

# **State of Florida**

## **Benchmarks for Excellent Student Thinking (B.E.S.T.)**

**2022–2023**

### **Volume 3 Setting Achievement Standards**

## **ACKNOWLEDGEMENTS**

This technical report was produced on behalf of the Florida Department of Education. Requests for additional information concerning this technical report or the associated appendices should be directed to Dr. Salih Binici at the Florida Department of Education ([Salih.Binici@fldoe.org](mailto:Salih.Binici@fldoe.org)).

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## 1. EXECUTIVE SUMMARY

The Florida Department of Education (FDOE) adopted the Florida Benchmarks for Excellent Student Thinking (B.E.S.T.) content standards in February 2020. By 2023, the state adopted the standards in full. During the 2022–2023 test administration, FDOE transitioned from the Florida Standards Assessment (FSA) to assessments aligned with the B.E.S.T. Standards for English Language Arts (ELA) Reading and Mathematics, which includes the Florida Assessment of Student Thinking (FAST) progress monitoring assessments, B.E.S.T. ELA Writing, and end-of-course (EOC) assessments in Algebra 1 and Geometry.

The B.E.S.T. Standards are content standards that identify what Florida students should know and be able to do as they progress through their educational career.

The FAST assessment includes grades 3–8 Mathematics, grades 3–10 ELA Reading, and grades K–2 ELA Reading and Mathematics using Renaissance Learning’s Star Early Literacy, Star Reading, and Star Mathematics assessments. The FAST assessments are designed to be administered up to three times per year for both progress monitoring and summative purposes. The first two administrations of the assessments each school year are intended for the progress monitoring function and the third administration fulfills both summative and accountability purposes. It should be noted that there is no accountability requirement in grades K–2.

The B.E.S.T. assessments include grades 4–10 ELA Writing and the EOC assessments in Algebra 1 and Geometry. The EOC assessments are offered four times per year during fall, winter, spring, and summer. Beginning in the 2023–2024 school year, the ELA Writing assessment will be administered in the spring.

All B.E.S.T. assessments are administered online and, with the exception of ELA Writing, computer-adaptive. Accommodated versions and administrative guidelines of all assessments are available to students who require them according to their Individual Education Plans (IEPs) or Section 504 Plans.

With the establishment of new standards and a new assessment, it is necessary to define achievement levels to effectively quantify student achievement on the new assessment. Standard setting is an empirical means of identifying achievement level cut scores to delineate these established levels of proficiency.

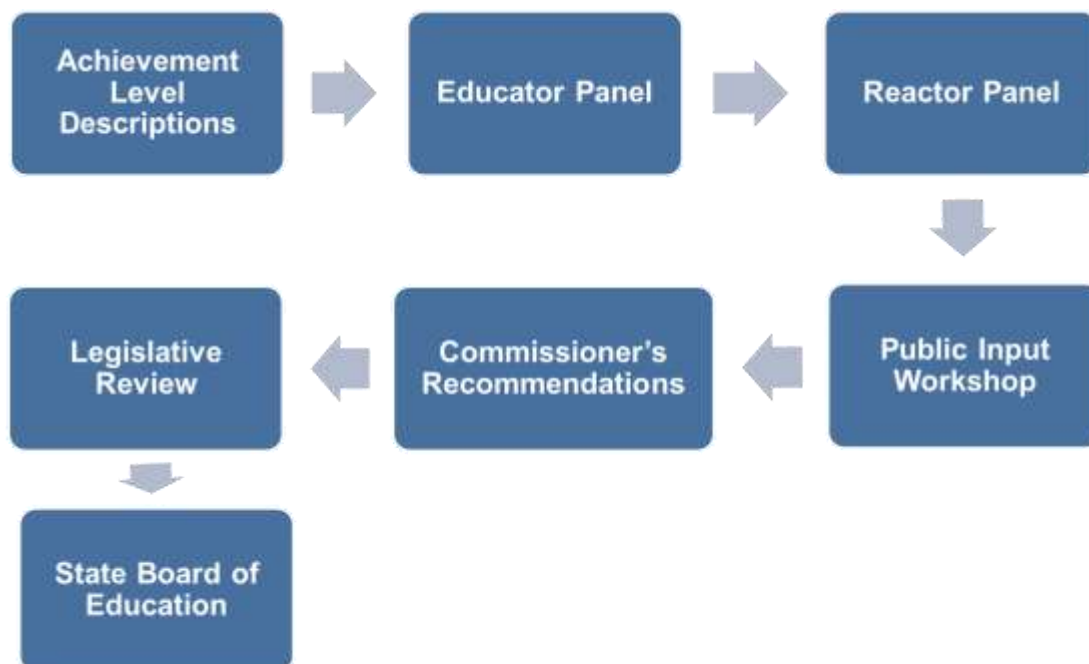
The purpose of this technical report is to document the process and the results from the standard setting meetings, which were held to establish the cut scores for the B.E.S.T.-aligned assessments. The Florida standard setting was a multi-stage process, as illustrated in Figure 1. The major sequence of events during standard setting was as follows:

1. It was first necessary to develop policy definitions for each of the achievement levels in all grades and subjects. These policy definitions provided overall guidance on the policy goals of each achievement level and served as a basis for all stages of the process.
2. Achievement Level Descriptions (ALDs) were then developed to describe expectations of the student at each achievement level.



3. Because the standard setting used the Bookmark method, the production of the Ordered Item Booklets (OIBs) and Ordered Response Booklets (ORBs) was central to the process. The OIBs, one for each grade tested in ELA Reading and Mathematics and each EOC subject, contained test items that were assembled in ascending order by difficulty and on which panelists evaluated and recommended what students should know and be able to do at each of the intended achievement levels. The OIBs were constructed to reflect the B.E.S.T. content standards and the test blueprints. The ORBs, one for each grade tested in ELA Writing, contained prompts that were ordered by difficulty based on their score point in each dimension. The ORBs were constructed to be a representative sample of dimensions, score points, and prompt types.
4. The Educator Panel meeting was held to recommend cut scores for each achievement level with a diverse assembly of approximately 12–16 panelists assigned to each given grade/subject, with a total of 397 participants. The panel included a large body of experienced educators, most nominated by their school district superintendents, knowledgeable about educational standards, and experienced with the test-taker population and sub-populations. The panel reviewed test content and made four rounds of cut score recommendations for grades 3–10 ELA Reading, grades 4–10 ELA Writing, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments. The panel reviewed test content and made three rounds of cut score recommendations for grades K–2 ELA Reading and Mathematics. Cambium Assessment, Inc.’s (CAI) web-based standard setting tool was used to collect the actual bookmarks (see Section 3.3.3 for a detailed explanation of the Bookmark method) recorded by the panelists.
5. Following the Educator Panel, a Reactor Panel of community, business, and policy leaders was convened to review the Educators’ Panel recommended cut scores and to then potentially make additional recommendations based on a more extensive breakdown of impact data.
6. Public input on the Reactor Panel recommendations was collected via a workshop, open to all, and made available online, as was a feedback survey.
7. Next, the Commissioner of Education considered the collection of feedback from the Educator Panel, the Reactor Panel, and the public workshop to recommend cut scores for review by the Florida Legislature.
8. Finally, the Commissioner’s recommendations, as well as the information from the Educator Panel, the Reactor Panel, the public workshop, and the legislative review were shared with the State Board of Education for consideration in their final decision of the adoption of the cut scores.

Figure 1: Illustration of Standard Setting Process Used in Florida



The following are definitions of important terms used throughout this document.

**Standard Setting**—A process of determining cut scores on a test that are associated with levels of achievement.

**Achievement Level**—Ranges across the test scale that represent degrees of mastery of the Florida Standards. There are five ranges: Level 1 (Well Below Grade Level), Level 2 (Below Grade Level), Level 3 (On Grade Level), Level 4 (Proficient), and Level 5 (Exemplary).

**Achievement Standard**—A cut score on the test that indicates the minimum scale score required to reach an achievement level. The four scaled score cut scores for each subject/grade will be associated with Level 2 (Below Grade Level), Level 3 (On Grade Level), Level 4 (Proficient), and Level 5 (Exemplary).

**Cut Score**—A B.E.S.T. scaled score on the test that separates a lower achievement level from the next higher achievement level.

**Policy Achievement Level Description (Policy ALD)**—Statements about the state’s vision and intended policy goals for the achievement levels. In Florida, the Policy ALDs are referred to as Achievement Level Policy Definitions.

**Range Achievement Level Description (Range ALD)**—A description of what students should know and be able to do throughout the range of an achievement level. In the B.E.S.T. standard setting, ALDs were provided for Levels 2, 3, 4, and 5. For grades K–2, ALDs were provided for Levels 2, 3, and 4. It was decided not to provide an ALD for Level 1 because there is no cut score established for Level 1.

**Detailed Range ALD**—ALD descriptions are provided for every content standard.

**Summary Range ALD**—ALDs are summarized across content standards.

**“Just Barely” Achievement Level Description (Just Barely ALD)**—A description of the lowest level of knowledge and skills required of a student to be considered in an achievement level. Just Barely ALDs are also called Target ALDs.

**Reporting Achievement Level Description (Reporting ALD)**—Brief summaries of what students know and can do in each achievement level. In general, the Reporting ALDs are summaries of the salient features of the Summary Range ALDs.

**Bookmark Method**—A method of standard setting where a panel of educators marks the page in an OIB that best represents an achievement standard.

**Response Probability**—The requisite conditional probability that the just barely proficient student will correctly answer an item in the OIB or prompt in the ORB.

**Ordered Item Booklet (OIB)**—A booklet of items proportional to the test blueprint where the items have been ordered by difficulty from easy to hard.

**Ordered Response Booklet (ORB)**—A booklet of responses where prompts in the booklet are ordered by difficulty based on their score point in each dimension.

**Educator Panel**—A group of trained and experienced educators who recommend cut scores that best represent achievement standards/levels.

**Reactor Panel**—A group of stakeholders with varying viewpoints who review the recommendations of the Educator Panel and suggest revisions based on policy considerations.

**Vertical Articulation**—Cut scores that are incrementally higher in higher grades with no unexpected dips or spikes.

**Impact Data**—Statewide data that show what percentage of students are impacted by various cut scores.

**Benchmark Data**—Data that show how the internal state achievement standards compare with important external standards.

The subsequent sections of this report describe the process for recommending achievement standards and results of the standard setting. This extensive, collaborative process is intended to result in cut scores that are

- content-referenced because they were based on a rigorous application of the Florida B.E.S.T. Standards;
- articulated across grades, with the establishment of a vertical scale based on student performance data;
- reasonable, as they were based on informed judgments of the Educator Panel and Reactor Panel experts;
- credible because a diverse group of panelists followed a rigorous and well-supported standard setting procedure; and

- benchmarked against empirical external indicators.

### Recommended Achievement Standards

The achievement level cut scores recommended by the Educator Panel and the Reactor Panel are provided on the following pages.

### Results from Educator Panel

Figure 2 provides the achievement level cut scores for ELA Reading on the B.E.S.T. score scale, Figure 3 provides the percentage of students at and above each achievement level cut in ELA Reading, and Figure 4 presents the percentage of students within each achievement level for ELA Reading. The percentage of students within the state who meet or exceed each recommended achievement level was estimated using spring 2023 results data (baseline operational B.E.S.T. administration). In other words, the percentages depicted in Figures 3 and 4 reflect how students in the spring 2023 test administration would have performed if the Educator Panel’s recommendations had been in effect.

Figure 2: ELA Reading Achievement Level Cut Scores on the B.E.S.T. Score Scale

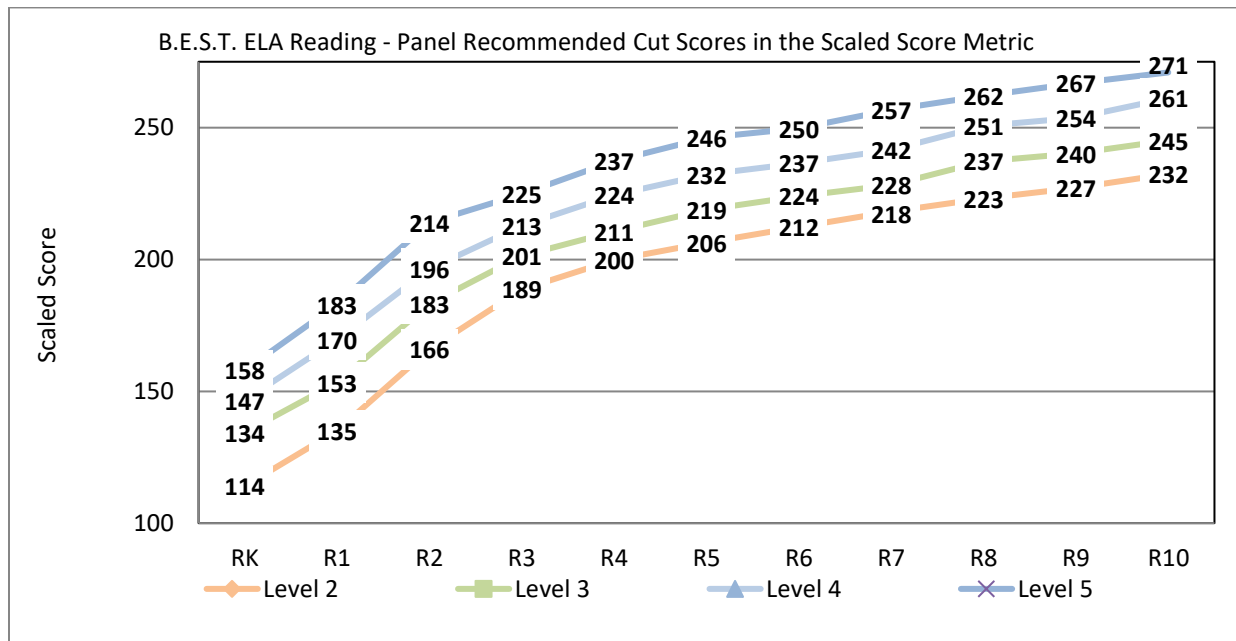


Figure 3: ELA Reading Percentage of Students at and Above Each Achievement Level

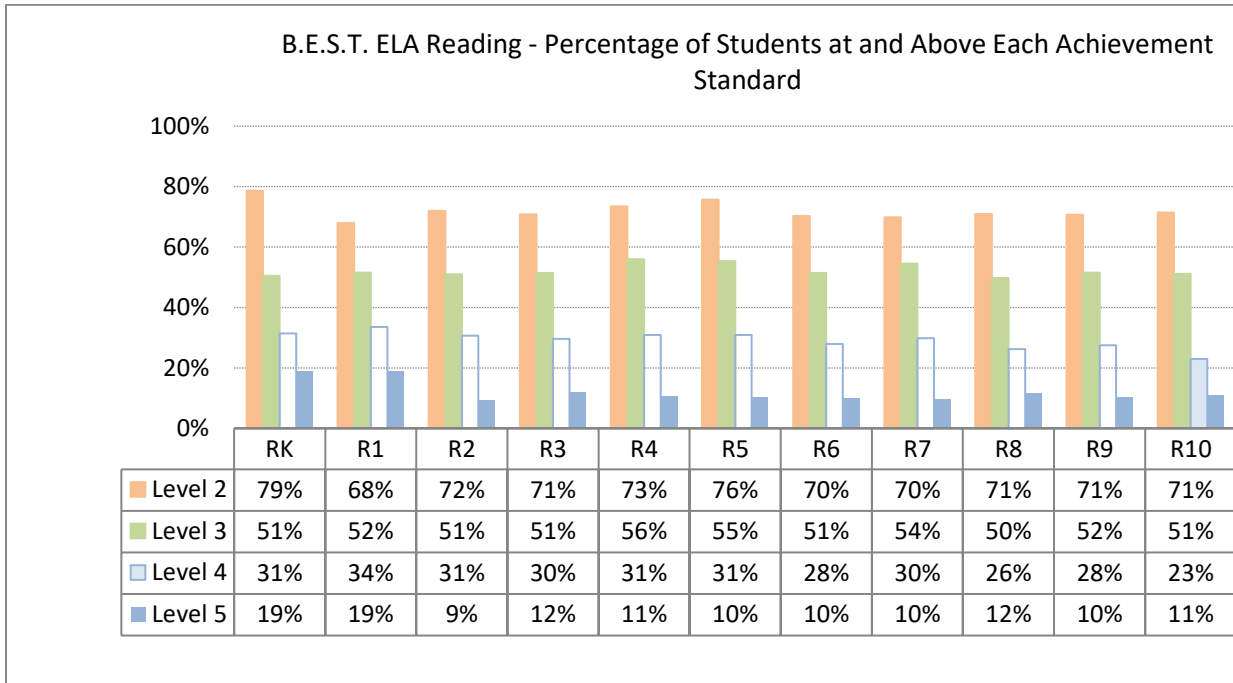


Figure 4: ELA Reading Percentage of Students Within Each Achievement Level

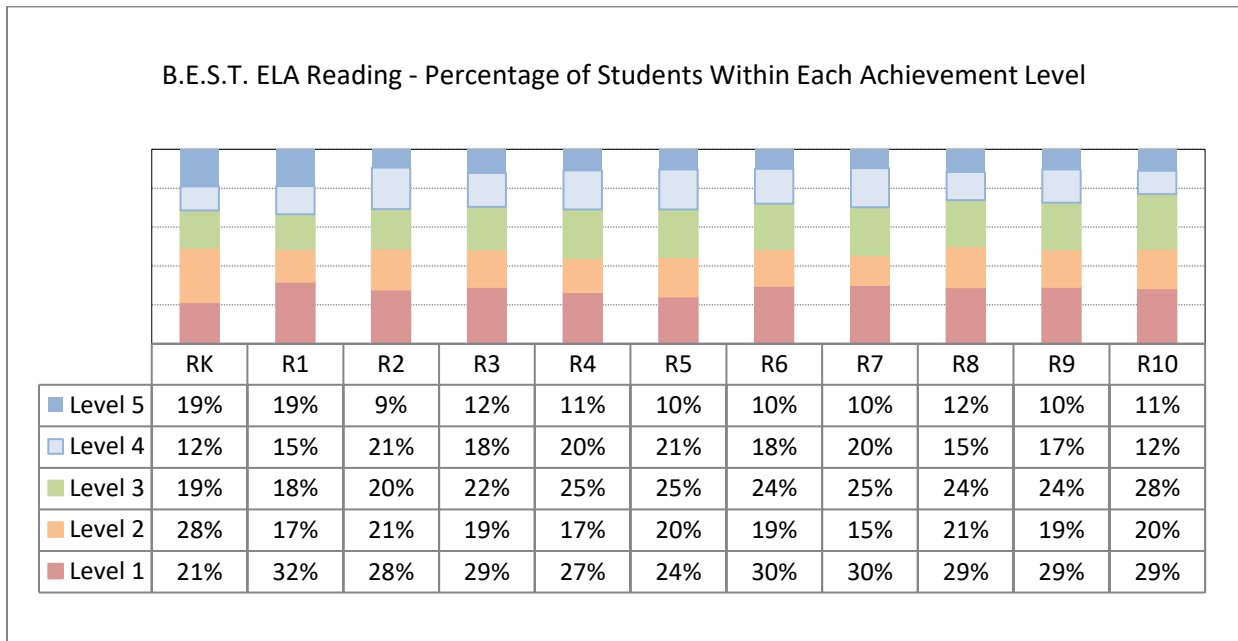
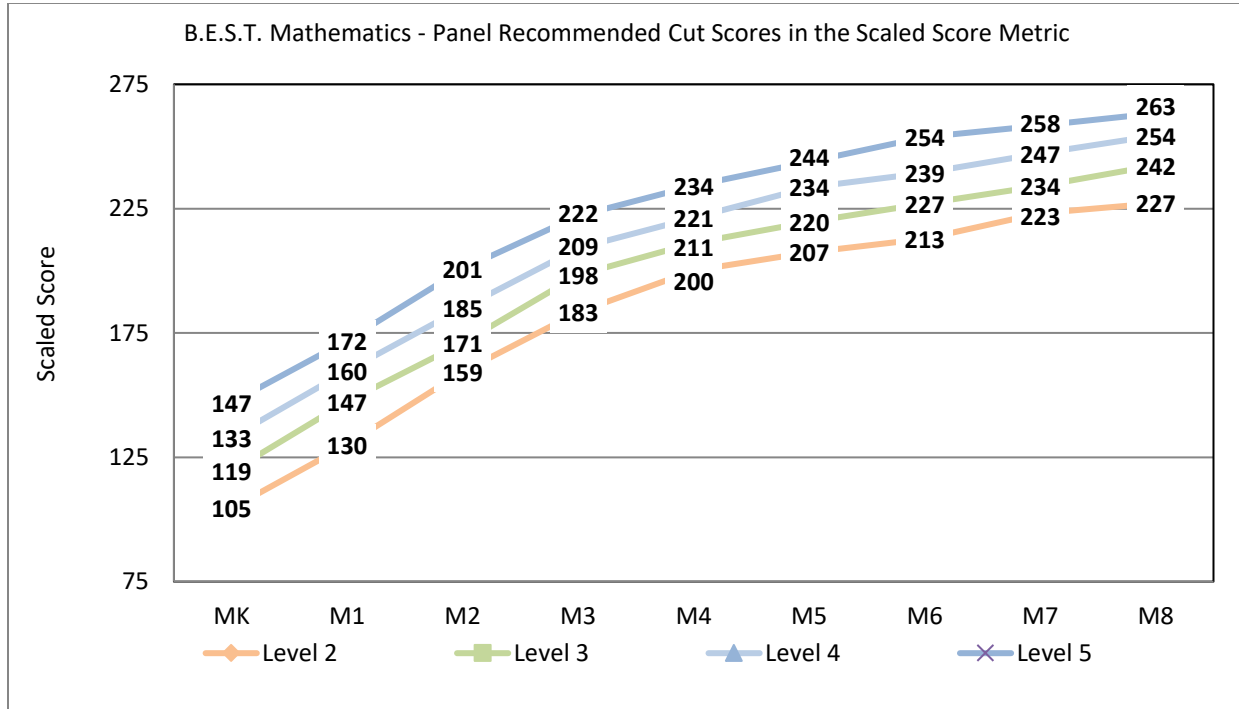


Figure 5 provides the achievement level cut scores for Mathematics on the B.E.S.T. score scale, Figure 6 displays the percentage of students at and above each achievement level in Mathematics, and Figure 7 presents the percentage of students in each achievement level for Mathematics. These percentages are based on spring 2023 B.E.S.T. results data.

**Figure 5: Mathematics Achievement Level Cut Scores on the B.E.S.T. Score Scale**



**Figure 6: Mathematics Percentage of Students at and Above Each Achievement Level**

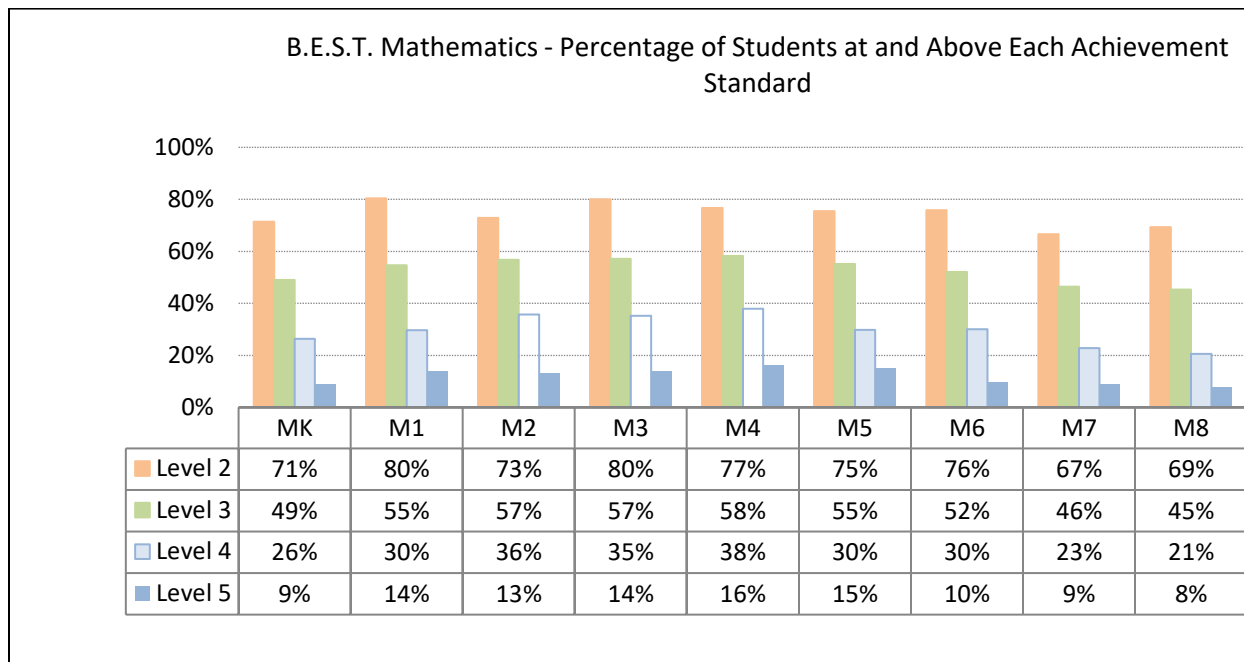


Figure 7: Mathematics Percentage of Students Within Each Achievement Level

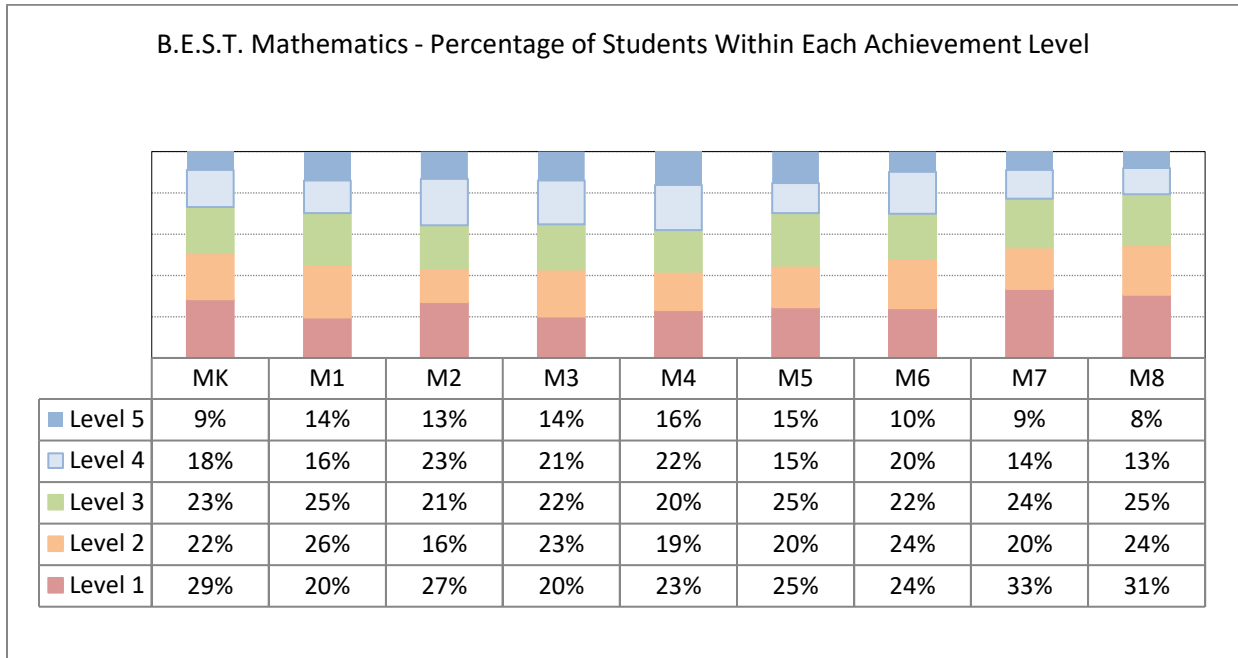


Figure 8 displays the achievement level cut scores for the EOC assessments on the B.E.S.T. score scale.



Figure 8: End-of-Course (EOC) Achievement Level Cut Scores on the B.E.S.T. Scale Score

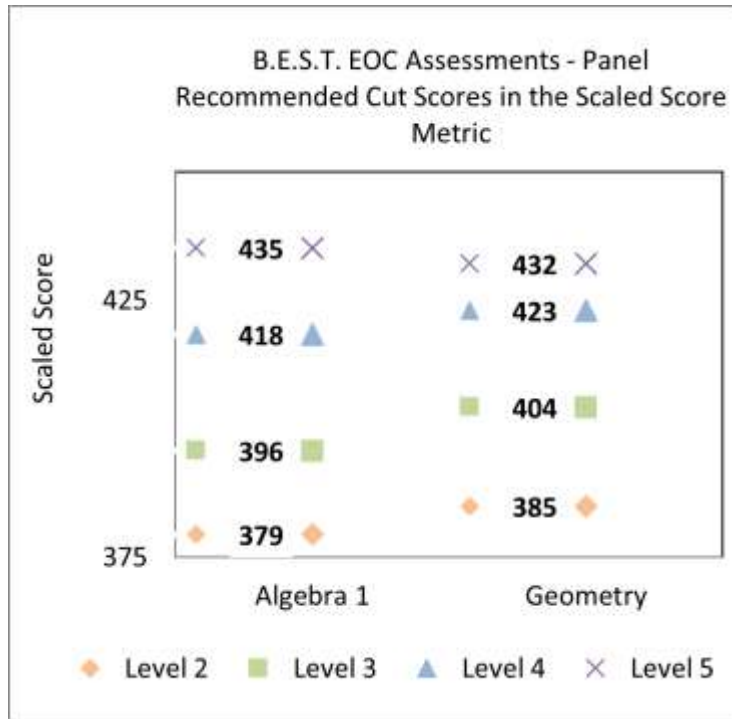


Figure 9 provides the percentage of students at and above each achievement level, and Figure 10 presents the percentage of EOC students in each achievement level. These percentages are based on spring 2023 B.E.S.T. results data.

Figure 9: End-of-Course (EOC) Percentage of Students at and Above Each Achievement Level

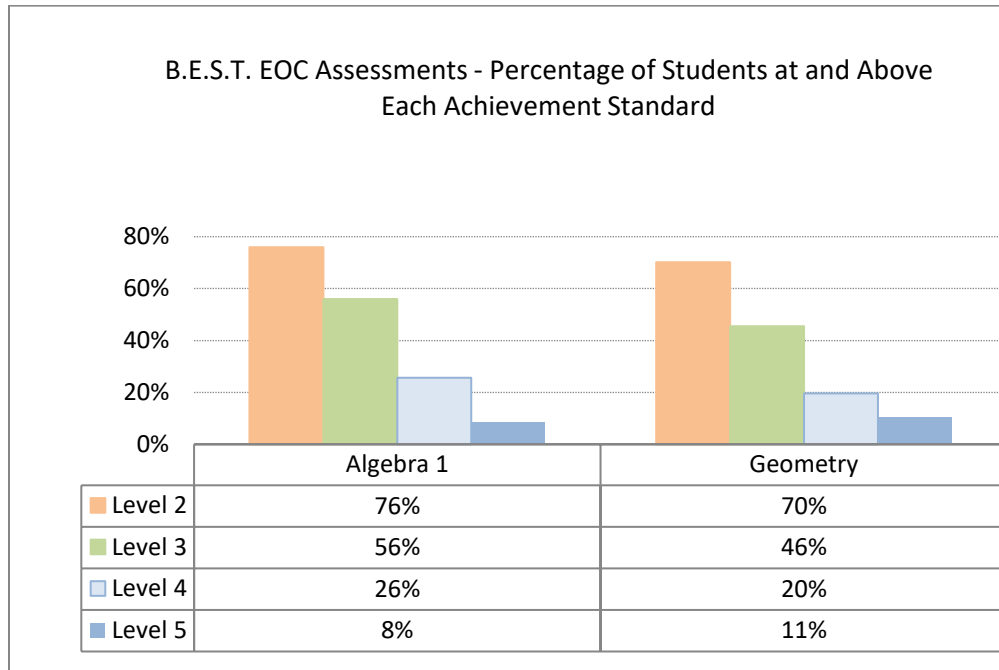
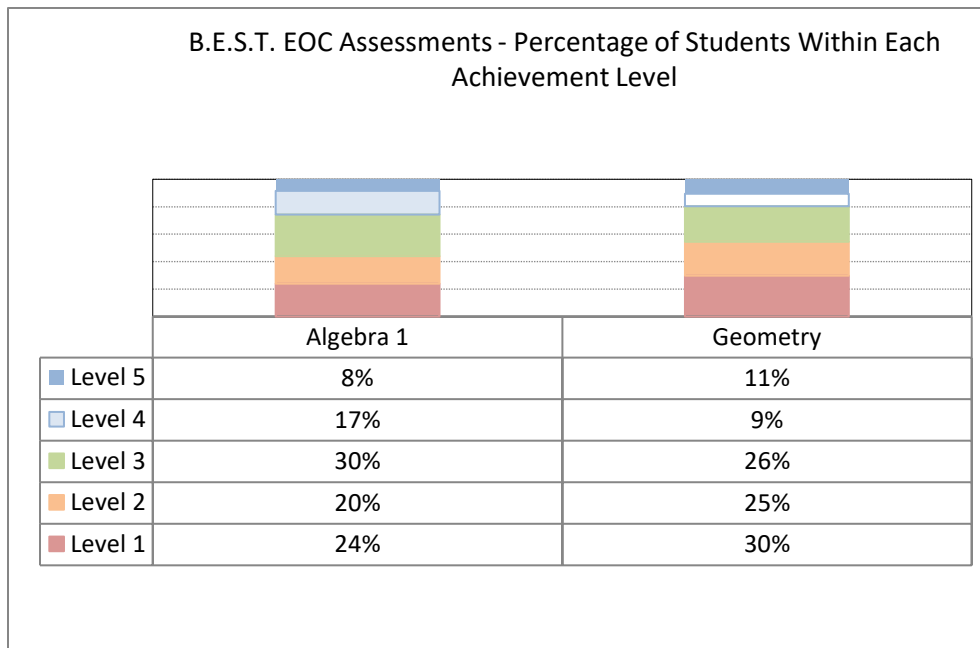


Figure 10: End-of-Course (EOC) Percentage of Students Within Each Achievement Level

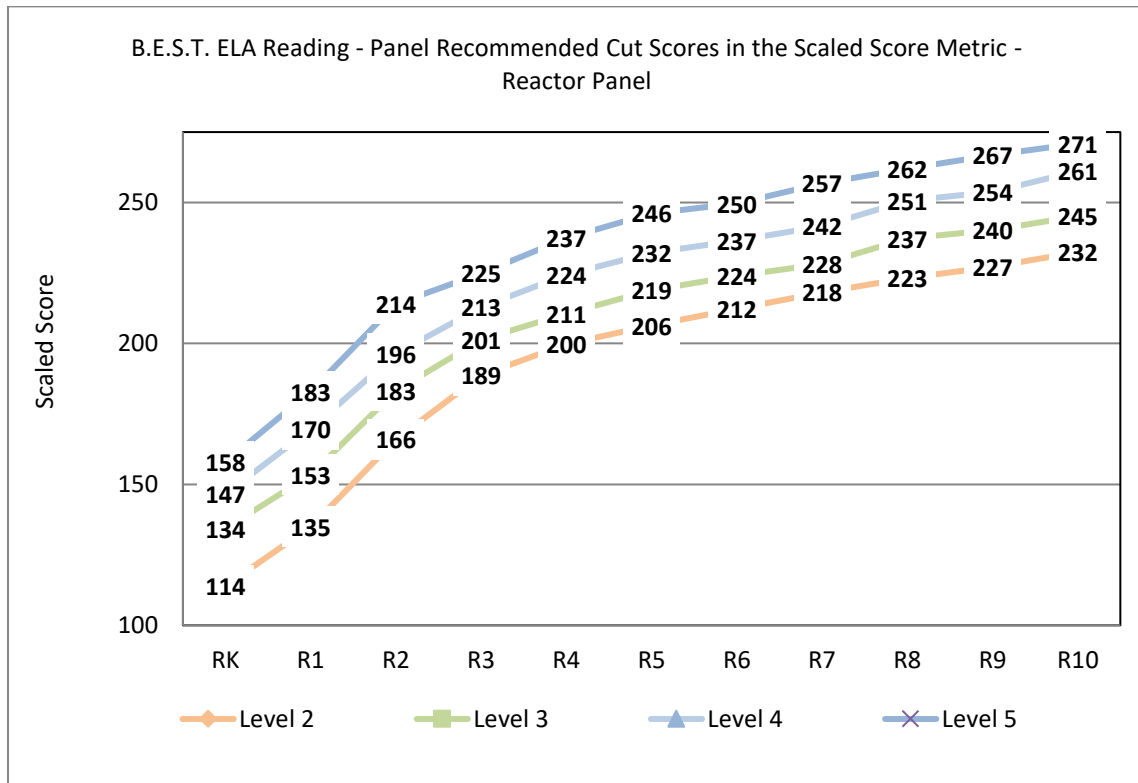


**Results from Reactor Panel**

This section provides the cut scores for each grade and subject recommended by the Reactor Panel. Figure 11 provides the achievement level cut scores for ELA Reading on the B.E.S.T. score scale.

Figure 12 provides the percentage of students at and above each achievement level in ELA Reading. Figure 13 presents the percentage of students in each achievement level for ELA Reading. Similarly, the results for Mathematics are provided in Figure 14–16, and those for the EOCs are provided in Figure 17–19. It is important to note that the Reactor Panel did not change any of the cut scores recommended by the Educator Panel; therefore, the following figures reflect the same information as the Educator Panel figures in the previous section.

**Figure 11: ELA Reading Achievement Level Cut Scores on the B.E.S.T. Score Scale – Reactor Panel**



**Figure 12: ELA Reading Percentage of Students at and Above Each Achievement Level – Reactor Panel**

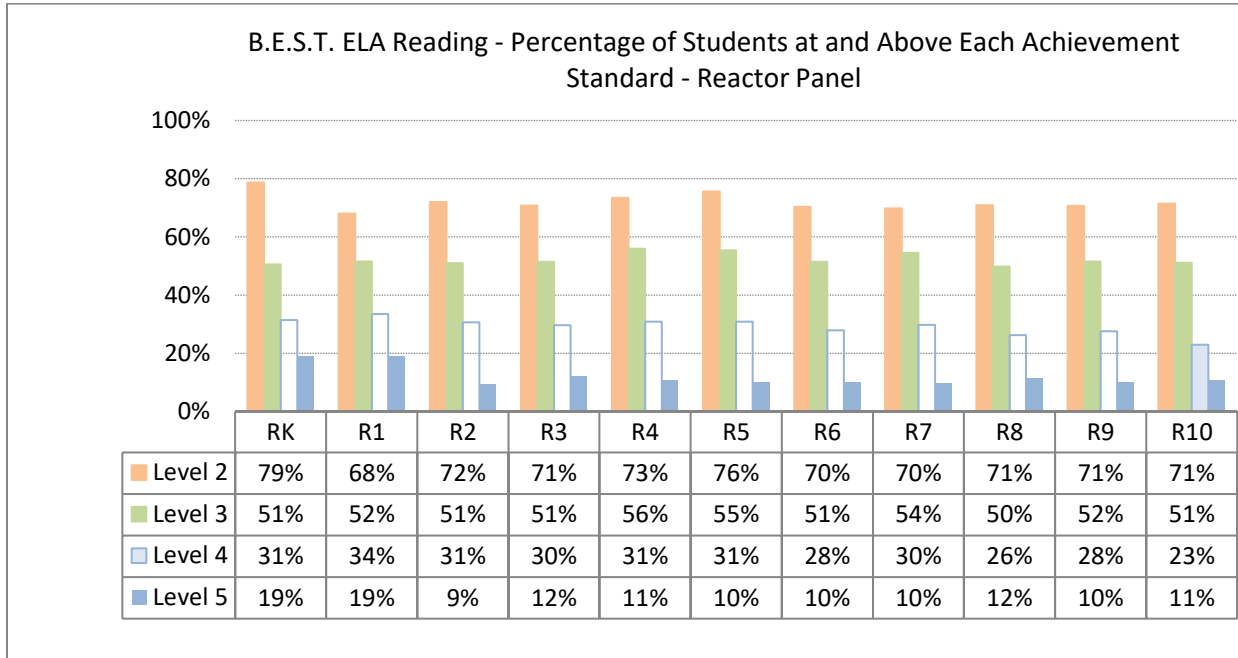


Figure 13: ELA Percentage of Students Within Each Achievement Level – Reactor Panel

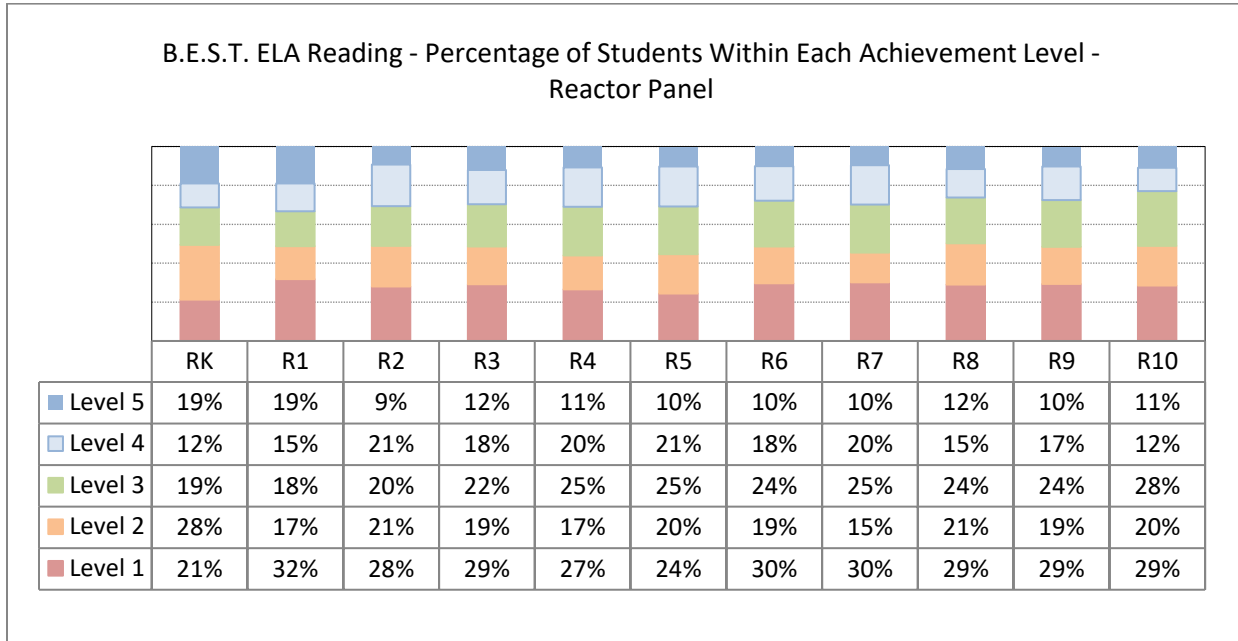
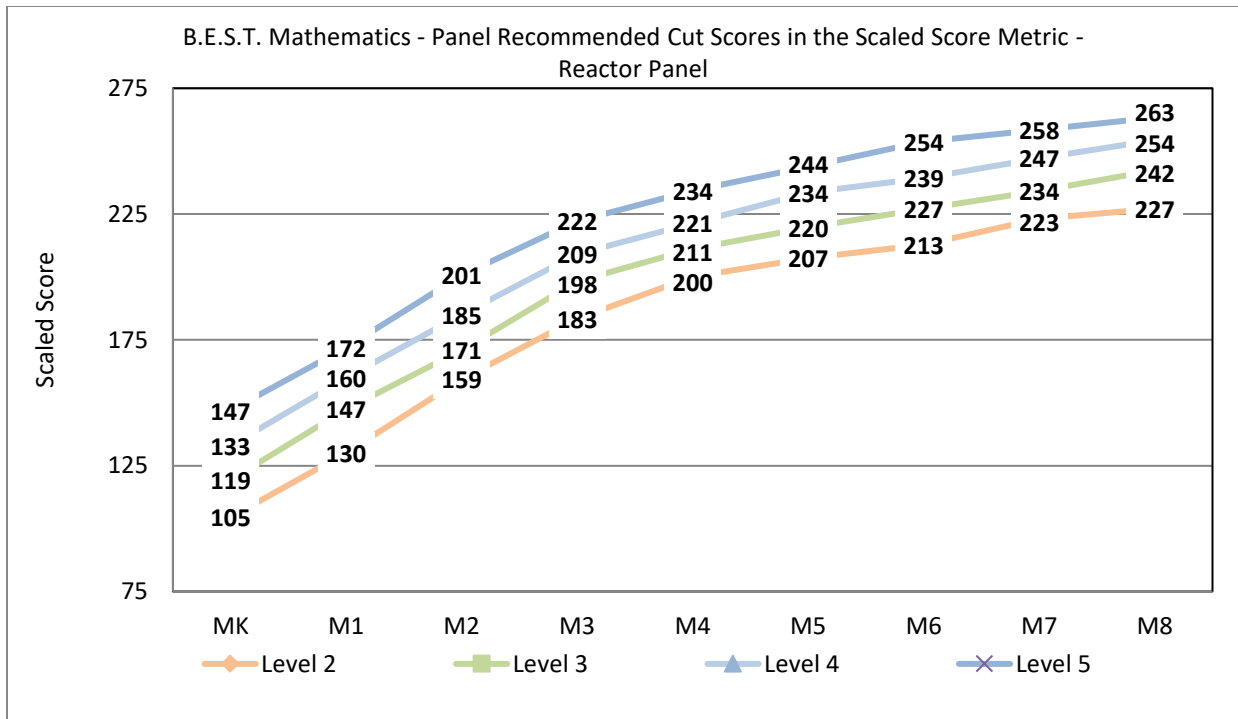
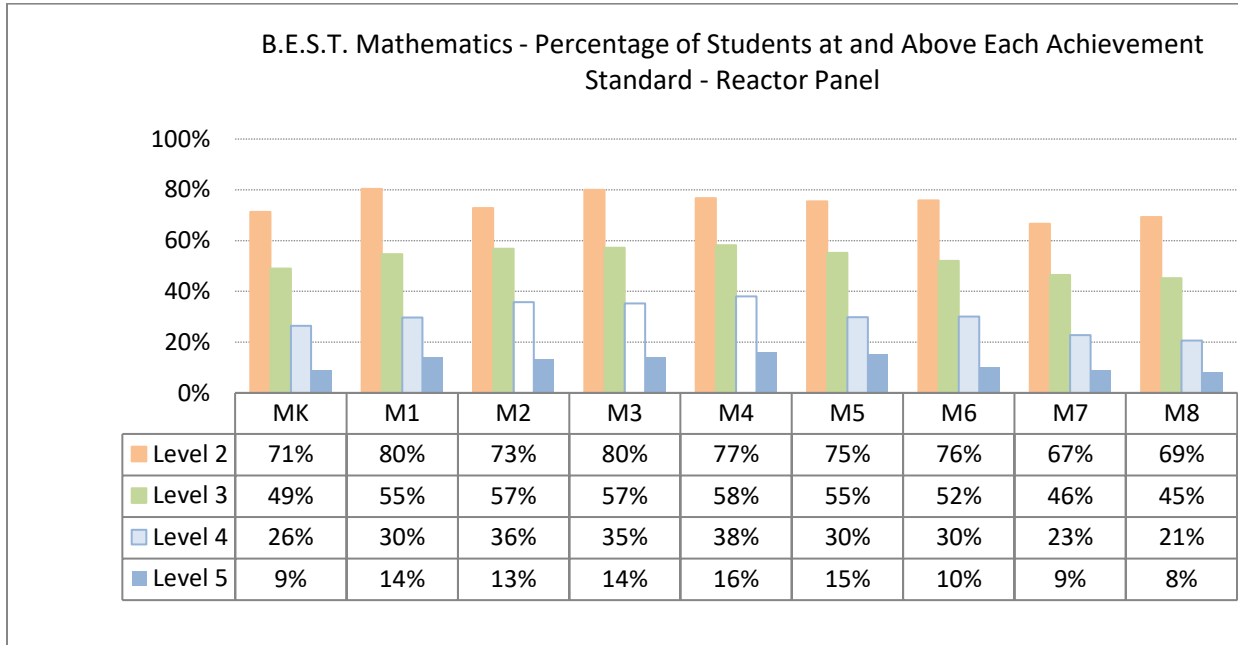


Figure 14: Mathematics Achievement Level Cut Scores on the B.E.S.T. Score Scale – Reactor Panel



**Figure 15: Mathematics Percentage of Students at and Above Each Achievement Level – Reactor Panel**



**Figure 16: Mathematics Percentage of Students Within Each Achievement Level – Reactor Panel**

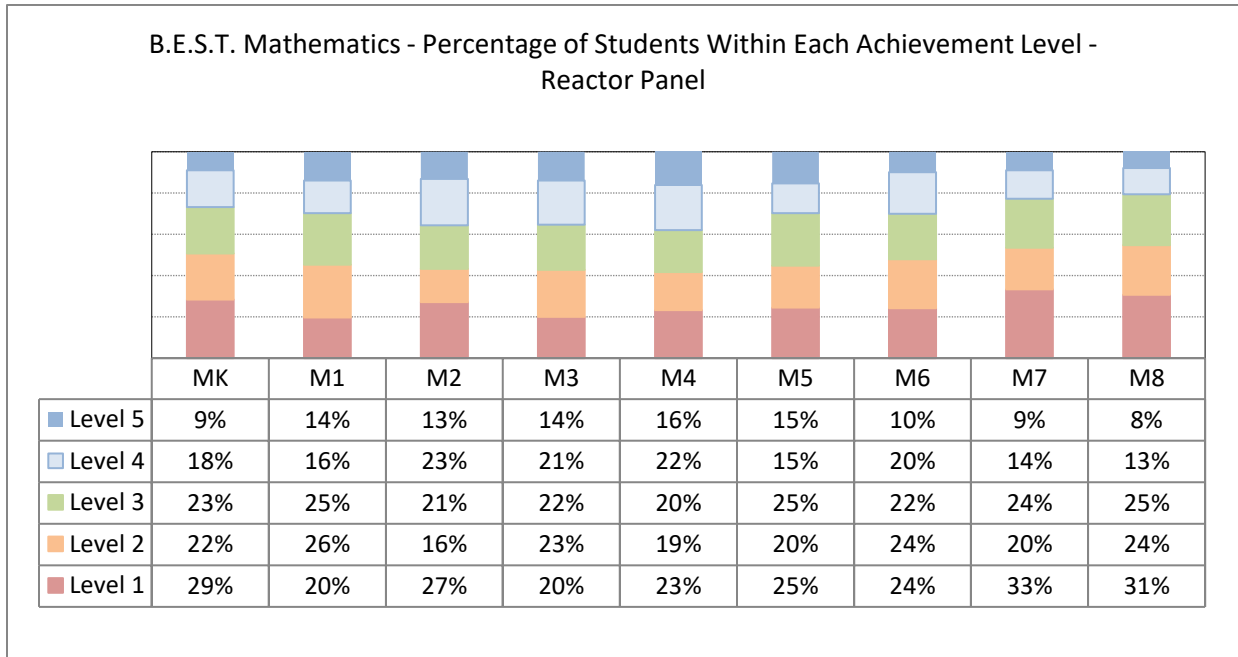


Figure 17: EOC Achievement Level Cut Scores on the B.E.S.T. Score Scale – Reactor Panel

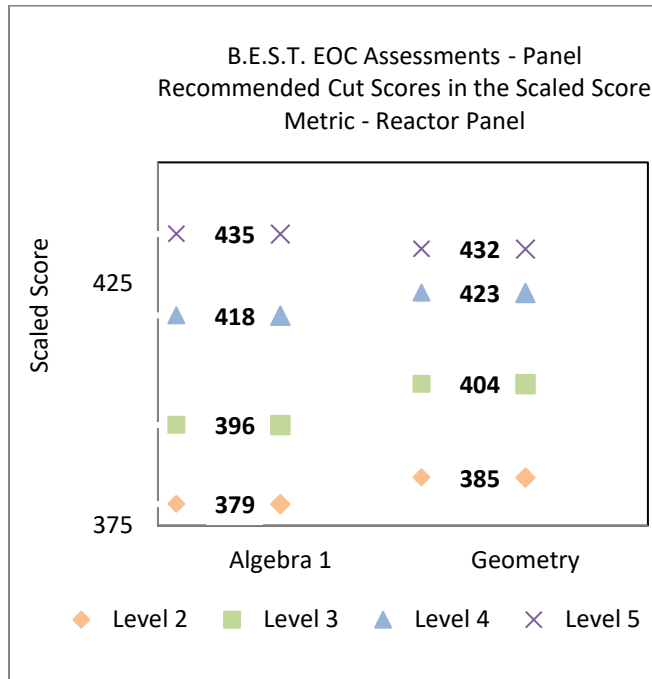


Figure 18: EOC Percentage of Students at and Above Each Achievement Level – Reactor Panel

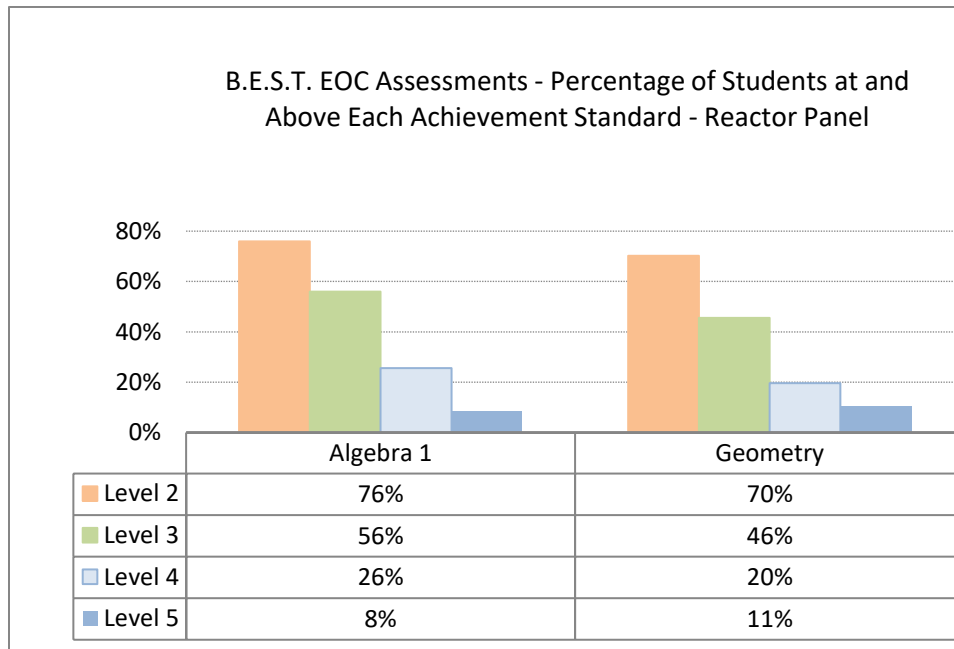
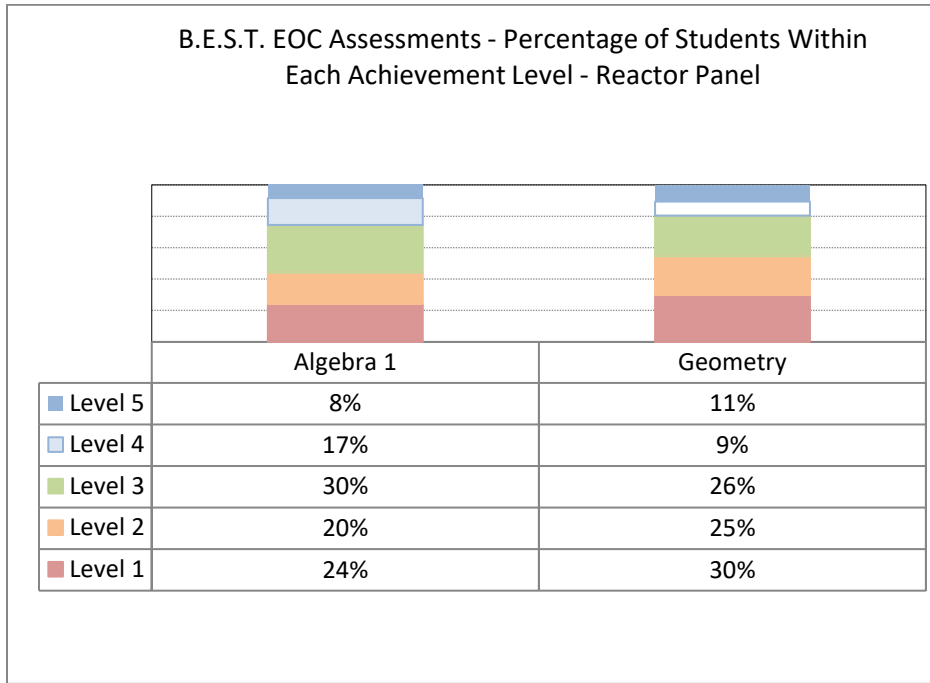


Figure 19: EOC Percentage of Students in Each Achievement Level – Reactor Panel





## 2. BACKGROUND

As detailed in Volume 2, the B.E.S.T. assessments were aligned to the B.E.S.T. test blueprints, academic content standards, and reporting categories; the B.E.S.T. Standards can also be accessed at [https://www.cpalms.org/Standards/BEST\\_Standards.aspx](https://www.cpalms.org/Standards/BEST_Standards.aspx). In order to measure student achievement on the B.E.S.T. Standards, standard setting is necessary as the means of identifying cut scores on the B.E.S.T. score scale to indicate the boundaries of the five student achievement levels.

Florida used the established Bookmark standard setting method (Mitzel, Lewis, Patz, & Green, 2001), which is the most common procedure used around the country. In this process, panelists of Florida educators reviewed test items in tandem with the corresponding Florida Content Standards and Achievement Level Descriptions (ALDs), and they then recommended cut scores, which are also often referred to as achievement standards. While some standard setting methods employ normative techniques, the Bookmark method uses empirically tested techniques that emphasize standard criteria and the expected skills of students. This Bookmark standard setting procedure was described in the Standard Setting Plan submitted to FDOE by CAI and reviewed and approved by FDOE prior to its implementation. A preliminary version of the plan was also presented to the Florida Technical Advisory Committee (TAC) prior to the Educator Panel and Reactor Panel standard setting meetings.

The content standards are the primary consideration when using the Bookmark method, where operational test items for a given grade or subject are ordered by difficulty, and panelists make judgments about which items students performing at each achievement level would likely be able to complete correctly. This method is further outlined in Section 3.

### 2.1 ACHIEVEMENT LEVELS

The cut scores (achievement standards) established in the standard setting process represent the lowest boundary of each achievement level, which are defined in the Achievement Level Policy Definitions, as follows:

*Table 1: Achievement Levels and Achievement Standards*

Level 1	Level 2	Level 3	Level 4	Level 5
Students at this level demonstrate a <b>well below grade level</b> of success with the challenging content of the <i>Florida Benchmarks for Excellent Student Thinking</i> .	Students at this level demonstrate a <b>below grade level</b> of success with the challenging content of the <i>Florida Benchmarks for Excellent Student Thinking</i> .	Students at this level demonstrate an <b>on grade level</b> of success with the challenging content of the <i>Florida Benchmarks for Excellent Student Thinking</i> .	Students at this level demonstrate a <b>proficient</b> level of success with the challenging content of the <i>Florida Benchmarks for Excellent Student Thinking</i> .	Students at this level demonstrate an <b>exemplary</b> level of success with the most challenging content of the <i>Florida Benchmarks for Excellent Student Thinking</i> .

ALDs define the intellectual constructs, knowledge, and skills based on the B.E.S.T. Standards that are expected of a student at each of these levels. Once the overall standard setting process is

finalized, the cut scores and score ranges for each achievement level for each test grade and subject will be established.

These levels will be used for reporting to parents, teachers, and schools, as well as for federal reporting. Moreover, because student progress from grade to grade is a central interest for any given assessment, these cut scores and the levels of achievement they represent must increase incrementally from grade to grade. That is, at a reasonable rate of progress, it should be expected that a student who reached Level 3 in one year would be labeled a Level 3 or above the following year. It would be difficult to interpret assessment results in which large numbers of students demonstrate irregular, dramatic changes in achievement levels, particularly when their progress is realistically consistent with teacher and program expectations.

## **2.2 ACHIEVEMENT LEVEL DESCRIPTIONS**

ALDs specify the learning expectations of the content standards for all grades and are based on the B.E.S.T. Standards. Range ALDs define the knowledge, skills, and processes that test takers at a particular achievement level are expected to possess for each content area. During the standard setting process, these content-aligned descriptions were used to inform judgments of the placement of the cut scores.

For grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments, the in-person ALD development meeting was originally scheduled to take place in April 2020. However, due to the COVID-19 pandemic, the ALD development meeting was held virtually in July 2020, led by Measurement in Practice, LLC. Between mid-2021 and early-2023, several virtual ALD panels for different subjects were held to review and discuss the results developed in the 2020 ALD development meeting. Table 2 outlines the staff attendees from participating organizations for two of the ALD review meetings. The first meeting, attended by the Test Development Center (TDC) and CAI members in April 2021, addressed ELA Reading and Writing. The second meeting, attended by TDC and CAI members in October 2021, addressed mathematics. Each breakout room of the ALD panel was facilitated by a representative from TDC and a CAI content specialist.

The ALD development was finalized in October 2022 to supplement the ALD matrices with what grade-level content a Level 1 student may demonstrate their skills. For further information regarding the July 2020 ALD meeting, see the Florida ALD Technical Report (Appendix X). Appendix A includes the ALDs used for the B.E.S.T. standard setting.

The ALDs for grades K–2 ELA Reading and Mathematics were developed with WestEd taking the lead and being assisted by Renaissance Learning, TDC, and FDOE. The Range ALDs were drafted by WestEd and revised by the ALD panel during a virtual meeting held in March 2023. Each virtual breakout room of the ALD panel was facilitated by a Renaissance content specialist and a representative from TDC. Additional revisions to the Range ALDs were made by Renaissance, CAI, and TDC in July 2023 to align the grades K–2 Range ALDs with those of grades 3 and above. Summaries of the Range ALDs are provided in Appendix A. The number of participants for the grades 3–10 ELA Reading, grades 4–10 ELA Writing, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments ALD panel is displayed in Table 2. The number of participants for the ELA Reading and Mathematics grades K–2 ALD panel is displayed in Table 3.

**Table 2: Achievement Level Descriptions Panel – Grades 3–10 ELA Reading, Grades 4–10 ELA Writing, Grades 3–8 Mathematics, Algebra 1 and Geometry EOC**

Participants per Breakout Room					
Breakout Room	Participants	TDC and CAI/Renaissance	Pearson Staff	TDC Staff	CAI/Renaissance Staff
ELA Grades 3–5	4–5	2	N/A	Shakia Johnson	Carol Lee
ELA Grades 6–7	4–5	2	N/A	Gretchen Sims	Jessica Du
ELA Grades 8–10	4–5	3	N/A	Catherine Taylor, Kathy Corder (ELA floater)	Maureen Nalepa
Mathematics Grades 3–5	4–5	2	N/A	Kristina Lamb	Alec Gross
Mathematics Grades 6–8	4–5	2	N/A	Trini Dixon	Chelsea Posey
Mathematics EOC	4–5	2	N/A	Sarah Devereaux	Kristie Benedetto
ELA Overall Grades 3 and above	N/A	5	N/A	Racquel Harrell, Susie Lee, Sally Donnelly	Rachel Knaizer (ELA Content Lead), Beth Page (Item Development Manager)
Mathematics Overall Grades 3 and above	N/A	5	N/A	Susie Lee, Travis Barton	Tom Englehart (Math Content Lead), Beth Page, Brian Kline (Item Development Managers)
Overall Grades 3 and above	N/A	N/A	2	N/A	N/A
Total	24–30	23	2	12	11

**Table 3: Achievement Level Descriptions Panel – ELA Reading and Mathematics Grades K–2**

Participants per Breakout Room					
Breakout Room	Participants*	TDC and CAI/Renaissance	Pearson Staff**	TDC Staff	Renaissance Staff
ELA Grades K–2	6	2	N/A	Shakia Johnson	Sean Borton
Mathematics Grades K–2	6	2	N/A	Melisa Scott	Stacey Anderson
ELA Overall Grades K–2	N/A	N/A	N/A	Racquel Harrell	N/A
Mathematics Overall Grades K–2	N/A	N/A	N/A	Travis Barton	N/A
Total	12	4	0	4	2

### **3. EDUCATOR PANEL**

During the week of July 24–28, 2023, FDOE convened a panel of more than 300 educators in Orlando, FL. The purpose of this Educator Panel meeting was to recommend the cut scores for each achievement level of the B.E.S.T. for

- English Language Arts (ELA) Reading tests in grades K–10;
- ELA Writing tests in grades 4–10;
- Mathematics tests in grades K–8; and
- End-of-Course (EOC) assessments in Algebra 1 and Geometry.

The Educator Panel included many educators with expertise in the content areas of their respective committees as well as experience and understanding of students’ knowledge of those grade- and subject-level standards.

Using the Bookmark method, the Educator Panel recommended cut scores in four rounds for ELA Reading tests in grades 3–10, ELA Writing tests in grades 4–10, Mathematics tests in grades 3–8, and EOC, and three rounds in grades K–2 ELA Reading and Mathematics. The cut scores recommended at this meeting served as a foundation for all subsequent steps in the standard setting process. The following sections provide details regarding the attendees of the Educator Panel meeting, logistical preparation, trainings, articulation, impact data, and benchmarking.

#### **3.1 EDUCATOR PANEL COMPOSITION**

FDOE solicited superintendent nominations and selected the committee members for the Educator Panel. The Educator Panel consisted of 397 panelists recruited by FDOE from across the state. The recruiting plan for obtaining panelists for the standard setting meetings was designed to establish representative groups of panelists who would render informed, content-based recommendations to the state on the placement of the cut scores for each achievement level. Diverse groups of panelists for each individual grade and subject brought a wide range of perspectives and experience to the standard setting procedure, ensuring that the recommendations were thoughtful and representative of broad educational constituencies.

The demographic information of the panelists was collected using the forms provided in Appendix G, and the results from the demographic sheet are summarized in Table 4–7.

Table 4 provides the composition of the Educator Panel in terms of sex, race/ethnicity, and occupation. Table 5 and Table 6 summarize the educator panelists’ years of experience in terms of both teaching experience and other professional experience, such as working as an administrator or specialist.

Table 7 displays the summary of demographic information by district size, community, and region of educator panelists. Table 8–14 provide the disaggregated summary. For Table 4–14, the percentages are based on an N of 397. The percentages in the following tables are rounded rather than truncated.

Table 4: Composition of Educator Panelists (Sex, Ethnicity, Occupations)

	Total		ELA Reading		ELA Writing		Mathematics		EOC	
	N	%	N	%	N	%	N	%	N	%
<b>Sex</b>										
Male	37	9%	5	3%	7	8%	19	15%	6	20%
Female	359	90%	145	96%	85	92%	105	85%	24	80%
NR*	1	0%	1	1%	-	-	-	-	-	-
<i>Total</i>	<i>397</i>	<i>100%</i>	<i>151</i>	<i>100%</i>	<i>92</i>	<i>100%</i>	<i>124</i>	<i>100%</i>	<i>30</i>	<i>100%</i>
<b>Race/ Ethnicity</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
White	285	72%	109	72%	66	72%	88	71%	22	73%
African American	54	14%	22	15%	11	12%	18	15%	3	10%
Asian	3	1%	0	0%	0	0%	3	2%	0	0%
Native American	3	1%	1	1%	2	2%	0	0%	0	0%
Hispanic	44	11%	17	11%	11	12%	11	9%	5	17%
Other	7	2%	1	1%	2	2%	4	3%	0	0%
NR*	1	0%	1	1%	-	-	-	-	-	-
<i>Total</i>	<i>397</i>	<i>100%</i>	<i>151</i>	<i>100%</i>	<i>92</i>	<i>100%</i>	<i>124</i>	<i>100%</i>	<i>30</i>	<i>100%</i>
<b>Occupation</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>
Teacher	95	24%	31	21%	25	27%	31	25%	8	27%
Coach	75	19%	28	19%	18	20%	27	22%	2	7%
Specialist	98	25%	41	27%	18	20%	31	25%	8	27%
Administrator	50	13%	19	13%	13	14%	12	10%	6	20%
Other	38	10%	16	11%	9	10%	12	10%	1	3%
Two or more occupations	40	10%	15	10%	9	10%	11	9%	5	17%
NR*	1	0%	1	1%	-	-	-	-	-	-
<i>Total</i>	<i>397</i>	<i>100%</i>	<i>151</i>	<i>100%</i>	<i>92</i>	<i>100%</i>	<i>124</i>	<i>100%</i>	<i>30</i>	<i>100%</i>

\*NR indicates not reported

**Table 5: Professional Experience of Educator Panelists**

Professional Experience in Education Other than Classroom Teaching by Subject	Total		ELA Reading		ELA Writing		Mathematics		EOC	
	N	%	N	%	N	%	N	%	N	%
0 years	59	15%	21	14%	12	13%	21	17%	5	17%
1–5 years	105	26%	35	23%	25	27%	38	31%	7	23%
6–10 years	56	14%	24	16%	10	11%	16	13%	6	20%
11–15 years	64	16%	25	17%	14	15%	20	16%	5	17%
16–20 years	52	13%	21	14%	13	14%	15	12%	3	10%
21 or more years	60	15%	24	16%	18	20%	14	11%	4	13%
NR	1	0%	1	1%	-	-	-	-	-	-
<i>Total</i>	<i>397</i>	<i>100%</i>	<i>151</i>	<i>100%</i>	<i>92</i>	<i>100%</i>	<i>124</i>	<i>100%</i>	<i>30</i>	<i>100%</i>

\*NR indicates *not reported*

**Table 6: Years Teaching in Assigned Subject**

Years of Teaching Experience in Your Assigned Committee's Grade/Subject	Total		ELA Reading		ELA Writing		Mathematics		EOC	
	N	%	N	%	N	%	N	%	N	%
0 years	39	10%	12	8%	6	7%	21	17%	0	0%
1–5 years	126	32%	47	31%	34	37%	37	30%	8	27%
6–10 years	97	24%	36	24%	21	23%	33	27%	7	23%
11–15 years	70	18%	29	19%	14	15%	18	15%	9	30%
16–20 years	38	10%	16	11%	9	10%	11	9%	2	7%
21 or more years	26	7%	10	7%	8	9%	4	3%	4	13%
NR	1	0%	1	1%	-	-	-	-	-	-
<i>Total</i>	<i>397</i>	<i>100%</i>	<i>151</i>	<i>100%</i>	<i>92</i>	<i>100%</i>	<i>124</i>	<i>100%</i>	<i>30</i>	<i>100%</i>

\*NR indicates *not reported*

**Table 7: Demographic Information of Educator Panelists (District Size, Community, and Region)**

District Size	Total		ELA Reading		ELA Writing		Mathematics		EOC	
	N	%	N	%	N	%	N	%	N	%
Large	167	42%	71	47%	36	39%	45	36%	15	50%
Medium	125	32%	42	28%	30	33%	47	38%	6	20%
Small	104	26%	37	25%	26	28%	32	26%	9	30%
NR	1	0%	1	1%	-	-	-	-	-	-
<i>Total</i>	<i>397</i>	<i>100%</i>	<i>151</i>	<i>100%</i>	<i>92</i>	<i>100%</i>	<i>124</i>	<i>100%</i>	<i>30</i>	<i>100%</i>
Community	N	%	N	%	N	%	N	%	N	%
Rural	117	30%	43	28%	30	33%	34	27%	10	33%
Suburban	164	41%	63	42%	37	40%	54	44%	10	33%
Urban	115	29%	44	29%	25	27%	36	29%	10	33%
NR	1	0%	1	1%	-	-	-	-	-	-
<i>Total</i>	<i>397</i>	<i>100%</i>	<i>151</i>	<i>100%</i>	<i>92</i>	<i>100%</i>	<i>124</i>	<i>100%</i>	<i>30</i>	<i>100%</i>
Region	N	%	N	%	N	%	N	%	N	%
West Central	97	24%	36	24%	23	25%	29	23%	9	30%
East Central	79	20%	27	18%	19	21%	29	23%	4	13%
Panhandle	82	21%	28	19%	19	21%	31	25%	4	13%
Northeast	77	19%	33	22%	18	20%	20	16%	6	20%
South	61	15%	26	17%	13	14%	15	12%	7	23%
NR	1	0%	1	1%	-	-	-	-	-	-
<i>Total</i>	<i>397</i>	<i>100%</i>	<i>151</i>	<i>100%</i>	<i>92</i>	<i>100%</i>	<i>124</i>	<i>100%</i>	<i>30</i>	<i>100%</i>

\*NR indicates *not reported*



Table 8: Educator Panel in Various Occupations (by Committee)

Committee		Teacher	Coach	Specialist	Administrator	Other	Two or more occupations	NR
Gr. K Mathematics	N	4	4	3	2	0	0	-
	%	31%	31%	23%	15%	0%	0%	-
Gr. 1 Mathematics	N	4	4	1	3	1	2	-
	%	27%	27%	7%	20%	7%	13%	-
Gr. 2 Mathematics	N	1	4	6	1	0	2	-
	%	7%	29%	43%	7%	0%	14%	-
Gr. 3 Mathematics	N	0	5	2	2	1	2	-
	%	0%	42%	17%	17%	8%	17%	-
Gr. 4 Mathematics	N	3	3	3	1	1	1	-
	%	25%	25%	25%	8%	8%	8%	-
Gr. 5 Mathematics	N	7	1	3	2	1	0	-
	%	50%	7%	21%	14%	7%	0%	-
Gr. 6 Mathematics	N	4	1	5	0	4	1	-
	%	27%	7%	33%	0%	27%	7%	-
Gr. 7 Mathematics	N	4	3	2	1	2	1	-
	%	31%	23%	15%	8%	15%	8%	-
Gr. 8 Mathematics	N	4	2	6	0	2	2	-
	%	25%	13%	38%	0%	13%	13%	-
Algebra 1	N	2	0	6	3	0	4	-
	%	13%	0%	40%	20%	0%	27%	-
Geometry	N	6	2	2	3	1	1	-
	%	40%	13%	13%	20%	7%	7%	-
Gr. K ELA Reading	N	4	2	5	2	2	1	-
	%	25%	13%	31%	13%	13%	6%	-
Gr. 1 ELA Reading	N	5	3	2	2	4	0	-
	%	31%	19%	13%	13%	25%	0%	-
Gr. 2 ELA Reading	N	3	4	4	1	0	2	1
	%	20%	27%	27%	7%	0%	13%	7%
Gr. 3 ELA Reading	N	2	2	8	0	2	2	-
	%	13%	13%	50%	0%	13%	13%	-
Gr. 4 ELA Reading	N	1	2	6	2	1	2	-
	%	7%	14%	43%	14%	7%	14%	-
Gr. 5 ELA Reading	N	4	5	1	0	1	2	-
	%	31%	38%	8%	0%	8%	15%	-
Gr. 6 ELA Reading	N	1	0	3	3	2	2	-
	%	9%	0%	27%	27%	18%	18%	-
Gr. 7 ELA Reading	N	1	3	4	2	1	0	-
	%	9%	27%	36%	18%	9%	0%	-
Gr. 8 ELA Reading	N	2	2	3	4	2	1	-
	%	14%	14%	21%	29%	14%	7%	-
Gr. 9 ELA Reading	N	3	3	3	1	0	3	-
	%	23%	23%	23%	8%	0%	23%	-
Gr. 10 ELA Reading	N	5	2	2	2	1	0	-
	%	42%	17%	17%	17%	8%	0%	-
Gr. 4 ELA Writing	N	4	3	5	1	1	1	-
	%	27%	20%	33%	7%	7%	7%	-

Committee		Teacher	Coach	Specialist	Administrator	Other	Two or more occupations	NR
Gr. 5 ELA Writing	N	6	5	0	3	2	0	-
	%	38%	31%	0%	19%	13%	0%	-
Gr. 6 ELA Writing	N	1	3	3	2	1	3	-
	%	8%	23%	23%	15%	8%	23%	-
Gr. 7 ELA Writing	N	4	2	2	1	0	1	-
	%	40%	20%	20%	10%	0%	10%	-
Gr. 8 ELA Writing	N	3	1	2	1	3	0	-
	%	30%	10%	20%	10%	30%	0%	-
Gr. 9 ELA Writing	N	3	2	3	2	1	3	-
	%	21%	14%	21%	14%	7%	21%	-
Gr. 10 ELA Writing	N	4	2	3	3	1	1	-
	%	29%	14%	21%	21%	7%	7%	-

\*NR indicates *not reported*

Table 9: Educator Panel Sex and Race/Ethnicity (by Committee)

Committee		Sex			Race/Ethnicity						
		Male	Female	NR	White	African American	Hispanic	Asian	Native American	Other	NR
Gr. K Mathematics	N	2	11	-	8	2	3	0	0	0	-
	%	15%	85%	-	62%	15%	23%	0%	0%	0%	-
Gr. 1 Mathematics	N	1	14	-	15	0	0	0	0	0	-
	%	7%	93%	-	100%	0%	0%	0%	0%	0%	-
Gr. 2 Mathematics	N	2	12	-	10	2	1	1	0	0	-
	%	14%	86%	-	71%	14%	7%	7%	0%	0%	-
Gr. 3 Mathematics	N	1	11	-	8	3	0	0	0	1	-
	%	8%	92%	-	67%	25%	0%	0%	0%	8%	-
Gr. 4 Mathematics	N	0	12	-	9	2	0	0	0	1	-
	%	0%	100%	-	75%	17%	0%	0%	0%	8%	-
Gr. 5 Mathematics	N	1	13	-	10	2	2	0	0	0	-
	%	7%	93%	-	71%	14%	14%	0%	0%	0%	-
Gr. 6 Mathematics	N	6	9	-	8	1	2	2	0	2	-
	%	40%	60%	-	53%	7%	13%	13%	0%	13%	-
Gr. 7 Mathematics	N	3	10	-	9	3	1	0	0	0	-
	%	23%	77%	-	69%	23%	8%	0%	0%	0%	-
Gr. 8 Mathematics	N	3	13	-	11	3	2	0	0	0	-
	%	19%	81%	-	69%	19%	13%	0%	0%	0%	-
Algebra 1	N	2	13	-	12	1	2	0	0	0	-
	%	13%	87%	-	80%	7%	13%	0%	0%	0%	-
Geometry	N	4	11	-	10	2	3	0	0	0	-
	%	27%	73%	-	67%	13%	20%	0%	0%	0%	-
Gr. K ELA Reading	N	0	16	-	12	3	1	0	0	0	-
	%	0%	100%	-	75%	19%	6%	0%	0%	0%	-
Gr. 1 ELA Reading	N	0	16	-	9	4	3	0	0	0	-
	%	0%	100%	-	56%	25%	19%	0%	0%	0%	-
Gr. 2 ELA Reading	N	0	14	1	12	2	0	0	0	0	1
	%	0%	93%	7%	80%	13%	0%	0%	0%	0%	7%
Gr. 3 ELA Reading	N	0	16	-	14	1	1	0	0	0	-
	%	0%	100%	-	88%	6%	6%	0%	0%	0%	-
Gr. 4 ELA Reading	N	0	14	-	11	1	2	0	0	0	-
	%	0%	100%	-	79%	7%	14%	0%	0%	0%	-
Gr. 5 ELA Reading	N	0	13	-	8	0	4	0	1	0	-
	%	0%	100%	-	62%	0%	31%	0%	8%	0%	-
Gr. 6 ELA Reading	N	0	11	-	9	1	1	0	0	0	-
	%	0%	100%	-	82%	9%	9%	0%	0%	0%	-
Gr. 7 ELA Reading	N	0	11	-	8	2	1	0	0	0	-
	%	0%	100%	-	73%	18%	9%	0%	0%	0%	-
Gr. 8 ELA Reading	N	2	12	-	8	4	2	0	0	0	-
	%	14%	86%	-	57%	29%	14%	0%	0%	0%	-
Gr. 9 ELA Reading	N	3	10	-	8	2	2	0	0	1	-
	%	23%	77%	-	62%	15%	15%	0%	0%	8%	-
	N	0	12	-	10	2	0	0	0	0	-

Committee		Sex			Race/Ethnicity						
		Male	Female	NR	White	African American	Hispanic	Asian	Native American	Other	NR
Gr. 10 ELA Reading	%	0%	100%	-	83%	17%	0%	0%	0%	0%	-
Gr. 4 ELA Writing	N	1	14	-	12	2	1	0	0	0	-
	%	7%	93%	-	80%	13%	7%	0%	0%	0%	-
Gr. 5 ELA Writing	N	1	15	-	10	0	3	0	1	2	-
	%	6%	94%	-	63%	0%	19%	0%	6%	13%	-
Gr. 6 ELA Writing	N	1	12	-	11	2	0	0	0	0	-
	%	8%	92%	-	85%	15%	0%	0%	0%	0%	-
Gr. 7 ELA Writing	N	2	8	-	6	3	0	0	1	0	-
	%	20%	80%	-	60%	30%	0%	0%	10%	0%	-
Gr. 8 ELA Writing	N	0	10	-	8	0	2	0	0	0	-
	%	0%	100%	-	80%	0%	20%	0%	0%	0%	-
Gr. 9 ELA Writing	N	1	13	-	9	2	3	0	0	0	-
	%	7%	93%	-	64%	14%	21%	0%	0%	0%	-
Gr. 10 ELA Writing	N	1	13	-	10	2	2	0	0	0	-
	%	7%	93%	-	71%	14%	14%	0%	0%	0%	-

\*NR indicates *not reported*

**Table 10: Educator Panel, Years of Professional Experience in Education Other Than Classroom Teaching**

<b>Committee</b>		<b>0 years</b>	<b>1–5 years</b>	<b>6–10 years</b>	<b>11–15 years</b>	<b>16–20 years</b>	<b>21 or more years</b>	<b>NR</b>
Gr. K Mathematics	N	1	7	1	1	2	1	-
	%	8%	54%	8%	8%	15%	8%	-
Gr. 1 Mathematics	N	2	6	1	2	4	0	-
	%	13%	40%	7%	13%	27%	0%	-
Gr. 2 Mathematics	N	2	5	1	3	2	1	-
	%	14%	36%	7%	21%	14%	7%	-
Gr. 3 Mathematics	N	1	3	2	2	2	2	-
	%	8%	25%	17%	17%	17%	17%	-
Gr. 4 Mathematics	N	3	3	1	2	0	3	-
	%	25%	25%	8%	17%	0%	25%	-
Gr. 5 Mathematics	N	6	1	2	3	0	2	-
	%	43%	7%	14%	21%	0%	14%	-
Gr. 6 Mathematics	N	2	4	4	1	3	1	-
	%	13%	27%	27%	7%	20%	7%	-
Gr. 7 Mathematics	N	2	2	2	2	2	3	-
	%	15%	15%	15%	15%	15%	23%	-
Gr. 8 Mathematics	N	2	7	2	4	0	1	-
	%	13%	44%	13%	25%	0%	6%	-
Algebra 1	N	1	5	4	2	2	1	-
	%	7%	33%	27%	13%	13%	7%	-
Geometry	N	4	2	2	3	1	3	-
	%	27%	13%	13%	20%	7%	20%	-
Gr. K ELA Reading	N	2	4	2	3	3	2	-
	%	13%	27%	13%	20%	20%	13%	-
Gr. 1 ELA Reading	N	1	3	3	4	4	1	-
	%	6%	19%	19%	25%	25%	6%	-
Gr. 2 ELA Reading	N	4	4	3	1	1	1	1
	%	27%	27%	20%	7%	7%	7%	7%
Gr. 3 ELA Reading	N	0	4	1	2	3	6	-
	%	0%	25%	6%	13%	19%	38%	-
Gr. 4 ELA Reading	N	3	3	3	2	0	3	-
	%	21%	21%	21%	14%	0%	21%	-
Gr. 5 ELA Reading	N	2	2	3	0	4	2	-
	%	15%	15%	23%	0%	31%	15%	-
Gr. 6 ELA Reading	N	0	4	2	2	1	2	-
	%	0%	36%	18%	18%	9%	18%	-
Gr. 7 ELA Reading	N	1	2	0	5	3	0	-
	%	9%	18%	0%	45%	27%	0%	-
Gr. 8 ELA Reading	N	3	4	4	3	0	0	-
	%	21%	29%	29%	21%	0%	0%	-
Gr. 9 ELA Reading	N	2	4	3	1	1	2	-
	%	15%	31%	23%	8%	8%	15%	-
	N	3	1	0	2	1	5	-

<b>Committee</b>		<b>0 years</b>	<b>1–5 years</b>	<b>6–10 years</b>	<b>11–15 years</b>	<b>16–20 years</b>	<b>21 or more years</b>	<b>NR</b>
Gr. 10 ELA Reading	%	25%	8%	0%	17%	8%	42%	-
Gr. 4 ELA Writing	N	4	3	1	3	2	2	-
	%	27%	20%	7%	20%	13%	13%	-
Gr. 5 ELA Writing	N	3	2	3	2	3	3	-
	%	19%	13%	19%	13%	19%	19%	-
Gr. 6 ELA Writing	N	1	4	2	3	0	3	-
	%	8%	31%	15%	23%	0%	23%	-
Gr. 7 ELA Writing	N	1	1	3	2	2	1	-
	%	10%	10%	30%	20%	20%	10%	-
Gr. 8 ELA Writing	N	2	3	0	1	1	3	-
	%	20%	30%	0%	10%	10%	30%	-
Gr. 9 ELA Writing	N	0	9	1	0	2	2	-
	%	0%	64%	7%	0%	14%	14%	-
Gr. 10 ELA Writing	N	1	3	0	3	3	4	-
	%	7%	21%	0%	21%	21%	29%	-

\*NR indicates *not reported*

Table 11: Educator Panel, Years of Teaching Experience in Assigned Subject/Grade

Committee		0 years	1–5 years	6–10 years	11–15 years	16–20 years	21 or more years	NR
Gr. K Mathematics	N	5	0	3	2	2	1	-
	%	38%	0%	23%	15%	15%	8%	-
Gr. 1 Mathematics	N	4	6	1	1	2	1	-
	%	27%	40%	7%	7%	13%	7%	-
Gr. 2 Mathematics	N	2	9	1	1	0	1	-
	%	14%	64%	7%	7%	0%	7%	-
Gr. 3 Mathematics	N	0	3	4	3	2	0	-
	%	0%	25%	33%	25%	17%	0%	-
Gr. 4 Mathematics	N	2	1	5	2	1	1	-
	%	17%	8%	42%	17%	8%	8%	-
Gr. 5 Mathematics	N	2	4	5	2	1	0	-
	%	14%	29%	36%	14%	7%	0%	-
Gr. 6 Mathematics	N	5	4	2	3	1	0	-
	%	33%	27%	13%	20%	7%	0%	-
Gr. 7 Mathematics	N	0	4	6	2	1	0	-
	%	0%	31%	46%	15%	8%	0%	-
Gr. 8 Mathematics	N	1	6	6	2	1	0	-
	%	6%	38%	38%	13%	6%	0%	-
Algebra 1	N	0	4	4	5	1	1	-
	%	0%	27%	27%	33%	7%	7%	-
Geometry	N	0	4	3	4	1	3	-
	%	0%	27%	27%	33%	7%	7%	-
Gr. K ELA Reading	N	1	6	2	2	1	4	-
	%	6%	38%	13%	13%	6%	25%	-
Gr. 1 ELA Reading	N	1	4	4	4	2	1	-
	%	6%	25%	25%	25%	13%	6%	-
Gr. 2 ELA Reading	N	1	7	4	0	2	0	1
	%	7%	47%	27%	0%	13%	0%	7%
Gr. 3 ELA Reading	N	3	3	5	3	0	2	-
	%	19%	19%	31%	19%	0%	13%	-
Gr. 4 ELA Reading	N	0	5	4	2	2	1	-
	%	0%	36%	29%	14%	14%	7%	-
Gr. 5 ELA Reading	N	0	3	3	4	3	0	-
	%	0%	23%	23%	31%	23%	0%	-
Gr. 6 ELA Reading	N	1	3	1	3	1	2	-
	%	9%	27%	9%	27%	9%	18%	-
Gr. 7 ELA Reading	N	1	3	1	3	3	0	-
	%	9%	27%	9%	27%	27%	0%	-
Gr. 8 ELA Reading	N	1	7	4	1	1	0	-
	%	7%	50%	29%	7%	7%	0%	-
Gr. 9 ELA Reading	N	1	3	4	5	0	0	-
	%	8%	23%	31%	38%	0%	0%	-
Gr. 10 ELA Reading	N	2	3	4	2	1	0	-
	%	17%	25%	33%	17%	8%	0%	-

Committee		0 years	1–5 years	6–10 years	11–15 years	16–20 years	21 or more years	NR
Gr. 4 ELA Writing	N	0	9	2	2	1	1	-
	%	0%	60%	13%	13%	7%	7%	-
Gr. 5 ELA Writing	N	1	6	5	3	1	0	-
	%	6%	38%	31%	19%	6%	0%	-
Gr. 6 ELA Writing	N	3	2	2	3	1	2	-
	%	23%	15%	15%	23%	8%	15%	-
Gr. 7 ELA Writing	N	0	3	3	0	2	2	-
	%	0%	30%	30%	0%	20%	20%	-
Gr. 8 ELA Writing	N	1	3	2	2	0	2	-
	%	10%	30%	20%	20%	0%	20%	-
Gr. 9 ELA Writing	N	0	8	4	0	2	0	-
	%	0%	57%	29%	0%	14%	0%	-
Gr. 10 ELA Writing	N	1	3	3	4	2	1	-
	%	7%	21%	21%	29%	14%	7%	-

\*NR indicates *not reported*



**Table 12: Educator Panel Type of Community**

Committee	Urban		Suburban		Rural		NR	
	N	%	N	%	N	%	N	%
Gr. K Mathematics	1	8%	8	62%	4	31%	-	-
Gr. 1 Mathematics	3	20%	8	53%	4	27%	-	-
Gr. 2 Mathematics	8	57%	4	29%	2	14%	-	-
Gr. 3 Mathematics	5	42%	4	33%	3	25%	-	-
Gr. 4 Mathematics	2	17%	5	42%	5	42%	-	-
Gr. 5 Mathematics	2	14%	6	43%	6	43%	-	-
Gr. 6 Mathematics	6	40%	6	40%	3	20%	-	-
Gr. 7 Mathematics	3	23%	8	62%	2	15%	-	-
Gr. 8 Mathematics	6	38%	5	31%	5	31%	-	-
Algebra 1	6	40%	5	33%	4	27%	-	-
Geometry	4	27%	5	33%	6	40%	-	-
Gr. K ELA Reading	6	38%	5	31%	5	31%	-	-
Gr. 1 ELA Reading	5	31%	7	44%	4	25%	-	-
Gr. 2 ELA Reading	3	20%	5	33%	6	40%	1	7%
Gr. 3 ELA Reading	2	13%	10	63%	4	25%	-	-
Gr. 4 ELA Reading	6	43%	4	29%	4	29%	-	-
Gr. 5 ELA Reading	7	54%	3	23%	3	23%	-	-
Gr. 6 ELA Reading	4	36%	6	55%	1	9%	-	-
Gr. 7 ELA Reading	4	36%	4	36%	3	27%	-	-
Gr. 8 ELA Reading	2	14%	4	29%	8	57%	-	-
Gr. 9 ELA Reading	3	23%	7	54%	3	23%	-	-
Gr. 10 ELA Reading	2	17%	8	67%	2	17%	-	-
Gr. 4 ELA Writing	3	20%	7	47%	5	33%	-	-

Committee	Urban		Suburban		Rural		NR	
	N	%	N	%	N	%	N	%
Gr. 5 ELA Writing	7	44%	5	31%	4	25%	-	-
Gr. 6 ELA Writing	4	31%	4	31%	5	38%	-	-
Gr. 7 ELA Writing	2	20%	3	30%	5	50%	-	-
Gr. 8 ELA Writing	2	20%	5	50%	3	30%	-	-
Gr. 9 ELA Writing	3	21%	5	36%	6	43%	-	-
Gr. 10 ELA Writing	4	29%	8	57%	2	14%	-	-

\*NR indicates *not reported*

Table 13: Educator Panel Region of the State

Committee	Panhandle		Northeast		East Central		West Central		South		NR	
	N	%	N	%	N	%	N	%	N	%	N	%
Gr. K Mathematics	6	46%	2	15%	3	23%	2	15%	0	0%	-	-
Gr. 1 Mathematics	3	20%	3	20%	5	33%	4	27%	0	0%	-	-
Gr. 2 Mathematics	2	14%	0	0%	5	36%	4	29%	3	21%	-	-
Gr. 3 Mathematics	4	33%	1	8%	4	33%	2	17%	1	8%	-	-
Gr. 4 Mathematics	2	17%	4	33%	2	17%	3	25%	1	8%	-	-
Gr. 5 Mathematics	4	29%	2	14%	4	29%	2	14%	2	14%	-	-
Gr. 6 Mathematics	2	13%	3	20%	2	13%	5	33%	3	20%	-	-
Gr. 7 Mathematics	4	31%	3	23%	2	15%	2	15%	2	15%	-	-
Gr. 8 Mathematics	4	25%	2	13%	2	13%	5	31%	3	19%	-	-
Algebra 1	0	0%	4	27%	1	7%	5	33%	5	33%	-	-
Geometry	4	27%	2	13%	3	20%	4	27%	2	13%	-	-
Gr. K ELA Reading	2	13%	4	25%	2	13%	4	25%	4	25%	-	-
Gr. 1 ELA Reading	4	25%	3	19%	2	13%	5	31%	2	13%	-	-
Gr. 2 ELA Reading	2	13%	3	20%	4	27%	3	20%	2	13%	1	7%
Gr. 3 ELA Reading	3	19%	3	19%	2	13%	5	31%	3	19%	-	-
Gr. 4 ELA Reading	4	29%	1	7%	1	7%	3	21%	5	36%	-	-
Gr. 5 ELA Reading	3	23%	3	23%	0	0%	4	31%	3	23%	-	-
Gr. 6 ELA Reading	0	0%	2	18%	4	36%	4	36%	1	9%	-	-
Gr. 7 ELA Reading	2	18%	3	27%	3	27%	2	18%	1	9%	-	-
Gr. 8 ELA Reading	4	29%	3	21%	2	14%	2	14%	3	21%	-	-
Gr. 9 ELA Reading	0	0%	6	46%	3	23%	3	23%	1	8%	-	-
Gr. 10 ELA Reading	4	33%	2	17%	4	33%	1	8%	1	8%	-	-
Gr. 4 ELA Writing	5	33%	2	13%	3	20%	4	27%	1	7%	-	-

Committee	Panhandle		Northeast		East Central		West Central		South		NR	
	N	%	N	%	N	%	N	%	N	%	N	%
Gr. 5 ELA Writing	5	31%	3	19%	3	19%	3	19%	2	13%	-	-
Gr. 6 ELA Writing	2	15%	3	23%	3	23%	3	23%	2	15%	-	-
Gr. 7 ELA Writing	1	10%	3	30%	4	40%	1	10%	1	10%	-	-
Gr. 8 ELA Writing	2	20%	3	30%	2	20%	2	20%	1	10%	-	-
Gr. 9 ELA Writing	2	14%	2	14%	2	14%	5	36%	3	21%	-	-
Gr. 10 ELA Writing	2	14%	2	14%	2	14%	5	36%	3	21%	-	-

\*NR indicates *not reported*

Table 14: Educator Panel District Size

Committee	Jumbo		Large		Medium		Small		NR	
	N	%	N	%	N	%	N	%	N	%
Gr. K Mathematics	0	0%	5	38%	5	38%	3	23%	-	-
Gr. 1 Mathematics	0	0%	5	33%	6	40%	4	27%	-	-
Gr. 2 Mathematics	0	0%	7	50%	6	43%	1	7%	-	-
Gr. 3 Mathematics	2	17%	4	33%	4	33%	2	17%	-	-
Gr. 4 Mathematics	1	8%	1	8%	5	42%	5	42%	-	-
Gr. 5 Mathematics	1	7%	3	21%	5	36%	5	36%	-	-
Gr. 6 Mathematics	3	20%	4	27%	5	33%	3	20%	-	-
Gr. 7 Mathematics	2	15%	0	0%	7	54%	4	31%	-	-
Gr. 8 Mathematics	2	13%	5	31%	4	25%	5	31%	-	-
Algebra 1	6	40%	1	7%	4	27%	4	27%	-	-
Geometry	3	20%	5	33%	2	13%	5	33%	-	-
Gr. K ELA Reading	0	0%	8	50%	4	25%	4	25%	-	-
Gr. 1 ELA Reading	0	0%	6	38%	8	50%	2	13%	-	-
Gr. 2 ELA Reading	0	0%	4	27%	4	27%	6	40%	1	7%
Gr. 3 ELA Reading	1	6%	4	25%	7	44%	4	25%	-	-
Gr. 4 ELA Reading	3	21%	5	36%	2	14%	4	29%	-	-
Gr. 5 ELA Reading	3	23%	7	54%	1	8%	2	15%	-	-
Gr. 6 ELA Reading	2	18%	6	55%	2	18%	1	9%	-	-
Gr. 7 ELA Reading	1	9%	4	36%	4	36%	2	18%	-	-
Gr. 8 ELA Reading	0	0%	6	43%	2	14%	6	43%	-	-
Gr. 9 ELA Reading	2	15%	5	38%	3	23%	3	23%	-	-
Gr. 10 ELA Reading	1	8%	3	25%	5	42%	3	25%	-	-
Gr. 4 ELA Writing	0	0%	5	33%	4	27%	6	40%	-	-

Committee	Jumbo		Large		Medium		Small		NR	
	N	%	N	%	N	%	N	%	N	%
Gr. 5 ELA Writing	0	0%	6	38%	6	38%	4	25%	-	-
Gr. 6 ELA Writing	0	0%	5	38%	4	31%	4	31%	-	-
Gr. 7 ELA Writing	0	0%	3	30%	3	30%	4	40%	-	-
Gr. 8 ELA Writing	0	0%	2	20%	6	60%	2	20%	-	-
Gr. 9 ELA Writing	0	0%	7	50%	3	21%	4	29%	-	-
Gr. 10 ELA Writing	0	0%	8	57%	4	29%	2	14%	-	-

\*NR indicates *not reported*

During the Educator Panel meeting, panelists were divided into 29 rooms, one room for each grade and subject. Within each room, the participants were divided into groups, or tables, to complete the process of recommending the achievement standards or cut scores. The discussions in each room were guided by CAI and Renaissance Learning facilitators and assistants to the facilitators.

The facilitator explained procedural constructs of the process, conducted training with the online tools, led discussions for all rounds of standard setting, maintained security of test content, collaboratively kept schedules consistent across all rooms, fielded questions from the panelists, and ensured that timely recommendations were provided to the CAI and Renaissance Learning psychometricians for statistical calculations. The room assistant was responsible for providing assigned materials and always ensuring the security of test materials and equipment.

In addition to the facilitators and assistants, table leaders were identified to guide the process of setting standards at each table (group) of participants. Table leaders were also participants in recommending the achievement standards.

Depending on the overall room size, two to four panelists per room served as table leaders for their respective rooms. On the first day of the meeting, special training was provided to these table leaders to prepare them appropriately. Table leaders were selected based on knowledge of the process and experience in their fields. They were expected to have a broad perspective of the process and to assist in communication between CAI/Renaissance Learning staff members and other panelists. Table leaders were tasked with assisting standard-setting staff by

- facilitating discussions at their table;
- assisting with distribution and collection of standard-setting meeting materials; and
- alerting meeting staff of confusion or concerns at their tables.

Throughout the standard setting process, panelists viewed live test items/prompts and other confidential assessment materials. Table leaders were asked to assist in ensuring that all secure materials remained in the meeting rooms and that all cell phones were properly stored; any violation of the security affidavit was to be reported to facilitators.

The number of panelists for each subject and their assigned facilitators are presented in Table 15.

*Table 15: Educator Panel Configuration*

Panel	Panelists	Table Leaders	Total	Subject	Grade/EOC	CAI/Renaissance Facilitator	CAI/Renaissance Facilitator Assistant
1	9	4	13	Mathematics	K	Jieun Lee	Judi Guimaraes
2	11	4	15	Mathematics	1	John Walker	Mary Prescott
3	10	4	14	Mathematics	2	Adam Wyse	Carolyn Gossett
4	8	4	12	Mathematics	3	Jim McCann	Melissa O'Neill
5	8	4	12	Mathematics	4	Alysa Giustino	Janelle Culverwell
6	10	4	14	Mathematics	5	Paul Maxon	Caleb Scarbrough
7	11	4	15	Mathematics	6	Gina Hagaman	Jon Ryle
8	9	4	13	Mathematics	7	Marie Kramer	Kristie Benedetto
9	12	4	16	Mathematics	8	Peter Pluckebaum	Emily Baumunk
10	11	4	15	Algebra 1	EOC	Ronnie Pacini	Sandra Figueroa
11	11	4	15	Geometry	EOC	Tom Englehart	Jona Pyo
12	12	4	16	ELA Reading	K	Jason Way	David Everson
13	12	4	16	ELA Reading	1	Ekaterina Forrester	Barry Ginter
14	11	4	15	ELA Reading	2	John Bielinski	Sean Borton
15	12	4	16	ELA Reading	3	Brianna O'Gara	Amanda Huston
16	10	4	14	ELA Reading	4	Jill Powers	Erin Jones
17	9	4	13	ELA Reading	5	Nina Dyer	Renee Lenhart
18	7	4	11	ELA Reading	6	Megan Holt	Eric Marcy
19	7	4	11	ELA Reading	7	Alex Linville	Anne Murphy
20	10	4	14	ELA Reading	8	Chris Carter	Trevor Tucker
21	9	4	13	ELA Reading	9	Brett Craycraft	Jenna Morton
22	8	4	12	ELA Reading	10	Maureen Nalepa	Erin Rodriguez
23	11	4	15	ELA Writing	4	Terra Winsett	Maggie Reynolds
24	12	4	16	ELA Writing	5	Liz Branin	Melanie Marin
25	9	4	13	ELA Writing	6	Julie Benson	Lauren Elliott
26	6	4	10	ELA Writing	7	Terry Hill	Bianca Barajas
27	6	4	10	ELA Writing	8	Bill Kuykendall	Jasmine Manley
28	10	4	14	ELA Writing	9	Krista Bobbitt	Tai Zamora
29	10	4	14	ELA Writing	10	Justin Schneider	Julia Skoniecke
Totals	281	116	397				

FDOE and TDC staff in attendance were also active monitors of the Educator Panel meeting. They provided the panelists with additional information and answered panelists’ questions on the assessment, content, policy, and historical aspects of the assessment during general sessions, in the breakout rooms, and individually. FDOE and TDC staff who attended the meeting are listed in Table 16.

In addition to the meeting facilitators, several other staff from CAI, Renaissance Learning, and Pearson attended the Educator Panel meeting. Table 17 lists these staff and their respective roles.

**Table 16: Educator Panel Meeting, Attendees from FDOE and TDC**

Attendee	Affiliation	Role
Vince Verges	FDOE	Introductory Remarks
Susie Lee	FDOE	Observer
Catherine Altmaier	FDOE	Observer
Salih Binici	FDOE	Psychometrician
Wenyi Li	FDOE	Psychometrician, Intern
Jielin Ming	FDOE	Psychometrician, Intern
Saeyan Yun	FDOE	Psychometrician, Intern
Racquel Harrell	FDOE	Observer
Sally Donnelly	TDC	ELA Lead Observer
Shakia Johnson	TDC	ELA Observer
Catherine Taylor	TDC	ELA Observer
Gretchen Sims	TDC	ELA Observer
Kristina Lamb	TDC	Mathematics Lead Observer
Carolina Jimeno	TDC	Mathematics Observer
Caroline Simpkins	TDC	Mathematics Observer
Melisa Scott	TDC	Mathematics Observer

**Table 17: Other Staff Members in Attendance**

Role	Affiliation	Attendee
Overall Coordinator	CAI	Gary Phillips
		Stephan Ahadi
	Renaissance	Catherine Close
Program Management	CAI	Kevin Murphy
		Joie Tolosa
		Maggie Gies
		Celine Bryan
		Christina Hines



Role	Affiliation	Attendee
		Jessica De Andrade
		Val Polyakov
		Ana Maria Ramirez
	Renaissance	Rachel Davidson
		Isabel Turner
		Sara Walkup
Lead Content	Renaissance	Sidney Thompson
	CAI	Kevin Dwyer
		Beth Page
		Brian Kline
		Margaret McMahon
		Patty Hildreth
		Michael Flynn
		Natalie Morgan
		Chris Paskoff
Psychometrician	CAI	Sherry Li
		Myvan Bui
		Hyesuk Jang
		Peter Diao
Research Assistant	CAI	Kevin Clayton
		Matt Gordon
		Melissa Boyanton
		Zoe Dai
		Gedin Auria Cabrera
		Matthew Anderson
		Hashim Evans
Data Analyst	Renaissance	Tyler Hefty
		Rachel Youmans
Internet Technology Support	CAI	Patrick Spahn
		Tyler Roberts
		Brandon Osbourne
	Pearson	Jonathan Dolder
Senior Vice President of Technology	CAI	Balaji Kodeswaran
Software Engineer	CAI	Yang Sun
		Vamsi Vallabhaneni

## **3.2 LOGISTICAL PREPARATION**

The standard setting meetings were held at the Hotel Caribe Royale and the Hilton Lake Buena Vista in Orlando, FL. Grades 3–8 Mathematics, Mathematics EOC, and grades 3–10 ELA Reading were held at the Hotel Caribe Royale. Grades 4–10 ELA Writing and grades K–2 ELA Reading and Mathematics were held at the Hilton Lake Buena Vista. CAI acquired 29 rooms to convene panels of educators for each individual grade and subject. The timeline for completing the standard setting meeting was reasonable, as it was spread over five days for grades 3–8 Mathematics, Mathematics EOC, and grades 3–10 ELA Reading and over three days for grades 4–10 ELA Writing and grades K–2 ELA Reading and Mathematics. An outline of the agendas is provided in Appendix C.

The Educator Panel meeting used separate rooms for training; CAI, Renaissance Learning, and FDOE staff meetings; workrooms; and a secure room for material storage and preparation. There was one large room with seating for about 600 individuals, used for large group orientation and presentations. Additionally, each of the 29 panel breakout rooms were arranged to accommodate three to four tables of panelists, with sufficient space for both a laptop and writing/working space for each participant. These meeting rooms were equipped with technological materials, such as LCD projectors and one laptop computer per panelist, with hard-wired Internet connection. The laptops provided access to the B.E.S.T. OIBs and ORBs for each grade and subject through CAI's web-based system. Appendix F describes the physical and online materials provided. Table 18 describes the room logistics, organization, and technology requirements for each of the meeting rooms.

**Table 18: Summary of Required Meeting Space**

Room Use	Room	Number of Tables	Number per Table	Type of Room	Observer Table	Estimated Capacity Needed	IT requirement
Large group training	Large Group (Caribe Royale)	--	--	Podium	--	370	Projector, presenter microphone
Large group training – ELA Writing	Large Group (Hilton Lake)	--	--	Podium	--	165	Projector, presenter microphone
Large group training – Grades K–2 ELA Reading and Mathematics	Large Group (Hilton Lake)	--	--	Podium	--	145	Projector, presenter microphone
Table leader training 1	Table Leader Training (Caribe Royale)	16	4	Podium	--	64	Projector
Table leader training 2	Table Leader Training (Hilton Lake)	13	4	Podium	--	52	Projector
Table leader training 3	Table Leader Training (Hilton Lake)	13	4	Podium	-	52	Projector
Break out	ELA Reading K	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Reading 1	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Reading 2	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Reading 3	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Reading 4	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Reading 5	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Reading 6	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Reading 7	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Reading 8	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Reading 9	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Reading 10	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet

Room Use	Room	Number of Tables	Number per Table	Type of Room	Observer Table	Estimated Capacity Needed	IT requirement
	ELA Writing 4	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Writing 5	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Writing 6	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Writing 7	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Writing 8	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Writing 9	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	ELA Writing 10	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	Mathematics K	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	Mathematics 1	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	Mathematics 2	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	Mathematics 3	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	Mathematics 4	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	Mathematics 5	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	Mathematics 6	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	Mathematics 7	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	Mathematics 8	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	Algebra 1	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet
	Geometry	4	5	Banquet	Space for four individuals	26	Projector; hard-wired Internet

Room Use	Room	Number of Tables	Number per Table	Type of Room	Observer Table	Estimated Capacity Needed	IT requirement
Data Analysis	Psych	--	--	--	--	10	Projector; hard-wired Internet
Staff workspace	CAI Staff	--	--	--	--	20	Wi-Fi
	Renaissance Staff	--	--	--	--	20	Wi-Fi
	FDOE Staff	--	--	--	--	20	Wi-Fi
	TDC Staff	--	--	--	--	20	Wi-Fi
Material Storage and Prep	Storage	10	0	--	--	0	None

Security was a crucial consideration of the Educator Panel meeting. To protect the validity of the assessment, it was critical to always maintain the security of the B.E.S.T. assessment items. In addition to having panelists sign nondisclosure agreements, which included Florida’s Test Security Statute, 1008.24, Florida Statutes (F.S.), as well as State Board of Education Test Security Rule, 6A-10.042, Florida Administrative Code (F.A.C.), CAI used additional security approaches, such as securing items with password-protected access and prohibiting the use of personal technology in the panel rooms. CAI also kept all physical data under tight security. For example, the data analysis workroom was kept always locked and monitored by CAI staff. As an added precaution, CAI staff constantly monitored entry into the participant workrooms as well as the project workroom, the data processing room, and the staff meeting room. Appendix D contains a complete discussion of all security measures.

### 3.3 TRAINING

FDOE reviewed and approved all training materials used at the Educator Panel in advance of the meeting. Prior to the Educator Panel beginning its work, it was necessary to ensure that each room facilitator was extensively knowledgeable of the intellectual constructs and technologies used in standard setting. Adequate training was also essential to standardize the standard-setting procedures across the grade/subject committees. To meet these training needs, all room facilitators received comprehensive training prior to attending the workshop.

Room facilitators, in turn, provided training to the participants on the content, test specifications, response probabilities, and ALDs. They provided the table leaders and panelists with materials and training on the content standards, test design, test specifications, and intellectual expectations of students, as well as an explanation of how the B.E.S.T. assessments were developed from the content standards. Specific training was also provided in the Bookmark method.

#### 3.3.1 Taking the Test

To give the panelists a complete understanding of the assessment process, CAI has found that having the panelists take the assessment provides them with additional insights and understandings of exactly what the students experience. This is particularly true since many educators have themselves never been administered a computer-adaptive test. Therefore, following the comprehensive training activities, the panelists were administered the assessment for their given grade and subject in the exact or near-exact same testing environment that was administered to

students. Presentations by the facilitators helped guide this process. At the completion of the test, the panelists were given the opportunity to discuss their experience with the test and discuss any issues that may have emerged.

### **3.3.2 “Just Barely” Achievement Level Descriptions**

After taking the test, panelists familiarized themselves with the ALDs previously described in Section 2. They were then asked to form “Just Barely” ALDs, which defined the expectations for the lowest performing students in each achievement level. Just Barely descriptions (also called Target ALDs) defined what students are expected to know and be able to do as they just barely enter an achievement level.

A “Just Barely” template and an example were developed by CAI and Renaissance Learning for each grade and subject prior to the Educator Panel meeting, and the panelists then used the template to develop their own “Just Barely” ALDs through discussion. These descriptions represented the minimum expectations associated with each achievement level. The red arrows in Figure illustrate that the “Just Barely” ALDs defined the very lowest boundaries of the Range ALDs for grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments. Figure 21 illustrates the “Just Barely” ALDs for grades K–2 ELA Reading. “Just Barely” ALDs for Levels 3 and 4 were defined as grades K–2 set the cut scores for these levels using the Bookmark method. Cut scores for Levels 2 and 5 were statistically derived with panelists providing feedback on the statistically derived values. Figure 22 illustrates the “Just Barely” ALDs for grades 4–10 ELA Writing. These “Just Barely” descriptions helped to narrow the focus of the panelists to the most basic, essential knowledge and skills required to meet each proficiency level. The “Just Barely” descriptions developed by the panelists are listed in Appendix B.

Figure 20: “Just Barely” Descriptions for Grades 3–10 ELA Reading, Grades 3–8 Mathematics, Algebra 1 and Geometry EOC Assessments

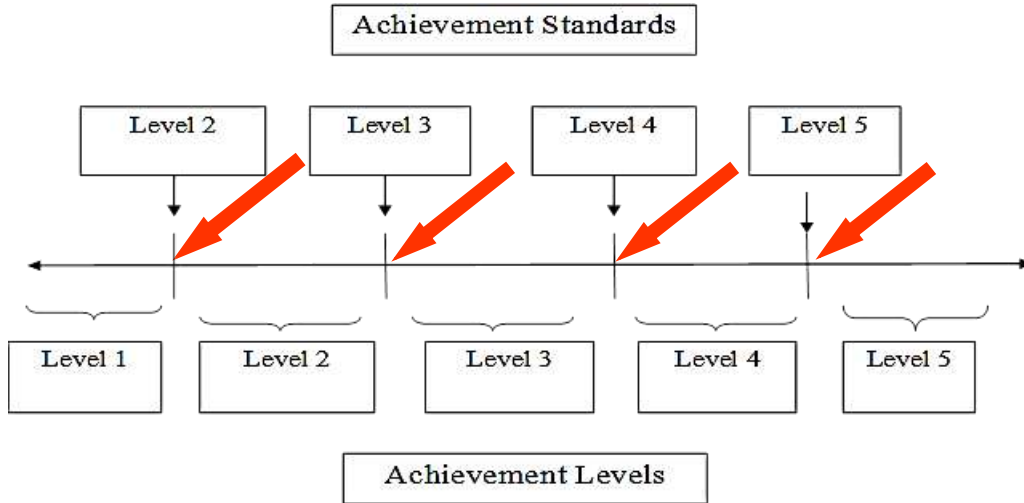


Figure 21: “Just Barely” Descriptions for Grades K–2 ELA Reading and Mathematics



Figure 22: “Just Barely” Descriptions for ELA Writing



### 3.3.3 Ordered Item Booklet and Ordered Response Booklet

Central to the Bookmark procedure was the production of an OIB and an ORB. The OIB contained the test items, ordered by difficulty as defined by the response probability (RP) value, on which panelists set standards. Although students take an adaptive test for grades K–10 ELA Reading, grades K–8 Mathematics, and Algebra 1 and Geometry EOC assessments, the OIBs used in standard setting are a blueprint-congruent fixed form.

For grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments, the RP values, or the probability that the just barely on grade level student will correctly answer an item, and impact data were originally calculated for operational items using new B.E.S.T. parameters (when available). Once legacy FSA scale score transformations were



finalized for grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments, the RP values and impact data were recomputed and updated.<sup>1</sup> Forms were selected to minimize impact gaps and impact repetitions based on 2023 rescored data. The CAI and Renaissance Learning content teams reviewed the OIB and ORB items for blueprint match and flagged items for various reasons, such as unclear wording. Replacement items were then selected to complete the form design.

The same process was repeated with the FDOE content team, and some items were swapped or removed until all parties had their form requirements fulfilled. Renaissance Learning used operational items to fill any difficulty gaps in the OIB.

Increasing the number of items across the range of item difficulties provided the panelists with greater context to identify important shifts in the knowledge and skill requirements of the test items. The panelists often become focused on the cognitive demands of a single item when deliberating on the location of a performance standard, and this propensity is exacerbated when there are relatively few items in a given location, so that judgment of one item can take on too much importance. In addition, there are typically fewer items available in locations associated with higher standards (Levels 4 and 5), such that movement of the bookmark by even a page or two may result in very large increases or decreases in the percentage of students meeting the standard. Augmenting the OIB can significantly moderate the impact associated with each OIB page, even for higher (Levels 4 and 5) cuts, while at the same time meeting the test blueprints.

For ELA Reading and Mathematics, the OIB contained a set of about 50–80 items for each grade/subject that were aligned to the Florida B.E.S.T. standards.

For ELA Writing, CAI field tested approximately 10 writing prompts per grade during the spring 2023 test administration. The ORBs consisted of prompts, field tested in spring 2023, for both expository writing and opinion/argumentative writing.

In some cases, CAI sparingly deleted some items from and added some items to the initial OIB to meet content expectations, again while ensuring that the OIBs fully met the blueprint and the impact distribution was not impacted. Field test items were used to fulfill any necessary requirements. FDOE approved the final OIBs that were used during standard setting.

For grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments, items from the representative form were ranked according to their RP50 value (RP75 for grades K–2). For ELA Writing constructed-response items, the ordering was based on their step-level RP80 values. Constructed-response items appearing in ELA Reading, Mathematics, and EOC OIBs appeared once for each step category (score point). In ELA Writing ORBs, these step categories only appeared when necessary; for example, if the highest score point of an item was at

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<sup>1</sup> Note that the on grade theta scale had already been fixed, thus the update only affected the impact data due to rounding and not the ordering of the items.

the zero-impact level, the score point was not included. Educators made content judgments about each item. Using the ALDs as a guide, they placed a bookmark beside the item that best delineated the achievement levels.

Figure 23 illustrates how the bookmark placement for grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessment ALDs was accomplished. Grades K–2 ELA Reading and Mathematics and grades 4–10 ELA Writing followed a similar process but with fewer cut scores (i.e., grades K–2 set two cut scores using the Bookmark method, ELA Writing set one cut score). Figure 24 illustrates the bookmark placement for grades K–2 ELA Reading and Mathematics. Figure 25 illustrates the bookmark placement for ELA Writing. In the figures, the items or constructed responses are ordered from easy to hard (i.e., the OIB and ORB). The panelists used the content standards and ALDs to locate the item that best describes the lower bound of each achievement standard.

**Figure 23: Bookmark Placement for Grades 3–10 ELA Reading, Grades 3–8 Mathematics, Algebra 1 and Geometry EOC Assessments**

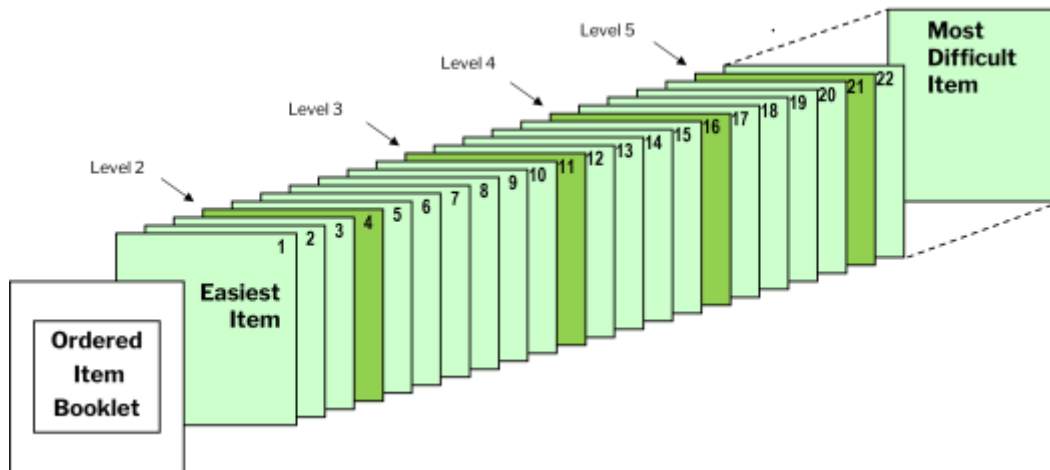


Figure 24: Bookmark Placement for Grades K–2 ELA Reading and Mathematics

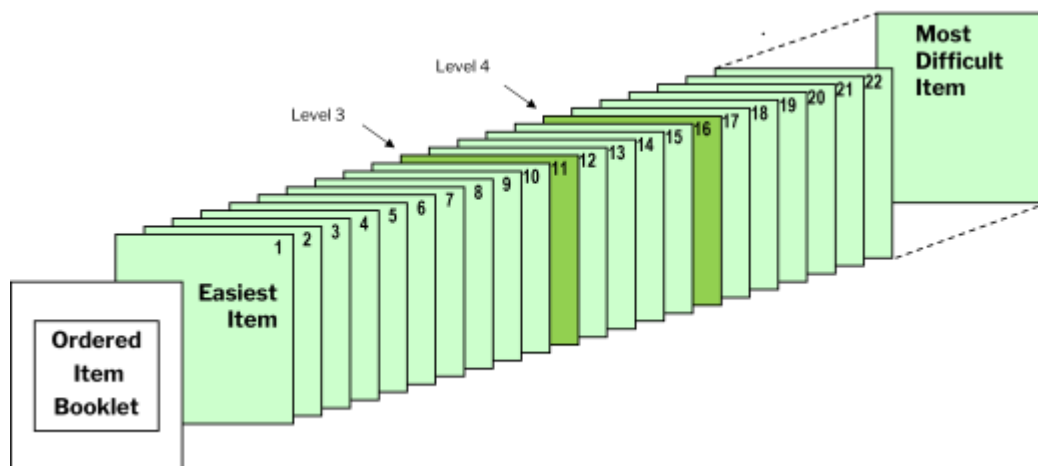
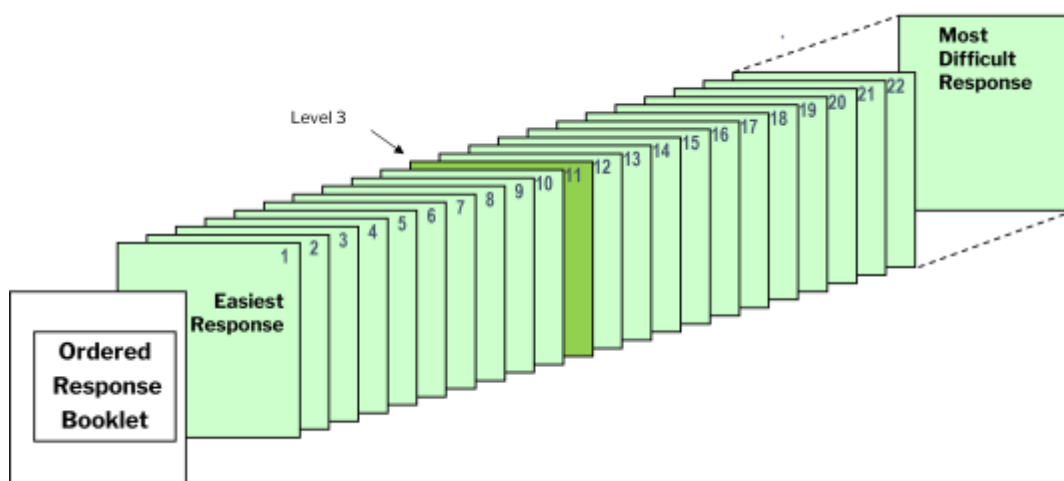


Figure 25: Bookmark Placement for ELA Writing



Before recommending their cut scores for each round, educators were first asked to review the OIB/ORB and make content judgments about each item/response. Next, using the content-driven ALD and “Just Barely” ALD as references, they placed a bookmark beside the item/response that just barely qualified for the achievement levels. These judgments were based on their experience, knowledge of the content standards, training, and the given RP level.

The OIBs/ORBs were presented to panelists electronically, on laptops provided by Pearson, in CAI’s standard setting tool. This web-based standard setting tool allowed each panelist to interact with the item/response as it was administered and was also used to collect the actual bookmarks recorded by the panelists. The web-based standard setting tool not only presented the items/responses of the OIBs/ORBs, but it also displayed the domain, cluster, and standard of each item, the correct answer, the score points, a section for notes, and a tab that displayed statistical feedback introduced throughout the process.

Note that the grades 4–10 ELA Writing ORBs contained items reflecting all score points associated with the ELA Writing prompts and representative student responses. ELA Writing responses were

scored along three dimensions, each worth a different number of points: Purpose/Structure (4 item parameters), Language (4 item parameters), and Organization (4 item parameters).

For ELA Writing, the web-based standard setting tool referenced previously displayed the student responses for each score point and writing dimension to give panelists an additional resource for understanding student writing behavior. The associated scores for the example student responses, referred to as exemplars, were developed through range finding, where a committee determined where a written student response fell on a given rubric. The ELA Writing exemplars were provided to CAI by Data Recognition Corporation (DRC).

### **3.4 MARKING THE PAGES IN THE ORDERED ITEM/RESPONSE BOOKLET**

CAI's standard setting web tool was used by each individual panelist to place bookmarks in the OIB/ORB, which represented recommended cut scores for each achievement level. Psychometricians analyzed the cut score recommendations from the panelists and provided graphical and statistical feedback throughout the process. Furthermore, CAI, Renaissance Learning, and FDOE psychometricians also participated in the meetings when panelists raised questions regarding statistical analyses during panelist discussions. There was one practice round followed by three rounds of standard setting for grades K–2 ELA Reading and Mathematics and one practice round followed by four rounds for grades 3–10 ELA Reading, grades 4–10 ELA Writing, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments structured as described in the following paragraphs.

#### **3.4.1 Practice Round**

The purpose of the Practice Round was to ensure that panelists were comfortable with the technology, the procedures, and the item formats prior to placing any actual bookmarks. Panelists used a six-to-ten item OIB/ORB designed to give them an understanding of the Bookmark procedure and how to recommend a cut score using CAI's online tool. These items reflected a range of item types and were used as a reference point for further discussion for the setting of cut points.

#### **3.4.2 Round 1**

Before setting any bookmarks, panelists completed their discussions of the ALDs, the Just Barely descriptions, and the OIB/ORB. They were then required to sign the Readiness Form (see Appendix I for an example), indicating that they understood the task at hand and were ready to make their cut score recommendations. Panelists were once again asked to consider characteristics of a student who would just barely represent each achievement level, and they then made independent judgments about the page in the OIB/ORB where the student would have about a three-fourths chance of getting the item correct for grades K–2 ELA Reading and Mathematics (i.e., an RP value of 0.75), a one-half chance of getting an item correct for grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments (i.e., an RP value of 0.50), and a four-fifths chance of getting an item correct for grades 4–10 ELA Writing (i.e., an RP value of 0.80). The panelists bookmarked the cut scores using CAI's web-based standard setting tool. In each round, panelists made the Level 3 recommendation first, followed by

Level 2, Level 4, and Level 5. For grades K–2 ELA Reading and Mathematics, panelists made the Level 3 recommendation first followed by the Level 4 recommendation. For ELA Writing, the panelists made only the On Grade Level recommendation. All panelists were instructed to allocate most of their time to the consideration of Level 3, which was intended to help anchor the remaining levels. While setting their bookmarks, it was also necessary that the bookmarks were ultimately sequential to reflect the ordered achievement levels outlined in Section 2.

Panelists received and discussed feedback from their Round 1 ratings for tables and the entire room. The feedback provided to the panels was in the form of median ratings of the OIB/ORB page numbers. An example of a feedback table from Round 1 is displayed in Table 19. Medians were used because page numbers represent ordinal, not interval, data.

*Table 19: Sample Feedback from Round 1*

<b>Room Report for ELA Reading 3</b>				
	Round 1 Pages in OIB			
	Level 2	Level 3	Level 4	Level 5
Table 1	14	28	44	64
Table 2	13	26	41	62
Table 3	12	24	45	61
Table 4	11	34	54	65
Room Median	12	31	48	63

For grades K–2 ELA Reading and Mathematics, summary statistics for OIB pages and corresponding scale scores for the tables and the entire room were provided. During the standard setting, K-2 results were presented in the Star scale. An example is displayed in Table 20.

*Table 20: Sample Feedback from Round 1, Grades K–2*

<b>Table Report</b>		<b>Round 1 Pages in OIB</b>		<b>Round 1 Cut Scores</b>	
Table		Level 3	Level 4	Level 3	Level 4
1	Median	11	25	790	990
	Min	9	23	770	940
	Max	13	27	810	1070
	Range	4	4	40	130
	SD	1.79	1.48	17.89	54.31
2	Median	10	24	770	970
	Min	7	20	760	890
	Max	16	31	840	1160
	Range	9	11	80	270
	SD	3.58	4.18	34.35	108.31
3	Median	11	22	790	920
	Min	10	16	770	840
	Max	17	26	850	1060

Table Report		Round 1 Pages in OIB		Round 1 Cut Scores	
		Range	7	10	80
	SD	2.88	3.65	31.30	80.75
4	Median	10	25	770	990
	Min	7	20	760	890
	Max	16	26	840	1060
	Range	9	6	80	170
	SD	3.51	2.39	33.62	63.48

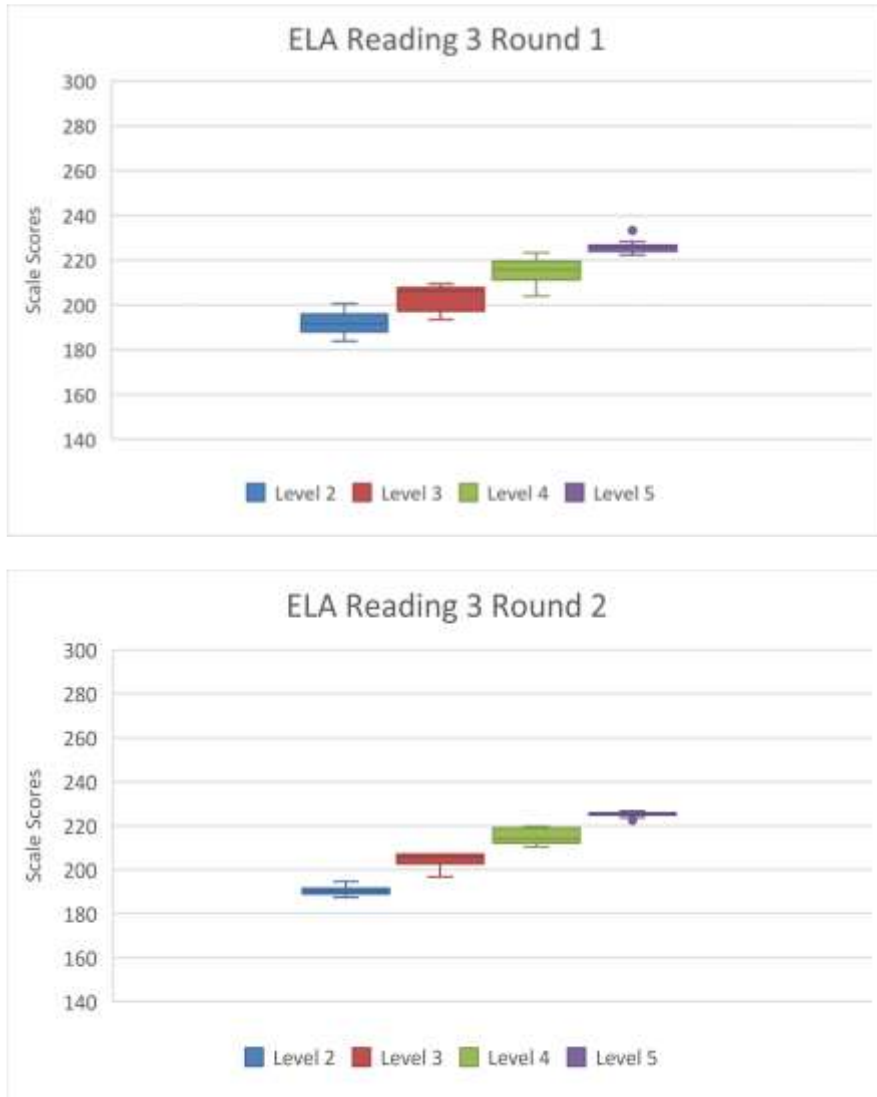
Room Report	Round 1 Pages in OIB		Round 1 Cut Scores	
All	Level 3	Level 4	Level 3	Level 4
Median	11	24.5	790	980
Min	7	16	760	840
Max	17	31	850	1160
Range	10	15	90	320
SD	2.92	3.21	28.74	79.64

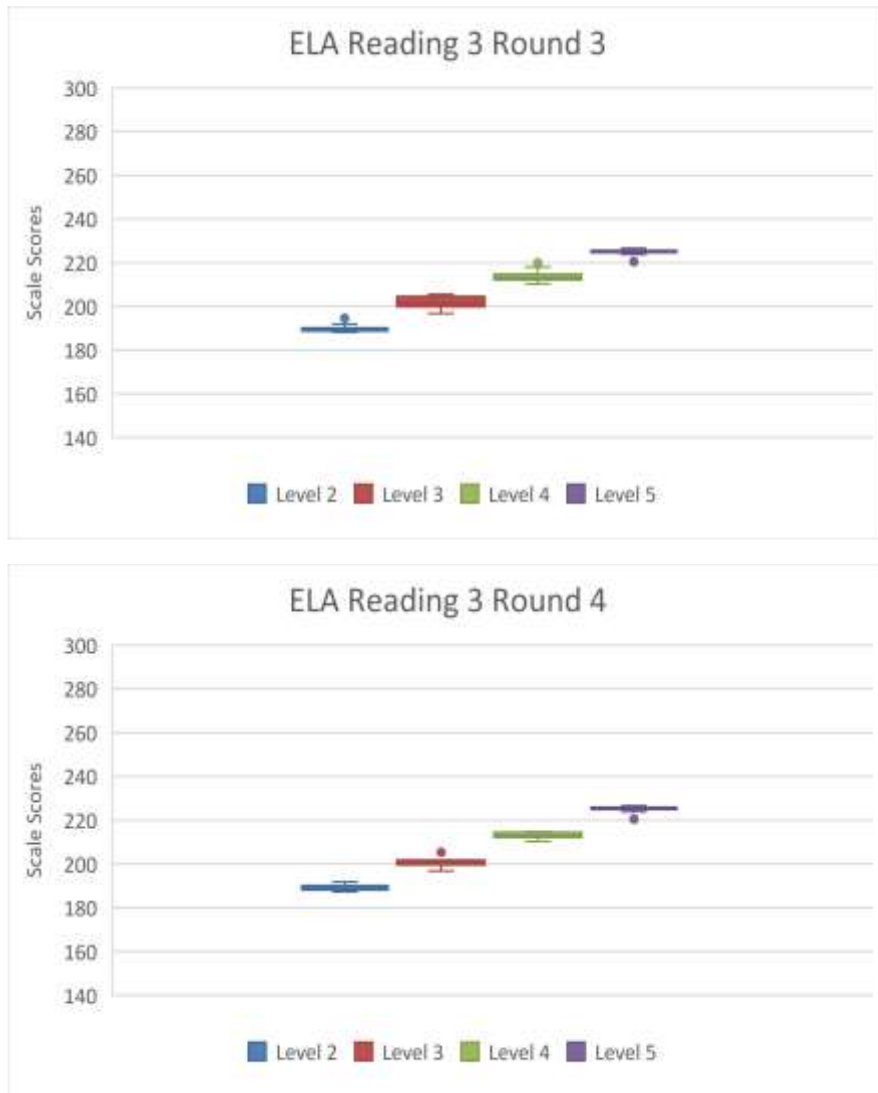
The variability in the panelists’ ratings was also evaluated using a box and whisker plot as illustrated in Figure 26. In this graph, the median scaled score was used as a measure of central tendency, the first and third quartiles were used as measures of dispersion, and the minimum and maximum recommended scores were used for the whiskers. In order to observe the variability in panelists’ ratings across rounds, there were four plots produced per grade/subject, one for each round. Three plots were produced for grades K–2 ELA Reading and Mathematics. Figure 26 provides one example for ELA Reading grade 3 from Round 1. Appendix O, Appendix P, Appendix Q, and Appendix R provide such plots for all grades and subjects. To evaluate trends in all-grade results, the grades K–2 Star assessment scores were transformed to the FAST scale. Theta scores from the STAR assessments are scored on the vertically scaled scale across grades, so a single slope and intercept is used for grades K–2. The transformation equations are presented in Table 21. “Theta” in Table 21 refers to the unadjusted Star theta score. The details of the vertical scaling between grades 2 and 3 are provided in Section 6.4 in Volume 1 of the 2022–2023 Technical Report.

*Table 21: Theta to Scaled Score Transformation Equations for Grades K–2*

Subject	Grade	Theta to Scaled Score Transformation
ELA Reading	K–2	Scaled Score = round (Star ELA Reading theta *14.549044 + 191.252651)
Mathematics	K–2	Scaled Score = round (Star Mathematics theta *20.000000 + 207.648091)

Figure 26: Variability in Panelists' Ratings – ELA Reading Grade 3 Rounds 1-4

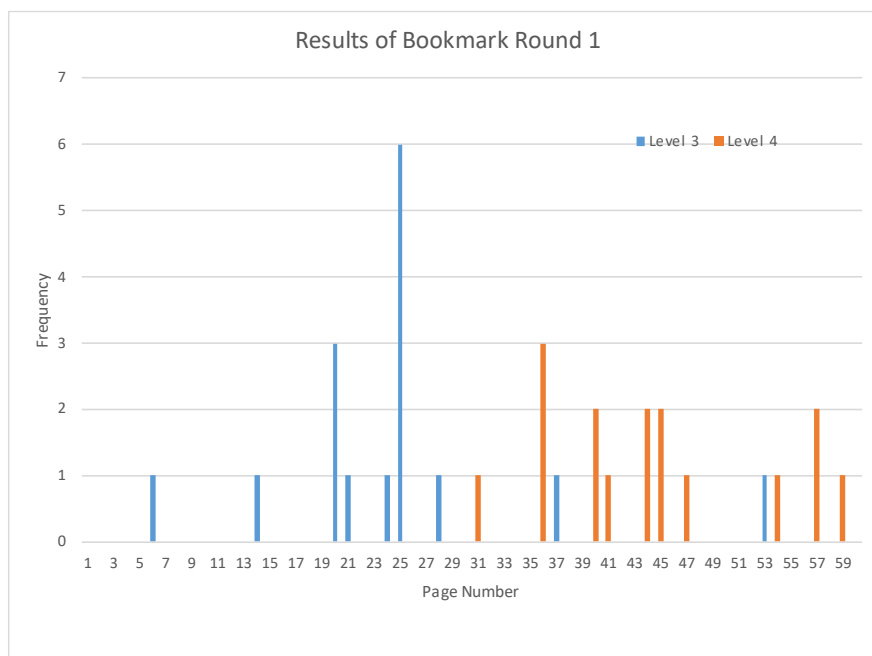




For grades K–2 ELA Reading and Mathematics, variability in panelists’ ratings was also evaluated using a stacked histogram that shows all the OIB pages and the frequency of ratings on those pages. An example stacked histogram is illustrated in Figure 27.



Figure 27: Variability in Panelists' Ratings, Grades K–2



In addition, the panelists received articulation feedback, which is further addressed in the Impact Data, Articulation, and Benchmarking section. The purpose of the articulation feedback was for the panelists to examine how their standards compared with the standards being recommended in other rooms. For grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments, the articulated page numbers were communicated to the room facilitators, who then used that information to guide group discussion.

### 3.4.3 Round 2

Following further discussion considering both the “Just Barely” ALDs and the Round 1 feedback, panelists signed the Readiness Form. Then, each participant made an independent Round 2 judgment about the page in the OIB/ORB where the student has a chance of getting the item correct. Panelists again recommended Level 3 first, followed by Level 2, Level 4, and Level 5.

For grades K–2 ELA Reading and Mathematics, panelists made the Level 3 recommendation first followed by the Level 4 recommendation. For ELA Writing, the panelists made only the On Grade Level recommendation.

Panelists received and discussed graphical feedback provided through the standard setting tool from their Round 2 ratings for their individual tables and the entire room. As described previously, the feedback consisted of statistics that described the central tendency and variability of the panelists' ratings, as well as articulation graphs to show the consistency of recommended standards across grades. Appendix P describes the results from Round 2.

For ELA Writing, after Round 2, panelists were gathered together for a large group discussion and shown articulation data using the impact data charts documented in Appendix T. Panelists were also shown benchmark data during this time. ELA Writing used the FSA 2022 legacy cut scores using spring 2023 data as a statewide benchmark reference. Figure 28 is an example of the benchmark data shown to panelists after Round 2.

Figure 28: ELA Writing Benchmark Data Provided to Panelists

Subject / Grade	Bookmark Pages	Scale Scores	Impact Data	Impact of target page	Impact of page above
	On Grade Level	On Grade Level	On Grade Level		
4	3	217	58%	60%	42%
5	4	218	54%	62%	33%
6	5	220	48%	50%	42%
7	5	232	47%	55%	14%
8	6	231	46%	58%	39%
9	6	231	48%	63%	30%
10	8	238	49%	54%	49%

### 3.4.4 Round 3

For grades 3–10 ELA Reading, grades 3–8 Mathematics, and EOC, prior to setting Round 3 bookmarks, panelists were presented with statewide impact data that showed the percentages of Florida students who would meet or exceed a cut score at any given page of the OIB. The impact data shown to the panelists displayed the overall percentages for the total population. Thus, panelists had access to an empirical, external reference about the impact of their standard-setting recommendations. An illustration of the impact data is provided in the Impact Data, Articulation, and Benchmarking section.

For grades K–2 ELA Reading and Mathematics, national norm data was also presented prior to Round 3. Once again, following these discussions, each participant signed the Readiness Form and then made an independent Round 3 judgment. For grades K–2 ELA Reading and Mathematics, this was the last round of the standard setting. Appendix Q specifies the results from Round 3.

Statistical feedback was once again provided to the panelists via the standard setting tool, and each room discussed the results of this round in relation to the content standards and statistical Florida-specific impacts of the cuts, always with an understanding of articulation across grades.

### 3.4.5 Round 4

For grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments, at this stage of the process, benchmark data were provided to panelists, displaying the page number in the OIB that corresponded to external state and national benchmarks. For

grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments, panelists received FSA 2022 legacy data and the 2022 National Assessment of Educational Progress (NAEP) at grades 4 and 8. These benchmarks gave panelists an additional empirical external reference about the impact of their standard-setting recommendations. Then, for a final time, after signing the Readiness Form, each panelist made an independent Round 4 judgment. Appendix R details the results from Round 4.

Note that there was no Round 4 for grades K–2 ELA Reading and Mathematics, as these standard settings used only three rounds.

### 3.5 EVALUATION OF EDUCATOR PANEL MEETING

The panelists independently completed an online daily meeting evaluation after each day, as well as a comprehensive meeting evaluation after all activities were completed. The evaluations gave panelists the opportunity to describe and assess their experience participating in the Educator Panel. The meeting evaluation form appears in Appendix K. A summary of the results from the meeting evaluation form is available in Appendix V.

### 3.6 IMPACT DATA, ARTICULATION, AND BENCHMARKING

Impact Data, Articulation, and Benchmarking were all critical, statistically-driven components of the Educator Panel, as described in the previous sections. These were gradually introduced during the meeting, always to assist or enhance the content-driven Bookmark method. They are additionally referenced in the next section describing the process of the Reactor Panel to determine possible adjustments of the cut scores.

#### 3.6.1 Impact Data

The Educator Panel was presented with statewide impact data, based on actual data of Florida test takers. For this process, impact data are formally defined as the percentage of students meeting and exceeding any given achievement level for each page number in the bookmark OIB/ORB. These data were used as a reference point for panelists to understand the implications of their content-based judgments. Estimations of impact data for each demographic group were based on observed scaled score distribution from the 2023 spring operational test administration.

Calculating impact data requires estimating how well the students would have performed if they had been administered the representative form used during the standard setting. For RP theta,  $\theta_0$ , corresponding to each page number in the OIB, the scaled score,  $S_0$ , is computed using the rounded value of  $B + A\theta_0$ , where  $B$  and  $A$  are the intercept and slope of theta to scaled score transformation equation. The final slopes and intercepts are presented in Table 22. For grades 3–10 ELA Reading and grades 3–8 Mathematics, the transformation equation converts the on-grade theta into a vertically linked scaled score. In grades K–2, impact data were computed by reporting for each Star Unified scale score that corresponds to each page number in the OIB, the percentage of students that receive that scale score or higher. Section 6.4 in Volume 1 of the 2022–2023 Technical Report provides an overview of the vertical scaling for ELA Reading and Mathematics.

**Table 22: Theta to Scaled Score Transformation Equations**

Subject	Grade	Theta to Scaled Score Transformation
ELA Reading	3	Scaled Score = round (theta *20.000000 + 200.000000)
ELA Reading	4	Scaled Score = round (theta *19.244644 + 212.048948)
ELA Reading	5	Scaled Score = round (theta * 19.882391 + 219.713017)
ELA Reading	6	Scaled Score = round (theta * 20.563813 + 222.528384)
ELA Reading	7	Scaled Score = round (theta * 21.148687 + 228.311573)
ELA Reading	8	Scaled Score = round (theta * 21.901638 + 234.489026)
ELA Reading	9	Scaled Score = round (theta * 21.540873 + 238.550541)
ELA Reading	10	Scaled Score = round (theta * 21.464748 + 243.199817)
Mathematics	3	Scaled Score = round (theta *20.000000 + 200.000000)
Mathematics	4	Scaled Score = round (theta * 19.693407 + 213.862430)
Mathematics	5	Scaled Score = round (theta * 21.061178 + 221.629598)
Mathematics	6	Scaled Score = round (theta * 19.837236 + 227.399055)
Mathematics	7	Scaled Score = round (theta *18.944796 + 231.466783)
Mathematics	8	Scaled Score = round (theta *17.982187 + 237.370171)
Algebra 1		Scaled Score = round (theta *25.000000 + 400.000000)
Geometry		Scaled Score = round (theta *25.000000 + 400.000000)

Let  $S_i$  be the scaled score of the  $i$ th student who is eligible for state-level score reporting, then the proportion of the population achieving the standard corresponding to the OIB/ORB page is the proportion of students whose scaled scores are at least  $S_0$ , which is estimated by

$$\frac{1}{N} \sum_{i=1}^N 1_{S_i \geq S_0}$$

where  $N$  is the population  $n$ -counts,  $1_{S_i \geq S_0}$  is defined as  $1_{S_i \geq S_0} = \begin{cases} 1 & \text{if } S_i \geq S_0 \\ 0 & \text{if } S_i < S_0 \end{cases}$ .

The same calculation is used to obtain impact data for each demographic group, in which case the student population is defined as the eligible students from the corresponding demographic group.

Table 23 is an example of impact data that were available for the Educator Panel. Note that these values were available to panelists through the online standard-setting tool and displayed on each page of the OIB/ORB rather than in table format.

**Table 23: Impact Data (Grade 3 Mathematics)**

OIB Page	% Students	OIB Page	% Students	OIB Page	% Students	OIB Page	% Students	OIB Page	% Students
1	97	17	80	31	64	45	45	59	23
2	96	18	79	32	64	46	43	60	21

OIB Page	% Students	OIB Page	% Students	OIB Page	% Students	OIB Page	% Students	OIB Page	% Students
3	95	19	79	33	63	47	41	61	18
4	94	20	78	34	61	48	39	62	17
5	94	21	76	35	59	49	37	63	15
6	92	22	75	36	57	50	35	64	14
9	92	23	74	37	55	51	33	65	11
10	90	24	72	38	53	52	31	66	10
11	90	25	72	39	51	53	31	67	6
12	87	26	71	40	51	54	30	68	5
13	86	27	69	41	49	55	28	69	4
14	85	28	68	42	47	56	26	70	2
15	84	29	68	43	47	57	26		
16	83	30	66	44	45	58	24		

As an example, if a panelist were to select page 16 of the OIB for Level 2, this standard would have been met by about 83% of the overall student population in this grade.

In addition to the impact data panelists received through the standard setting tool, facilitators presented impact data graphs that illustrated the percentages of students at and above each achievement level based on their Round 2 and Round 3 judgments for grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments. The panelists received these data during the Round 2 and Round 3 feedback sessions.

For grades K–2 ELA Reading and Mathematics, facilitators presented impact data based on Round 2 and Round 3 room recommended cut scores. The panelists received these data after Round 2.

For ELA Writing, impact data were introduced to panelists after Round 2 in a large group session.

For more information, Appendix T provides the impact data presented to the Educator Panel, and Appendix U presents the Reactor Panel impact data.

### Exclusion Rules Used to Create Impact Data

When calculating impact data, certain exclusion rules were applied to meet the reporting specifications. A score status flag was available in the student data file for each test to facilitate the scoring and reporting process. The score status flag defined the reason whether a particular score was reported or not.

One of the key exclusion rules implemented excluded students with the score flag values other than 1. The following section provides the definitions for each score status flag.

*Score status 0:* Not tested due to blank answer documents in the paper-based test (PBT) or for the computer-based test (CBT), any test that is started and closed without a single item being attempted

*Score status 1:* Score reported in regular reporting

*Score status 2:* Not attempted

*Score status 3:* Do not score (DNS)/Invalidations

*Score status 4:* Insufficient match to Test Information Distribution Engine (PBT only)

*Score status 5:* Below-grade tester for all tests except EOC

*Score status 6:* Duplicate record

*Score status 7:* FDOE holds, for reasons such as an invalid student ID and/or invalid date of birth

*Score status 8:* Caveon invalidated for potential test irregularity

*Score status 9:* Score reported in late reporting

Additionally, programs such as the Department of Juvenile Justice (DJJ) School, Florida Empowerment Scholarship, Florida Tax Credit Scholarship, Ahfachkee School, Private School, and Home Education were excluded according to the aggregate rules of the reporting specifications. The score flag rule covered the student-level exclusion rules, such as demo students and the tests with *invalidated*, *expired*, and *reset* status.

In all assessments other than ELA Writing, there was only one score flag, so any record flag value of other than 1 was excluded. However, for ELA Writing, only those records with both score flag values of 1 were used to create the impact data. Also, in all grades and subjects, only online test takers were included in the population.

For grades K–2 ELA Reading and Mathematics, first active assessments within the third Progress Monitoring (PM3) administration were included for impact analysis.

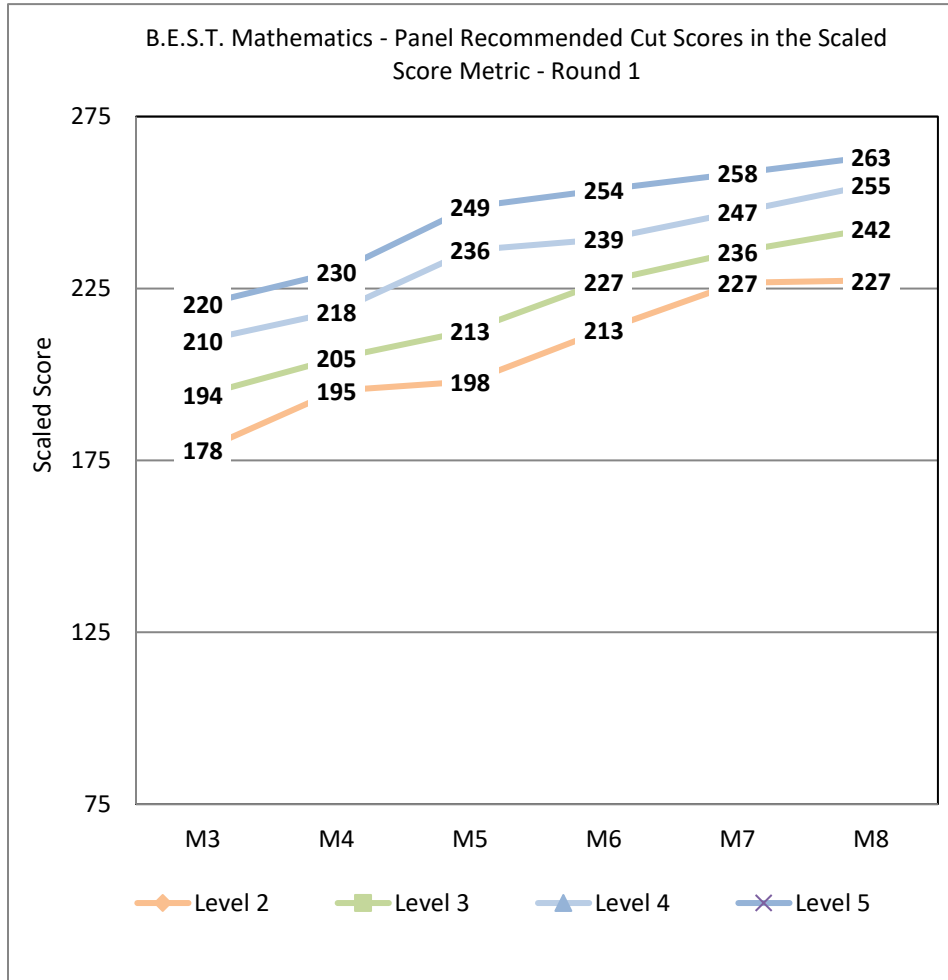
### **3.6.2 Articulation**

When setting achievement standards, it is necessary to consider that the standards across the grades are to be reasonably consistent. It would not be logical, for example, to set high achievement standards in grade 3, low achievement standards in grade 4, and high achievement standards in grade 5 (Ferrara et al., 2007). During the large group training, facilitators explained the concept of articulation and displayed graphs illustrating sets of articulated and disarticulated standards.

For grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments, beginning after Round 1, panelists were shown a graph of their cut scores in a scaled score metric. For ELA Writing, articulation data were presented to panelists using impact data graphs after Round 2. Figure 29 is an example of a graph presented to panelists in grades 3–8 Mathematics during the Round 1 feedback session. Facilitators provided panelists with information about articulation for their particular grade and subject and invited panelists to discuss their cut scores in comparison to other grades. During the Educator Panel meeting, the OIB/ORB pages associated with the articulated standards were communicated to the panelists through the room facilitators. In the following round, panelists were asked to discuss if there could potentially be content justifications for recommending standards in the vicinity of those provided in the

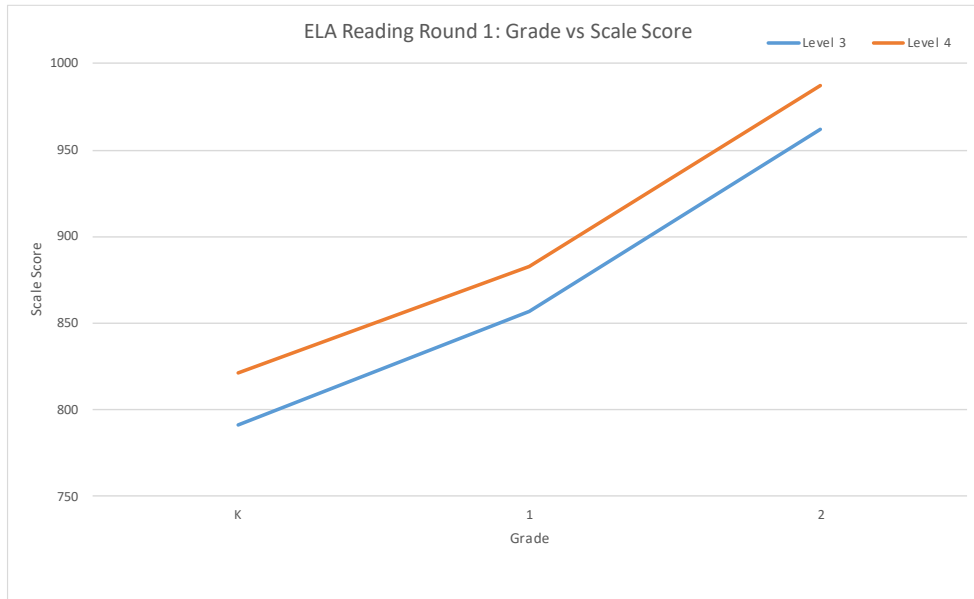
articulated graph. Educator Panelists were given the opportunity to consider the articulation of the standards, but they were always reminded to use the content itself as the primary factor in their decisions.

Figure 29: Round 1 Feedback to Panelists – Grades 3–8 Mathematics



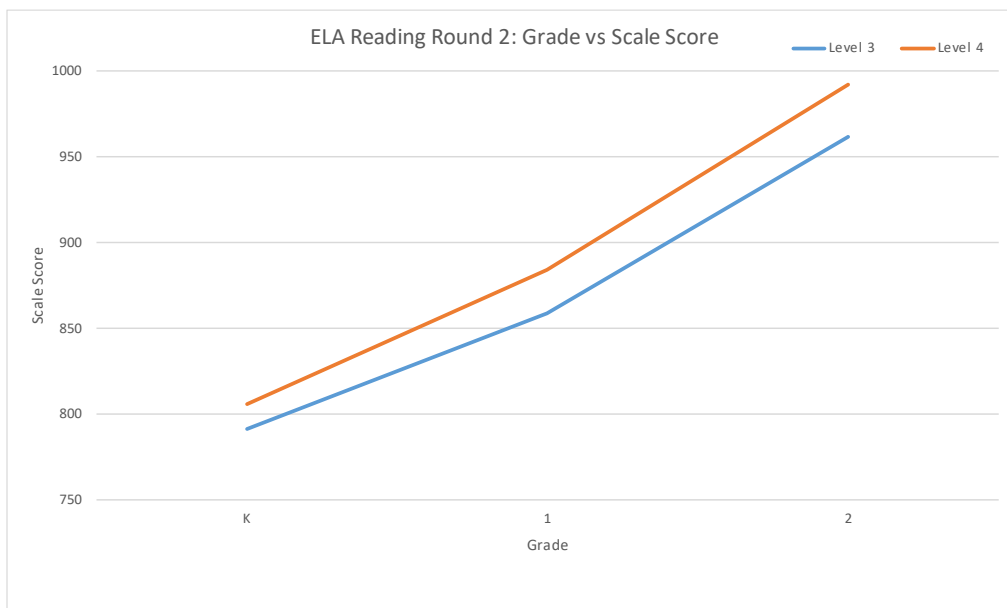
For grades K–2 ELA Reading and Mathematics, beginning after Round 1, panelists were shown, as a whole group, a graph of their cut scores across grades for each subject in the Star Unified scaled score metric. Figure 30 is an example of a graph presented to all panelists during the whole group session following Round 1.

**Figure 30: Round 1 Whole Group Feedback to Panelists – Grades K–2 ELA Reading**

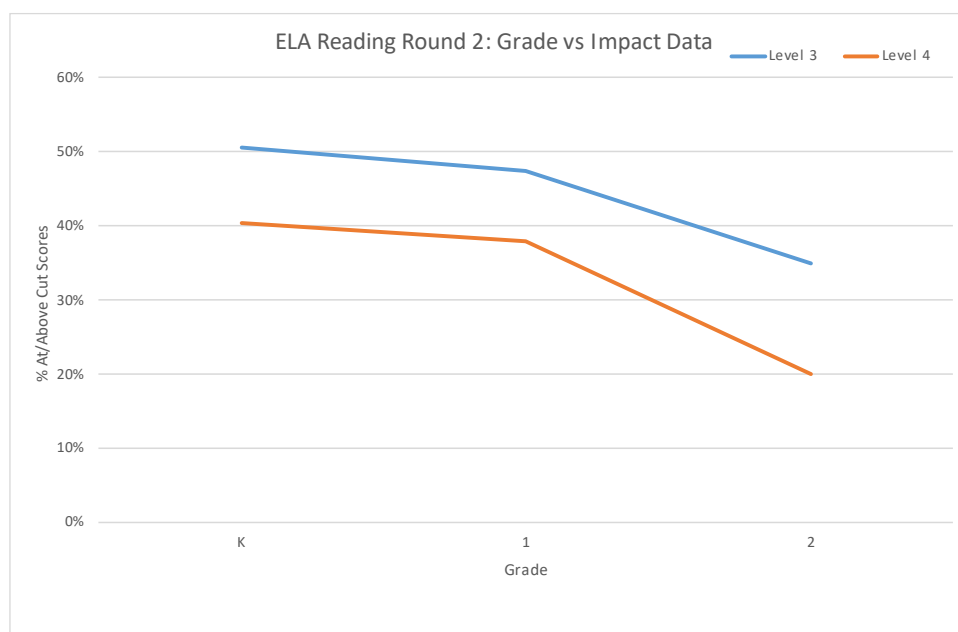


After Round 2, impact data across grades for each subject were also provided, as well as cut scores across grades to the whole group. Figure 31 shows an example of two graphs presented to panelists during the whole group across grade session following Round 2 before going into the third and final round.

**Figure 31: Round 2 Whole Group Feedback to Panelists – Grades K–2 ELA Reading**







While impact data are normative, based on student data, and remain constant throughout the process, articulated information provided to panelists would of course shift to reflect the bookmark medians. The articulation information would tell the panelists what an articulated standard might be for the grade under consideration given the cut scores already recommended in the previous round and given the requisite content-referenced interpretations.

### 3.6.3 Benchmark Data

In addition to having well-articulated achievement standards across grades and subjects, FDOE wanted panelists to consider their recommendations when compared to national benchmarks, as applicable. Benchmarking information was presented to the Educator Panel in Round 4 for grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments, in Round 3 for grades K–2 ELA Reading and Mathematics, and in Round 2 for ELA Writing. However, benchmark data were available to the Reactor Panel throughout their meeting. These data were presented to contribute to the discussions among panelists and to use in making their judgments. Florida used the approach recommended by CAI, which is outlined by Phillips (2011), in which the achievement standards are benchmarked against an external national and/or international referent, such as the NAEP. CAI has used similar procedures in Delaware, Hawaii, Minnesota, Oregon, and Utah.

The most recent data from the NAEP was used for grades 3–10 ELA Reading, grades 3–8 Mathematics, and Algebra 1 and Geometry EOC assessments, as presented in Table 24. Note that grade 12 NAEP was not appropriate as a benchmark for the B.E.ST. assessments because the FAST ELA Reading was administered in grades 3–10, the FAST Mathematics was administered in grades 3–8, and the B.E.S.T. Algebra 1 and Geometry EOC assessments were primarily administered in grades 9 and 10. ALDs for NAEP are contained in Appendix M.

**Table 24: Percentage in Florida at Each NAEP Standard**

<b>2022 NAEP</b>	<b>% At and above</b>
Reading Grade 4 Advanced	9%
Reading Grade 4 Proficient	39%
Reading Grade 4 Basic	71%
Reading Grade 8 Advanced	3%
Reading Grade 8 Proficient	29%
Reading Grade 8 Basic	69%
Mathematics Grade 4 Advanced	8%
Mathematics Grade 4 Proficient	41%
Mathematics Grade 4 Basic	81%
Mathematics Grade 8 Advanced	6%
Mathematics Grade 8 Proficient	23%
Mathematics Grade 8 Basic	58%

In addition to national benchmark data, grades 3–10 ELA Reading, grades 3–8 Mathematics, Algebra 1 and Geometry EOC, and ELA Writing panelists received statewide benchmark data. The statewide benchmark reference presented the student data from spring 2023 using the 2022 FSA legacy cut scores. An example of the statewide benchmark data presented to grades 3–10 ELA Reading panelists is shown in Figure 32.

Figure 32: Statewide Benchmark Reference – Grades 3–10 ELA Reading

Subject / Grade	Bookmark Pages				Scale Scores				Impact Data			
	Level 2	Level 3	Level 4	Level 5	Level 2	Level 3	Level 4	Level 5	Level 2	Level 3	Level 4	Level 5
<b>3</b>	7	25	48	68	187	202	216	230	74%	50%	25%	7%
<b>4</b>	9	27	49	64	197	210	222	236	77%	58%	35%	12%
<b>5</b>	18	35	53	68	206	220	232	245	76%	54%	31%	11%
<b>6</b>	18	37	55	69	213	226	237	250	69%	48%	28%	10%
<b>7</b>	21	37	56	68	219	232	244	256	68%	47%	26%	11%
<b>8</b>	22	37	54	65	226	239	251	262	67%	46%	26%	12%
<b>9</b>	13	30	45	62	228	242	253	267	69%	48%	29%	10%
<b>10</b>	21	34	43	62	234	246	255	270	69%	49%	33%	12%

For grades K–2, the national norms from Star Math, Star Reading, and Star Early Literacy corresponding to the Round 2 panelist recommended cut scores were presented as an external reference point during the Round 2 feedback session. The national norms for Star Math, Star Reading, and Star Early Literacy are based on data collected during the 2018–2019 school year, which is the last year before the COVID-19 pandemic.

#### 4. REACTOR PANEL MEETING

A Reactor Panel meeting convened for two days, August 3–4, 2023, to review the cut scores generated by the Educator Panel and make additional recommendations. This panel consisted of 14 Florida stakeholders (community leaders, education organization leaders, state university leaders, business leaders, school board members, and superintendents) to review and react to the Educator Panel’s cut score recommendations. The Reactor Panel was asked to review and modify the proposed cut scores, if they decided this was necessary. While the Educator Panel primarily made content-based judgments, the Reactor Panel was asked to focus on the impact of the proposed cut scores using impact data based on 2023 student performance, as well as data from external benchmarks and prior assessments (e.g., the legacy data from the FSA). The Commissioner of Education selected the participants for the Reactor Panel, and basic demographic data were collected using the form in Appendix H. This demographic information is presented in Table 25 and Table 26.

*Table 25: Reactor Panel Attendees*

	<b>Name</b>	<b>Position</b>	<b>Representation</b>	<b>County</b>
1	Jennifer Pippin	Operating Registered Nurse	Parent	Indian River
2	Frederick Heid	Superintendent	District	Polk
3	Christy Hovanetz	Senior Policy Fellow	Organization	NR*
4	Lindsay Carson	Chief Executive Officer	Early Learning Coalition	Pinellas
5	Kevin Hoeft	Vice President, Enrollment Management	Postsecondary	Sarasota
6	Heather Bigard	President	Postsecondary	Lake
7	John Avendano	President/Chief Executive Officer	Postsecondary	Duval
8	Daniel Foganholi Sr.	Board Member/Director	School Board	Broward
9	Charlotte Joyce	Duval County School Board Member	School Board	Duval
10	Steven Birnholz	Executive Vice President & Director of Policy	Business	NR*
11	Marsha Powers	Chief Executive Officer	Early Learning Coalition	Martin
12	Sarah Katherine Massey	Director of Talent, Education & Quality of Life Policy	Florida Chamber of Commerce	Leon
13	Ted L. Roush	Superintendent of Schools	District	Suwannee
14	Roy Keister	Business Leader	Early Learning	Leon

\*NR indicates *not reported*

**Table 26: Reactor Panel Demographics**

Demographic	Level of Demographic	N	Aggregate Percentages
Sex	Male	7	50%
	Female	7	50%
Race/Ethnicity	White	10	71%
	Hispanic	2	14%
	Multiracial	1	7%
	No response	1	7%
Location of Place of Employment	Urban	6	43%
	Suburban	7	50%
	Rural	1	7%
Geographic region	Panhandle	3	21%
	Northeast	3	21%
	East Central	2	14%
	West Central	4	29%
	South	2	14%

The Reactor Panel conducted its work in two rounds of judgment. In the first round, the Reactor Panel discussed the variation in cut scores recommended by the Educator Panel and provided independent ratings for any modifications to the cut scores. Appendix J provides the cut score recording forms. For Round 1, the median of the Reactor Panel’s recommendations did not change the cut scores recommended by the Educator Panel. In the second round, the Reactor Panel reviewed the average cut scores from its Round 1 recommendations and was given an opportunity to modify any changes to the cut scores. However, of the 14 Reactor Panelists, no one modified the cut score he or she recommended in Round 1 for Round 2. Therefore, the Reactor Panel made no changes to the cut scores recommended by the Educator Panel.

During the Reactor Panel’s review of the cut scores recommended by the Educator Panel, panelists were presented with impact data for the overall population plus several demographic subgroups displayed in graphical, Microsoft Word, and Microsoft Excel formats.

The Reactor Panel received the following types of B.E.S.T. impact data:

- Graph type 1 (four line graphs showing scaled scores for achievement standards in ELA Reading, ELA Writing, Mathematics, and EOC assessments)
- Graph type 2 (four bar charts for ELA Reading, ELA Writing, Mathematics, and EOC assessments)
- Graph type 3 (four stacked bar charts within subjects, across grades and/or subject)
  - Grades K–10 ELA Reading
  - Grades 4–10 ELA Writing
  - Grades K–8 Mathematics
  - Algebra 1 and Geometry
- Microsoft Word- and Microsoft Excel-formatted impact data charts (17 stacked bar charts per subject/grade and EOC)

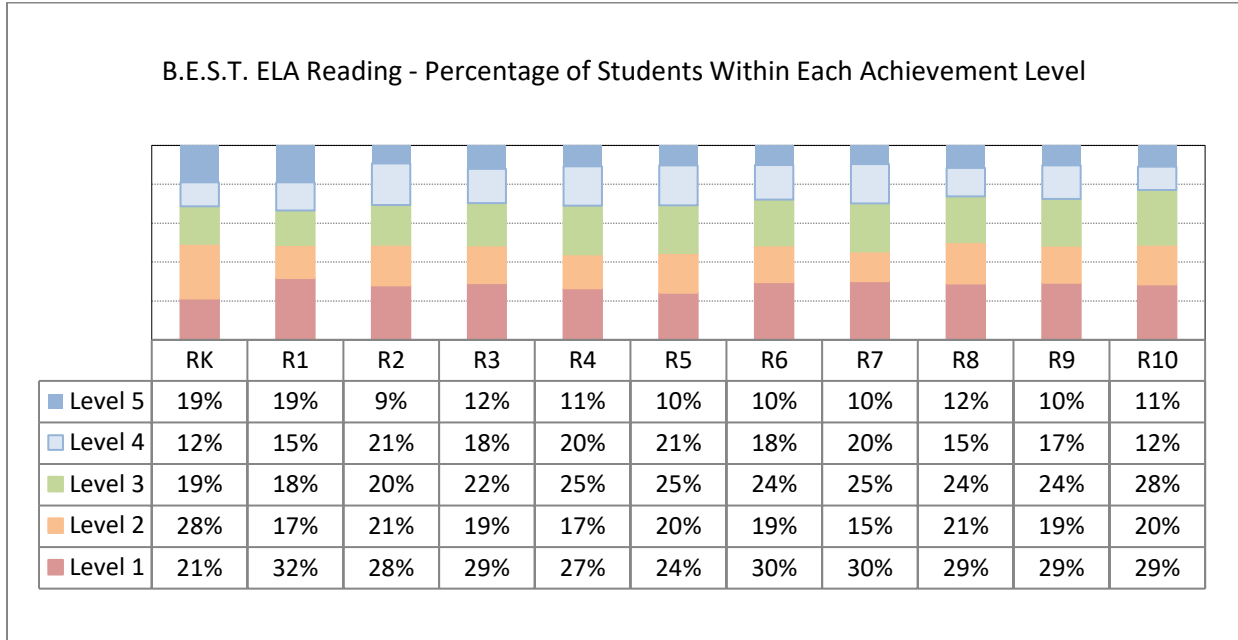
- OIBs Page
- Scale Score
- Overall
- Male
- Female
- White
- African American
- Hispanic
- American Indian
- Asian
- Pacific Islander
- Multiracial
- White Male
- White Female
- African American Male
- African American Female
- Hispanic Male
- Hispanic Female
- American Indian Male
- American Indian Female
- Asian Male
- Asian Female
- Pacific Islander Male
- Pacific Islander Female
- Multiracial Male
- Multiracial Female
- English Language Learners (ELL)
- Non-ELL
- Students with Disabilities (SWD)
- Non-SWD

In addition, the Reactor Panel was given benchmark data that related Florida achievement to NAEP. The Reactor Panel was also shown past FSA data from 2015, 2019, and 2022. This provided the Reactor Panel with information about the historical trend in Florida student achievement. Appendix N presents the FSA data provided to the Reactor Panel.

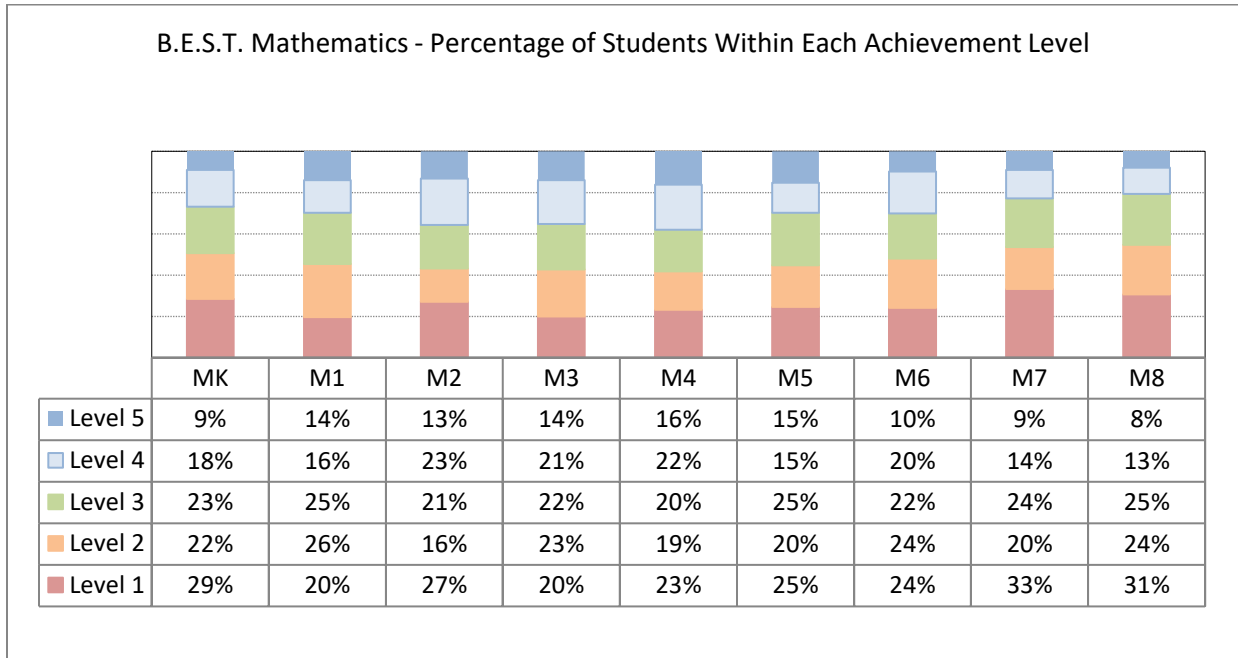
After panelists extensively discussed the purpose of their panel and the impacts of the given cut scores with the Commissioner and members of CAI and FDOE, they were given the opportunity to adjust the cut scores of the Educator Panel. As the Reactor Panel suggested cut score revisions,

the graphics were updated to reflect the new percentages associated with the revised cut score(s). However, note that the median of the Reactor Panel’s recommendations did not change the Educator Panel’s recommendations, therefore the percentages remained the same. Figure 33–35 reflect what was shown to the Reactor Panel at the beginning of the meeting. Note that these results are based on the final round of the Educator Panel meeting.

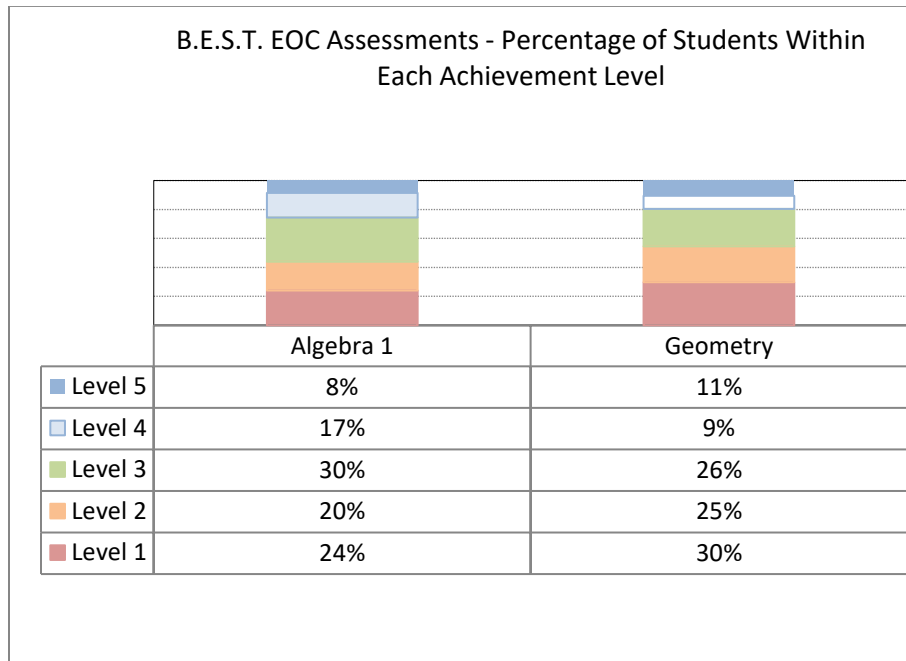
**Figure 33: Impact Data for Reactor Panel:  
Percentage of Students Within Each Achievement Level for ELA Reading**



**Figure 34: Impact Data for Reactor Panel:  
Percentage of Students Within Each Achievement Level for Mathematics**



**Figure 35: Impact Data for Reactor Panel:  
Percentage of Students Within Each Achievement Level for EOC**





Although the panelists were given the opportunity to adjust the cut scores in the second round, each panelist individually maintained his or her original recommendation. The summary of the Reactor Panel is presented in the Executive Summary section, and more detailed results from the Reactor Panel are presented in Appendix S. Finally, the panelists provided their evaluation of the Reactor Panel meeting to give feedback on the process; see Appendix L for the evaluation form used. A summary of the results from the evaluation form is available in Appendix W.

## **5. PUBLIC INPUT WORKSHOP**

After the Educator Panel and Reactor Panel meetings, public input on both panels' recommended cut scores was collected via a public Rule Development workshop. The workshop was held on August 11, 2023, through Microsoft Teams. In his presentation outlining the standard setting process, Assistant Deputy Commissioner Vince Verges provided the Educator Panel's and Reactor Panel's cut score recommendations and impact and benchmark data. After the presentation, questions were taken, and audience members were encouraged to submit feedback via an online survey. A recording of the presentation, as well as a transcript and PDF copy of the presentation, was posted on FDOE's website, along with a link to the online feedback survey.

## 6. FINALIZATION OF ACHIEVEMENT STANDARDS

After the Educator Panel, Reactor Panel, and the Rule Development workshop, FDOE compiled feedback received through the Florida Administrative Register (FAR), the Office of Assessment ([Assessment@fldoe.org](mailto:Assessment@fldoe.org)), and the online feedback survey posted on FDOE’s website.

Taking into consideration the recommendations of both panels as well as public feedback, Commissioner of Education Manny Diaz, Jr., recommended cut scores to reflect the state’s expectations of student achievement. The Commissioner’s recommended scores varied by no more than  $\pm 4$  score points from either the Educator Panel or Reactor Panel, and this was well within the range of variability of either or both of the panelists’ judgment, depending on the grade and subject. In many cases, the recommendations of the Educator Panel, Reactor Panel, and Commissioner were the same.

In August 2023, the Commissioner’s recommended cut scores as well as the Rule Development materials were provided to the legislature for the mandatory 45-day review period. The Commissioner’s cut score recommendations were then adopted by the State Board of Education at the October 2023 State Board of Education meeting.

## 7. THE STANDARD SETTING RESULTS

This section outlines the results of the standard setting for the B.E.S.T.-aligned assessments in ELA Reading, ELA Writing, Mathematics, and Algebra 1 and Geometry EOC assessments.

*The results of achievement level cuts from the Educator Panel are presented in Table 27–30. Similarly, the results of achievement level cuts from the Reactor Panel are presented in*

Table 31–34. Finally, the recommendations from the Commissioner of Education, which were ultimately adopted by the State Board of Education, are summarized in Table 35–38.

*Table 27: Achievement Level Cuts in ELA Reading from the Educator Panel*

Grade	Level 2	Level 3	Level 4	Level 5
K	114	134	147	158
1	135	153	170	183
2	166	183	196	214
3	189	201	213	225
4	200	211	224	237
5	206	219	232	246
6	212	224	237	250
7	218	228	242	257
8	223	237	251	262
9	227	240	254	267
10	232	245	261	271

*Table 28: Achievement Level Cuts in ELA Writing from the Educator Panel*

Grade	On Grade Level
4	220
5	218
6	220
7	232
8	234
9	231
10	238

*Table 29: Achievement Level Cuts in Mathematics from the Educator Panel*

Grade	Level 2	Level 3	Level 4	Level 5
K	105	119	133	147
1	130	147	160	172

Grade	Level 2	Level 3	Level 4	Level 5
2	159	171	185	201
3	183	198	209	222
4	200	211	221	234
5	207	220	234	244
6	213	227	239	254
7	223	234	247	258
8	227	242	254	263

Table 30: Achievement Level Cuts in EOC Assessments from the Educator Panel

EOC	Level 2	Level 3	Level 4	Level 5
Algebra 1	379	396	418	435
Geometry	385	404	423	432

Table 31: Achievement Level Cuts in ELA Reading from the Reactor Panel

Subject	Grade	Level 2	Level 3	Level 4	Level 5
ELA Reading	K	114	134	147	158
	1	135	153	170	183
	2	166	183	196	214
	3	189	201	213	225
	4	200	211	224	237
	5	206	219	232	246
	6	212	224	237	250
	7	218	228	242	257
	8	223	237	251	262
	9	227	240	254	267
	10	232	245	261	271

Table 32: Achievement Level Cuts in ELA Writing from the Reactor Panel

Subject	Grade	On Grade Level
ELA Writing	4	220
	5	218
	6	220
	7	232
	8	234
	9	231
	10	238

Table 33: Achievement Level Cuts in Mathematics from the Reactor Panel

Subject	Grade	Level 2	Level 3	Level 4	Level 5
Mathematics	K	105	119	133	147
	1	130	147	160	172
	2	159	171	185	201
	3	183	198	209	222
	4	200	211	221	234
	5	207	220	234	244
	6	213	227	239	254
	7	223	234	247	258
	8	227	242	254	263

Table 34: Achievement Level Cuts in EOC Assessments from the Reactor Panel

EOC	Level 2	Level 3	Level 4	Level 5
Algebra 1	379	396	418	435
Geometry	385	404	423	432

Table 35: Commissioner’s Recommended Achievement Level Cuts in ELA Reading

Subject	Grade	Level 2	Level 3	Level 4	Level 5
ELA Reading	K	114	134	147	162
	1	135	153	170	188
	2	166	183	196	211
	3	186	201	213	225
	4	199	213	224	237
	5	206	222	232	246
	6	209	225	237	250
	7	215	232	242	257
	8	220	238	251	262
	9	224	242	254	267
	10	230	247	258	271

Table 36: Commissioner’s Recommended Achievement Level Cuts in ELA Writing

Subject	Grade	On Grade Level
ELA Writing	4	220
	5	218
	6	220
	7	232

Subject	Grade	On Grade Level
	8	234
	9	231
	10	238

*Table 37: Commissioner’s Recommended Achievement Level Cuts in Mathematics*

Subject	Grade	Level 2	Level 3	Level 4	Level 5
Mathematics	K	101	119	133	147
	1	130	147	160	172
	2	158	171	185	201
	3	183	198	209	225
	4	200	211	221	238
	5	207	222	234	246
	6	213	229	239	254
	7	223	235	247	258
	8	227	244	254	263

*Table 38: Commissioner’s Recommended Achievement Level Cuts in EOC*

EOC	Level 2	Level 3	Level 4	Level 5
Algebra 1	379	400	418	435
Geometry	385	404	423	432

On October 18, 2023, the State Board of Education voted to adopt the Commissioner’s recommended cut scores. Per state statute, students who took the grade 10 ELA, Algebra 1, and Geometry assessments prior to the adoption of these cut scores are eligible to use the adopted Alternate Passing Scores indicated in Rule to meet their graduation requirements or Scholar designation requirements. The final language of the Rule is now available ([Rule 6A-1.09422, F.A.C.](#)).

## 8. REFERENCES

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