets during the embedded window, as demonstrated in Figure 2 and Figure 5, showed that many students complete testlets in the weeks leading up to the winter break and the close of the window, and that many students completed their first and last testlets on a compressed timeline. To further investigate these findings, the incidence of students covering all blueprint expectations in a single week was examined. Overall, 23% of students (n = 2,685) covered all blueprint expectations in a single week. Of these students that covered the entire blueprint in a given week, 31% (n = 832; 7% of all students) met all blueprint expectations in each of multiple weeks (i.e., covered the full blueprint more than once), and 13% (n = 342; 3% of all students) took additional testlets outside of the week(s) in which they covered the full blueprint. Figure 9 shows the distribution of of students that covered the entire blueprint in each week of the embedded window. This closely mimics Figure 2, suggesting that some teachers bunch testlet administration together in the weeks before winter break and the close of the window.

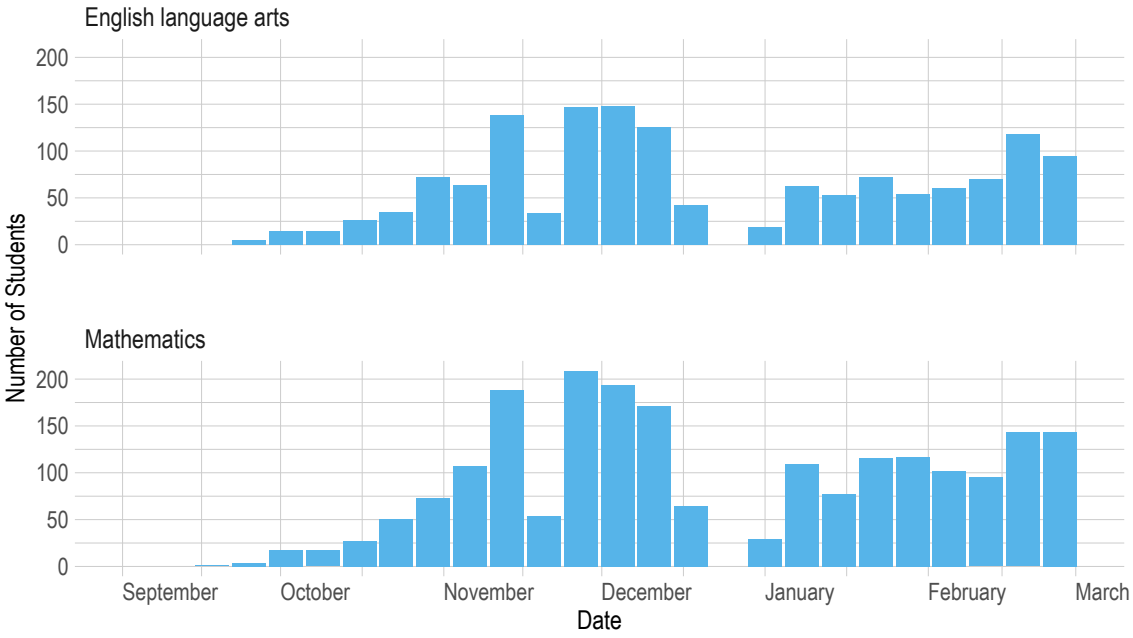


Figure 9. Number of students fulfilling all blueprint requirements in each week, by subject. Students may have completed all requirements in more than one week.

Table 8 compares the complexity bands and performance levels of students who covered all blueprint requirements in a single week to students who covered requirements over a longer period of time (i.e., did not cover the entire blueprint in any single week of the window). Overall the percentage of students at each complexity band and performance level is fairly consistent within subjects across students who did and did not cover all blueprint requirements in a single week. The biggest difference was four percentage points; this difference occurred at the Emerging and At Target performance levels in ELA. For students who covered the blueprint over an extended period of time (i.e., more than one week) 40% of students acheived at the Emerging level, compared to 44% of students who covered all blueprint requirements in a single week. Similarly, 26% of students fulfilling blueprint requirements over more than week acheived at the At Target performance level, compared to 22% of students who covered the blueprint in one week or less.

Table 8. Comparison of Characteristics and Outcomes of Students Who Covered the Entire Blueprint on Extended and Compressed Timelines, by Subject

Characteristic/Outcome	English language arts		Mathematics	
	Extended Coverage	Compressed Coverage	Extended Coverage	Compressed Coverage
Complexity Band				
Foundational	993 (17%)	267 (19%)	829 (17%)	286 (14%)
Band 1	2,201 (38%)	547 (38%)	1,914 (40%)	812 (40%)
Band 2	2,065 (36%)	497 (35%)	1,781 (37%)	811 (40%)
Band 3	504 (9%)	124 (9%)	264 (6%)	124 (6%)
Performance Level				
Emerging	2,319 (40%)	626 (44%)	2,704 (56%)	1,166 (57%)
Approaching the Target	1,671 (29%)	444 (31%)	1,554 (32%)	677 (33%)
At Target	1,524 (26%)	322 (22%)	437 (9%)	154 (8%)
Advanced	249 (4%)	43 (3%)	93 (2%)	36 (2%)

Note: Extended Coverage = Covered the blueprint over more than one week; Compressed Coverage = Covered the blueprint in a single week.

4.3.3. Not Meeting Blueprint Coverage

As shown in Table 5, 39% of students in ELA (n = 4,611) and 40% of student in mathematics (n = 4,583) did not meet all of the blueprint sampling requirements for their grade. Students may not be expected to meet all blueprint coverage requirements if they were exited from the system (e.g., transferred), or had a special circumstance (e.g., chronic illness). Of the students who did not meet blueprint coverage expectations, 192 ELA students (4%) and 190 mathematics students (4%) had an exit or special circumstance code. While states vary in their use of special circumstance codes, the vast majority of students who did not meet blueprint requirements likely would have been expected to (i.e., did not have an exit or special circumstance indicated). Further, of the 4,419 who did not have an exit or special circumstance code, 97% (n = 4,301) also assessed in the spring window. In mathematics, 4,282 of the 4,393 students without an exit or special circumstance code took assessments during the spring window (97%). Given that these students continued to be active in the spring window, it would be expected that these students would meet all blueprint requirements during the instructionally embedded window.

Figure 10 shows the distribution of EEs assessed relative to the number of EEs required on the blueprint for only those students who did not meet requirements and did not have an exit or special circumstance code. In ELA, 31% (n = 1,365) of students who did not meet blueprint requirements assessed on the required number of EEs or more. For mathematics, this number was 63% (n = 2,749). This suggests that, on average, the cause of not meeting blueprint coverage was picking to few EEs in ELA, but picking the wrong EEs in mathematics.

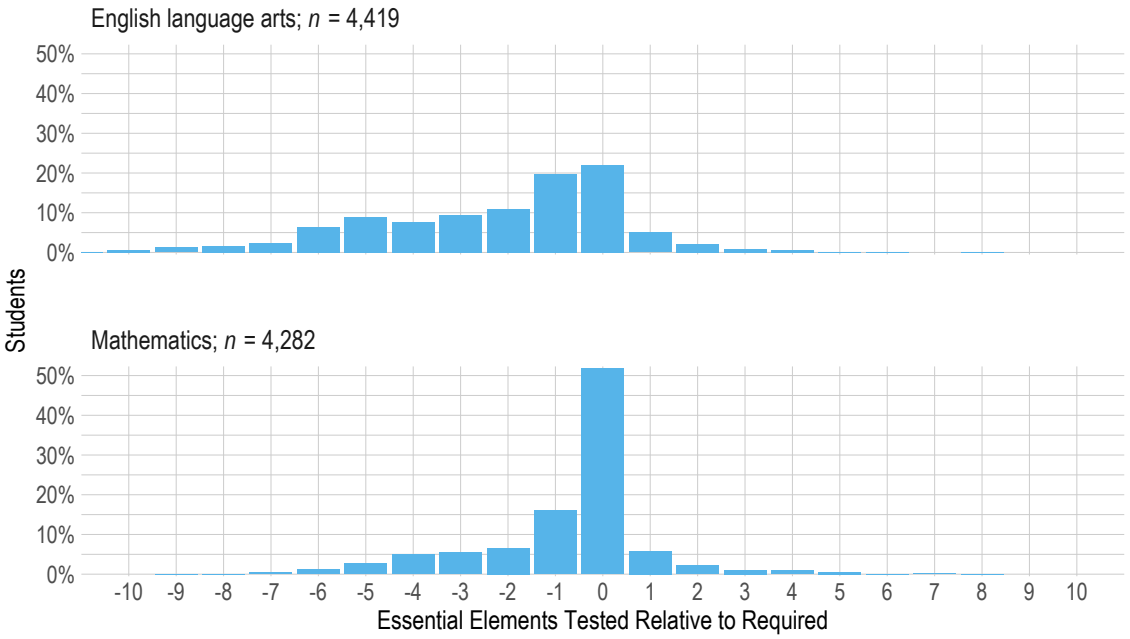


Figure 10. Number of Essential Elements assessed relative to required for students who did not meet blueprint coverage requirements, by subject.

4.4. Linkage Level Selection

As part of the process for creating instructional plans, teachers select an EE, and the system recommends a linkage level based on responses the teacher entered in the student's First Contact survey. Because a single complexity band is calculated per subject, and students' knowledge, skills, and understanding may vary across EEs, teachers are able to assign a level other than the system-recommended level if they choose. This section describes teacher decisions related to the linkage level of instructional plans and associated DLM testlets.

For ELA[5] and mathematics, there are four complexity bands: Foundational, Band 1, Band 2, and Band 3. These complexity bands correspond to a recommended testlet linkage level of Initial Precursor, Distal Precursor, Proximal Precursor, and Target, as described previously (see Table 4). A Successor linkage level is available for teachers to select for students whose instructional goals extend beyond the grade-level expectation for the EE; it is not a system-recommended level.

Table 9 shows the number and percentage of teacher-assigned linkage levels by subject and complexity band. Teachers accepted the system-recommended level 80% (n = 131,456) of the time, as indicated by the shading in Table 9. In instances where teachers adjusted the level from the system recommendation, it was typically to the linkage level below the level recommended, which was observed for 12% (n = 19,540) of testlets administered.

[5]Writing testlets are available at two levels: emergent and conventional. For this reason, writing testlets were not included in this portion of the analyses.

The distribution of variation in teacher-assigned linkage level from the system-recommended level is shown in Figure 11. A value of 0 indicates the teacher did not adjust the linkage level, while a value of -1 indicates the teacher adjusted the level down one linkage level from the system recommendation. Not all values are available for all complexity bands; for instance, for students with a Foundational complexity band, the teacher could only accept the recommended linkage level (Initial Precursor) or adjust the level upwards. The figure shows that teacher adjustments most commonly occur with non-Foundational-level students. Band 1 students had the most adjustments, with over 15% of ELA test sessions and 20% of mathematics test sessions being administered at the lower Initial Precursor level. Due to the similarity in the distributions for ELA and mathematics, the two subjects are combined for the remainder of the linkage level selection analyses.

Table 9. Number and Percent of Teacher-Assigned Linkage Levels, by Subject and Complexity Band

Complexity Band	Selected Linkage Level				
	Initial Precursor (%)	Distal Precursor (%)	Proximal Precursor (%)	Target (%)	Successor (%)
English Language Arts					
Foundational	11,199 (92.8)	484 (4.0)	222 (1.8)	83 (0.7)	80 (0.7)
Band 1	4,513 (15.6)	22,542 (78.0)	1,100 (3.8)	507 (1.8)	254 (0.9)
Band 2	1,215 (4.3)	2,436 (8.7)	22,831 (81.5)	1,122 (4.0)	417 (1.5)
Band 3	179 (2.6)	445 (6.4)	644 (9.3)	5,489 (79.3)	168 (2.4)
Mathematics					
Foundational	13,606 (93.7)	602 (4.1)	158 (1.1)	125 (0.9)	34 (0.2)
Band 1	7,323 (20.8)	25,788 (73.4)	1,251 (3.6)	580 (1.7)	199 (0.6)
Band 2	1,956 (5.7)	4,111 (12.1)	25,632 (75.2)	1,923 (5.6)	477 (1.4)
Band 3	159 (2.9)	309 (5.6)	513 (9.3)	4,369 (79.5)	146 (2.7)

Note: Shading shows the recommended linkage level for each complexity band.

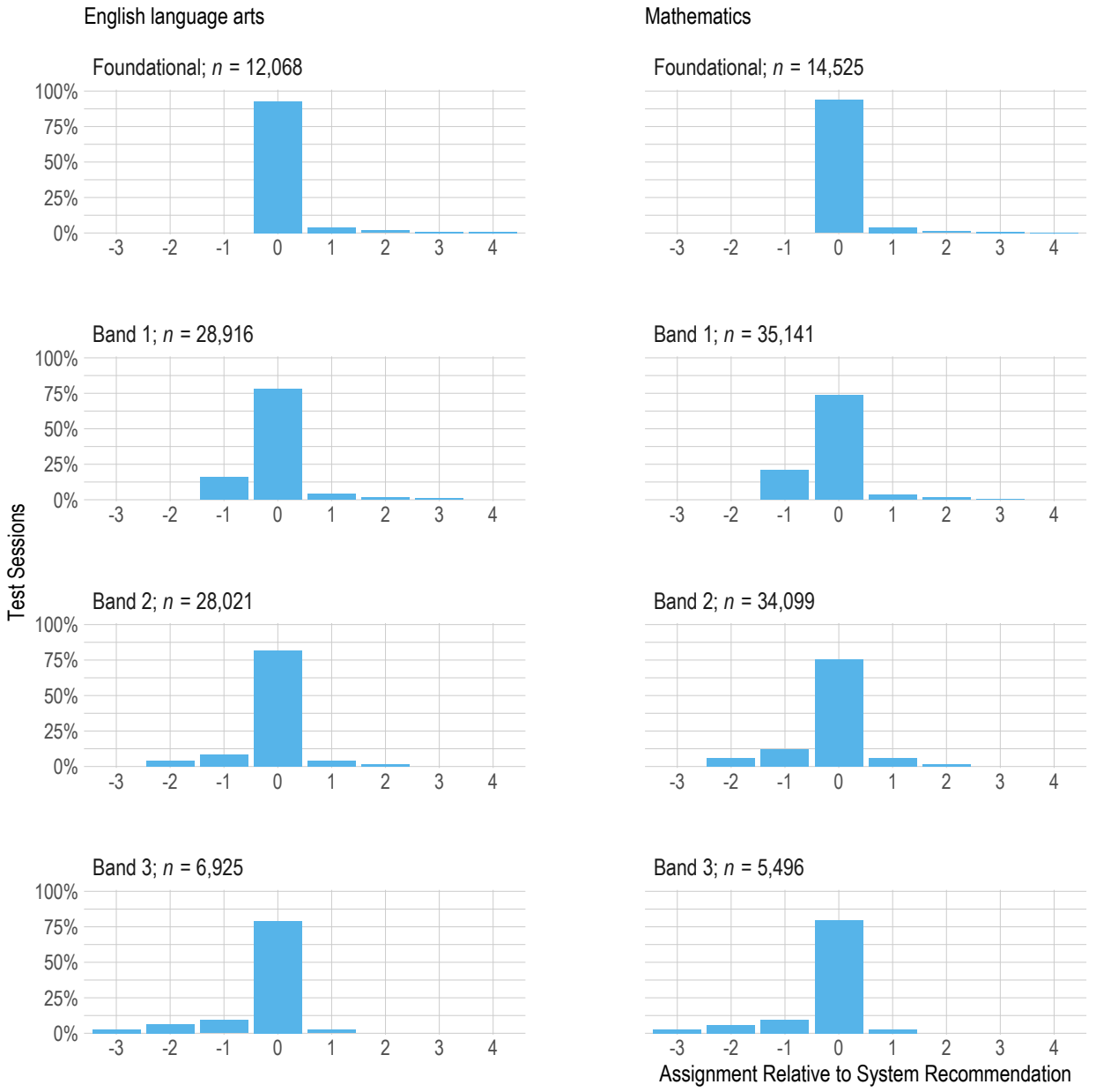


Figure 11. Distribution of linkage level assignment for non-writing testlets, by Subject and Complexity Band. 0 = teacher accepted system recommendation.

4.5. Readministration of Essential Elements

During the instructionally embedded window, teachers can not only choose which EEs to assess in order to meet the blueprint coverage requirements, but they also have the option to readminister the same EE to a student multiple times[6]. This readministration can occur at the same linkage level as the

[6]Dependent on pool depth. Every EE has at least one testlet available at each of the five linkage levels. See Appendix B for more information.

original testlet or at a different linkage level. This section describes patterns of use concerning the readministration of EEs and the corresponding linkage level selections.

4.5.1. Readministration of Essential Elements

Teachers can choose to administer more than one testlet for the same EE. In total, 30% (n = 3,604) of students assessed on at least one EE multiple times. Of the students that assessed more than once on an EE, 79% (n = 2,861) only assessed a second time on readminstered EEs.

Another consideration when evaluating the readministration of EEs is the amount of time between testlet administrations. Teachers can choose to create multiple instructional plans and administer multiple testlets in a single day, or spread administration across a time interval during which additional instruction may be provided. Figure 12 shows the distribution of the number of days between the administration of testlets measuring the same EE. Most teachers administered a subsequent testlet for the same EE on the same day. Despite same-day administrations being the most common duration, they accounted for only 18% of the total number of readministrations. Across all administrations, the median number of days between readministrations of the EE for a student was 57 days. This can also be seen in Figure 12, where there is a second peak of administrations at around 75 days. This indicates that teachers are commonly waiting a significant amount of time between the administrations of testlets measuring the same EE. This may suggest intended use of the system whereby teachers provide additional instruction and reassess the student when they deem appropriate.

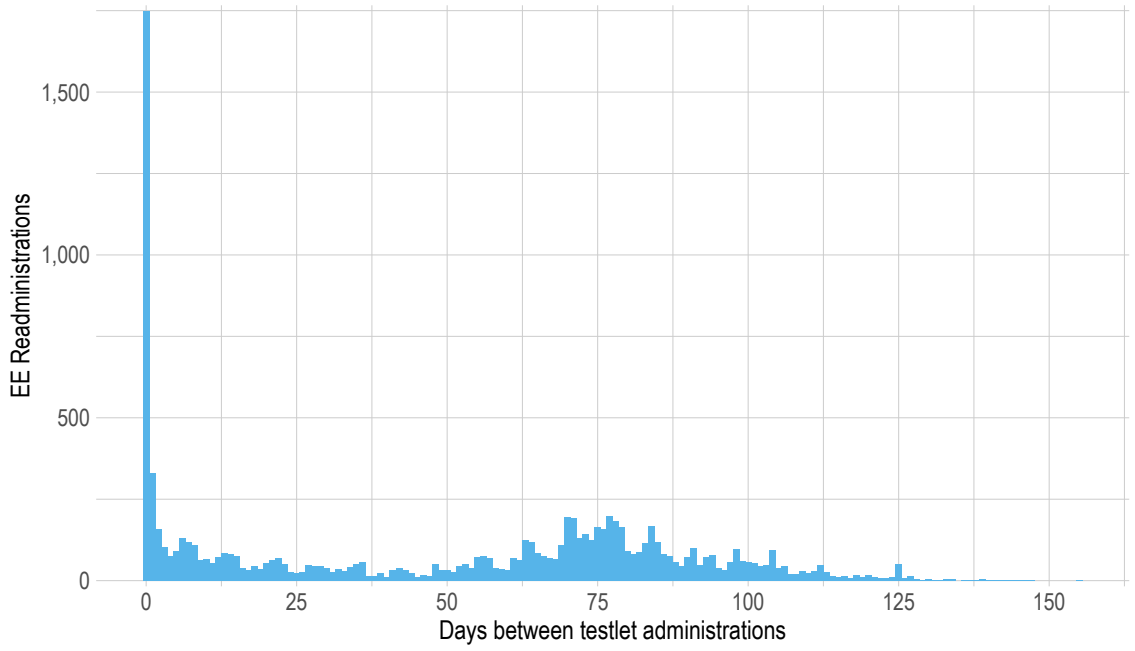


Figure 12. Distribution of delays between the administration of testlets assessing the same EE.

4.5.2. Linkage Level Selection on Readministrations

When choosing to readminister an EE, teachers can readminister the EE at the same linkage level as the original administration or choose a different linkage level. A key consideration when evaluating teacher adjustment of linkage level is the timing of their decision. For example, a teacher may adjust from the system-recommended linkage level before administering a testlet for the EE, or a teacher may administer a testlet at the system-recommended level and then create an additional instructional plan for the same EE at a different linkage level.

Of the 3,604 students (30%) who were assessed on an EE multiple times, 74% (n = 2,668) assessed on multiple linkage levels for the same EE. Figure 13 shows the distribution of the number of linkage levels a student assessed on for a single EE, given that the EE was assessed multiple times. This shows that when students were reassessed on an EE, it was usually to assess at an additional linkage level. Only in 29% of cases was an EE assessed multiple times at the same linkage level.

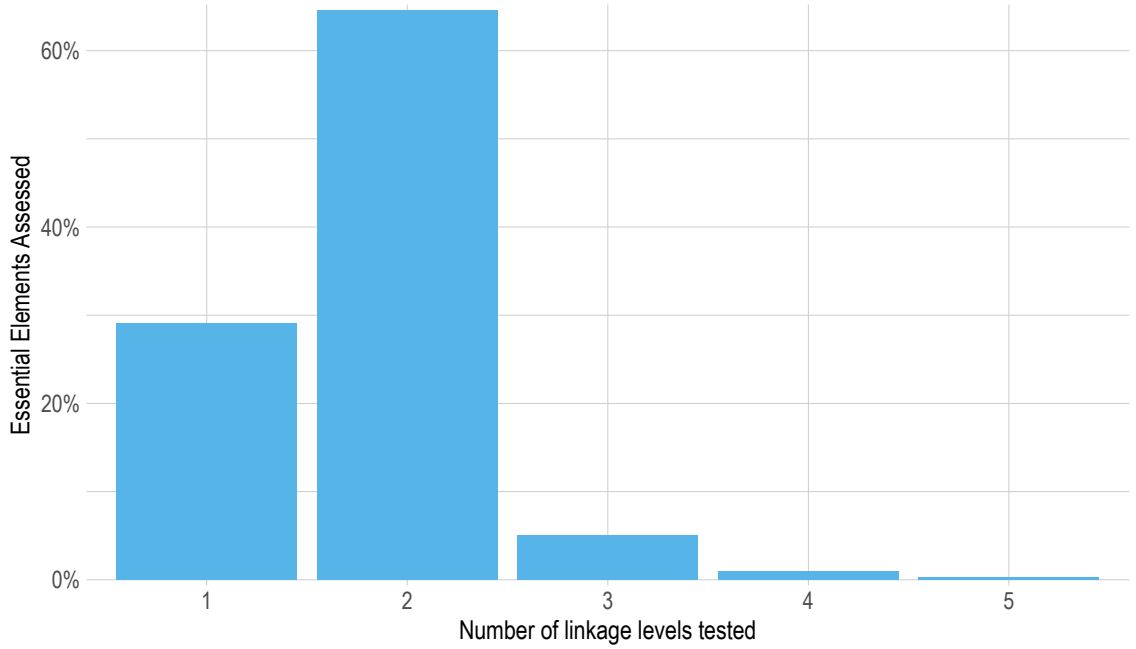


Figure 13. Distribution of the number of linkage levels assessed for an EE, given the EE was assessed more than once. *Note.* Some students were assessed on multiple EEs more than once.

Figure 14 shows the distribution of linkage level selection relative to the system recommendation for only EEs that were administered multiple times to a student. Interestingly, when an EE was administered multiple times to a student, the suggested linkage level was chosen only 74% (n = 6,245) of the time for the first testlet, and an even lower 41% (n = 4,033) of the time for readministrations of the EE.

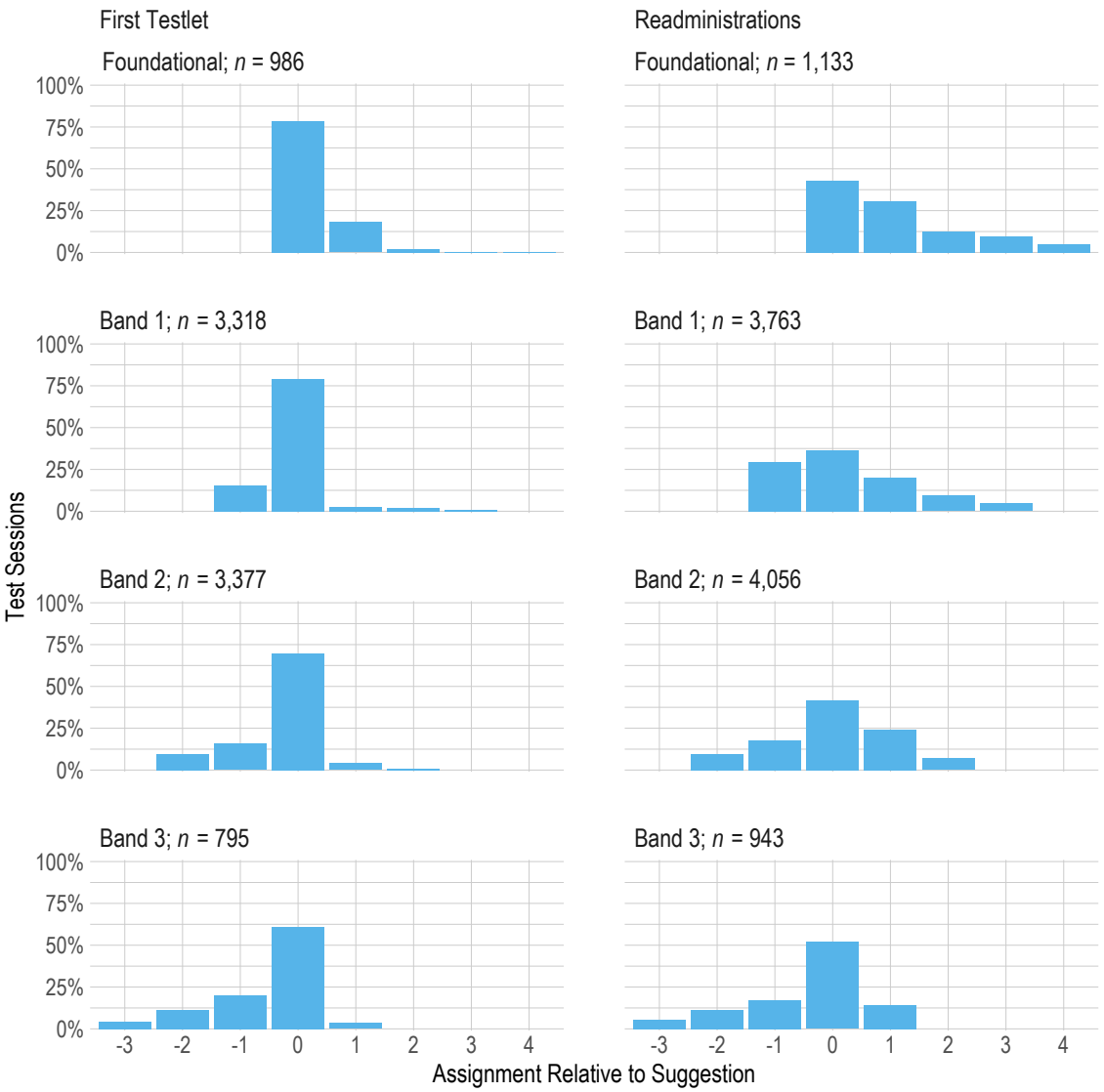


Figure 14. Distribution of linkage level assignment for readministered EE, by administration order and complexity band.

A different pattern is seen when EEs are not assessed multiple times. Figure 15 shows the distribution of assignment relative to the system-recommended linkage level for EEs that were administered only once to the student. For students taking only one testlet measuring the EE, 83% of test sessions were administered at the system-recommended linkage level. The most significant deviation from the recommended linkage level occurred for Band 1 students, where 18% of testlets were administered at the lower level (i.e., Initial Precursor) rather than the recommended level (i.e., Distal Precursor). This suggests that, in general, when teachers assess an EE only one time for a student, they are likely to create the instructional plan at the system-recommended linkage level.

However, as illustrated in Figure 14 teachers appear more willing to deviate from the recommended linkage level if they have already administered a testlet for a given EE to a student.

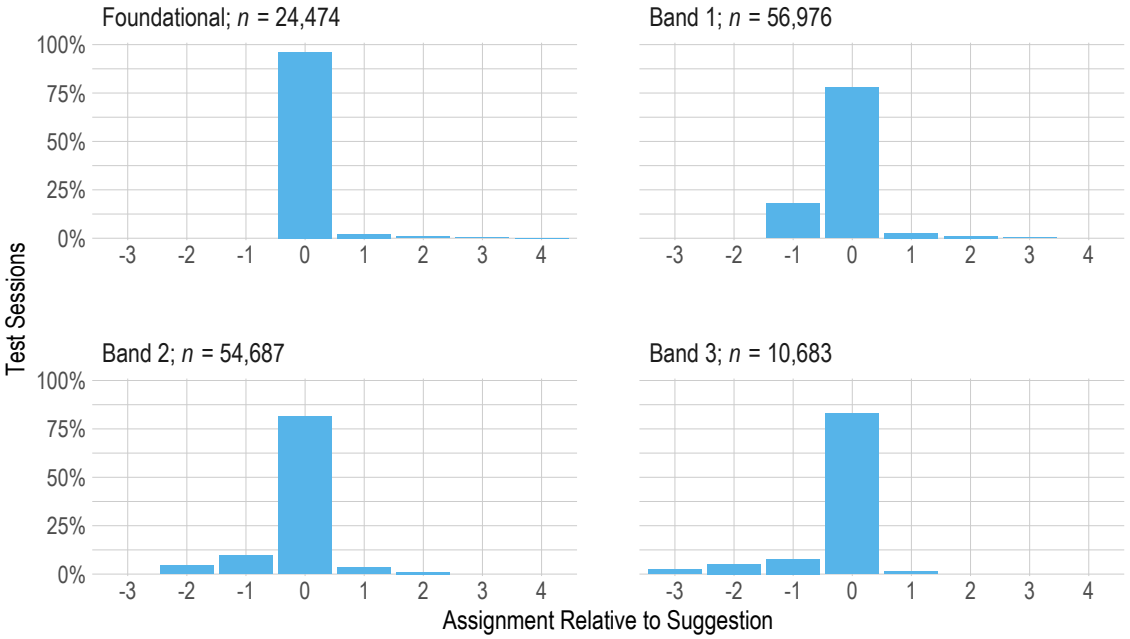


Figure 15. Distribution of linkage level assignment for Essential Elements measured once, by complexity band.

4.6. Teacher Administration Load

The number of students for whom they must create instructional plans and administer testlets may influences teacher use of the instructionally embedded system. Teachers with a larger number of students may experience greater administrative burden, which could impact their patterns of use and student experience with the system, because creation of instructional plans and testlet administration[7] all occur at the individual–student level.

During the 2017–2018 instructionally embedded window, teachers had between 1 and 22[8] rostered students. Across all states, the majority of teachers (66%, n = 2,522) had three or fewer rostered students.

Across all teachers, most (74%, n = 2,813) created plans for 50 or fewer testlets during the instructionally embedded window. This number of testlets is dependent on the number of students rostered to the teacher. On average, teachers were required to create plans for 43 testlets to meet all blueprint requirements in all subjects for all students rostered to them. However, this number ranged

[7]Students demonstrate varying levels of independence when interacting with the system, ranging from completing assessments by themselves to requiring the teacher to administer the assessment.

[8]A value this high is not common and may reflect unique rostering scenarios.

from as low as five to as high as 253[8], depending on the number of students rostered to the teacher, the number of subjects, and the grades in which those students were assessed. Figure 16 shows the distribution of testlet plans created and administered by teachers relative to the expected number of administered testlets, grouped by the total number of students the teacher assessed. The figure shows that as the number of students a teacher has increases, the less likely that teacher is to create and administer the required number of testlets. Specifically, 76% (n = 1,202) of teachers with only one student created and administered at least the number of testlets required to meet blueprint coverage requirements. However this percentage drops to 49% (n = 790) for teachers with two students, 32% (n = 906) for teachers with three to four students, and 13% (n = 902) for those with more than four students. For teachers of multiple DLM-eligible students, more information is needed regarding whether paraprofessionals or others assisted with administering testlets throughout the year.

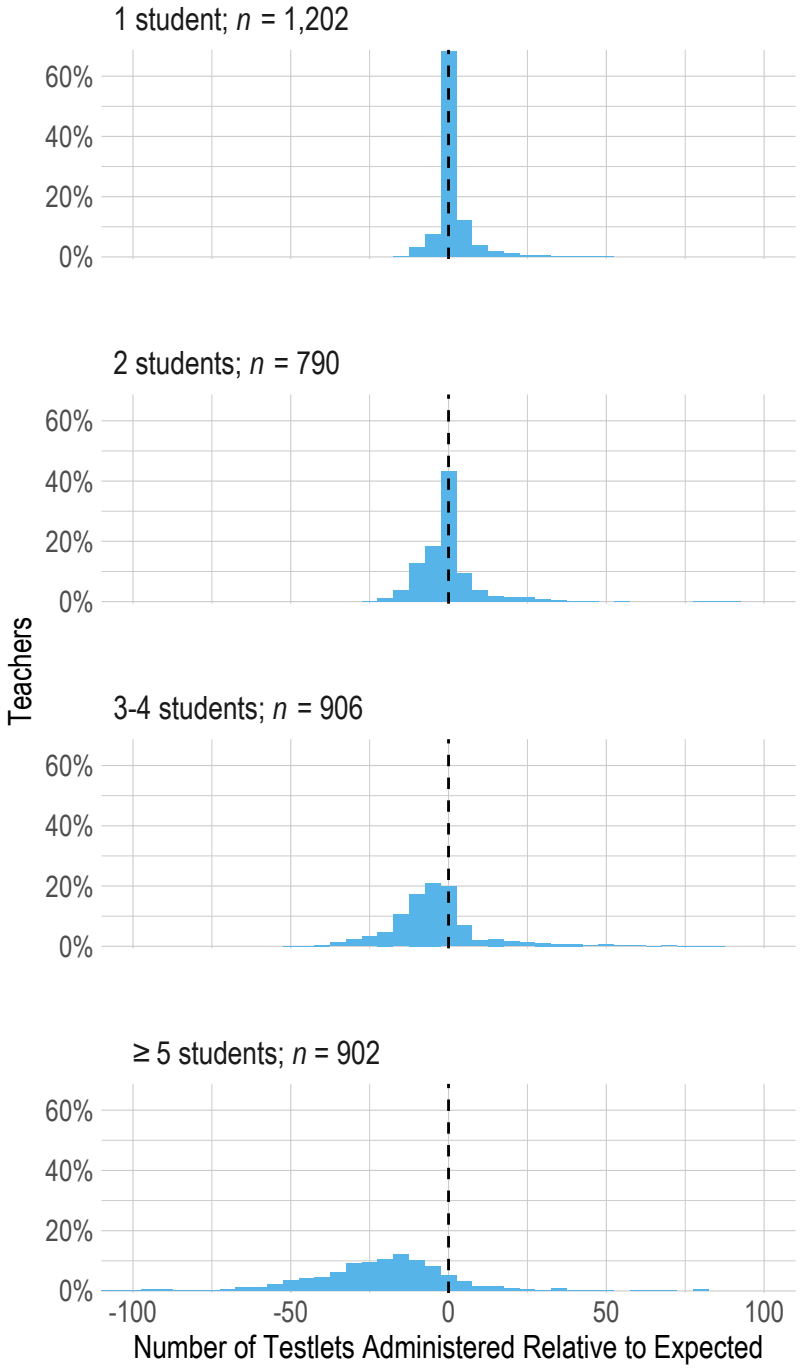


Figure 16. Distribution of the number of testlets created and administered by each teacher relative to expectations, by the number of students the teacher assessed.

5. Teacher Perceptions of Instructionally Embedded Use

This section describes teacher perceptions of instructionally embedded assessment. Data were collected from the 2017–2018 teacher survey,[9] which was administered during the spring 2018 assessment window.

In this section, teachers' self-reported behaviors are summarized and compared to observed data. However, there are several caveats that should be highlighted to aid in interpretation of the survey responses. Although the survey questions collected teacher responses about instructionally embedded administration, the survey was administered during the spring assessment window spanning March to June. Teachers may also have responded to survey items thinking about administration across both embedded and spring testing. Further, while surveys were assigned by student, teachers may have been thinking of a different student, or responded as if the survey was in reference to all students for whom they had administered testlets.

5.1. Self-Reported Readministration of Essential Elements

One spiraled block of the teacher survey collected teacher feedback on administration and use of instructionally embedded assessments, including whether they assessed an EE more than once for the student. Of the 1,520 teachers that responded to the item, approximately 31% (n = 468) indicated they had assessed an EE multiple times, 37% (n = 565) indicated they had not, and 32% (n = 487) were unsure. Table 10 summarizes the relationship between the teacher's self-reported behavior in the survey and the observed test administration data for that student. Across all teachers, only 40% (n = 188) of teachers who indicated they assessed an EE multiple times actually did. Conversely, 25% (n = 141) of teachers who indicated they *had not* assessed an EE multiple times did readminister at least one EE. In total, 60% (n = 908) of surveyed teachers either could not recall or appeared to have recalled incorrectly whether they had administered multiple testlets for a single EE. This may reflect a need for additional training and system functionality to monitor EEs selected for instructional plans and assessment administration.

Table 10. Correspondence Between Teachers' Self-Reported Readministration of Essential Elements and Observed Administration Behaviors

	Observed Readministration	
Self-Reported Readministration	**Yes**	**No**
Yes	188 (40%)	280 (60%)
No	141 (25%)	424 (75%)
I can't remember	132 (27%)	355 (73%)

[9] A teacher survey is assigned for each student rostered to take DLM assessments during the spring window. The survey includes spiraled blocks collecting teacher feedback on a range of topics, including the student's opportunity to learn, use of accessibility supports, and interaction with the system. For more information on survey design and teacher responses, see Chapter 4 and Chapter 9 of the 2017–2018 Technical Manual Update—Integrated Model (DLM Consortium, 2018).

5.2. Self-Reported Blueprint Coverage

As part of the teacher survey, teachers indicated how many EEs they assessed the student on relative to the blueprint requirements. In total, there were 1,317 responses to this item, with 4% (n = 47) indicating they assessed fewer than the required number of EEs, 68% (n = 890) indicating they assessed the exact number of EEs required, 16% (n = 207) indicating they assessed more than the required number, and 13% (n = 173) unable to recall. Table 11 shows the correspondence between the teachers' self-report and observed number of EEs assessed for the student. As with the self-reported readministration of EEs in Table 10, the results in Table 11 indicate some level of disagreement between teacher self-report and system data. Of the teachers who responded with an option other than "I can't remember," only 73% (n = 838) correctly identified the number of EEs they had assessed relative to blueprint coverage.[10] This may indicate that teachers need additional supports or training to understand which EEs have been assessed, which blueprint requirements have successfully been met, and which EEs will fulfill the blueprint requirements that have not yet been met.

Table 11. Correspondence Between Self-Reported and Observed Essential Element Tested

	Observed Essential Element Coverage					
	English language arts			Mathematics		
Self-Reported Coverage	Fewer	Exact	More	Fewer	Exact	More
Fewer than required	20 (43%)	17 (36%)	10 (21%)	14 (30%)	23 (49%)	10 (21%)
Exact number required	209 (23%)	552 (62%)	129 (14%)	119 (13%)	641 (72%)	130 (15%)
More than required	44 (21%)	88 (43%)	75 (36%)	22 (11%)	110 (53%)	75 (36%)
I can't remember	52 (30%)	80 (46%)	41 (24%)	30 (17%)	111 (64%)	32 (18%)

5.2.1. Supplemental Report Usage

There are two reports available on demand in Educator Portal during the instructionally embedded window that are intended to help teachers implement the instructionally embedded assessment with fidelity: progress reports and blueprint coverage reports.

Progress reports follow the same structure as the Learning Profile included in individual student score reports delivered at the end of the year, as shown in Figure 17[11]. For each EE, it indicates the level(s) mastered (based on percent correct), level(s) attempted, and level(s) assessed but for which results are not yet available (for writing, which is scored external to the system). The progress report also notes the EEs and levels that have instructional plans created, but for which the student has not yet been assessed. The progress reports are intended to be useful to teachers for instructional planning, monitoring, and adjustment.

[10]Because the survey question was not subject specific, a response was counted as correct if the response corresponded correctly to either subject. For example, if a teacher responded "Exact number required" and the student assessed fewer than required in ELA and the exact number required in mathematics, this counted as a correct response.

[11]For a full description of the progress reports, see Chapter 7 of the *2016–2017 Technical Manual Update—Integrated Model* (DLM Consortium, 2017a).

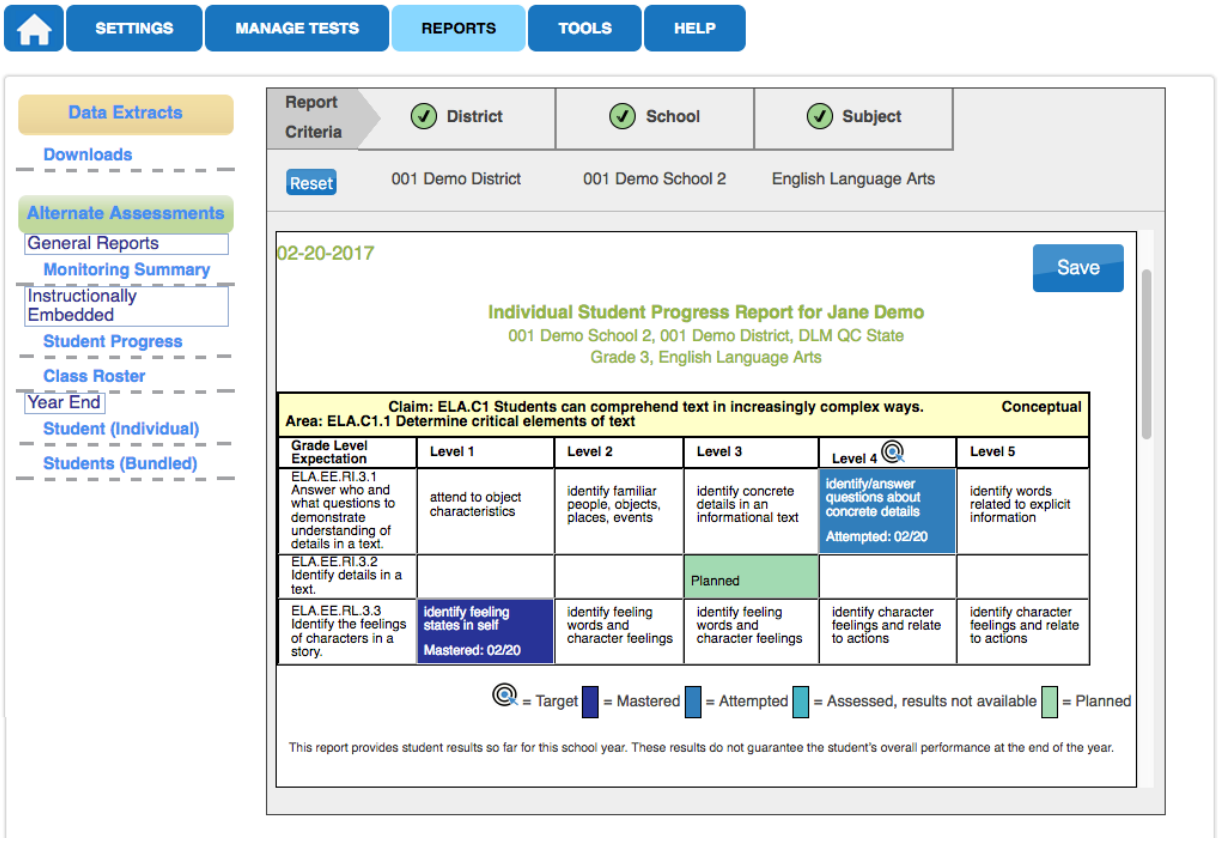
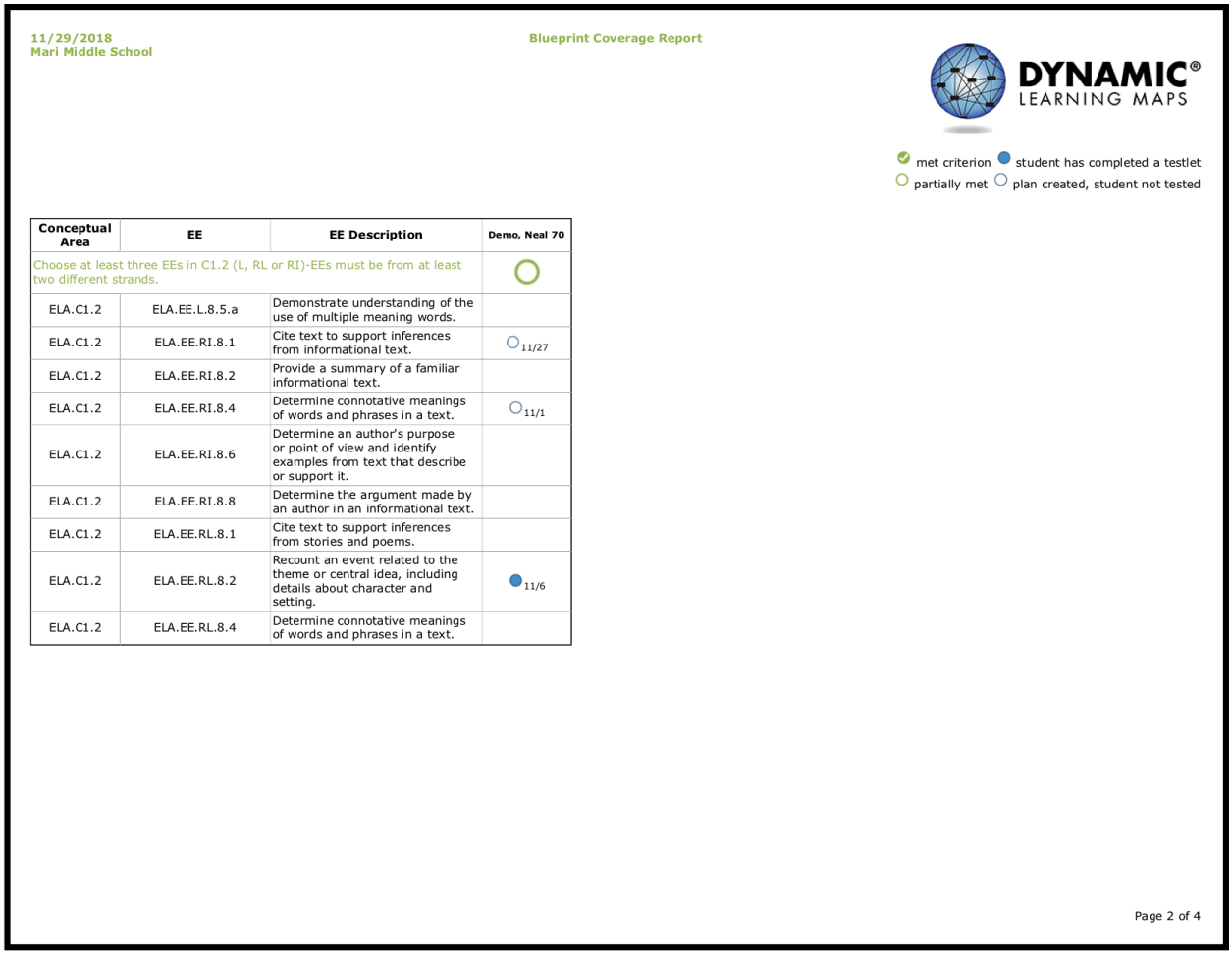


Figure 17. Example of a student progress report.

Beginning in the 2017–2018 year, blueprint coverage reports were available to teachers in Educator Portal. The report allows users to evaluate whether a student covered all blueprint requirements for the subject and grade. For each blueprint criterion, the report indicates whether the student has fully, partially, or not met each requirement, as shown in Figure 18. Additionally, the report displays the dates of instructional plan creation and testlet completion for each EE. Blueprint coverage reports are intended to be useful for teachers for instructional planning. Teachers can use the report contents to evaluate which requirements have not yet been met, which they can use to inform subsequent instructional plan creation.



11/29/2018
Mari Middle School

Blueprint Coverage Report

DYNAMIC® LEARNING MAPS

met criterion | student has completed a testlet
partially met | plan created, student not tested

Conceptual Area	EE	EE Description	Demo, Neal 70
Choose at least three EEs in C1.2 (L, RL or RI)-EEs must be from at least two different strands.			
ELA.C1.2	ELA.EE.L.8.5.a	Demonstrate understanding of the use of multiple meaning words.	
ELA.C1.2	ELA.EE.RI.8.1	Cite text to support inferences from informational text.	11/27
ELA.C1.2	ELA.EE.RI.8.2	Provide a summary of a familiar informational text.	
ELA.C1.2	ELA.EE.RI.8.4	Determine connotative meanings of words and phrases in a text.	11/1
ELA.C1.2	ELA.EE.RI.8.6	Determine an author's purpose or point of view and identify examples from text that describe or support it.	
ELA.C1.2	ELA.EE.RI.8.8	Determine the argument made by an author in an informational text.	
ELA.C1.2	ELA.EE.RL.8.1	Cite text to support inferences from stories and poems.	
ELA.C1.2	ELA.EE.RL.8.2	Recount an event related to the theme or central idea, including details about character and setting.	11/6
ELA.C1.2	ELA.EE.RL.8.4	Determine connotative meanings of words and phrases in a text.	

Page 2 of 4

Figure 18. Example of a student blueprint coverage report.

As part of the spring 2018 teacher survey, a spiraled section asked teachers about their use of progress reports and blueprint coverage reports. The survey asked teachers to report how many times they generated a progress report for the student and how the report was used. Table 12 lists the number and percentage of responses to each number of progress report downloads. Table 13 lists the teacher-reported uses of progress reports. Most teachers (81%) reported generating at least one progress report, and a majority of teachers (59%) generated three or more reports. The most common reported uses of progress reports were to document the student's progress on IEP goals (60%), share the results with parents or guardians (55%), and plan the students next IEP (48%). Open-ended survey feedback indicated teachers who used progress reports found them informative to instruction. These findings suggest that most teachers reported being aware of, and making use of, the progress reports as intended.

Table 12. Self-Reported Progress Report Use

Reported Downloads	*n*	%
0	300	18.9
1	163	10.3
2	185	11.6
3	450	28.3
4	373	23.5
≥5	117	7.4

Table 13. Teacher Usage of Progress Reports

Usage	*n*	%
Document the student's progress on current IEP goals	776	60.2
Share the results with parents/guardians	712	55.3
Plan the student's next IEP	620	48.1
Plan next steps for instruction within the same Essential Element	517	40.1
Plan next steps for instruction in different Essential Elements	428	33.2
Check for completeness of instrructionally embedded assessments	421	32.7
Other	73	5.7

The survey also asked teachers to report whether they accessed the blueprint coverage report for the student and whether they found the report useful. More than half of teachers (58%, $n = 919$) indicated they used the report. Of teachers who used the report, 82% agreed or strongly agreed the extract was useful for determining requirements the student still needed to meet.

5.2.2. Educator Portal

A key aspect of teachers being able to use the supplemental reports effectively is the ability to find and access the reports in an intuitive manner. Both the progress report and blueprint coverage report are available in Educator Portal. As part of the 2017–2018 teacher survey, teachers were asked to assess the ease of navigating and using Educator Portal for its intended purposes using a five-point scale: *very hard*, *somewhat hard*, *neither hard nor easy*, *somewhat easy*, or *very easy*. Table 14 summarizes teacher responses to these questions. Overall, respondents' feedback was mixed to favorable: a majority of teachers found it to be either *somewhat easy* or *very easy* to navigate the site (56%), enter accessibility support and First Contact information (64%), manage student data (56%), manage their accounts (60%), manage tests (55%), and use the Instructional Tools Interface (51%).

Table 14. Ease of Using Educator Portal

Statement	VH		SH		N		SE		VE		SE+VE	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Navigate the site	66	4.6	270	19.0	291	20.4	496	34.8	301	21.1	797	56.0
Enter Access Profile and First Contact information	27	1.9	197	13.9	294	20.7	549	38.6	354	24.9	903	63.5
Manage student data	49	3.4	272	19.1	306	21.5	520	36.5	277	19.5	797	56.0
Manage my account	39	2.7	203	14.3	325	22.8	558	39.2	298	20.9	856	60.2
Manage tests	61	4.3	275	19.4	301	21.2	505	35.6	277	19.5	782	55.1
Use the Instructional Tools Interface	66	4.6	274	19.3	360	25.3	473	33.3	249	17.5	722	50.8

Note: VH = very hard; SH = somewhat hard; N = neither hard nor easy; SE = somewhat easy; VE = very easy; SE+VE = somewhat easy and very easy.

Additionally, respondents were asked to rate their overall experience with Educator Portal on a four-point scales: *poor*, *fair*, *good*, or *excellent*. Similar to the responses on individual aspects of Educator Portal, 65% of respondents indicates their overall experience was either *good* or *excellent*. Although these responses are favorable, there is also room for improvement. Many of the comments and suggestions regarding challenges teachers had in interacting with the system are being incorporated into the Instructionally Embedded 2.0 Assessment and Instruction Planner tool design, which will be implemented beginning in the 2019–2020 academic year.

6. Discussion

This report details data collected from the administration of the instructionally embedded assessments in the DLM integrated assessment model. Findings provide some evidence of fidelity of implementation in that teachers create plans throughout the embedded window, and most students meet or exceed blueprint expectations. A balance of construct representation and student-centered flexibility in the administration of testlets is necessary to ensure fairness across students and that student results are a valid reflection of their knowledge, skills, and understandings.

Intervals of testlet administration suggest two prevalent patterns of system use: students who complete all testlet requirements in a single week of the window, which is not an intended practice, and students who spread testing across the embedded window, with intervals between testlets of around five days (i.e., weekly administration). Further, the highest volume of testlets are completed in the weeks between Thanksgiving and winter break and the final weeks of the embedded window. Because teachers are encouraged to assess students following instruction, these peak administration

times may indicate natural points for evaluating student learning (i.e., end of semester/window). Teacher decisions for when to assess students may also be influenced by state and district policies and guidance around administration of testlets, or be driven by the accountability context. Because all results contribute to summative reporting and accountability decisions, teachers may believe they should wait until the end of the window to maximize instructional time before administering assessments. State guidance may also contribute to when instructional plans are created and assessments are administered.

While most students meet or exceed blueprint requirements, there are still pockets of students who do not assess on the number of EEs specified by the blueprint (e.g., choose three) or that do not meet the sampling constraints (e.g., choose one RL and one RI). Findings indicate general trends whereby students took too few EEs in ELA to meet blueprint coverage while students did not adequately cover blueprint sampling constraints in mathematics. While teachers self-reported using progress reports and coverage extracts, redesign of the online interface as part of the Instructionally Embedded 2.0 will likely further support teachers in meeting all blueprint requirements and ensuring students have the full opportunity to demonstrate what they know and can do relative to grade-level expectations. Additional state and consortium-level training is also intended to address blueprint coverage challenges.

Another key finding is that students do not appear to be assessed on additional EEs and excced blueprint coverage in an effort to increase the number of total linkage levels mastered and the resulting performance level. Findings in this report suggest that instances of exceeding blueprint coverage requirements are not consistent with "gaming the system." Rates of students exceeding blueprint requirements were consistent across student complexity bands (10-15%). Only 42% of students in ELA and 24% of students in mathematics who exceeded blueprint requirements achieved at the *At Target* or *Advanced* performance levels. Additionally, while the percentage of student in each complexity band that met, exceeded, or did not meet blueprint requirements remains fairly consistent, there were a slightly lower percentage of Band 3 students who met or exceeded blueprint coverage. This may provide evidence that teachers make decisions according to individual student academic goals, or that any potential teacher misunderstanding about blueprint coverage requirements is evenly distributed across students in the population. Further, in order for exceeding the blueprint to increase student results, students have to demonstrate some level of mastery on EEs measured beyond the blueprint requirements. If teachers are providing instruction and assessing students on academic content beyond the blueprint minimum requirements, and students demonstrate mastery of the content, they are providing students with additional opportunity to learn grade-level academic content, which is consistent with intended use of an instructionally embedded system.

Finally, patterns of use were evaluated for evidence that embedded results were used as intended for instructional planning, monitoring, and adjustment. There is evidence teachers create plans throughout the full embedded window rather than creating all plans at the window open or waiting until the end. Gaps between teacher creation of the instructional plan and administration indicate that while some teachers create plans and administer assessments on the same day, others wait a longer duration before administering the assessment, presumably to provide some amount of instruction. However, only 30% of students were assessed on an EE more than once, and the most commonly reported uses of progress reports were to monitor or create IEP goals and to communicate with parents. While these are intended uses of results, they suggest a narrow use for planning, monitoring, and adjustment relative to IEP goals and are less indicative that teachers are using

assessment results to provide deeper instruction (and subsequent assessment) within the same EE. Because students are reassessed on a subset of EEs during the spring window, teachers may be providing deeper instruction on an EE in a way that is not currently captured by system use. The transition to two instructionally embedded windows as part of Instructionally Embedded 2.0 in 2019–2020 may further support teachers in intended uses of results for instructional planning, monitoring, and adjustment both within and across EEs. In addition, this transition will also include system upgrades to better support teachers in evaluating student progress toward meeting blueprint coverage requirements and planning subsequent instruction.

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A. Example Blueprint

Grade 3: Available Essential Elements and minimum expectation for each student's assessment

Conceptual Area	EE	DESCRIPTION
ELA.C1.1	**Choose at least three EEs, including at least one RL and one RI.**	
	EE.RL.3.1	Answer who and what questions to demonstrate understanding of details in a text.
	EE.RL.3.2	Associate details with events in stories from diverse cultures.
	EE.RL.3.3	Identify the feelings of characters in a story.
	EE.RL.3.5	Determine the beginning, middle, and end of a familiar story with a logical order.
	EE.RI.3.1	Answer who and what questions to demonstrate understanding of details in a text.
	EE.RI.3.2	Identify details in a text.
	EE.RI.3.3	Order two events from a text as "first" and "next".
	EE.RI.3.5	With guidance and support, use text features including headings and key words to locate information in a text.
ELA.C1.2	**Choose two EEs in C1.2 (L, RL or RI) – EEs must be from different strands, i.e. RL and L, not RL and RL.**	
	EE.RL.3.4	Determine words and phrases that complete literal sentences in a text.
	EE.RI.3.4	Determine words and phrases that complete literal sentences in a text.
	EE.RI.3.8	Identify two related points the author makes in an informational text.
	EE.L.3.5.a	Determine the literal meaning of words and phrases in context.
	EE.L.3.5.c	Identify words that describe personal emotional states.
ELA.C1.3	**Choose at least one EE (RL or RI).**	
	EE.RL.3.9	Identify common elements in two stories in a series.
	EE.RI.3.9	Identify similarities between two texts on the same topic.
ELA.C2.1	**All students are assessed in both of these EEs through the writing assessment. In ITI, choose one Conventional EE or one Emergent EE. See Writing Testlet FAQ for more detail.**	
	EE.W.3.2.a	Select a topic and write about it including one fact or detail.
	EE.W.3.4	With guidance and support produce writing that expresses more than one idea.

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Figure 19. Blueprint document for grade 3 ELA.

Grade 3: Available Essential Elements and minimum expectation for each student's assessment

Claim	Conceptual Area	EE	Description
1	**Students demonstrate increasingly complex understanding of number sense. Choose two EEs from Claim 1 in different conceptual areas, i.e., one EE in C1.1 and one EE in C1.3.**		
	M.C1.1	3.NBT.2	Demonstrate understanding of place value to tens.
		3.NBT.3	Count by tens using models such as objects, base ten blocks, or money.
		3.NF.1-3	Differentiate a fractional part from a whole.
	M.C1.3	3.OA.4	Solve addition and subtraction problems when result is unknown, limited to operands and results within 20.
2	**Students demonstrate increasingly complex spatial reasoning and understanding of geometric principles. All students are assessed on the EE in Claim 2.**		
	M.C2.2	3.G.2	Recognize that shapes can be partitioned into equal areas.
3	**Students demonstrate increasingly complex understanding of measurement, data, and analytic procedures. Choose two EEs from Claim 3.**		
	M.C3.1	3.MD.1	Tell time to the hour on a digital clock.
		3.MD.4	Measure length of objects using standard tools, such as rulers, yardsticks, and meter sticks
	M.C3.2	3.MD.3	Use picture or bar graph data to answer questions about data.
4	**Students solve increasingly complex mathematical problems, making productive use of algebra and functions. Choose one EE from Claim 4.**		
	M.C4.1	3.OA.1-2	Use repeated addition to find the total number of objects and determine the sum.
		3.OA.8	Solve one-step real world problems using addition or subtraction within 20.
	M.C4.2	3.OA.9	Identify arithmetic patterns.

Figure 20. Blueprint document for grade 3 mathematics.

B. Content Coverage Across Linkage Levels

Figure 21 and Figure 22 summarize the number of testlets available at each linkage level for each EE for ELA and mathematics, respectively. For EEs and linkage levels with more than one testlet available, teachers can choose to create additional instructional plans and reassess the EE and level with a different testlet. Linkage levels had between one and four testlets available in the instructionally embedded window, with the ELA testlet pool having more depth than mathematics, which often only had a single testlet available. In instances where a teacher selects a linkage level for assessment that has more than one testlet available, the system randomly chooses a testlet for administration, with the constraint that a student not be administered a testlet they have already completed.

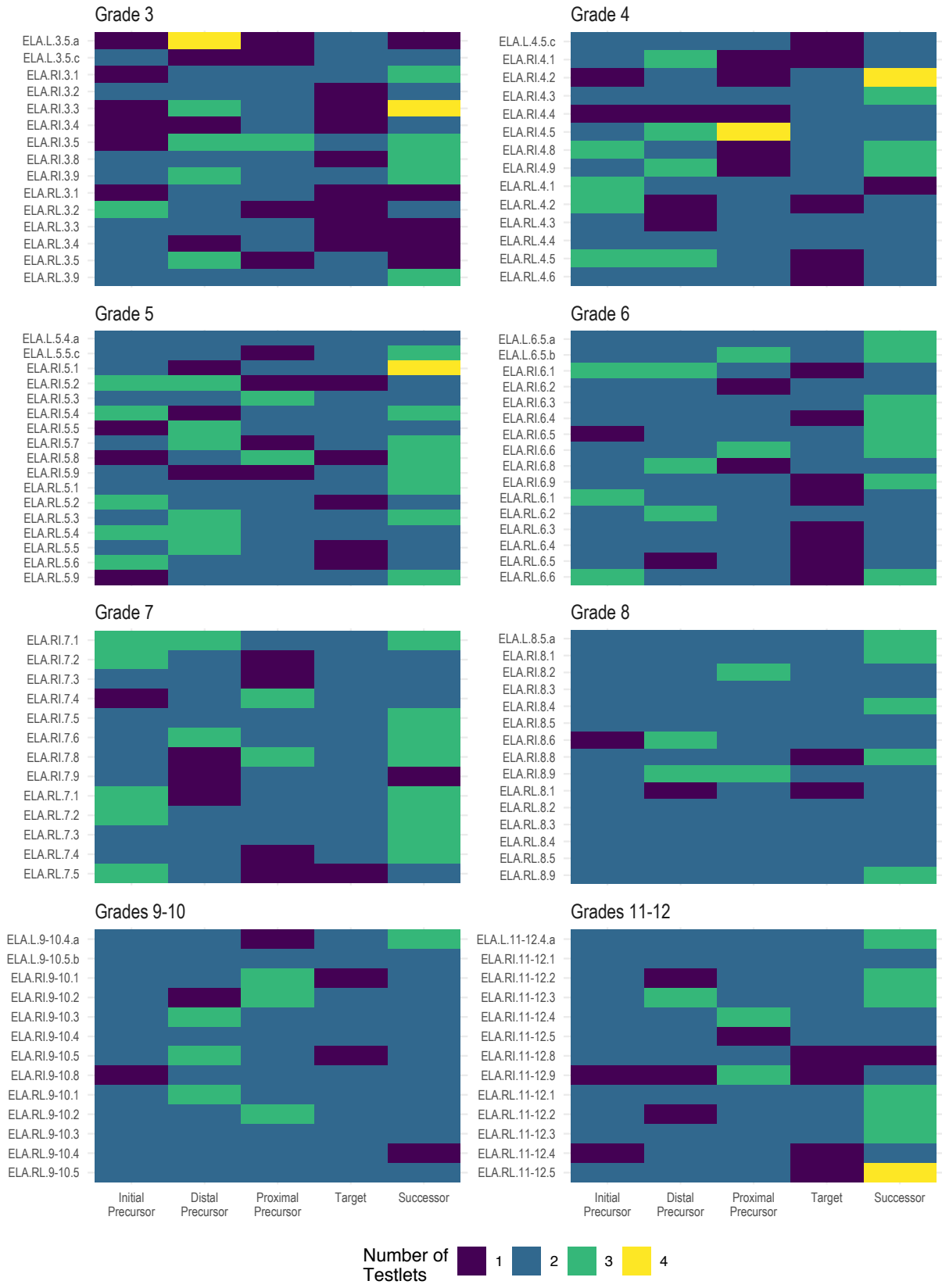

Figure 21. Testlet pool depth for ELA Essential Elements. Writing Essential Elements are measured together in a single testlet and are omitted from this figure.

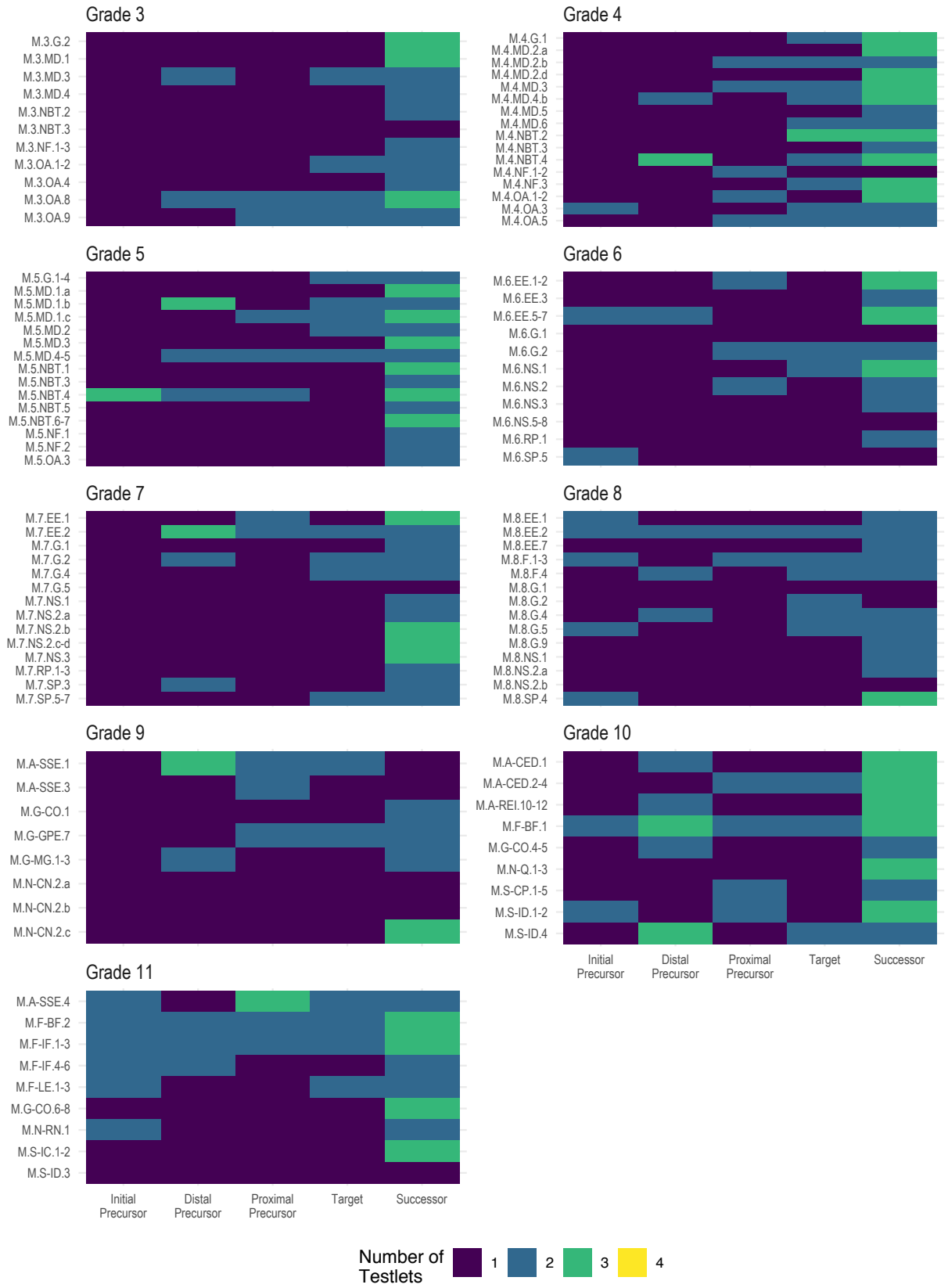

Figure 22. Testlet pool depth for mathematics Essential Elements.

C. Essential Element Selection Frequency for All Subjects and Grades

Figure 23 and Figure 24 summarize the number of times each EE was selected for ELA and mathematics, respectively. The blueprints for ELA[12] and mathematics[13] can be found on the DLM website[14].

[12]https://dynamiclearningmaps.org/sites/default/files/documents/Manuals_Blueprints/ela_im_blueprint.pdf
[13]https://dynamiclearningmaps.org/sites/default/files/documents/Manuals_Blueprints/math_im_blueprint.pdf
[14]https://dynamiclearningmaps.org

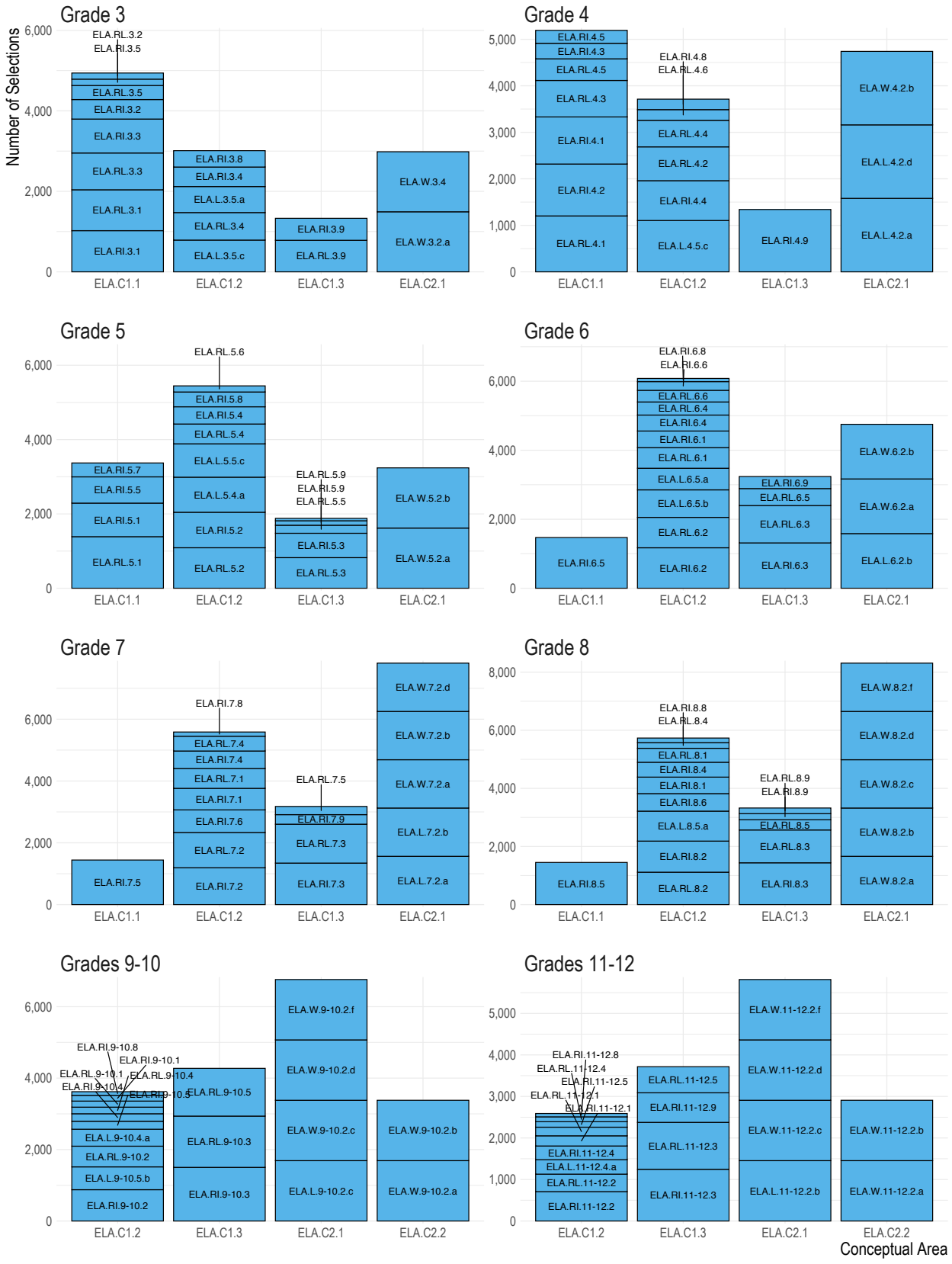

Figure 23. ELA Essential Element selection frequency. All writing Essential Elements are assessed on a single testlet that is required for all students, as shown in C2.1 and C2.2.

Figure 24. Mathematics EE selection frequency.