Public Schools of North Carolina
State Board of Education
Department of Public Instruction

North Carolina EXTEND1 Mathematics Assessments

Standard Setting
2019
Final Technical Report

Prepared for the
North Carolina Department of Public Instruction

Data Recognition Corporation
Maple Grove, MN 55311

DATA RECOGNITION
DRC
CORPORATION

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Executive Summary

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Executive Summary

On July 8–11, 2019, a committee of 37 North Carolina educators participated in a multi-phase standard setting for the NCEXTEND1 Mathematics tests in grades 3–8 and NC Math 1. The goal of the workshop was to identify cut scores that divide students into three achievement levels for NCEXTEND1 (*Not Proficient* through *Level 4*).

In school year 2018–19, the NCEXTEND1 tests of mathematics were redesigned due to the adoption of new extended content standards in mathematics, the extended North Carolina Standard Course of Study (NCSCOS). At the same time, the North Carolina Department of Public Instruction (NCDPI) set new, more rigorous performance expectations for the NCEXTEND1 tests. Accordingly, the NCDPI sponsored a standard setting for the NCEXTEND1 tests of mathematics, as facilitated by Data Recognition Corporation (DRC).

The standard setting took place in three parts over a four-day period: achievement level descriptor development, standard setting, and across-grade articulation. Participants used the modified Angoff Yes/No procedure to recommend cut scores for NCEXTEND1 mathematics. The Angoff Yes/No procedure has been used to establish achievement standards for educational assessments around the world.

Table 1 shows the recommended cut scores (in terms of scale score) and associated impact data from the workshop. Impact data are the percentages of students who would be classified in each achievement level on the Spring 2019 administration of the assessments if the recommended cut scores were implemented. Figure 1 shows the graphical representation of the associated impact data for NCEXTEND1.

Table 1. Cut Scores and Associated Impact Data for NCEXTEND1 Mathematics

		Recommended Cut Scores		Percent of Students in Each Achievement Level Based on Recommended Cut Scores		
Test	**Grade**	***Level 3***	***Level 4***	***Not Proficient***	***Level 3***	***Level 4***
NCEXTEND1 Math	**3**	451	464	56.0%	37.4%	6.7%
	4	451	465	58.6%	35.2%	6.2%
	5	452	465	63.6%	28.8%	7.6%
	6	453	464	58.4%	36.1%	5.6%
	7	450	467	52.5%	42.4%	5.1%
	8	453	465	67.2%	26.0%	6.9%
	NC Math 1	452	463	56.8%	37.8%	5.5%

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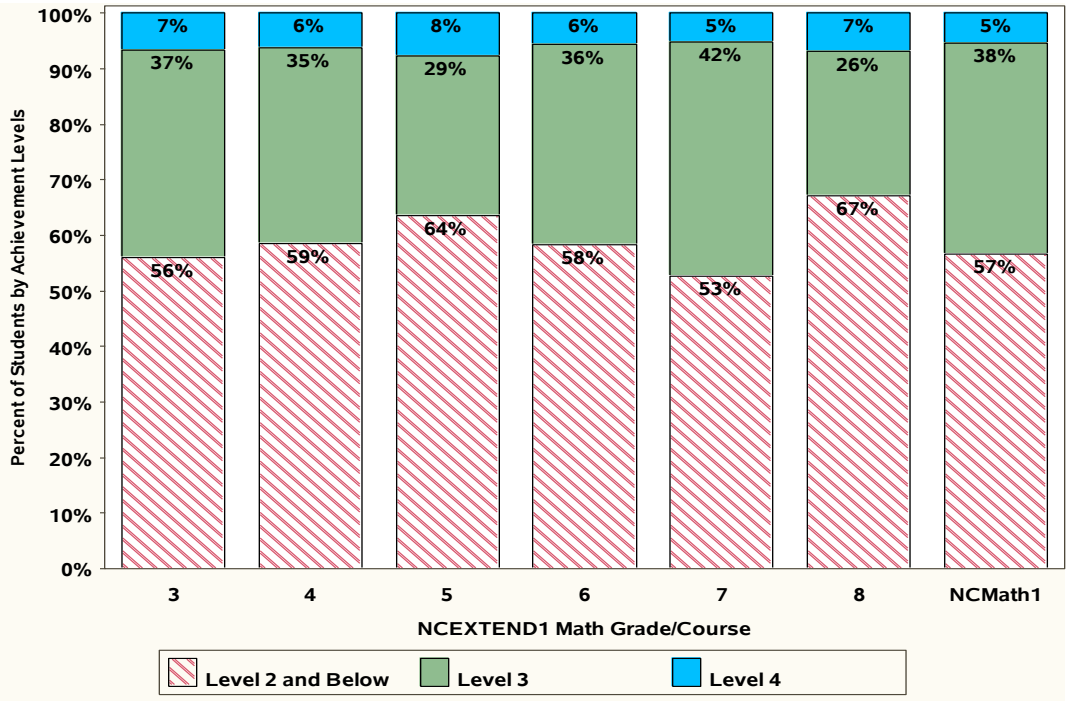
Figure 1. NCEXTEND1 Mathematics Associated Impact Data



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B

Standard Setting Methodology and Recommendations

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Standard Setting Methodology

On July 8–11, 2019, the North Carolina Department of Public Instruction (NCDPI) and Data Recognition Corporation (DRC) conducted a standard setting for the North Carolina tests of NCEXTEND1 mathematics in grades 3–8, and NC Math 1[1]. The purpose of the standard setting was to develop achievement standards for the seven assessments, including the development of cut scores which divide students into three achievement levels: *Not Proficient*[2]*, Level 3,* and *Level 4*.

A total of 37 North Carolina educators and stakeholders worked individually and in committees to recommend achievement standards for the tests. The achievement standards were approved by the North Carolina State Board of Education on August 8, 2019.

This section describes the standard setting process, the materials produced to implement the workshop, and the results of the standard setting. Selected materials used for the workshop and detailed data from the workshop are presented in subsequent sections of this report.

Background

In March 2018, the North Carolina State Board of Education (SBE) adopted newly updated extended content standards for K–12 students, the extended North Carolina Standard Course of Study (NCSCOS). By law, students with the most significant cognitive disabilities—approximately 1% of North Carolina students—are given NCEXTEND1 assessments instead of the general tests of English language arts/reading, mathematics, and science.

The NCEXTEND1 assessments are designed for students identified as having the most significant cognitive disabilities (approximately 1% of the total student population). Participation of eligible students is determined by a student's Individualized Education Program (IEP). Students must be enrolled in the appropriate grade levels (3–8 and 10) to be eligible for the respective grade level NCEXTEND1 assessments.

The NCEXTEND1 tests were adapted to the new extended NCSCOS. The NCEXTEND1 and the state's general tests of mathematics were adapted in 2018–19. In 2019–20, the NCEXTEND1 tests of English language arts/reading and science were adapted to the extended NCSCOS.

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[1] The standard setting described in this report focused on North Carolina's tests of mathematics for students in special education programs who have the most significant cognitive disabilities. The state's general test of mathematics, for students in general education programs, also underwent a standard setting in July 2019. The general mathematics standard setting is presented in a separate report.

[2] At the standard setting, the lowest achievement level was labeled *Level 2 & Below.* The current name, *Not Proficient*, was adopted by the SBE to promote simplicity and ease of interpretation. This section uses the term *Not Proficient* to refer to this level. Subsequent sections, containing materials seen and used by standard setting participants, use the term *Level 2 & Below.*

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Selecting the Standard Setting Methodology

The modified Angoff (1971) procedure is one of the most implemented methods to establish achievement standards on educational assessments. In one modification, panelists review each item and estimate what proportion of a hypothetical group of hypothetical threshold examinees would answer each item correctly (Livingston & Zieky, 1982; Zieky, 2012). Several modifications to this original procedure have been implemented. The Yes/No Angoff method addresses two difficulties that panelists may have in applying the procedure (Impara & Plake, 1997). First, panelists may have difficulty in conceptualizing the hypothetical threshold students. Second, estimating the proportion correct may be a difficult task even for a clearly defined group of examinees. In the Yes/No method, panelists are directed to make a dichotomous ("yes" or "no") judgment about whether the hypothetical threshold examinees would be able to answer each question correctly.

The Yes/No Angoff method is well-suited to assessments comprised entirely (or predominantly) of selected-response items, like the NCEXTEND1, and was selected for this reason. The Yes/No Angoff method was selected over other standard setting procedures, notably item-mapping procedures like the Bookmark Standard Setting Procedure (Lewis, Mitzel, & Green, 1996). Item-mapping procedures were not selected because of the relatively low number of students who take each NCEXTEND1 test.

Achievement Level Descriptors

Achievement level descriptors (ALDs) are a key input into the standard setting process. ALDs summarize the knowledge, skills, and understandings expected of students in each achievement level. Egan, Schneider, and Ferrara (2012) suggest a framework of four types of ALDs, described here.

1) *Policy ALDs* summarize the state's definition for each achievement level, providing information to stakeholders on the state's suggested interpretation of each level. They are typically not specific to any given grade or content area. The policy ALDs are shown in Table 1.

2) *Range ALDs* summarize the knowledge, skills, and understandings expected of students in a given achievement level on a specific test. The range ALDs show the types of content, as informed by the extended standards, that should be mastered by students in each achievement level on the test at hand.

3) *Threshold ALDs* are based on the range ALDs and summarize the knowledge, skills, and understandings expected of students who are at the point-of-entry (the *threshold*) of each achievement level. For any given test, these descriptors show the types of skills needed just to be classified in a given achievement level (e.g., just to be classified in *Level 3*).

4) *Reporting ALDs* are the version of the ALDs used for score reporting. Typically, a version of the policy or range ALDs are used, and the language in the reporting ALDs is adjusted to be accessible to a wide audience that may not have in-depth content knowledge. (Reporting ALDs were not part of the scope of the standard setting.)

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NCDPI provided policy ALDs for the NCEXTEND1 mathematics tests standard setting workshop. At the standard setting, participants worked to develop formal range ALDs (on Day 1) and informal threshold ALDs (on Days 2–4). The range ALDs are shown in Section E of this report.

Table 1. Policy achievement level descriptors (ALDs) for NCEXTEND1 mathematics

Not Proficient	Level 3	Level 4
Students at Not Proficient demonstrate **inconsistent** understanding of the North Carolina Extended Content Standards and will need significant support at the next grade/course.	Students at Level 3 demonstrate **sufficient** understanding of the North Carolina Extended Content Standards though some support may be needed to engage with content at the next grade/course.	Students at Level 4 demonstrate a **thorough** understanding of the North Carolina Extended Content Standards and are on track for competitive employment and post-secondary education.

Workshop Materials

All of the materials used at the standard setting workshop were based on test items and results from the Spring 2019 administration of the North Carolina NCEXTEND1 mathematics assessment.

North Carolina Extended Content Standards

The extended NCSCOS formed the basis for all decisions at the standard setting. These extended content standards detail the knowledge, skills, and understandings that students with the most significant cognitive disabilities should be taught in each grade and subject. Copies of the extended content standards were distributed to workshop participants.

Achievement Level Descriptors (ALDs)

As described under the heading "Achievement Level Descriptors," participants were provided with the North Carolina policy ALDs. Participants considered these descriptors to create formal range ALDs on the first day and informal threshold ALDs on subsequent days of the workshop.

Test Forms

The test form is a key component of the Yes/No Angoff method. A test form contains the items from a test, just as a student and test administrator (i.e., the student's teacher) saw them.

Participants saw how a student could earn one point, two points, or zero points on an item by examining the test forms. On the NCEXTEND1 tests, each item comprised a multiple-choice item with three answer choices, and each item was worth a maximum of two points.

NCEXTEND1 assessments are a computer fixed set adaptive teacher administered test with paper manipulative option for accessibility. All assessment items are three response multiple-choice items with scaffolding presented to students in a two set design. There is no time limit for students to complete this

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assessment and no formalized break between item sets. The pace of administration is determined on an individualized basis based on each student specified IEP accommodation and needs.

Scaffolding allows for students to have up to two trials to provide a response for each item. If a student selects the correct response during their first trial, they are awarded two-points. If the student does not select the correct response choice during the first trial, their incorrect response option they selected is removed from the response choices and the item is presented again with the two remaining response choices during the second trial. A student earns one-point if they select the correct response during the second trial. The test will terminate at the end of SET 1 for students who do not earn enough points to move to SET 2. Students who earned enough points in SET 1 will continue to SET 2 items. The assessment ends after the last item in SET 2 is completed.

This scoring system was used for all NCEXTEND1 items. This system was explained to standard setting participants during the initial training process and again later when the test forms were distributed.

Item Maps

The item map summarizes information about the items in a test form. For each item, the item map indicates: the item order, answer key, item set, and standard.

Each NCEXTEND1 test comprised two item sets: SET 1 and SET 2. SET 1 items, taken by all students, comprise easy and medium difficulty items. SET 2 items comprise medium and higher difficulty items. Students were only administered SET 2 items if they answered a pre-determined number of items correctly in SET 1 (i.e., typically 3–5 items).

At the standard setting, the two test forms for each grade were combined, allowing standard setting participants to gain a rich understanding of the knowledge, skills, and understandings measured by the NCEXTEND1. Accordingly, each participant studied 27–28 test items as part of the process.

The operational item maps incorporate secure test information and are not included in this report. However, Figure 1 shows the item map that was used during the participant training session and is included for illustration.

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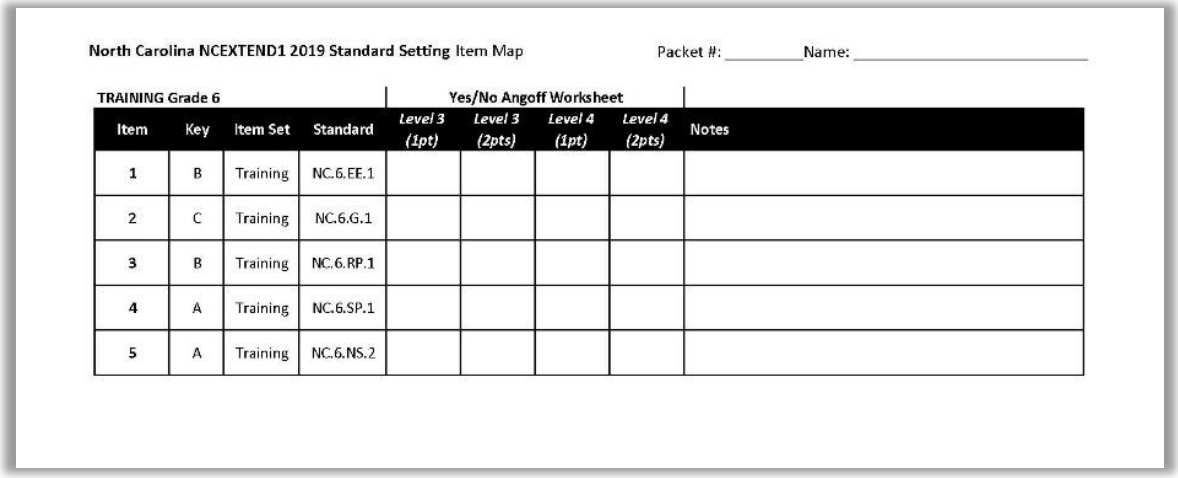
Figure 1. Item map used to train participants on the Yes/No Angoff Standard Setting Method



North Carolina NCEXTEND1 2019 Standard Setting Item Map Packet #: _____ Name: _____

TRAINING Grade 6				Yes/No Angoff Worksheet				
Item	Key	Item Set	Standard	*Level 3 (1pt)*	*Level 3 (2pts)*	*Level 4 (1pt)*	*Level 4 (2pts)*	Notes
1	B	Training	NC.6.EE.1					
2	C	Training	NC.6.G.1					
3	B	Training	NC.6.RP.1					
4	A	Training	NC.6.SP.1					
5	A	Training	NC.6.NS.2					

Benchmarks

Benchmarks comprised an important component of the standard setting process. Benchmarks refer to any external content- or policy-based information that is presented to participants to help them make their cut score recommendations. The use of benchmarks at achievement level setting is well established (Phillips, 2012; McClarty, Way, Porter, Beimers, & Miles, 2013). Many states have used benchmarks to provide actionable, policy-based information to achievement level setting participants. Participants can then bring their content-based expertise to bear, joining it with the benchmarks. Thoughtful use of benchmarks can bring policy- and content-based information together in a meaningful way.

In advance of the workshop, NCDPI noted that 2013 was the last time four achievement levels were used. The state did not expect there to be a perfect correspondence between the 2019 performance of North Carolina students on its NCEXTEND1 mathematics tests and the 2013 administration because the current extended NCSCOS were broader and more rigorous, to ensure alignment with the general standards. However, the 2013 administration of the NCEXTEND1 tests was the last time there was a significant change to the extended content standards and to the test format: accordingly, NCDPI assumed that there would be a general correspondence between the performance of students on the 2013 tests as with the 2019 tests.

NCDPI did not expect there to be an alignment between the 2019 and 2018 performance of North Carolina students on the mathematics assessments of the NCEXTEND1 mathematics tests for several reasons. First, the extended standards changed significantly, adding rigor and challenge to the types of knowledge and skills expected of students in this population. The 2018 results were reported using five achievement levels. In addition, the test format had changed to an online database from 2018 which used paper. For these reasons, NCDPI did not have an expectation that the results of the 2019 tests would mirror those from 2018.

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At the same time, NCDPI noted that it wanted to make sure (a) standard setting participants would make content-based recommendations that linked the cut scores to the North Carolina extended content standards; and (b) standard setting participants were not unduly influenced by the benchmarks. Accordingly, NCDPI chose to present the benchmarks based on the 2013 test results for North Carolina NCEXTEND1 mathematics after Round 2 of the Yes/No Angoff method. The process used to present the benchmarks is shown later in this chapter.

Calculating the Benchmarks

At the standard setting, the 2013 impact data for the North Carolina NCEXTEND1 mathematics assessment was presented as benchmarks for participants' consideration. Benchmarks took the form of recommended cut scores, termed at the workshop simply as *benchmarks.* To calculate these benchmarks, the recommended cut scores associated with the 2013 impact data were determined. The benchmarks and associated impact data are presented in Tables 2 and 3, respectively. Impact data are the percentages of students that would be classified in each achievement level if the cut scores were applied.

Table 2. 2013 Benchmarks

Grade	*Level 3*	*Level 4*
3	38	49
4	33	41
5	35	43
6	36	47
7	39	49
8	42	51
NC Math 1	37	44

Table 3. Associated benchmark impact data

Grade	*Not Proficient*	*Level 3*	*Level 4*
3	72.6%	23.4%	4.0%
4	61.7%	27.3%	11.0%
5	71.4%	18.5%	10.2%
6	75.4%	21.9%	2.7%
7	86.3%	11.6%	2.2%
8	85.8%	12.7%	1.5%
NC Math 1	65.6%	25.9%	8.6%

Participant Instructions for Interpreting the Benchmarks

As part of the training presentation, participants were instructed that they would see the 2013 impact data represented as benchmarks after Round 2 of the Yes/No Angoff procedure, and that they should

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consider the benchmarks. Participants were asked to consider the knowledge, skills, and understandings measured by the items before each benchmark, and then to compare them with the content-based expectations associated with each threshold student (as described by their informal threshold ALDs).

Standard Setting Staff and Participants

Staff members from NCDPI and DRC collaborated to conduct the standard setting workshop. These staff members worked in facilitative roles and did not contribute to the cut score recommendations during the workshop.

NCDPI Staff

NCDPI staff members attended the workshop to monitor the process, answer assessment and curriculum questions, and address NCDPI policy questions. NCDPI also monitored participants' cut score recommendations throughout the workshop.

NCDPI was represented at the workshop by Tammy Howard, Ph.D., Director of Accountability Services; Kristen Maxey-Moore, Section Chief; Kinge Mbella, Ph.D., Lead Psychometrician; and Joshua Griffin, Educational Testing/Accountability Consultant.

DRC Staff

The DRC Standard Setting Team was composed of Ricardo Mercado, Research Director; Jessalyn Smith, Ph.D., Research Scientist; Dave Chayer, Sr. Vice President, Research; Lee McKenna, Research Analyst; Sara Kendallen, Sr. Research Analyst; Chalin Walters, Statistical Analyst; and Scott Li, Statistical Analyst. Prior to the standard setting, this team prepared the materials for the workshop. During the workshop, they were responsible for facilitating the workshop, training participants, entering participant results into a database, performing data analyses, and tracking secure materials. Following the workshop, the team prepared this report.

Content experts from DRC Test Development worked with each group at the workshop to provide content-based support. These content experts were Scott Woelber, Sr. Test Development Director; and Eric Jenson, Sr. Test Development Manager.

Project management for the workshop was provided by Julie Korts of DRC Psychometric Services.

Participants

All participants for the workshop committee were recruited, selected, and invited to the workshop by NCDPI. The recruitment process strived to empanel a sample of participants for the standard setting with diverse demographics (e.g., ethnicity, gender) and diverse points-of-view (e.g., geographic location).

The committee comprised a purposeful mix of educators with a variety of backgrounds. Special care was taken to promote geographic diversity among participants, with representation from across the state. Participants were asked to self-report their demographic characteristics (e.g., ethnicity, number of years

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in the profession) as part of the pre-session participant survey. The results of the participant survey can be found in Section H of this report.

Configuration of the Committee

The workshop committee was composed of a total of 37 educators. Two groups were convened for the standard setting, as listed here.

- Grades 3—6 (20 participants)
- Grades 6—NC Math 1 (17 participants)

Both groups collaborated to recommend cut scores for Grade 6. For this grade, participants were divided into seven tables of approximately five participants each.

For subsequent grades, participants divided into their pre-assigned groups. Participants in each group were divided into four tables. One participant at each table served as the table leader. Table leaders moderated discussions at their tables and helped the workshop staff distribute and collect the secure workshop materials. The table leaders were not members of the workshop staff, and they contributed to their committees' recommendations.

Range ALDs Development

The standard setting workshop began with a one-day achievement level descriptor (ALD) writing activity.

Opening Session

All participants[3] began the workshop with a single opening session led by NCDPI. During this session, Dr. Howard welcomed the participants to the workshop and described the purpose of the workshop. Dr. Howard and Ms. Moore described the recent changes to the tests, and they described how valuable the participating educators' recommendations would be in identifying new cut scores for the tests.

Achievement Level Descriptor Development Training

Mr. Woebler then greeted participants on behalf of DRC and led them through a training presentation on how they would use the North Carolina policy ALDs to construct range ALDs. During this presentation, DRC described the purpose of policy and range ALDs, how range ALDs could summarize the content-based expectations for students in each achievement level, and how the participating educators would construct range ALDs by using the extended content standards and the policy ALDs.

At the end of this training session, participants were divided into groups by test. Approximately 7–10 participants focused on each of the eight tests. Within each group, participants were seated at a single table, and each participant was assigned a networked laptop for use during the ALD session.

[3] Participants from the general mathematics standard setting were present during the opening session and training on ALD writing. They then adjourned to a separate room to develop their own ALDs. The two groups did not interact with each other in an official capacity for the remainder of the workshop.

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Creation of Range ALD Drafts

To start the ALD development process, participants were provided with an *ALD template* that contained language from the extended NCSCOS. This template, created by DRC prior to the workshop, comprised a table containing one column for each achievement level. Mr. Woebler from DRC introduced the templates to participants and provided support throughout the day.

The content-based expectations from the extended standards were divided into bullet points and grouped by strand. This language was inserted into the template under the *Level 4* column. (Prior to the workshop, NCDPI reiterated that it was an expectation that students in *Level 4* should demonstrate a thorough understanding of the skills listed in the extended standards.)

Participants were told that the goal of the day's ALD development effort was to examine the language in the template (from the extended NCSCOS) and use it to describe the content-based expectations for students in the other levels. For example, participants were instructed to consider the core or prerequisite skills associated with each bullet, and to describe the expected performance of students in *Not Proficient* and *Level 3*. Participants were cautioned to consider the knowledge, skills, and understandings that were expected of students in this population, and not to consider the disabilities or limitations of any single student.

Participants worked in their groups to add information to the ALD templates, all as informed by the language from the extended standards. Participants used the networked computers to contribute collaboratively and to see the edits made by their peers. At the end of this session, participants had a set of draft ALDs they could discuss with their colleagues at the standard setting.

Discussion of Range ALD Drafts

Participants then discussed their range ALD drafts with participants focused on different grades. For example, participants in the grade 3 group welcomed participants from the grade 4 group, and participants in the grade 6 group welcomed participants from the grades 5 and 7 groups. During these discussions, participants shared their work on their draft ALDs. This discussion had two primary goals: (a) to promote across-grade articulation among the content-based expectations in the ALDs; and (b) to promote a common look and feel to the ALDs. After these discussions, the groups made edits to their drafts.

After participants edited their range ALD drafts, Mr. Woebler facilitated a discussion across groups about the range ALD drafts. The goal of this discussion again was to promote articulation across grades. Participants had an opportunity to comment on other groups' drafts and to adjust their own.

After the ALD Development Session

DRC thanked participants for their time and expertise during the ALD development session. After the session, DRC and NCDPI inspected the ALDs for vertical articulation and for style. As needed, the range ALDs were adjusted to promote consistency with the extended standards and across grades.

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Physical copies of the ALDs were printed for participants during the standard setting. Throughout the standard setting process, participants were encouraged to make use of the ALDs and use them to inform their content-based recommendations.

Standard Setting

The standard setting workshop took place over a three-day period. The workshop agenda is included in Section C. Participants were given a pre-session workshop evaluation to complete before standard setting began.

Participant Training

Following the range ALD workshop on the first day, Mr. Chayer from DRC introduced the standard setting methodology. Participants were introduced to the materials that would be used during the rest of the workshop. The training presentation and selected materials are included in Section D of this report.

Participants were instructed that their goal for the workshop was to set cut scores for the North Carolina NCEXTEND1 mathematics assessment. Participants understood that they would consider the knowledge and skills expected of students in each achievement level, and they would engage in the Yes/No Angoff method to make cut score judgments. However, participants were reminded that although they would be given benchmarks that represented the 2013 test results, they should make cut score recommendations that were consistent with the extended content standards, with the content-based expectations for students in each achievement level, and with their experience with students.

Following the training session, participants began the Yes/No Angoff method with Grade 6. Grade 6 is the only grade for which participants engaged in four rounds to establish recommended cut scores; for all other grades, participants engaged in three rounds of the Yes/No Angoff procedure.

All participants met in a single, large room to consider the cut scores for Grade 6. After Grade 6, both grade-range groups convened in a separate breakout room. Participants then repeated the process for Grades 5, 4, and 3, and for Grades 7, 8, and NC Math 1, respectively.

Discussion of the Extended Content Standards and the Threshold Students

DRC instructed participants to read the extended standards and ALDs, and to consider the knowledge, skills, and understandings that students were expected to demonstrate at the threshold of each achievement level. Specifically, participants were asked to use the range ALDs, they had constructed at the beginning of the workshop, and extended content standards to develop informal threshold ALDs.

Participants engaged in structured discussions about the knowledge, skills, and understandings they expected to be demonstrated by each of the two threshold students. The two threshold students were just barely *Level 3* and just barely *Level 4*. To engage in these discussions, participants referred to the policy and range ALDs, the extended standards, and their knowledge of students.

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As a group, participants discussed the ALD for each achievement level and the differences between them. During this discussion, participants considered the overall level of rigor implied by each range ALD. To focus participants on the lines of demarcation between the achievement levels, participants were asked to discuss the knowledge, skills, and understandings that separated students in one achievement level from those in another. For example, participants were asked to discuss the knowledge, skills, and understandings that separated the highest performing *Level 3* from the lowest performing *Level 4*. All participants were instructed to refer to the extended content standards during this discussion.

Participants recorded their expectations for students at the thresholds of each achievement level on large pieces of paper that were hung around the room conspicuously. The note paper remained on the walls through the duration for participants to refer to during the workshop.

By the end of this discussion, participants had thoroughly considered the policy ALDs, range ALDs, extended content standards, and threshold students; and they reached an understanding of the types of skills that the threshold student for each achievement level should have.

Study of the Test Books and Item Maps

Participants at each table examined the items in the test books in terms of what each item measured and if the threshold student is expected to earn one point or two points on the item. Participants were instructed to take notes on the item maps about the knowledge, skills, and understandings required to answer the items correctly.

Secondary Training on Yes/No Ratings

Mr. Chayer provided the participants with additional training for Yes/No ratings. Participants were reminded how Yes/No Angoff ratings could be represented by cut score recommendations. The training presentation and training materials are included in Section D.

Following training, participants were tested on their understanding of Yes/No Angoff ratings with a short quiz, termed a *mid-process evaluation.* Afterwards, participants were provided the correct answers for the mid-process evaluation, as well as explanations of those answers. The mid-process evaluation and results are presented in Section D of this report and under the heading “Committee Training."

Round 1

Participants then made their Round 1 Yes/No Angoff ratings. Participants were informed that Yes/No Angoff rating is an individual activity. They referred to their test books, item maps, ALDs, and extended content standards.

Participants recorded their Yes/No Angoff ratings for each item and score point on their item maps. Participants then completed Round 1 by recording their Yes/No Angoff ratings on a bubble sheet.

Participants were handed a Post-Round Survey for them to complete while they waited for their fellow participants to complete their Yes/No Angoff ratings. In this survey, participants indicated which

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elements of the standard setting (e.g., items, ALDs) were particularly influential. Results of these surveys are shown in Section H of this report.

Presentation of Round 1 Recommendations

Following Round 1, DRC calculated the Yes/No Angoff cut score recommendations. Participants were presented with a summary of their Round 1 recommendations. Specifically, participants were shown their calculated cut score recommendation, the median cut score recommendation for their table, as well as the overall median cut score recommendation for the group. Participants were also shown a histogram of the range of the group's Round 1 cut score recommendations. Detailed participant judgments and graphical representation of participant judgments are presented in Sections F and G of this report, respectively.

Round 2

For each item, participants discussed the rationales behind their Round 1 Yes/No Angoff ratings. Participants were instructed to engage in a content-based discussion by focusing on the items in the test book that had the most disagreement between participants. These content-based discussions took place at each table. Participants referred to their test books, item maps, ALDs, and the extended content standards throughout the discussions.

Following this discussion, participants made their Round 2 Yes/No Angoff ratings. Participants were reminded that Yes/No Angoff rating is an individual activity. Participants were also reminded that they would be free to retain their Yes/No Angoff ratings for any/all items from Round 1 or to change one or more of them; however, in either case, participants would need to have content-based rationales for their decisions.

Participants were handed a Post-Round Survey for them to complete while they waited for their fellow participants to complete their Yes/No Angoff ratings. In this survey, participants indicated which elements of the standard setting (e.g., items, ALDs) were particularly influential. Results of these surveys are shown in Section H of this report.

Presentation of Round 2 Recommendations

Following Round 2, DRC calculated the Yes/No Angoff cut score recommendations. Participants were presented with their calculated cut score recommendation, the median cut score recommendation for their table, as well as the overall median cut score recommendation for the group, and histogram representation of the range of their cut score recommendations.

DRC also presented the impact data for their test. Impact data are the percentage of students classified in each achievement level based on a set of cut scores for the test. To calculate these impact data, DRC found the median cut score recommendations from Round 2, and then applied them to the data from the spring 2019 NCEXTEND1 administration. Participants were instructed to use impact data as they considered their content-based cut score recommendations. For example, participants were told that if

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they saw a surprising number of students classified in *Level 4* in the impact data, they should reconsider the types of knowledge, skills, and understandings they expected of the *Level 4* threshold student.

Presentation of Benchmarks

After Round 2, benchmarks were also shown to participants in terms of cut score recommendation. Participants were reminded that the benchmarks were associated with the 2013 NCEXTEND1 results, and that the benchmarks were provided for their consideration.

Round 3

For each item, participants discussed the rationales behind their Round 2 Yes/No Angoff ratings. Participants were instructed to engage in a content-based discussion by focusing on the items in the test book that had the most disagreement between participants. These content-based discussions took place as a group. Participants referred to their test books, item maps, benchmarks, ALDs, and the extended content standards throughout the discussions.

Following this discussion, participants made their Round 3 Yes/No Angoff ratings. Participants were reminded that Yes/No Angoff rating is an individual activity. Participants were also reminded that they would be free to retain their Yes/No Angoff ratings for any/all items from Round 2 or to change one or more of them; however, in either case, participants would need to have content-based rationales for their decisions.

Participants were handed a Post-Round Survey for them to complete while they waited for their fellow participants to complete their Yes/No Angoff ratings. In this survey, participants indicated which elements of the standard setting (e.g., items, ALDs) were particularly influential. Results of these surveys are shown in Section H of this report.

Presentation of Round 3 Recommendations

Following Round 3, DRC calculated the Yes/No Angoff cut score recommendations. Participants were presented with a summary of their Round 3 cut score recommendations and histogram representation of the range of their cut score recommendations. DRC also presented the impact data for their test.

Grade 6 Round 4

As participants finished their first iteration of the Yes/No Angoff procedure, they expressed a desire for more information about the difficulty of the test items. Specifically, after Round 3 of the Yes/No Angoff procedure for Grade 6, participants indicated that they wanted more empirical data on how students actually performed on each test item.

DRC and NCDPI considered how best to respond to participants' request. After consultation, NCDPI chose to provide participants with the *p*-values associated with each item. These *p*-values, indicating the proportion of total points possible were earned for each item, were shared with participants on a specially-formatted item map. DRC introduced these maps to participants, including how to interpret a *p*-value.

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Because these data were new, and because they could affect the way participants considered their cut score recommendations, DRC asked participants to engage in a special Round 4 for Grade 6. This Round was conducted similarly to Round 3: participants were invited to discuss their item-level judgements in their tables and across tables. After this discussion, participants were instructed to make their Round 4 Yes/No Angoff judgments.

To promote continuity throughout the workshop, DRC presented *p*-values on item maps for all subsequent grades. These data were provided on specially-formatted item maps distributed after Round 2 of the Yes/No Angoff procedure. Accordingly, participants had access to these data for grades of the NCEXTEND1 program, and participants did not need to engage in a Round 4 for any other grade.

Repeating the Process for Remaining Grades

Participants were then divided into grade ranges, Grades 3–5 and Grades 7–NC Math 1, and then repeated the Yes/No Angoff method starting with a study of the ALDs for that grade. Participants were encouraged to consider the articulation between the achievement standards for their grades, and they were reminded that there would be an opportunity at the end of the process to suggest adjustments to the cut scores, if needed, to promote better articulation across the grades.

After participants completed the Yes/No Angoff procedure for Grade 5 and Grade 7, participants then completed the Yes/No Angoff procedure for Grade 4 and Grade 8. Participants completed the process by focusing on Grade 3 and NC Math 1.

Review of Recommendations

After making their cut score recommendations in their groups, participants were presented with the cut score recommendations for all grades. Participants were informed that they could recommend adjustments to the cut scores, if needed, to promote better articulation across grades. However, participants were cautioned against suggesting adjustments which were inconsistent with the content: any adjusted cut score recommendation should still be within the range of their Yes/No Angoff ratings and link the ALDs, tested content, and extended content standards.

Table leaders then convened in a breakout room to inspect their cut score recommendations. DRC then presented table leaders with their median Round 3 (and Grade 6 Round 4) recommendations. These cut scores were presented graphically. Table leaders were asked to share any concerns or recommendations their table had had for their grades. Table leaders were reminded that these recommendations would then go to NCDPI for consideration.

Workshop Evaluation

All participants were thanked for their time and effort during the standard setting. To conclude the workshop, participants were asked to complete a written evaluation. Participants not taking part in the table leader discussion were welcomed to leave after completing the workshop evaluation.

Selected results are presented later in this section. The complete results of the evaluations are included in Section H of this report.

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Across-Grade Articulation Discussion

The eight table leaders then convened in a single breakout room to inspect their cut score recommendations together. DRC then presented table leaders with their median final-round recommendations. The impact data associated with their median cut score recommendations were presented graphically. Table leaders were asked to share any concerns or recommendations their tables had had for their grades.

DRC reminded participants that no group reached consensus on their cut score recommendations: all groups had a diversity of cut score recommendations, even at the end of Round 3. Although the median cut score recommendations were used to calculate the impact data for presentation, any cut scores within the range of cut score recommendations made by participants would still reflect the voice of the participating educators.

Mr. Chayer of DRC facilitated a wide-ranging discussion on the articulation of the cut scores. The table leaders considered several adjustments to their cut scores, all to promote better articulation across grades. Table leaders were reminded that these recommendations would then go to NCDPI for consideration.

Workshop Security

Throughout the workshop, security was of paramount importance. Secure test materials used during the workshop were numbered and assembled into packets. Each participant signed out a specific packet and was given an associated number to be used on their materials throughout the duration. At all times, DRC staff monitored the meeting rooms to prevent the removal of secure materials. At the end of each day, each participant's materials were collected and inventoried against a master list. The secure materials were stored overnight in a secure room. At the end of the workshop, the secure materials were collected and inventoried against the sign-out lists for a final time.

In addition, participants were required to sign non-disclosure agreements to participate in the workshop. These agreements were signed by participants and were collected by the DRC staff at the beginning of the workshop.

Results

The standard setting was conducted according to the plans created by NCDPI and DRC prior to the workshop. The results of the workshop are presented in this section.

Participants' Recommendations After Round 1

Tables 4 and 5 show participants' recommendations from Round 1 of the Yes/No Angoff procedure. All of the impact data shown in Table 5 and in this section are based on North Carolina students' performance in Spring 2019.

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Table 4. Cut score recommendations from Round 1 of the standard setting

Grade	*Level 3*	*Level 4*
3	29.5	44
4	32.5	45
5	36	48
6	22	39.5
7	29	45
8	27	44
NC Math 1	31	44

Table 5. Associated impact data from Round 1 of the standard setting

Grade	*Not Proficient*	*Level 3*	*Level 4*
3	30.9%	56.6%	12.5%
4	58.6%	35.2%	6.2%
5	75.2%	20.5%	4.3%
6	12.7%	73.3%	14.0%
7	37.7%	57.2%	5.1%
8	22.8%	67.0%	10.1%
NC Math 1	34.3%	57.8%	8.0%

Participants' Recommendations After Round 2

Tables 6 and 7 show participants' recommendations from Round 2 of the Yes/No Angoff procedure.

Participants' individual recommendations from all rounds may be found in Section F of this report. During the workshop, participants were shown their cut score recommendations in raw score format.

Table 6. Cut score recommendations from Round 2 of the standard setting

Grade	*Level 3*	*Level 4*
3	32	44
4	32	45
5	36	47
6	24	40
7	34	46
8	28	42
NC Math 1	33	45

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Table 7. Associated impact data from Round 2 of the standard setting

Grade	*Not Proficient*	*Level 3*	*Level 4*
3	45.3%	42.2%	12.5%
4	58.6%	35.2%	6.2%
5	75.2%	19.9%	4.9%
6	18.4%	69.9%	11.8%
7	68.8%	26.9%	4.3%
8	28.3%	57.6%	14.1%
NC Math 1	45.2%	49.4%	5.4%

Participants' Recommendations After Round 3

Tables 8 and 9 show participants' recommendations from Round 3 of the Yes/No Angoff procedure. When considering impact data, participants were instructed to think about the proportions of students in each achievement level for the grade at hand, plus the impact data.

Participants' individual recommendations from all rounds may be found in Section F of this report. During the workshop, participants were shown their cut score recommendations in raw score format.

Table 8. Cut score recommendations from Round 3 of the standard setting

Grade	*Level 3*	*Level 4*
3	34	45
4	32	45
5	35	45
6	24.5	41
7	30	45
8	35	46
NC Math 1	35	45

Table 9. Associated impact data from Round 3 of the standard setting

Grade	*Not Proficient*	*Level 3*	*Level 4*
3	56.0%	33.7%	10.3%
4	58.6%	35.2%	6.2%
5	72.0%	20.4%	7.6%
6	18.4%	71.5%	10.2%
7	44.6%	50.3%	5.1%
8	67.2%	26.0%	6.8%
NC Math 1	56.8%	37.8%	5.4%

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Participants' Recommendations After Round 4, Grade 6

Tables 10 and 11 show participants' recommendations from Round 4 of the Yes/No Angoff procedure for Grade 6. Grade 6 was the only grade that participants completed a fourth round.

Table 10. Cut score recommendations from Round 4, Grade 6 of the standard setting

Grade	*Level 3*	*Level 4*
6	33	44

Table 11. Associated impact data from Round 4, Grade 6 of the standard setting

Grade	*Not Proficient*	*Level 3*	*Level 4*
6	58.4%	36.1%	5.5%

Recommendations from the Articulation Discussion

Throughout the standard setting process, participants were informed they would have an opportunity at the end of the workshop to consider the across-grade articulation of the achievement standards. Participants were told that achievement standards were well-articulated when the impact data associated with a set of cut scores formed a reasonable, explainable pattern across grades.

The teachers inspected the impact data associated with their recommendations. Table leaders were generally satisfied with their cut score recommendations. However, they noted that there were a few cut scores which did not demonstrate good articulation. Notable, table leaders noted that the percentages of students classified as *Not Proficient* (labeled at the workshop as *Level 2 & Below*) was unexpectedly high in grades 5 and 7, especially when compared to the other grades. The table leaders noted that they made these cut score recommendations relatively early-on in the standard setting process, and that they had learned more about the threshold students in the time intervening. Accordingly, the table leaders recommended two adjustments to the *Level 3* cut scores: Grade 5 was changed from 35 to 33; Grade 7 from 30 to 31. Both of these adjusted cut scores were still within the range of cut scores recommended by standard setting participants; these recommended adjustments still reflected the knowledge, skills, and understandings expected of the committee for *Level 3* students.

Using similar reasoning, the table leaders also recommended an adjustment to the *Level 4* cut scores for Grade 3, from 45 to 47. The table leaders noticed that the percentage of students classified as *Level 4* was higher in grade 3 than in other grades, and that this difference was unexpected. To make sure the *Level 4* cut scores were associated with "thorough understanding" of the content and to promote better across-grade articulation, the table leaders recommended this adjustment. This adjustment was within the group's range of Level 4 cut scores and reflected the ALD expectation for *Level 4* in Grade 3.

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DRC and NCDPI thanked the table leaders for their time and expertise. DRC reminded the table leaders that NCDPI and its advisors would be reviewing their cut score recommendations, and that adjustments may be made to the cut scores by NCDPI for policy-related reasons.

Tables 12 and 13 show participants' final recommendations from the Yes/No Angoff procedure. These cut scores are considered to be the standard setting committee's final recommendations.

Table 12. Cut score recommendations from the across-grade articulation discussion

Grade	*Level 3*	*Level 4*
3	34	47
4	32	45
5	33	45
6	33	44
7	31	45
8	35	46
NC Math 1	35	45

Table 13. Impact data associated with the across-grade articulation discussion

Grade	*Not Proficient*	*Level 3*	*Level 4*
3	56.0%	37.4%	6.7%
4	58.6%	35.2%	6.2%
5	63.6%	28.8%	7.6%
6	58.4%	36.1%	5.6%
7	52.5%	42.4%	5.1%
8	67.2%	26.0%	6.9%
NC Math 1	56.8%	37.8%	5.5%

After the Standard Setting

After the standard setting, NCDPI reviewed the recommendations from the standard setting participants (including the table leaders' across-grade articulation discussion). After consideration, NCDPI chose to accept the recommendations from the standard setting committee, including the adjustments made by the table leaders to promote across-grade articulation. These cut scores are shown in Table 12 and the associated impact data are shown in Table 13.

NCDPI then placed the cut scores on newly-created test scales for the NCEXTEND1 tests. These test scales express the cut scores in a way that can be made stable over time through the process of test equating. The cut scores, as expressed on the test scales, were then presented to the North Carolina State Board of Education (SBE) for consideration.

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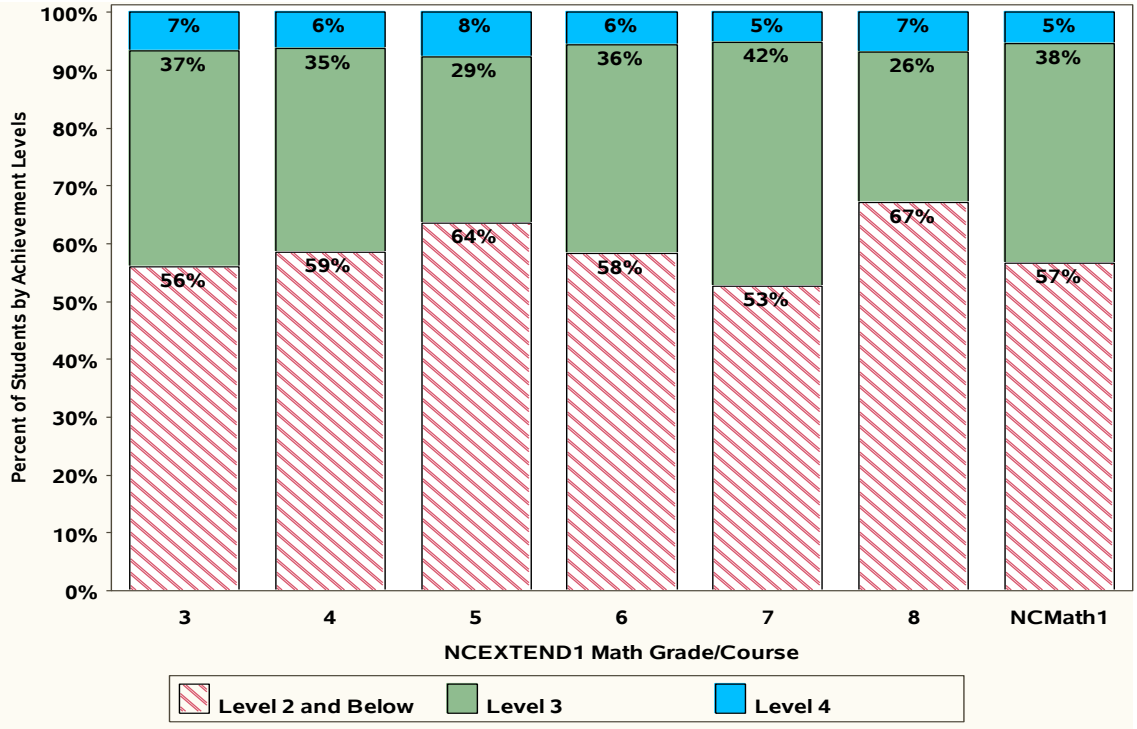
On August 7, 2019, the SBE considered the cut score recommendations shown in Table 14. (The impact data associated with these cut scores are illustrated in Table 15). After deliberation, the SBE approved the cut scores on August 8, 2019. NCDPI intends to apply these cut scores to the next operational administration of the assessments.

Table 14. Final, approved cut scores and associated impact data for NCEXTEND1 Mathematics

Test	Grade	Recommended Cut Scores		Percent of Students in Each Achievement Level Based on Recommended Cut Scores		
		Level 3	*Level 4*	*Not Proficient*	*Level 3*	*Level 4*
NCEXTEND1 Math	3	451	464	56.0%	37.4%	6.7%
	4	451	465	58.6%	35.2%	6.2%
	5	452	465	63.6%	28.8%	7.6%
	6	453	464	58.4%	36.1%	5.6%
	7	450	467	52.5%	42.4%	5.1%
	8	453	465	67.2%	26.0%	6.9%
	NC Math 1	452	463	56.8%	37.8%	5.5%

Table 15. Impact data associated with the final, approved cut scores for NCEXTEND1 Mathematics



Evidence of Procedural Validity

The standard setting was conducted using a diverse, well-trained committee, and was perceived as valid by participants. This section supports these claims.

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Committee Diversity

As part of the pre-session workshop survey, participants were asked about their backgrounds. The self-reported demographic characteristics of the participants are documented in this section. Initially, 38 educators attended the standard setting training session. Of them, 37 participants responded to a request on the first day of the workshop to share background and demographic information. One educator left the workshop after training. Later, 36 participants responded to the post-session workshop evaluations administered on the last afternoon of the workshop.

Participants were asked to report their gender, race, and ethnicity. As shown in Table 16, 92% of the participants were female; and Table 17 shows just under 80% of participants were white and non-Hispanic.

Participants were asked to report their years of experience in education and their current position. As shown in Table 18, approximately 16% of participants indicated they had taught for over 25 years and approximately 51% reported they had worked for 16 years or longer in education. Table 19 shows that 54% of participants were currently general education teachers, 19% were special education teachers, and 19% were curriculum staff.

In addition, participants responded whether they had experience with students in special education, English language learners (ELLs), alternate education, vocational education, and others. Participants were asked to select all that applied. As shown in Table 20, a large majority of the committee had experience teaching special education students, ELLs, or both, as well as gifted and talented education.

In Tables 16 through 20, the percentages may not sum to 100% due to rounding and due to individual participants omitting their responses to certain questions. The full results of the participant pre-session survey, including participants' self-reported demographic and background information, may be found in Section H of this report.

Table 16. Participants' self-reported gender

N	Female	Male	No Response
37	92%	5%	3%

Table 17. Participants' self-reported race and ethnicity

N	White	Black	American Indian/Alaska Native	Mixed	No Response
37	78%	13%	3%	3%	3%

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Table 18. Participants' self-reported years in education

N	1–5	6–10	11–15	16–20	21–25	Over 25	No Response
37	5%	24%	16%	19%	16%	16%	3%

Table 19. Participants' self-reported current position

N	General Education Teacher	Special Education Teacher	ELL Teacher	Curriculum Staff	Administrator	No Response
37	54%	19%	3%	19%	3%	3%

Table 20. Participants' self-reported experience teaching special populations

N	Special ed. in a self-contained classroom	Special ed. in a mainstream classroom	English language learners	Gifted and talented ed.	Vocational ed.	Alternative ed.	Adult ed.	No Response
37	22%	73%	51%	41%	11%	3%	5%	8%

Committee Training

During the standard setting workshop, it was clear to the facilitators that participants understood how to make judgments as part of the standard setting methodology (e.g., Yes/No Angoff ratings). To confirm participants' knowledge of the methodology, they were given a short quiz, termed a *mid-process evaluation*, after training. The mid-process evaluation and detailed results are shown in Section D. Of the standard setting committee participants, 38 submitted completed mid-process evaluations.

Participants answered items 1–5 on the mid-process evaluation correctly most of the time. This indicates that, on the whole, participants were well prepared to make judgments and that the training was effective. Results of the mid-process evaluation are shown in Table 21. All questions on the mid-process evaluation were scored dichotomously.

Table 21. Participants answering each item correctly on the training mid-process evaluation

N	#1	#2	#3	#4a	#4b
38	100%	86%	97%	95%	95%

The mid-process evaluation also asked participants if they felt the goals of the standard setting were made clear, and if they felt ready to proceed. All submitted evaluations indicated the committee felt prepared and ready to proceed with Yes/No Angoff ratings.

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Participants' Perceived Validity of the Workshop

Participants indicated their perceived validity of the workshop and their recommendations as part of the post-session workshop evaluation. Hambleton (2001) noted that evaluations are important evidence for establishing the validity of performance levels.

Generally, participants were satisfied with their recommendations and with the workshop as a whole. Table 22 shows participants' level of satisfaction with their recommendations. Particularly, participants understood the connection between the benchmarks and their cut score recommendations, and participants generally agreed that the final recommendations reflected the work of the standard setting committee.

Table 22. Participants' agreement with various statements on the post-session workshop evaluation regarding their satisfaction with the process and the final recommendations

Statement	Strongly Disagree	Disagree	Agree	Strongly Agree	Agree + Strongly Agree
The training provided a clear description of the workshop goals.	0%	3%	78%	19%	97%
I understood how to make my Angoff ratings.	0%	0%	75%	25%	100%
I considered the threshold students when making my Angoff ratings.	0%	0%	36%	64%	100%
Discussing the threshold students helped me make my Angoff ratings.	0%	3%	39%	58%	97%
My group's work was reflected in the presentation of recommendations across grades.	0%	3%	64%	33%	97%
Overall, I valued the workshop as a professional development experience.	0%	3%	61%	36%	97%

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C

Agenda

Public Schools of North Carolina
State Board of Education
Department of Public Instruction

Workshop Agenda

North Carolina General and NCEXTEND1 Mathematics
Grades 3–8, NC Math 1 and NC Math 3

Standard Setting Workshop
Raleigh, NC
July 8–11, 2019

DATA RECOGNITION
DRC
CORPORATION

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PUBLIC SCHOOLS OF NORTH CAROLINA
State Board of Education
Department of Public Instruction

Welcome to the standard setting workshop for the North Carolina general and NCEXTEND1 mathematics assessments! This agenda is for the participants in the NCEXTEND1 groups. If you are in a general mathematics group, please ask a facilitator for the proper agenda.

The North Carolina Department of Public Instruction (DPI) and Data Recognition Corporation (DRC) would like to thank you for your time and expertise during this important process. Please use this agenda to orient yourself during the workshop. If you have any questions or concerns, please do not hesitate to contact a facilitator.

Monday, July 8

Welcome!

7:30–8:15 AM **Participant Registration**
Participants register at the reception table to sign the confidentiality agreement, receive a nametag, and collect additional workshop materials.

8:30 AM **Opening Session**
DPI welcomes participants, overviews the testing program, discusses the reasons for the standard setting, and describes the desired outcome of the workshop.

9:00 AM **Achievement Level Descriptor (ALD) Development Training**
DRC describes how achievement level descriptors (ALDs) summarize the content-based expectations for students in each achievement level, and the committee will develop them based on the North Carolina Standard Course of Study (NCSCOS).

9:45 AM **Break and Adjournment to Tables by Grade**

10:00 AM **Study Content Standards and Policy ALDs**
After brief introductions, participants study the content standards and policy ALDs for their assigned grade.

- Each participant will be assigned a computer with an electronic template containing the policy ALDs.
- All participants should consider the knowledge, skills, and abilities that are expected of students in the content standards; and begin to consider the content-based expectations for students in each achievement level.

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Draft and Review Range ALDs

10:15 AM **Draft Range ALDs as a Table**

In tables, participants use the content standards and electronic template to record the knowledge, skills, and abilities expected of students in each achievement level.

- Participants collaborate on these range ALDs using the networked computers.
- Participants begin with grade 6 and then divide into separate grade-level tables.
- The ALDs should reflect the content-based expectations of students in each achievement level, and the ALDs should be consistent with the content standards.
- Each group should use the template's format and style so the range ALDs can be easily compared later in the day.

12:00 PM **Lunch**

The group breaks for 45 minutes.

12:45 PM **Review the Across-Grade Articulation of the Range ALDs**

Working in grade bands to support articulation across grades, participants examine the progression of knowledge and skills expected of students in each achievement level across grades.

- There are two grade bands: grades 3–5 and grade 7–Math 1.
- Be sure the articulation for each achievement level (e.g., *Level 3*) progresses across grades in a reasonable and explainable way.

2:30 PM **Refine the Draft ALDs as a Table**

Back in their grade-level clusters, participants refine the range ALDs for their assigned grade.

- Refinements should promote the articulation of the ALDs across grades.
- Participants work in their grade-level tables. Refinements will also be made to grade 6 as needed.
- Each group should use the template's format and style so the range ALDs can be easily compared later in the day.

3:30 PM **Review the ALDs as a Group**

DRC helps participants review the ALDs across grades once again to share the progression of knowledge, skills, and abilities of students in each achievement level across grades.

- Refinements should promote the articulation of the ALDs across grades.
- Each group should use the template's format and style.

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Wrap-Up

4:25 PM **Secure Materials Collection**
Facilitators lead the collection of the secure materials from all participants. All participants return their secure materials to the facilitator for safekeeping.

4:30 PM **Dismissal**

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Tuesday, July 9

Threshold Students for Grade 6

7:30–8:15 AM **Participant Sign-In**
Please be sure to sign in for the day.

8:30 AM **Participant Training**
DRC introduces participants to the standard setting procedure. DRC explains how cut scores can be recommended by carefully studying the test items and considering the content-based expectations for students in each achievement level.

9:30 AM **Break and Adjournment into Tables**

9:45 AM **Discuss the Threshold Students in Tables for Grade 6**
In tables, participants discuss the content-based expectations for both threshold students, starting with the threshold *Level 3* student.

- Each table should consider the knowledge, skills, and abilities expected of the *Level 3* threshold student; that is, a student who is just entering *Level 3.*
- The table should create a brief, bulleted list that describes the skills expected of the threshold *Level 3* student.
- Participants should then continue by discussing the content-based expectations of the threshold *Level 4* student.
- To engage in this discussion, participants refer to the ALDs, the content standards, and their knowledge of students.

10:45 AM **Discuss the Threshold Students as a Group for Grade 6**
The facilitator asks each table to share their threshold student descriptions, starting with threshold *Level 3* and continuing with threshold *Level 4.*

- A spokesperson from each table should be prepared to report some of the highlights from the table's discussion of the threshold students.
- Each table should take notes during the discussion and update their bulleted lists of the skills expected of each of the two threshold students.

11:30 AM **Examine the Student Test for Grade 6**
Participants examine the test items from the student's perspective.

- Participants should briefly review these items to get a general sense of what is measured by the test and how it is measured.
- If needed, participants should use the provided index cards to record comments and suggestions about the test items.

12:00 PM **Lunch**
The group breaks for 45 minutes.

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Rounds 1 and 2 for Grade 6

12:45 PM **Orientation to the Yes/No Angoff Process**

DRC re-describes the Yes/No Angoff process. Participants are reminded that they will think of each of the threshold students, one at a time, and consider how many points the threshold student is expected to earn on each item.

1:15 PM **Round 1 for Grade 6**

Working individually, participants complete the Yes/No Angoff task for each item.

- Participants begin by considering the threshold *Level 3* student. For each item on the test, participants ask how many points the threshold *Level 3* student would be expected to earn: 0, 1, or 2.
- Then participants repeat the process, considering the threshold *Level 4* student.
- Round 1 is an individual round. Participants should not discuss their ratings with their colleagues until Round 1 is complete.
- All Yes/No Angoff ratings should be recorded on the rating form.

2:30 PM **Break**

2:45 PM **Round 2 for Grade 6**

The facilitator shares feedback from Round 1, including *benchmarks*. Then in tables, participants discuss their Yes/No Angoff ratings for each item.

- Participants should discuss their Yes/No Angoff ratings with their colleagues.
- Starting with item 1, participants should share their ratings with the table. If the table agrees, discussion should continue with the next item. If there is disagreement, participants should share why they made their ratings the way they did.
- Participants do *not* have to agree on their Yes/No Angoff ratings as a table.
- Making Yes/No Angoff ratings is always an individual activity.
- Ratings should be indicated for both cut scores, even if the rating for an item is the same as from Round 1 or 2.

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Rounds 3 for Grade 6

4:00 PM **Round 3 for Grade 6**

The facilitator shares feedback from Round 2, including *impact data*. Then the facilitator invites each table to share elements from their discussions after Round 1, including any items for which participants disagreed on their Yes/No Angoff ratings. Finally, participants complete the Yes/No Angoff task for each item.

- Participants do *not* have to agree on their Yes/No Angoff ratings as a group.
- Making Yes/No Angoff ratings is always an individual activity.
- Ratings should be indicated for both cut scores, even if the rating for an item is the same as from Round 1 or 2.

4:25 PM **Secure Materials Collection**

Facilitators lead the collection of the secure materials from all participants. All participants return their secure materials to the facilitator for safekeeping.

4:30 PM **Dismissal**

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Wednesday, July 10

Grade 5 or 7

7:30–8:15 AM **Participant Sign-In**
Please be sure to sign in for the day.

8:30 AM **Discuss the Threshold Students in Tables for Grade 5 or 7**
In tables, participants discuss the content-based expectations for both threshold students, starting with the threshold *Level 3* student, then continuing for the threshold *Level 4* student.

9:15 AM **Discuss the Threshold Students as a Group for Grade 5 or 7**
The facilitator asks each table to share their threshold student descriptions, starting with threshold *Level 3* and continuing with threshold *Level 4.*

9:45 AM **Round 1 for Grade 5 or 7**
Working individually, participants complete the Yes/No Angoff task for each item.

- Round 1 is an individual round. Participants should not discuss their ratings with their colleagues until Round 1 is complete.

10:30 AM **Break**

10:45 AM **Round 2 for Grade 5 or 7**
The facilitator shares feedback from Round 1, including *benchmarks*. Then in tables, participants discuss their Yes/No Angoff ratings for each item.

- Participants should share their ratings for each item with the table.
- Participants do *not* have to agree on their Yes/No Angoff ratings as a table.

12:00 PM **Lunch**
The group breaks for 45 minutes.

12:45 PM **Round 3 for Grade 5 or 7**
The facilitator shares feedback from Round 2, including *impact data*. Then the facilitator invites each table to share elements from their discussions after Round 1, including any items for which participants disagreed on their Yes/No Angoff ratings. Finally, participants complete the Yes/No Angoff task for each item.

- Participants do *not* have to agree on their Yes/No Angoff ratings as a group.
- Making Yes/No Angoff ratings is always an individual activity.
- Ratings should be indicated for both cut scores, even if the rating for an item is the same as from Round 1 or 2.

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Rounds 1 and 2 for Grade 4 or 8

1:30 PM **Discuss the Threshold Students in Tables for Grade 4 or 8**
In tables, participants discuss the content-based expectations for both threshold students, starting with the threshold *Level 3* student, then continuing for the threshold *Level 4* student.

2:15 PM **Discuss the Threshold Students as a Group for Grade 4 or 8**
The facilitator asks each table to share their threshold student descriptions, starting with threshold *Level 3* and continuing with threshold *Level 4.*

2:30 PM **Break**

2:45 PM **Round 1 for Grade 4 or 8**
Working individually, participants complete the Yes/No Angoff task for each item.

- Round 1 is an individual round. Participants should not discuss their ratings with their colleagues until Round 1 is complete.

3:45 PM **Round 2 for Grade 4 or 8**
The facilitator shares feedback from Round 1, including *benchmarks*. Then in tables, participants discuss their Yes/No Angoff ratings for each item.

- Participants should share their ratings for each item with the table.
- Participants do *not* have to agree on their Yes/No Angoff ratings as a table.

4:25 PM **Secure Materials Collection**
Facilitators lead the collection of the secure materials from all participants. All participants return their secure materials to the facilitator for safekeeping.

4:30 PM **Dismissal**

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Thursday, July 11

Rounds 3 for Grade 4 or 8, Rounds 1 and 2 for Grade 3 or Math 1

7:30–8:15 AM **Participant Sign-In**
Please be sure to sign in for the day.

8:30 AM **Round 3 for Grade 4 or 8**
The facilitator shares feedback from Round 2, including *impact data*. Then the facilitator invites each table to share elements from their discussions after Round 1, including any items for which participants disagreed on their Yes/No Angoff ratings. Finally, participants complete the Yes/No Angoff task for each item.

- Participants do *not* have to agree on their Yes/No Angoff ratings as a group.
- Making Yes/No Angoff ratings is always an individual activity.
- Ratings should be indicated for both cut scores, even if the rating for an item is the same as from Round 1 or 2.

9:45 AM **Discuss the Threshold Students in Tables for Grade 3 or Math 1**
In tables, participants discuss the content-based expectations for both threshold students, starting with the threshold *Level 3* student, then continuing for the threshold *Level 4* student.

10:00 AM **Break**

10:15 AM **Discuss the Threshold Students as a Group for Grade 3 or Math 1**
The facilitator asks each table to share their threshold student descriptions, starting with threshold *Level 3* and continuing with threshold *Level 4.*

11:00 AM **Round 1 for Grade 3 or Math 1**
Working individually, participants complete the Yes/No Angoff task for each item.

- Round 1 is an individual round. Participants should not discuss their ratings with their colleagues until Round 1 is complete.

12:00 PM **Lunch**
The group breaks for 45 minutes.

12:45 PM **Round 2 for Grade 3 or Math 1**
The facilitator shares feedback from Round 1, including *benchmarks*. Then in tables, participants discuss their Yes/No Angoff ratings for each item.

- Participants should share their ratings for each item with the table.
- Participants do *not* have to agree on their Yes/No Angoff ratings as a table.

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2:00 PM **Round 3 for Grade 3 or Math 1**

The facilitator shares feedback from Round 2, including *impact data*. Then the facilitator invites each table to share elements from their discussions after Round 1, including any items for which participants disagreed on their Yes/No Angoff ratings. Finally, participants complete the Yes/No Angoff task for each item.

- Participants do *not* have to agree on their Yes/No Angoff ratings as a group.
- Making Yes/No Angoff ratings is always an individual activity.
- Ratings should be indicated for both cut scores, even if the rating for an item is the same as from Round 1 or 2.

3:00 PM **Break**

3:30 PM **Presentation of Recommendations**

The facilitator presents a summary of the recommendations from all grades. Participants are encouraged to consider whether the recommendations form a clear, explainable pattern across grades.

- Participants are encouraged to share their thoughts about the recommendations with their table leaders.
- Table leaders should take notes about their participants' views for use during the across-grade discussion.

4:20 PM **Workshop Evaluation**

Each participant completes an evaluation of the standard setting.

4:25 PM **Secure Materials Collection**

Facilitators lead the collection of the secure materials from all participants. All participants return their secure materials to the facilitator.

4:30 PM **Dismissal**

Table leaders are invited to return on Friday, July 12, for the across-grade discussion. All other partcipants are dismissed with the thanks of NCDPI and DRC.

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Friday, July 12 (for Table Leaders Only)

Across-Grade Articulation Discussion

7:30–8:15 AM **Participant Sign-In**
Please be sure to sign in for the day.

NOTE **Across-Grade Articulation is for Table Leaders Only**
Only table leaders will participate in the across-grade discussion. All other participants are dismissed from the workshop on Thursday afternoon.

8:30 AM **Begin Across-Grade Discussion for Table Leaders**
In a general session, the table leaders from both groups discuss their groups' recommendations and the consistency across grades. If needed, the table leaders recommend adjustments to their recommendations to improve across-grade consistency (*articulation*).

10:00 AM **Break**

10:15 AM **Complete the Across-Grade Discussion**

11:15 PM **Articulation Evaluation**
Each table leader completes an evaluation of the standard setting.

11:25 AM **Secure Materials Collection**
Facilitators lead the collection of the secure materials.

Noon **Dismissal**
All table leaders are dismissed with the thanks of NCDPI and DRC.

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Agenda at a Glance
North Carolina Mathematics Standard Setting

Public Schools of North Carolina
State Board of Education
Department of Public Instruction

Monday, July 8

7:30–8:15 AM	Participant Registration
8:30 AM	Opening Session
9:00 AM	Achievement Level Descriptor (ALD) Development Training
9:45 AM	Break and Adjournment to Tables by Grade
10:00 AM	Study Content Standards and Policy ALDs
10:15 AM	Draft Range ALDs as a Table
12:00 PM	Lunch
12:45 PM	Review the Across-Grade Articulation of the Range ALDs
2:30 PM	Refine the Draft ALDs as a Table
3:30 PM	Review the ALDs as a Group
4:25 PM	Secure Materials Collection
4:30 PM	Dismissal

Tuesday, July 9

7:30–8:15 AM	Participant Sign-In
8:30 AM	Participant Training
9:30 AM	Break and Adjournment into Tables
9:45 AM	Discuss the Threshold Students in Tables for Grade 6
10:45 AM	Discuss the Threshold Students as a Group for Grade 6
11:30 AM	Examine the Student Test for Grade 6
12:00 PM	Lunch
12:45 PM	Orientation to the Yes/No Angoff Process
1:15 PM	Round 1 for Grade 6
2:30 PM	Break
2:45 PM	Round 2 for Grade 6
4:00 PM	Round 3 for Grade 6
4:25 PM	Secure Materials Collection
4:30 PM	Dismissal

Wednesday, July 10

7:30–8:15 AM	Participant Sign-In
8:30 AM	Discuss the Threshold Students in Tables for Grade 5 or 7
9:15 AM	Discuss the Threshold Students as a Group for Grade 5 or 7
9:45 AM	Round 1 for Grade 5 or 7
10:30 AM	Break
10:45 AM	Round 2 for Grade 5 or 7
12:00 PM	Lunch
12:45 PM	Round 3 for Grade 5 or 7
1:30 PM	Discuss the Threshold Students in Tables for Grade 4 or 8
2:15 PM	Discuss the Threshold Students as a Group for Grade 4 or 8
2:30 PM	Break
2:45 PM	Round 1 for Grade 4 or 8
3:45 PM	Round 2 for Grade 4 or 8
4:25 PM	Secure Materials Collection
4:30 PM	Dismissal

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Thursday, July 11

7:30–8:15 AM	Participant Sign-In
8:30 AM	Round 3 for Grade 4 or 8
9:45 AM	Discuss the Threshold Students in Tables for Grade 3 or Math 1
10:00 AM	Break
10:15 AM	Discuss the Threshold Students as a Group for Grade 3 or Math 1
11:00 AM	Round 1 for Grade 3 or Math 1
12:00 PM	Lunch
12:45 PM	Round 2 for Grade 3 or Math 1
2:00 PM	Round 3 for Grade 3 or Math 1
3:00 PM	Break
3:30 PM	Presentation of Recommendations
4:20 PM	Workshop Evaluation
4:25 PM	Secure Materials Collection
4:30 PM	Dismissal

Friday, July 12 (for Table Leaders Only)

7:30–8:15 AM	Participant Sign-In
8:30 AM	Begin Across-Grade Discussion for Table Leaders
10:00 AM	Break
10:15 AM	Complete the Across-Grade Discussion
11:15 PM	Articulation Evaluation
11:25 AM	Secure Materials Collection
Noon	Dismissal

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D

Training Presentation and Materials

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North Carolina Mathematics Standard Setting

NCEXTEND1 Grades 3–8 and Math 1
Angoff Training Session
July 9, 2019

Training Session

Dave Chayer
Sr. Vice President, Research
Data Recognition Corporation

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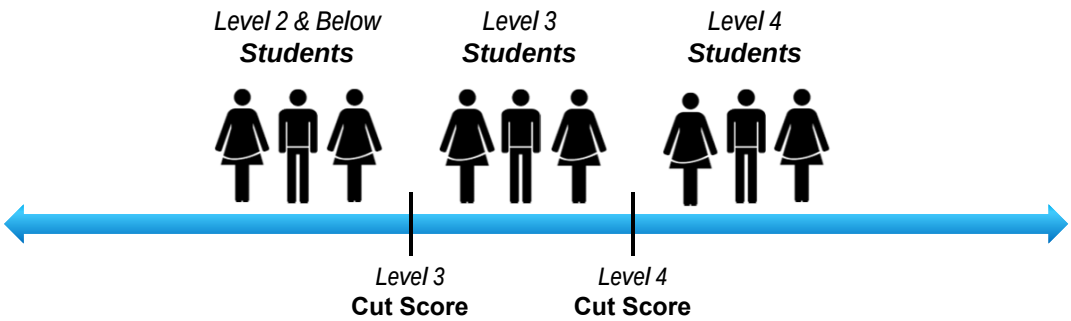
Workshop Goal

- To recommend cut scores that categorize students into one of three achievement levels:
  - *Level 2 & Below*
  - *Level 3*
  - *Level 4*

Cut Scores & Achievement Levels

- Two cut scores classify students into three achievement levels.



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Yes/No Angoff Procedure

Item-centered method

Content-based decisions

Iterative process

Process Overview

Today

- Discuss the threshold students for grade 6
- Study the test items
- **Round 1**: Make cut score recommendations on your own
- Discuss recommendations with your table
- **Round 2**: Make cut score recommendations on your own
- Discuss your recommendations with your group
- **Round 3**: Make cut score recommendations on your own

Tomorrow and Thursday

- Repeat the process for remaining grades
- Review the group's recommendations
- Evaluate the workshop

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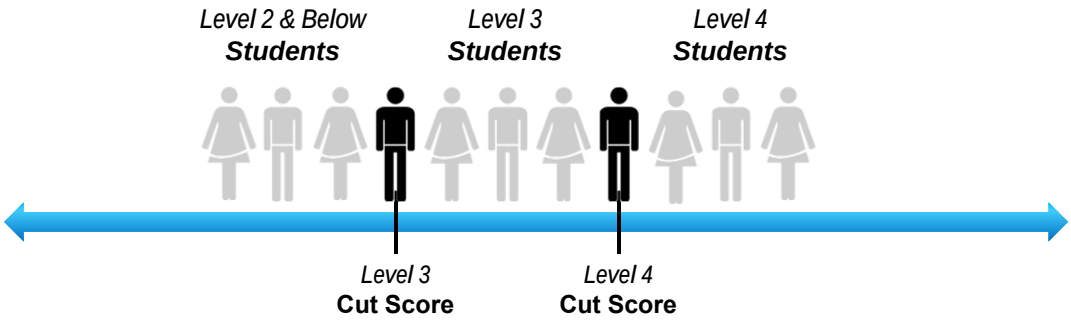
Achievement Level Descriptors (ALDs)

- ALDs describe the knowledge, skills, and understandings expected of students in each achievement level.
  - They are linked to the content standards.
  - ALDs describe students in the middle of each level, not on the *thresholds*.

ALDs and Achievement Levels

- ALDs describe the student in the middle of each achievement level.



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Two Threshold Students

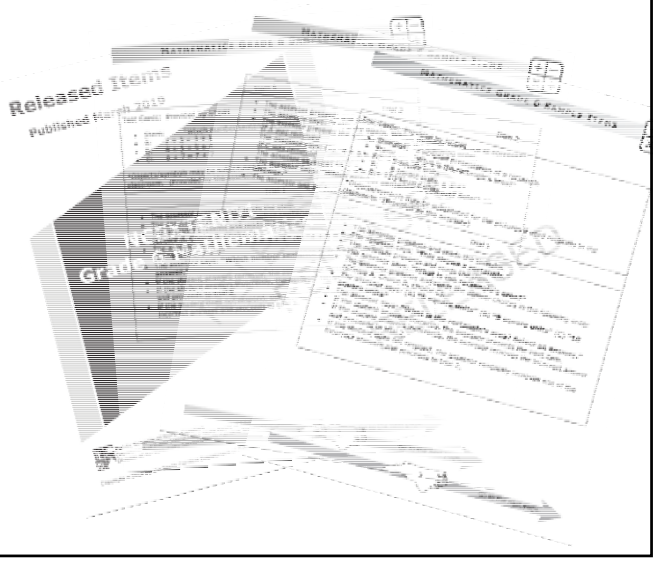
- Threshold students are those just barely leaving one level and entering the next level.
  - The ALDs do *not* describe these students directly.
  - There are two threshold students.

Threshold
Level 2 & Below/Level 3
Student

Threshold
Level 3/Level 4
Student

Examine the Test Items

- By examining the test questions, you will better understand students' testing experience during the assessment.
- Then you will consider how the two hypothetical threshold students are expected to perform.



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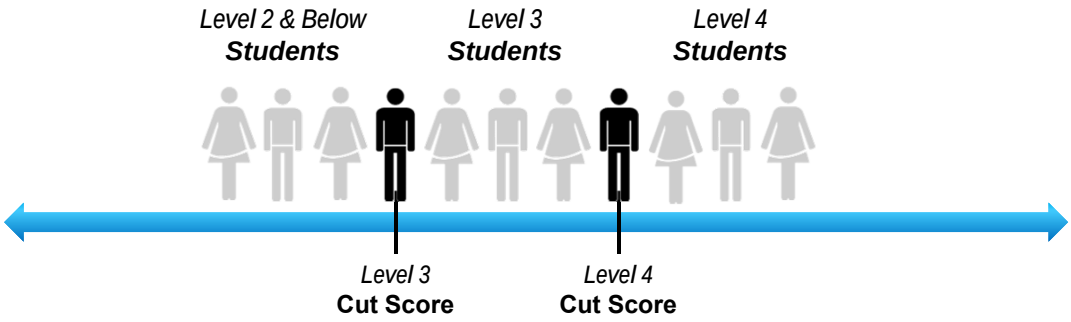
Threshold Students and Ratings

- Yes/No Angoff ratings and cut scores are linked to the student *just* in each level.



Three Rounds

Round 1

- Study items and make your own Yes/No Angoff ratings
- Discuss your ratings with your tablemates

Round 2

- On your own, make your own Yes/No Angoff ratings
- See feedback and discuss your ratings with your group

Round 3

- On your own, make your own Yes/No Angoff ratings
- Then review recommended cut scores

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Roles and Responsibilities

- You will recommend achievement standards to DPI.
- During the workshop, remember to:
  - Contribute to discussions at your table
  - Participate in group-wide discussions
  - Make your Yes/No Angoff ratings independently
  - Ask a member of staff any questions
  - Use workshop materials only in meeting rooms
  - Keep workshop conversations confidential

Workshop Security

- Your facilitators will collect your materials each afternoon in a structured way.
- Always leave the workshop materials in the meeting rooms. Do not discuss the contents of the materials outside your meeting room.
- You are welcome to use phones, tablets, and laptops in the lunchroom and hallways, but never in the meeting rooms.

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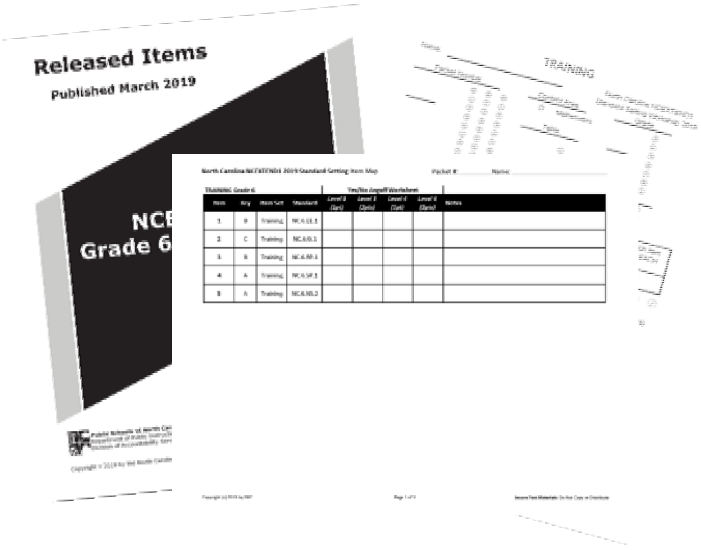
Training Materials

- Item map
- Training items
- Training rating form



Item Map

North Carolina NCEXTEND1 2019 Standard Setting Item Map Packet #: _____ Name: _____

TRAINING Grade 6				Yes/No Angoff Worksheet				
Item	Key	Item Set	Standard	*Level 3 (1pt)*	*Level 3 (2pts)*	*Level 4 (1pt)*	*Level 4 (2pts)*	Notes
1	B	Training	NC.6.EE.1					
2	C	Training	NC.6.G.1					
3	B	Training	NC.6.RP.1					
4	A	Training	NC.6.SP.1					
5	A	Training	NC.6.NS.2					

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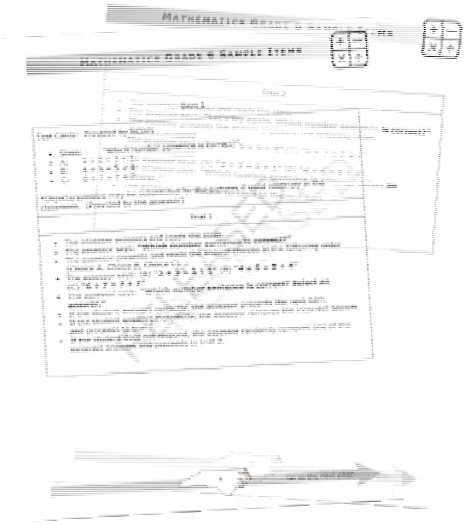
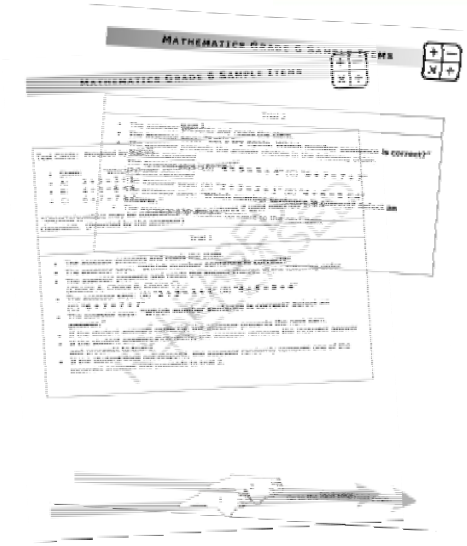
Item Structure



- Items are presented by the teacher to the student.
  - If the student gets the item correct in **Trial 1** (i.e., on the first try), the student earns **two points**.
  - If the student gets the item wrong (or doesn't respond), an incorrect answer choice is removed. If the student gets the item correct in **Trial 2** (i.e., on the second try), the student earns **one point**.
- The training packet includes detailed instructions for the teacher.
  - In the actual standard setting, only the item is shown.

Examining an Item and Making Ratings



- Make a brief note to yourself about what the item measures.
- Consider a threshold student. Ask yourself if the threshold student is expected to:
  - Earn two points on the item
  - Earn one point on the item
  - Earn zero points on the item
- Record your judgment on your item map, then go on to the next item.

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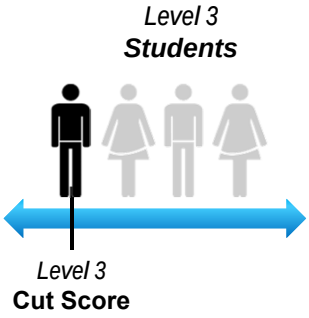
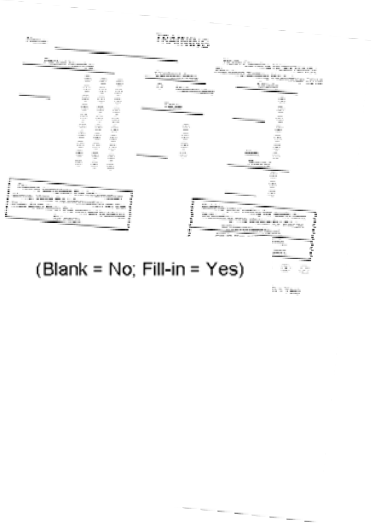
Items and the Threshold Student



- Remember to consider the threshold student, not the student in the middle of the achievement level.
  - For example, is the Level 3 threshold student expected to earn two points on the item (i.e., answer the question correctly in Trial 1)?

Recording Your Angoff Ratings

- Use the Rating Sheet to record your Angoff ratings.
  - Full circle for "yes."
  - Empty circle for "no."



I believe the ***threshold student*** would earn this many points: (Blank = No; Fill-in = Yes)

❶ ② = 1 point ❶ ❷ = 2 points

Item	Level 3	Level 4
1	● ●	● ●
2	● ○	● ●
3	① ②	● ②
4	① ②	● ②
5	① ②	① ②

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Recap

- Steps in Round 1:
  - Discuss expectations for the threshold students
  - Examine the test items
  - Consider the two threshold students
  - Review each test item
  - Ask yourself how each threshold student would be expected to perform on each item
  - Record judgments on the item map
  - Transfer judgments to rating form

Pacing

- Some people will take longer than others to study the test items and make their Angoff ratings.
  - During conversations, please be considerate of others at your table and in the room.
  - If you finish earlier than your neighbors, you may wish to check-in with your facilitator, leave your materials at your table, and take a short break.

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Practice Exercise

North Carolina Mathematics Standard Setting

Angoff Training Session
July 9, 2019

Consider the Threshold Student

- Review these policy ALDs for *Level 2 and Below* and *Level 3*.
  - Consider the student who is just barely in *Level 3*.
  - What knowledge, skills, and understandings would you expect of this threshold student?

Level 2 & Below	Level 3
Students at Level 2 & Below demonstrate **inconsistent** understanding of the North Carolina Extended Content Standards and will need significant support at the next grade/course.	Students at Level 3 demonstrate **sufficient** understanding of the North Carolina Extended Content Standards though some support may be needed to engage with content at the next grade/course.

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Examine Items Using Item Info Sheet

- For each item…
  - Consider what the item measures.
  - Ask yourself if the threshold *Level 3* student is expected to earn one point on the item. Then ask whether they would earn two points.
  - Make a check mark for "Yes" and leave a blank for "No."

TRAINING Grade 6				Yes/No Angoff Worksheet			
Item	Key	Item Set	Standard	*Level 3 (1pt)*	*Level 3 (2pts)*	*Level 4 (1pt)*	*Level 4 (2pts)*
1	B	Training	NC.6.EE.1				
2	C	Training	NC.6.G.1				
3	B	Training	NC.6.RP.1				
4	A	Training	NC.6.SP.1				
5	A	Training	NC.6.NS.2				

Repeat the Process Twice More

- Now repeat the process for the threshold *Level 4* student.
  - Remember: the threshold *Level 4* student will do *at least* as well on each item as the threshold *Level 3* student.

- Remember the steps:
  1. Review the ALDs
  2. Examine the test items
  3. Consider the two threshold students
  4. Review each test item
  5. Ask yourself whether each threshold student would be expected to earn zero points, one point, or two points.
  6. Record your judgments on your item map.

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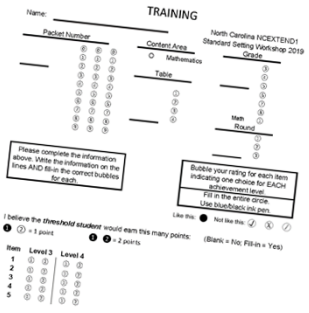
Review Your Item Info Sheet

- After you have studied the items, look over your ratings.
  - Be sure your expectations for the threshold *Level 4* student are at least as high as those for the threshold *Level 3* student.
  - It's okay if you don't expect either threshold student to earn points on some items.

TRAINING Grade 6				Yes/No Angoff Worksheet			
Item	Key	Item Set	Standard	*Level 3 (1pt)*	*Level 3 (2pts)*	*Level 4 (1pt)*	*Level 4 (2pts)*
1	B	Training	NC.6.EE.1	✓	✓	✓	✓
2	C	Training	NC.6.G.1	✓		✓	✓
3	B	Training	NC.6.RP.1	✓		✓	
4	A	Training	NC.6.SP.1			✓	
5	A	Training	NC.6.NS.2				

Transfer Your Angoff Ratings

- Transfer your Angoff ratings to the bubble sheet.
  - Fill in:
    two circles for two points,
    one circle for one point, or
    zero circles for zero points.



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After Round 1

- To calculate cut score recommendations after each round, we sum the number of points expected of each threshold student.
  - The median of the cut score recommendations across participants is the group's recommendation.
- After Round 1, you will receive additional information to consider.
  - Feedback on recommended cut scores
  - *benchmarks*, based on the 2013 NCEXTEND1 results.
- The benchmarks are provided as contextual information for you to consider.

Using the Feedback

- Compare your cut score recommendations with your tablemates' recommendations.
- Consider the stringency of your recommendations.
  - Compare the group's recommendations against the benchmarks.
  - Talk with your tablemates about the items.
  - Then make your Round 2 ratings.
  - You do *not* have to agree with your colleagues.

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Discussion of Round 1 Ratings

- In the actual workshop, you will discuss your Round 1 ratings at your table.
- Feel free to discuss:
  - Your ratings for each item
  - Items where you had a hard time making a rating
- After discussion, you will have a second opportunity to make Angoff ratings.
  - You can change any, all, or none of your ratings.
  - Making ratings is always an individual activity.

Suggestions for Discussions

- Practice active listening.
- Be open to changing your mind.
- Work to understand your colleagues' rationales for their Angoff ratings.
- In a respectful manner, feel free to ask questions of your colleagues.
- Do not discuss your ratings until everyone at the table has made theirs.
- Keep the contents of your discussions private.

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After Round 2

- After Round 2, you will see:
  - the median recommendations from Round 2
  - *benchmarks*, based on the 2013 results
  - *impact data*, the percent of students that would be classified in each achievement level if the Round 2 cut scores were implemented

Round 3

- After Round 2, you will discuss your ratings *across tables*.
  - Your table will report-out and share a bit of the discussions that happened after Round 1.
  - Be sure to share any items for which (a) your table disagreed on the ratings for, even after discussion; or (b) your table had insightful conversations about.
- Then you will make Round 3 ratings.
  - Making Angoff ratings is always an individual activity.

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Repeat the Process

- After Round 3, the group will divide and repeat the process for the remaining grades.
  - The group will likely pick up speed as it goes.

Grades 3-6 Group	Grades 6-HS Group
Grade 6	**Grade 6**
Grade 5	Grade 7
Grade 4	Grade 8
Grade 3	Math 1

Reviewing the Recommendations

- After the Yes/No Angoff process is complete for the final grade, your facilitator will show you a presentation of the Round 3 recommendations from all seven tests.
  - You will be asked to look at the articulation of the achievement standards across grades.
  - You may wish to consider adjustments to your recommendations to improve the articulation across grades.
  - The table leaders will convene in a special session to look over the recommendations and, if needed, recommend adjustments to promote better across-grade articulation.

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After the Workshop

- Your recommendations will be considered by DPI.
  - The recommendations from all groups will be considered by DPI and its advisors.

Workshop Structure

- Discuss threshold students
- Study items and make Round 1 ratings
- Discuss Round 1 at tables
- Make Round 2 ratings
- Discuss Round 2 as a group
- Make Round 3 ratings
- Repeat the process for remaining grades
- Review recommendations

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Questions

- Do you have any questions?
  - If questions come up later, ask your facilitator, or write them on an index card.

Yes/No Angoff Refresher Training

NCEXTEND1 Mathematics Standard Setting

July 9, 2019

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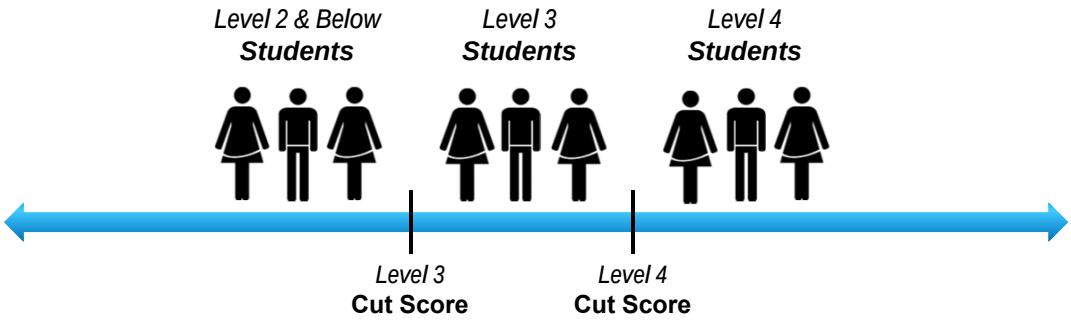
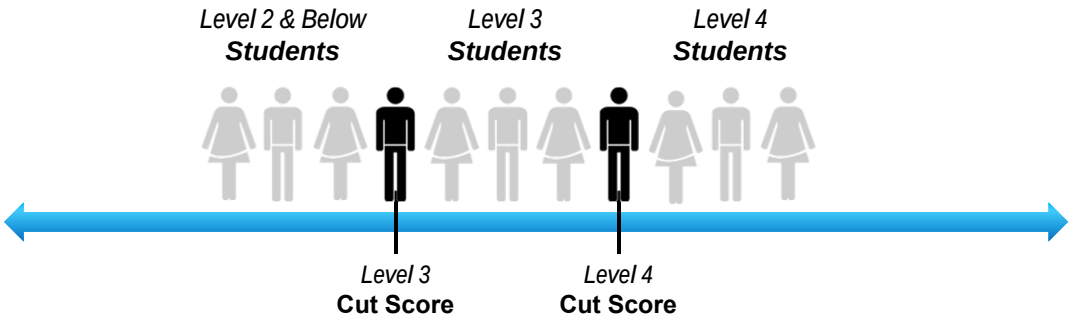
Cut Scores & Achievement Levels

- Two cut scores classify students into three achievement levels.



Threshold Students and Ratings

- Yes/No Angoff ratings and cut scores are linked to the student *just* in each level.



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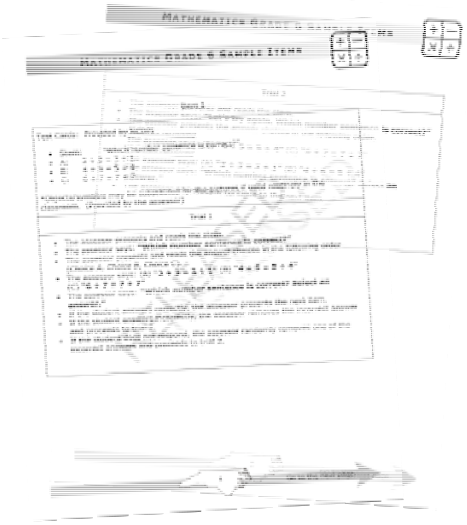
Examining an Item and Making Ratings



- Make a brief note to yourself about what the item measures.
- Consider a threshold student. Ask yourself if the threshold student is expected to:
  - Earn two points on the item
  - Earn one point on the item
  - Earn zero points on the item
- Record your judgment on your item map, then go on to the next item.

Review Your Item Info Sheet

- After you have studied the items, look over your ratings.
  - Be sure your expectations for the threshold *Level 4* student are at least as high as those for the threshold *Level 3* student.
  - It's okay if you don't expect either threshold student to earn points on some items.

TRAINING Grade 6				Yes/No Angoff Worksheet			
Item	Key	Item Set	Standard	*Level 3 (1pt)*	*Level 3 (2pts)*	*Level 4 (1pt)*	*Level 4 (2pts)*
1	B	Training	NC.6.EE.1	✓	✓	✓	✓
2	C	Training	NC.6.G.1	✓		✓	✓
3	B	Training	NC.6.RP.1	✓		✓	
4	A	Training	NC.6.SP.1			✓	
5	A	Training	NC.6.NS.2				

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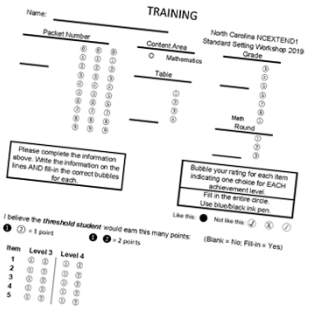
Trials and Points

- Remember:
  - If you expect a threshold student will answer the question correctly on Trial 1, you expect they will earn **two points**.
  - You would fill in both circles for this item.
  - If you expect a threshold student will answer the question correctly on Trial 2, you expect they will earn **one points**.
  - You would fill in the first circle for this item.

Transfer Your Angoff Ratings

- Transfer your Angoff ratings to the bubble sheet.
  - Fill in:
    two circles for two points,
    one circle for one point, or
    zero circles for zero points.



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Rounds

- **Round 1**: Make ratings on your own
- **Round 2**: See feedback and benchmarks, discuss with your tablemates, make ratings on your own
- **Round 3**: See feedback and impact, discuss with the group, make ratings on your own

Mid-Process Evaluation

- Before we continue, let's complete the mid-process evaluation.

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Mid-Process Evaluation

Name: _____

A participant is considering her Yes/No Angoff ratings.
Read the questions below and choose the best answer.

1. When making her ratings, which of these students should the participant mostly keep in mind?

Threshold Students	*Mid-Level Students*	*High-Achieving Students*
○	○	○

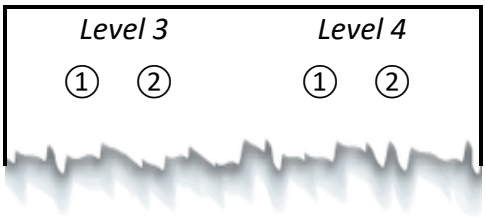
2. The participant thinks the threshold *Level 3* student will get an item correct in Trial 2. She fills in the first circle for *Level 3* for that item. What does her rating mean?

The threshold *Level 3* student will probably answer earn one point on the item.	The threshold *Level 3* student *must* earn at least one point on the item to be in *Level 3.*	Students in *Level 4* will probably earn one point on the item, but *not* any students in *Level 3.*
○	○	○

3. The participant thinks that the threshold *Level 3* student should be able to answer a different item correctly on Trial 1. Based *only* on this rating, which other student would also probably answer this item correctly on Trial 1?

Threshold Level 4	*Threshold Level 2 and Below*	*No Other Students*
○	○	○

4. The participant is filling in her rating form for another item. She feels that the threshold *Level 3* student should be able to answer the item correctly on Trial 2, and the threshold *Level 4* student should be able to answer the item correctly on Trial 1. How should she fill out her rating form?



Now consider the statements below and mark the level of agreement or disagreement you have with each statement. Please bubble *only one* of the five options for each statement.	**Strongly Disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
5. The goals for the standard setting have been made clear.	○	○	○	○	○
6. The Yes/No Angoff procedure has been well described.	○	○	○	○	○
7. I know how to use the achievement level descriptors to make my ratings.	○	○	○	○	○
8. The practice activities have been helpful.	○	○	○	○	○

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9. Are you ready to proceed?

Yes, I am ready.	Not yet; I have questions that I have written below.
○	○

#9: If you are not ready to proceed, please write your questions below.

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1. When making her ratings, which of these students should the participant mostly keep in mind?

Response	Frequency	Percent	Mean: 1.00
Threshold Students	38	100.00	
Mid-Level Students	0	0.00	
High-Achieving Students	0	0.00	

2. The participant thinks the threshold Level 3 student will get an item correct in Trial 2. She fills in the first circle for Level 3 for that item. What does her rating mean?

Response	Frequency	Percent	Mean: 1.13
The threshold Level 3 student will probably earn one point on the item.	33	86.84	
The threshold Level 3 student must earn at least one point on the item to be in Level 3.	5	13.16	
Students in Level 4 will probably earn one point on the item but not any students in Level 3.	0	0.00	

3. The participant thinks that the threshold Level 3 student should be able to answer a different item correctly on Trial 1. Based only on this rating, which other student would also probably answer this item correctly on Trial 1?

Response	Frequency	Percent	Mean: 1.03
Threshold Level 4	37	97.37	
Threshold Level 2 and Below	1	2.63	
No Other Students	0	0.00	

4a. She feels that the threshold Level 3 student should be able to answer the item correctly on Trial 2, and the threshold Level 4 student should be able to answer the item correctly on Trial 1. How many points should she give Level 3?

Response	Frequency	Percent	Mean: 1.05
1	36	94.74	
2	2	5.26	

4b. She feels that the threshold Level 3 student should be able to answer the item correctly on Trial 2, and the threshold Level 4 student should be able to answer the item correctly on Trial 1. How many points should she give Level 4?

Response	Frequency	Percent	Mean: 1.95
1	2	5.26	
2	36	94.74	

5. The goals for the standard setting have been made clear.

Response	Frequency	Percent	Mean: 4.21
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Neutral	1	2.63	
Agree	28	73.68	
Strongly Agree	9	23.68	

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6. The Yes/No Angoff procedure has been well described.

Response	Frequency	Percent	Mean: 4.39
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Neutral	0	0.00	
Agree	23	60.53	
Strongly Agree	15	39.47	

7. I know how to use the achievement level descriptors to make my ratings.

Response	Frequency	Percent	Mean: 4.37
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Neutral	1	2.63	
Agree	22	57.89	
Strongly Agree	15	39.47	

8. The practice activities have been helpful.

Response	Frequency	Percent	Mean: 4.39
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Neutral	1	2.63	
Agree	21	55.26	
Strongly Agree	16	42.11	

9. Are you ready to proceed?

Response	Frequency	Percent	Mean: 1.00
Yes I am ready	38	100.00	
Not yet; I have questions	0	0.00	

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TRAINING Grade 6				**Yes/No Angoff Worksheet**				
Item	**Key**	**Item Set**	**Standard**	***Level 3 (1pt)***	***Level 3 (2pts)***	***Level 4 (1pt)***	***Level 4 (2pts)***	**Notes**
1	B	Training	NC.6.EE.1					
2	C	Training	NC.6.G.1					
3	B	Training	NC.6.RP.1					
4	A	Training	NC.6.SP.1					
5	A	Training	NC.6.NS.2					

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TRAINING

Name: _____

North Carolina NCEXTEND1
Standard Setting Workshop 2019

Packet Number

_____

⓪ ⓪ ⓪
① ① ①
② ② ②
③ ③ ③
④ ④ ④
⑤ ⑤ ⑤
⑥ ⑥ ⑥
⑦ ⑦ ⑦
⑧ ⑧ ⑧
⑨ ⑨ ⑨

Content Area

O Mathematics

Table

_____

① ② ③ ④

Grade

_____

③ ④ ⑤ ⑥ ⑦ ⑧

Math ①

Round

_____

① ② ③

Please complete the information above. Write the information on the lines AND fill-in the correct bubbles for each.

Bubble your rating for each item indicating one choice for EACH achievement level.

Fill in the entire circle.
Use blue/black ink pen.

Like this: ● Not like this: ✓ Ⓧ ⊘

I believe the ***threshold student*** would earn this many points: (Blank = No; Fill-in = Yes)

❶ ② = 1 point ❶ ❷ = 2 points

Item	Level 3		Level 4	
1	①	②	①	②
2	①	②	①	②
3	①	②	①	②
4	①	②	①	②
5	①	②	①	②

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E

Achievement Level Descriptors (ALDs)

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	Level 2 and Below	Level 3	Level 4
	Students at Level 2 and below demonstrate **inconsistent** understanding of the North Carolina Extended Content Standards and will need significant support at the next grade/course.	Students at Level 3 demonstrate **sufficient** understanding of the North Carolina Extended Content Standards though some support may be needed to engage with content at the next grade/course.	Students at Level 4 demonstrate a **thorough** understanding of the North Carolina Extended Content Standards and are on track for competitive employment and post-secondary education.
	Operations and Algebraic Thinking		
Represent and solve problems involving multiplication and division. Understand properties of multiplication and the relationship between multiplication and division. Understand the properties of multiplication. Multiply and divide within 100.	• Use repeated addition up to 10 when there are repeated equal groups.	• Use repeated addition and arrays to find a total product up to 20 when there are repeated equal groups.	• Use repeated addition, bar models, and arrays to find a total product when there are repeated equal groups.

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Solve two-step problems. Explore patterns of numbers.	• Match a given pattern.	• Extend an arithmetic pattern with a difference of 1 or 2.	• Identify arithmetic patterns.
	Number and Operations in Base Ten		
Use place value to add and subtract.	• Use 10 as a benchmark to demonstrate understanding of place value for numbers 0–10.	• Use decade numbers (10, 20) as benchmarks to demonstrate understanding of place value for numbers 0–20.	• Use decade numbers (10, 20, 30) as benchmarks to demonstrate understanding of place value for numbers 0–30.
Generalize place value understanding for multi-digit numbers.	• Recognize sets of ten.	• Count by tens using models such as objects and base-ten blocks.	• Count by tens using models such as objects, base-ten blocks, ten-frames, or money.
	Number and Operations – Fractions		
Understand fractions as numbers.	• Identify a whole.	• Identify a fractional part.	• Differentiate a fractional part from a whole.

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	Measurement and Data		
Solve problems involving measurement. Represent and interpret data. Understand the concept of area. Understand the concept of perimeter.	• Locate the hour digit(s) on a digital clock. • Measure the length of objects using nonstandard units or measure the length of objects using standard units (1–3 units). • Recognize a bar graph or a picture graph. • Recognize rectangles and triangles.	• Locate and identify the hour digit(s) on a digital clock. • Measure the length of objects using standard units (1–5 units). • Identify data from a picture or bar graph. • Recognize the sides of a shape.	• Tell time to the hour on a digital clock. • Measure the length of objects using standard units. • Use picture or bar graph data to answer questions about data. • Recognize that perimeter is the distance around a shape.
	Geometry		
Reason with shapes and their attributes.	• Identify two-dimensional shapes (circle and rectangle).	• Recognize an attribute of two-dimensional shapes (circle, square, rectangle, triangle).	• Identify the attributes of two-dimensional shapes (circle, square, rectangle, triangle, oval, rhombus).

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	Level 2 and Below	Level 3	Level 4
	Students at Level 2 and below demonstrate **inconsistent** understanding of the North Carolina Extended Content Standards and will need significant support at the next grade/course.	Students at Level 3 demonstrate **sufficient** understanding of the North Carolina Extended Content Standards though some support may be needed to engage with content at the next grade/course.	Students at Level 4 demonstrate a **thorough** understanding of the North Carolina Extended Content Standards and are on track for competitive employment and post-secondary education.
	Operations and Algebraic Thinking		
Represent and solve problems involving multiplication and division.	• Recognize a mathematical problem that demonstrates repeated addition or multiplication. • Solve an addition or subtraction mathematical problem within 10.	• Identify the connection between repeated addition and multiplication with whole numbers 1–4. • Solve one-step word problems using addition or subtraction within 10.	• Identify the connection between repeated addition and multiplication. • Solve one-step word problems using addition or subtraction within 20.
Gain familiarity with factors and multiples.	• Recognize a product.	• Identify one way to arrive at a product using a model (equal groups).	• Show one way to arrive at a product.
Explore patterns of numbers.	• Recognize a repeating pattern.	• Use repeating patterns to determine the next term.	• Use repeating patterns to make predictions.

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	Number and Operations in Base Ten		
Generalize place value understanding for multi-digit whole numbers. Use place value understanding and properties of operations to perform multidigit arithmetic.	• Count up to 30 items. • Round any whole number 0–10 to the nearest ten. • Add or subtract two-digit whole numbers 0–50.	• Count up to 50 items. • Round any whole number 0–20 to the nearest ten. • Add and subtract two-digit whole numbers 0–50.	• Count up to 100 items. • Round any whole number 0–30 to the nearest ten. • Add and subtract two-digit whole numbers.
	Number and Operations – Fractions		
Extend understanding of fractions. Use unit fractions to understand operations of fractions. Understand decimals.	• Understand the relationship between the denominator and the number of parts in the whole. • Recognize a whole can be divided into two equal parts.	• Identify models of one-half and one-fourth in circles and squares. • Identify one-half as one of two parts to make 1 whole.	• Identify models of one-half and one-fourth. • Represent one-half as one of two parts to make 1 whole.

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	Measurement and Data		
Solve problems involving measurement.	• Identify tools for each system of measurement.	• Identify units that belong to the same measurement system (inches/feet, minutes/hour).	• Identify the smaller measurement unit that comprises a larger unit within a measurement system (inches/foot, centimeter/meter, minutes/hour).
	• Recognize that the area of a square or rectangle is the amount of space (unit squares) it covers.	• Determine the square or rectangle that matches a given area by counting units of measure (unit squares).	• Determine the area of a square or rectangle by counting units of measure (unit squares).
Represent and interpret data.	• Recognize a bar graph or a picture graph.	• Identify data from a picture or bar graph.	• Interpret data from a picture or bar graph.
Understand angles.	• Recognize an angle.	• Recognize corners as angles in geometric shapes.	• Identify angles in geometric shapes.

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	Geometry		
Classify shapes based on lines and angles in two-dimensional figures.	• Recognize a line. • Identify two-dimensional shapes. • Identify a line of symmetry that partitions shapes into equal areas.	• Recognize parallel lines or intersecting lines. • Describe the attributes of rectangles and triangles. • Use lines of symmetry to partition quadrilaterals and circles into equal areas.	• Recognize parallel lines and intersecting lines. • Describe the attributes of two-dimensional shapes. • Use lines of symmetry to partition shapes into equal areas.

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	Level 2 and Below	Level 3	Level 4
	Students at Level 2 and below demonstrate **inconsistent** understanding of the North Carolina Extended Content Standards and will need significant support at the next grade/course.	Students at Level 3 demonstrate **sufficient** understanding of the North Carolina Extended Content Standards though some support may be needed to engage with content at the next grade/course.	Students at Level 4 demonstrate a **thorough** understanding of the North Carolina Extended Content Standards and are on track for competitive employment and post-secondary education.
	Operations and Algebraic Thinking		
Write, explain, and evaluate expressions. Understand the properties of multiplication.	• Identify numerical patterns.	• Extend numerical patterns.	• Identify and extend numerical patterns.

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	Numbers and Operations in Base Ten		
Generalize place value understanding for multidigit numbers.	• Identify equivalent groupings for quantities up to 20.	• Identify equivalent groupings for quantities up to 50.	• Identify equivalent groupings for quantities up to 99.
Generalize place value understanding for multidigit numbers.	• Compare whole numbers up to 20 using symbols (<, >, =).	• Compare whole numbers up to 50 using symbols (<, >, =).	• Compare whole numbers up to 100 using symbols (<, >, =).
Compute with multi-digit whole numbers and decimal numbers.	• Multiply whole numbers up to 2 x 5.	• Multiply whole numbers up to 3 × 5.	• Multiply whole numbers up to 5 × 5.
	• Identify fair and equal shares within division problems using visual models.	• Use fair and equal shares to solve division problems using visual models.	• Use fair and equal shares to solve division problems.

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	Number and Operations – Fractions		
Add and subtract fractions. Multiply and divide fractions.	• Identify models of halves and fourths.	• Identify models of halves, fourths, and thirds.	• Identify models of halves, fourths, thirds, and tenths.
	Measurement and Data		
Convert like measurement units within a given measurement system.	• Identify the standard unit needed to accurately measure weight or length of objects.	• Use standard units to measure weight or length of objects.	• Use standard units to measure weight and length of objects.
Represent and interpret data.	• Identify data on a picture, line plot, or bar graph.	• Interpret data on a picture, line plot, or bar graph.	• Identify and interpret data on a picture, line plot, or bar graph.
Understand concepts of volume.	• Recognize volume as an attribute of rectangular prisms.	• Determine the volume of a rectangular prism up to $1 \times 2 \times 3$ by counting units of measure (unit cubes).	• Determine the volume of a rectangular prism by counting units of measure (unit cubes).

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	Geometry		
Understand the coordinate plane.	• Recognize the x- and y-axis on a coordinate plane.	• Determine the x- or y-coordinate of a point on a graph.	• Use the x and y axis to locate a point or object on a graph.
Classify two-dimensional figures into categories based on their properties.	• Identify two-dimensional shapes.	• Identify the attributes (angles, number of sides, corners) of a two-dimensional figure.	• Sort two-dimensional figures, and identify the attributes (angles, number of sides, corners) they have in common.

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	Level 2 and Below	Level 3	Level 4
	Students at Level 2 and below demonstrate **inconsistent** understanding of the North Carolina Extended Content Standards and will need significant support at the next grade/course.	Students at Level 3 demonstrate **sufficient** understanding of the North Carolina Extended Content Standards though some support may be needed to engage with content at the next grade/course.	Students at Level 4 demonstrate a **thorough** understanding of the North Carolina Extended Content Standards and are on track for competitive employment and post-secondary education.
	Ratio and Proportional Relationships		
Understand ratio concepts and use ratio reasoning to solve problems.	• Identify a ratio relationship with whole numbers using pictures. • Identify equivalent ratios by multiplying the quantities by the same whole number with a multiplication factor of 2 or 5.	• Interpret a ratio relationship with whole numbers using pictures or numbers. • Find equivalent ratios by multiplying the quantities by the same whole number with a multiplication factor of 2, 3, 4, 5, or 10.	• Demonstrate a ratio relationship with whole numbers using pictures or numbers. • Find equivalent ratios by multiplying or dividing the quantities by the same whole number.

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	The Number System		
Apply and extend previous understandings of multiplication and division to divide fractions by fractions.	• Compare the relationships between two unit fractions when given a visual model.	• Compare the relationships between two unit fractions with denominators of 2 or 4.	• Compare the relationships between two unit fractions.
Compute fluently with multi-digit numbers and find common factors and multiples.	• Identify the model that shows the concept of fair share and equal shares to divide.	• Identify a number sentence that shows the concept of fair share and equal shares to divide.	• Apply the concept of fair share and equal shares to divide.
Apply and extend previous understandings of numbers to the system of rational numbers.	• Solve two-factor multiplication problems with products up to 12 using concrete objects and using a calculator.	• Solve two-factor multiplication problems with products up to 20 using concrete objects and using a calculator.	• Solve two-factor multiplication problems with products up to 50 using concrete objects and using a calculator.
	• Identify integers on a given visual model.	• Use integers to describe real world context, include zero.	• Use integers to describe real world context, include zero and negative numbers.

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	Expressions and Equations		
Apply and extend previous understandings of arithmetic to algebraic expressions. Reason about and solve one-variable equations. Reason about one-variable inequalities. Represent and analyze quantitative relationships between dependent and independent variables.	• Identify equivalent number sentences limited to addition using whole numbers. • Identify equivalent numerical expressions formed using properties of addition. • Identify an equation limited to the operation of addition that represents a mathematical problem in which variables are used to represent numbers.	• Identify equivalent number sentences limited to the operations of addition or subtraction. • Identify the properties of addition. • Identify an equation limited to the operation of addition that represents a real-world problem in which variables are used to represent numbers.	• Identify equivalent number sentences. • Apply the properties of addition to identify equivalent numerical expressions. • Identify an equation that represents a real-world problem in which variables are used to represent numbers.

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	Geometry		
Solve real-world and mathematical problems involving area, surface area, and volume.	• Find the area of rectangles with side lengths less than 10 using unit squares.	• Solve mathematical problems about area using unit squares.	• Solve real-world and mathematical problems about area using unit squares.
	Statistics and Probability		
Develop understanding of statistical variability.	• Recognize variability of data displayed on a graph or table.	• Display data on a graph or table, limited to three data points, that shows variability in the data.	• Display data on a graph or table that shows variability in the data.
Summarize and describe distributions.	• Identify a gap, an outlier, or a peak on a graph.	• Describe the shape of a data distribution shown in a graph.	• Interpret data distributions shown in graphs or tables.

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	Level 2 and Below	Level 3	Level 4
	Students at Level 2 and below demonstrate **inconsistent** understanding of the North Carolina Extended Content Standards and will need significant support at the next grade/course.	Students at Level 3 demonstrate **sufficient** understanding of the North Carolina Extended Content Standards though some support may be needed to engage with content at the next grade/course.	Students at Level 4 demonstrate a **thorough** understanding of the North Carolina Extended Content Standards and are on track for competitive employment and post-secondary education.
	Ratio and Proportional Relationships		
Analyze proportional relationships and use them to solve real-world and mathematical problems.	• Identify a part-to-part ratio in a mathematical problem using models.	• Determine part-to-whole or part-to-part ratios in a mathematical problem using models or numbers.	• Compare part-to-whole and part-to-part ratios of two measures of the same type.

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	The Number System		
Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.	• Add fractions with like denominators (halves and tenths) with sums equal to one. • Solve multiplication problems with products up to 25 using a calculator. • Solve division problems with divisors of 2. • Recognize a remainder is present. • Identify the expression needed to solve one-step mathematical problems involving decimal numbers to the tenths place using a visual model.	• Add fractions with like denominators (halves, fourths, and tenths) with sums less than or equal to one. • Solve multiplication problems with products up to 50 using a calculator. • Solve division problems with divisors up to five. • Express any remainder as a whole number. • Identify the expression needed to solve one-step real-world problems involving decimal numbers to the tenths place.	• Add fractions with like denominators (halves, thirds, fourths, and tenths) with sums less than or equal to one. • Solve multiplication problems with products up to 100 using a calculator. • Solve division problems with divisors up to five and also with a divisor of 10 without remainders. • Express any remainder as a fraction. • Solve one-step real-world problems involving decimal numbers to the tenths place.

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	Expressions and Equations		
Use properties of operations to generate equivalent expressions.	• Use addition to identify if expressions are equivalent. • Identify arithmetic sequences where the difference between two consecutive terms is 10.	• Use addition or subtraction to determine if expressions are equivalent. • Identify arithmetic sequences where the difference between two consecutive terms is 2, 5, or 10.	• Use one of the four operations to determine if expressions are equivalent. • Identify arithmetic sequences where the difference between two consecutive terms is constant.
Solve real-world and mathematical problems using numerical and algebraic expressions, equations, and inequalities.	• Solve one-step addition equations with whole numbers less than 10.	• Solve one-step addition and subtraction equations with whole numbers less than 10.	• Solve one-step addition and subtraction equations.

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	Geometry		
Draw, construct, and describe geometrical figures and describe the relationships between them.	• Identify two similar rectangles that are proportional in size and in the same orientation. • Recognize quadrilaterals with given conditions.	• Identify two similar rectangles or triangles that are proportional in size and in the same orientation. • Recognize quadrilaterals and triangles with given conditions.	• Identify two similar geometric shapes that are proportional in size and in the same orientation. • Recognize geometric shapes with given conditions.
Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.	• Recognize the formula used to calculate the perimeter of a rectangle. • Recognize right angles. • Recognize the formula for the area of a rectangle as length × width.	• Identify the addition expression that represents the perimeter of a rectangle. • Recognize angles that are acute and right. • Recognize the area of a rectangle using the formula for length × width.	• Determine the perimeter of a rectangle by adding the measures of the sides. • Recognize angles that are acute, obtuse, and right. • Determine the area of a rectangle using the formula for length × width.

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	Statistics and Probability		
Use random sampling to draw inferences about a population.	• Identify relevant data from data collected by the student.	• Identify information related to the collected data from an experiment or from data collected by the student.	• Answer a question related to the collected data from an experiment, given model of data, or from data collected by the student.
Draw informal comparative inferences about two populations.	• Identify characteristics of one set of data shown in a data display such as a picture graph, line plot, or bar graph.	• Identify characteristics from one set of data when two sets of data are shown within a single data display such as a picture graph, line plot, or bar graph.	• Compare two sets of data within a single data display such as a picture graph, line plot, or bar graph.
Investigate chance processes and develop, use, and evaluate probability models.	• Identify possible and impossible events.	• Distinguish between possible and impossible events.	• Determine the probability of events occurring as possible or impossible.

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	Level 2 and Below	Level 3	Level 4
	Students at Level 2 and below demonstrate **inconsistent** understanding of the North Carolina Extended Content Standards and will need significant support at the next grade/course.	Students at Level 3 demonstrate **sufficient** understanding of the North Carolina Extended Content Standards though some support may be needed to engage with content at the next grade/course.	Students at Level 4 demonstrate a **thorough** understanding of the North Carolina Extended Content Standards and are on track for competitive employment and post-secondary education.
	The Number System		
Know that there are numbers that are not rational, and approximate them by rational numbers.	• Subtract fractions with like denominators (halves and tenths) with minuends less than or equal to one. • Recognize the decimal equivalent of a fraction with a denominator of 10. • Compare decimal quantities using less than (<), greater than (>), or equal to (=), in mathematical examples to the tenths place.	• Subtract fractions with like denominators (halves, fourths, and tenths) with minuends less than or equal to one. • Express a fraction with a denominator of 10 as a decimal. • Compare decimal quantities using less than (<), greater than (>), or equal to (=), in mathematical examples to the hundredths place.	• Subtract fractions with like denominators (halves, thirds, fourths, and tenths) with minuends less than or equal to one. • Express a fraction with a denominator of 100 as a decimal. • Compare decimal quantities using less than (<), greater than (>), or equal to (=), in real-world examples to the hundredths place.

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	Expressions and Equations		
Work with radicals and integer exponents.	• Identify the meaning of an exponent (limited to single digits 1–3 and exponents of 2). • Compose and decompose whole numbers up to 50.	• Identify the meaning of an exponent (limited to single digits 1–5 and exponents of 2). • Compose and decompose whole numbers up to 400.	• Identify the meaning of an exponent (limited to single digits and exponents of 2). • Compose and decompose whole numbers up to 999.
Understand the connections between proportional relationships, lines, and linear equations.	• Given a table with identified points, recognize a ratio that describes the relationship between quantities.	• Given a table or graph with identified points, identify a ratio that describes the relationship between quantities.	• Given a table or graph with identified points, determine a ratio that describes the relationship between quantities.
Analyze and solve linear equations and inequalities and pairs of simultaneous linear equations.	• Solve simple algebraic equations with one variable using single-digit addition.	• Solve simple algebraic equations with one variable using addition.	• Solve simple algebraic equations with one variable using addition and subtraction.

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	Functions		
Define, evaluate, and compare functions.	• Given a linear function table containing at least 3 complete ordered pairs, identify a missing whole number that completes another ordered pair (limited to linear functions).	• Given a linear function table containing at least 2 complete ordered pairs, identify a missing whole number that completes another ordered pair (limited to linear functions).	• Given a linear function table containing at least 2 complete ordered pairs, identify a missing number that completes another ordered pair (limited to linear functions).
Use functions to model relationships between quantities.	• Identify the values of a function using a table.	• Determine the values or rule of a function using a table.	• Determine the values or rule of a function using a graph or a table.
	• Identify a graph that represents a relationship between two quantities that is increasing.	• Identify a graph that represents a relationship between two quantities that is increasing or decreasing.	• Describe how a graph represents a relationship between two quantities as increasing or decreasing.

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	Geometry		
Understand congruence and similarity using physical models, transparencies, or geometry software.	• Identify congruent shapes after a translation. • Identify similar rectangles after dilation (resizing) with a whole-number scale factor. • Identify angles that are greater than or congruent to a right angle.	• Identify congruent shapes after a translation or reflection. • Identify similar shapes after dilation (resizing) with a whole-number scale factor. • Compare angles that are less than or congruent to a right angle.	• Identify congruent shapes after transformation (translation, rotation, and reflection). • Identify similar shapes after dilation (resizing). • Compare any angle to a right angle, and describe the angle as greater than, less than, or congruent to a right angle.
Understand and apply the Pythagorean Theorem.			
Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	• Given the formula for volume, solve mathematical problems (limited to volume of rectangular prisms) using whole numbers.	• Use the formula for volume to solve mathematical problems (limited to volume of rectangular prisms).	• Use the formula for volume to solve real-world and mathematical problems (limited to volume of rectangular prisms).

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	Statistics and Probability		
Investigate patterns of association in bivariate data.	• Compare data categorized in a table.	• Compare data categorized in a graph or table.	• Identify a graph or table from given categorical data, and compare data categorized in the graph or table.

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	Level 2 and Below	Level 3	Level 4
	Students at Level 2 and below demonstrate **inconsistent** understanding of the North Carolina Extended Content Standards and will need significant support at the next grade/course.	Students at Level 3 demonstrate **sufficient** understanding of the North Carolina Extended Content Standards though some support may be needed to engage with content at the next grade/course.	Students at Level 4 demonstrate a **thorough** understanding of the North Carolina Extended Content Standards and are on track for competitive employment and post-secondary education.
	Number and Quantity		
Extend the properties of exponents to rational exponents.	• Identify the base and exponent of an exponential expression or determine the value of a quantity that is squared (up to 5).	• Determine the value of a quantity that is squared (up to 10) or cubed (up to 3).	• Determine the value of a quantity that is squared (up to 20) or cubed (up to 10).

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	Algebra		
Interpret the structure of expressions.	• Recognize variables, coefficients, and constants in monomial expressions.	• Identify the different parts of a linear expression (A*x* + B).	• Identify the different parts of the linear expression (A*x* + B) using context.
Write expressions in equivalent forms to solve problems.	• Identify the properties of operations that have been used to determine equivalent expressions.	• Apply the commutative and distributive properties to determine equivalent expressions with three terms or fewer.	• Use the properties of operations to determine equivalent expressions.
Perform arithmetic operations on polynomials.	• Add the coefficients of like terms in quadratic expressions with all positive terms.	• Add quadratic expressions with positive and negative terms.	• Add and subtract quadratic expressions.
Create equations that describe numbers or relationships. Understand solving equations as a process of reasoning and explain the reasoning.	• Use equations to solve problems using addition with decimals (tenths place) when a part is unknown.	• Use equations to solve problems using addition and subtraction with decimals (tenths place) when a part is unknown.	• Use equations to solve problems using addition and subtraction with decimals when a part is unknown.

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Solve equations and inequalities in one variable. Solve systems of equations.	• Solve a one-step linear equation. • Identify the coordinates of a point on a graph.	• Solve a two-step linear equation. • Interpret a point on a graph in context.	• Solve a three-step linear equation. • Understand that a graph represents the solutions to an equation. Interpret a point on a graph in context.

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	Functions		
Understand the concept of a function and use function notation.	• Recognize $f(x)$ function notation. • Evaluate linear functions for whole-number inputs 0–5. • Use patterns to solve problems (adding).	• Distinguish between input and output. • Evaluate linear functions for whole-number inputs 0–10. • Use patterns to solve problems (multiplying).	• Identify input and output given a context. • Evaluate linear functions. • Use patterns to solve problems (adding and multiplying).
Interpret functions that arise in applications in terms of the context.	• Given a graph of a linear function, determine whether the line is increasing or decreasing. • Given one first quadrant point plotted on the graph of a line, with one point being the origin, identify the slope.	• Given a graph of a linear function, identify the intercepts and whether the line is increasing or decreasing. • Given two points that are plotted on the graph of a line, with one point being the origin, identify the slope.	• Given a graph of a linear function, identify the rate of change (slope) and intercepts. Identify whether the line is increasing or decreasing, and whether it has a positive or negative slope. • Given two points on a line, identify the slope.
Analyze functions using different representations.	• Given a linear function, identify the y-intercept.	• Given a linear function, identify the slope and y-intercept.	• Given a linear function, identify the slope and y-intercept and graph the line.

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	• Given two graphs of linear functions, identify the rates of change and initial values.	• Given two graphs of linear functions compare the rates of change or initial values.	• Given two graphs of linear functions, compare the rates of change and initial values.

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	Geometry		
Use coordinates to prove simple geometric theorems algebraically.	• On a coordinate plane find the perimeter of a square, in which all needed measurements can be counted on the grid, and where vertices are in the first quadrant. • Identify geometric figures on the coordinate plane, using counting, where vertices are in the first quadrant. • Identify the properties of parallel lines. • Recognize that parallel lines have the same slope.	• On a coordinate plane, find the perimeter or area of a rectangle, in which all needed measurements can be counted on the grid. • Identify geometric figures on the coordinate plane, using estimation or counting, where vertices are in the first quadrant. • Identify the properties of perpendicular lines, parallel lines, or a line segment. • Compare lines on a coordinate plane, to identify parallel lines.	• On a coordinate plane find the perimeter and area of geometric figures, in which all needed measurements can be counted on the grid. • Identify geometric figures on the coordinate plane, using estimation and counting. • Identify and compare attributes of perpendicular lines, parallel lines, and line segments. • Compare lines on the coordinate plane, to identify parallel lines and recognize that parallel lines have the same slope (rate of change).

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	• Identify the coordinates of the midpoint of a graphed line segment in the first quadrant.	• Use coordinates to find a missing endpoint of a line segment, given the midpoint and one endpoint, both in the first quadrant.	• Use coordinates to find the midpoints or endpoints of a line segment, in the first quadrant.
	Statistics and Probability		
Summarize, represent, and interpret data on a single count or measurement variable.	• Given data, identify a simple graph (picture).	• Given data, identify a simple graph (line, bar) or table.	• Given data, identify a simple graph (line, pie, bar, or picture) or table, and interpret the data.
	• Given a graph or table, calculate the means of given data sets (when the number of data points is fewer than five).	• Given a graph, table, or word problem, calculate the means of given data sets (when the number of data points is fewer than five) and compare the means.	• Interpret general trends on a graph or chart (more, less, increasing, decreasing). Given a graph, table, or word problem, calculate the mean of a given data sets (when the number of data points is fewer than five) and compare the mean.
	• Identify potential outliers in a data set.	• Explain why identifying a data set's outliers is important.	• Identify in general outliers in a data set and explain why they are important to identify.

F

Detailed Reports of Participants' Judgments

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North Carolina EXTEND1 Grade 3 Math
Round 1 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	301	23	38
1	302	23	40
1	303	30	41
1	305	24	39
1	306	22	38
2	307	26	45
2	308	36	43
2	310	37	46
2	311	40	50
2	312	34	48
2	316	32	50
3	313	21	34
3	315	34	45
3	317	30	45
3	318	27	43
4	304	25	38
4	309	29	43
4	319	43	49
4	320	33	53
4	321	28	45

		Level 3	Level 4
Overall	Median	29.5	44
	25%ile	24.25	39.25
	75%ile	34	47.5
	Minimum	21	34
	Maximum	43	53

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North Carolina EXTEND1 Grade 3 Math
Round 2 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	301	24	40
1	302	26	39
1	303	26	37
1	305	25	37
1	306	20	33
2	307	36	46
2	308	32	42
2	310	38	47
2	311	34	44
2	312	33	45
2	316	31	48
3	313	26	37
3	315	32	44
3	317	29	45
3	318	31	43
4	304	32	44
4	309	34	44
4	319	38	48
4	320	36	50
4	321	33	47

		Level 3	Level 4
Overall	Median	32	44
	25%ile	26	39.25
	75%ile	34	46.75
	Minimum	20	33
	Maximum	38	50

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North Carolina EXTEND1 Grade 3 Math
Round 3 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	301	26	40
1	302	27	40
1	303	27	38
1	305	25	36
1	306	22	33
2	307	38	46
2	308	29	41
2	310	40	47
2	311	41	51
2	312	34	47
2	316	30	47
3	313	37	45
3	315	35	44
3	317	29	44
3	318	35	44
4	304	32	45
4	309	37	46
4	319	38	48
4	320	34	46
4	321	34	48

		Level 3	Level 4
Overall	Median	34	45
	25%ile	27.5	40.25
	75%ile	37	47
	Minimum	22	33
	Maximum	41	51

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North Carolina EXTEND1 Grade 4 Math
Round 1 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	302	31	44
1	303	30	41
1	305	21	34
1	306	16	33
2	307	33	45
2	308	37	45
2	310	40	50
2	311	38	51
2	312	42	50
2	316	35	47
3	313	29	46
3	314	33	44
3	315	38	45
3	317	32	47
3	318	31	45
4	304	30	35
4	309	35	44
4	319	40	50
4	320	31	47
4	321	32	44

		Level 3	Level 4
Overall	Median	32.5	45
	25%ile	30.25	44
	75%ile	37.75	47
	Minimum	16	33
	Maximum	42	51

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North Carolina EXTEND1 Grade 4 Math
Round 2 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	302	26	40
1	303	28	40
1	305	28	41
1	306	24	38
2	307	32	44
2	308	36	45
2	310	40	49
2	311	41	54
2	312	38	49
2	316	35	47
3	313	29	46
3	315	36	45
3	317	31	47
3	318	31	45
4	304	32	41
4	309	33	46
4	319	33	45
4	320	31	48
4	321	32	42

		Level 3	Level 4
Overall	Median	32	45
	25%ile	29	41
	75%ile	36	47
	Minimum	24	38
	Maximum	41	54

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North Carolina EXTEND1 Grade 4 Math
Round 3 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	302	28	40
1	303	28	40
1	305	31	42
1	306	26	40
2	307	32	42
2	308	35	45
2	310	39	46
2	311	41	51
2	312	33	48
2	316	31	45
3	313	29	46
3	315	35	46
3	317	31	47
3	318	31	45
4	304	32	41
4	309	37	45
4	319	34	47
4	320	35	50
4	321	33	43

		Level 3	Level 4
Overall	Median	32	45
	25%ile	31	42
	75%ile	35	47
	Minimum	26	40
	Maximum	41	51

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North Carolina EXTEND1 Grade 5 Math
Round 1 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	301	35	45
1	302	21	40
1	303	28	48
1	305	32	47
1	306	18	34
2	307	45	52
2	308	37	47
2	310	41	49
2	311	36	48
2	312	40	51
2	316	38	51
3	313	33	45
3	314	35	45
3	315	37	48
3	317	40	51
3	318	38	50
4	304	41	48
4	309	31	48
4	319	44	50
4	320	29	48
4	321	34	49

		Level 3	Level 4
Overall	Median	36	48
	25%ile	31.5	46
	75%ile	40	50
	Minimum	18	34
	Maximum	45	52

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North Carolina EXTEND1 Grade 5 Math
Round 2 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	301	35	46
1	302	26	43
1	303	24	42
1	305	26	42
1	306	20	37
2	307	44	51
2	308	40	49
2	310	43	52
2	311	43	50
2	312	36	50
2	316	36	48
3	313	38	47
3	314	34	44
3	315	33	45
3	317	34	43
3	318	36	46
4	304	38	45
4	309	39	48
4	319	45	50
4	320	37	50
4	321	37	48

		Level 3	Level 4
Overall	Median	36	47
	25%ile	33.5	43.5
	75%ile	39.5	50
	Minimum	20	37
	Maximum	45	52

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North Carolina EXTEND1 Grade 5 Math
Round 3 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	301	35	44
1	302	30	44
1	303	24	42
1	305	28	42
1	306	18	32
2	307	38	46
2	308	37	45
2	310	42	49
2	311	40	50
2	312	37	49
2	316	30	42
3	313	34	45
3	314	32	44
3	315	33	45
3	317	33	43
3	318	34	45
4	304	38	45
4	309	36	44
4	319	40	49
4	320	37	49
4	321	37	47

		Level 3	Level 4
Overall	Median	35	45
	25%ile	31	43.5
	75%ile	37.5	48
	Minimum	18	32
	Maximum	42	50

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North Carolina EXTEND1 Grade 6 Math
Round 1 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	301	21	39
1	302	35	44
1	303	25	42
1	304	22	42
1	305	28	46
1	306	33	46
2	307	30	45
2	308	21	41
2	309	25	39
2	310	23	38
2	311	26	41
2	312	33	45
3	313	21	38
3	314	23	37
3	315	20	39
3	316	19	39
3	317	16	31
3	318	18	40
4	319	29	40
4	320	24	41
4	321	20	40
4	331	27	49
4	332	17	29
5	333	23	42
5	334	17	31
5	335	29	45
5	336	20	39
5	337	23	43
5	338	33	48
6	339	18	34
6	340	12	37
6	341	16	31
6	342	10	25
6	343	15	25
7	344	27	46
7	345	22	32
7	346	18	38
7	347	21	36

		Level 3	Level 4
Overall	Median	22	39.5
	25%ile	18	36.75
	75%ile	27	43.25
	Minimum	10	25
	Maximum	35	49

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North Carolina EXTEND1 Grade 6 Math
Round 2 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	301	25	40
1	302	19	40
1	303	21	40
1	304	18	36
1	305	25	40
1	306	18	38
2	307	28	45
2	308	27	45
2	309	30	44
2	310	29	42
2	311	34	47
2	312	32	44
3	313	28	41
3	314	27	38
3	315	23	39
3	316	22	42
3	317	19	37
3	318	21	37
4	319	31	44
4	320	22	44
4	321	24	42
4	331	24	42
4	332	26	40
5	333	24	43
5	334	19	43
5	335	31	47
5	336	22	44
5	337	22	42
5	338	30	46
6	339	15	28
6	340	21	40
6	341	18	29
6	342	18	30
6	343	17	29
7	344	25	34
7	345	24	38
7	346	20	40
7	347	25	37

		Level 3	Level 4
Overall	Median	24	40
	25%ile	19.75	37.75
	75%ile	27.25	44
	Minimum	15	28
	Maximum	34	47

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North Carolina EXTEND1 Grade 6 Math
Round 3 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	301	25	40
1	302	19	40
1	303	21	40
1	304	25	39
1	305	23	40
1	306	20	38
2	307	36	46
2	308	36	51
2	309	36	50
2	310	36	48
2	311	37	49
2	312	34	48
3	313	29	42
3	314	32	43
3	315	28	39
3	316	27	43
3	317	21	38
3	318	23	39
4	319	30	42
4	320	25	47
4	321	33	42
4	331	20	45
4	332	34	40
5	333	24	43
5	334	20	43
5	335	31	47
5	336	22	44
5	337	23	42
5	338	30	46
6	339	18	32
6	340	23	40
6	341	20	34
6	342	25	35
6	343	20	34
7	344	22	34
7	345	22	36
7	346	19	39
7	347	24	37

		Level 3	Level 4
Overall	Median	24.5	41
	25%ile	21	38.75
	75%ile	31.25	45.25
	Minimum	18	32
	Maximum	37	51

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North Carolina EXTEND1 Grade 6 Math
Round 4 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	301	34	46
1	302	33	40
1	303	28	43
1	304	32	44
1	305	32	42
1	306	21	38
2	307	36	46
2	308	39	47
2	309	39	47
2	310	43	50
2	311	42	49
2	312	39	47
3	313	36	44
3	314	36	44
3	315	36	44
3	316	34	44
3	317	32	46
3	318	36	44
4	319	44	44
4	320	28	42
4	321	39	46
4	331	42	53
4	332	37	43
5	333	33	44
5	334	31	45
5	335	34	46
5	336	26	46
5	337	28	44
5	338	33	49
6	339	32	42
6	340	31	42
6	341	33	42
6	342	34	42
6	343	31	40
7	344	27	40
7	345	32	46
7	346	26	42
7	347	31	45

		Level 3	Level 4
Overall	Median	33	44
	25%ile	31	42
	75%ile	36.25	46
	Minimum	21	38
	Maximum	44	53

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North Carolina EXTEND1 Grade 7 Math
Round 1 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	340	24	43
1	341	29	41
1	342	35	45
1	343	29	42
2	331	30	48
2	332	28	42
2	335	34	53
2	339	37	42
3	336	25	48
3	337	28	45
3	338	31	47
3	345	27	45
3	347	28	47
4	333	31	42
4	334	29	45
4	344	34	50
4	346	35	47

		Level 3	Level 4
Overall	Median	29	45
	25%ile	28	42
	75%ile	34	47.5
	Minimum	24	41
	Maximum	37	53

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North Carolina EXTEND1 Grade 7 Math
Round 2 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	340	34	47
1	341	37	47
1	342	39	50
1	343	37	49
2	331	37	47
2	332	36	46
2	335	38	50
2	339	39	44
3	336	28	52
3	337	28	45
3	338	31	46
3	345	29	46
3	347	32	46
4	333	35	44
4	334	34	47
4	344	30	46
4	346	33	44

		Level 3	Level 4
Overall	Median	34	46
	25%ile	30.5	45.5
	75%ile	37	48
	Minimum	28	44
	Maximum	39	52

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North Carolina EXTEND1 Grade 7 Math
Round 3 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	340	31	47
1	341	31	46
1	342	32	45
1	343	34	47
2	331	45	50
2	332	30	40
2	335	37	48
2	339	39	48
3	336	23	42
3	337	23	40
3	338	29	45
3	345	29	48
3	347	26	44
4	333	31	43
4	334	30	47
4	344	28	44
4	346	25	40

		Level 3	Level 4
Overall	Median	30	45
	25%ile	27	42.5
	75%ile	33	47.5
	Minimum	23	40
	Maximum	45	50

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North Carolina EXTEND1 Grade 8 Math
Round 1 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	340	27	43
1	341	27	45
1	342	21	34
1	343	27	43
2	331	37	46
2	332	29	35
2	335	41	54
2	339	36	44
3	336	17	39
3	337	21	38
3	338	30	53
3	345	24	43
3	347	22	46
4	333	28	44
4	334	21	44
4	344	24	44
4	346	22	34

		Level 3	Level 4
Overall	Median	27	44
	25%ile	21.5	38.5
	75%ile	29.5	45.5
	Minimum	17	34
	Maximum	41	54

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North Carolina EXTEND1 Grade 8 Math
Round 2 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	340	30	44
1	341	31	45
1	342	32	43
1	343	32	45
2	331	36	44
2	332	32	41
2	335	33	45
2	339	35	41
3	336	23	40
3	337	24	40
3	338	28	45
3	345	23	41
3	347	23	42
4	333	24	42
4	334	26	45
4	344	20	37
4	346	24	37

		Level 3	Level 4
Overall	Median	28	42
	25%ile	23.5	40.5
	75%ile	32	45
	Minimum	20	37
	Maximum	36	45

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North Carolina EXTEND1 Grade 8 Math
Round 3 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	340	35	49
1	341	38	50
1	342	40	48
1	343	36	46
2	331	41	46
2	332	35	43
2	335	38	51
2	339	40	44
3	336	33	43
3	337	31	41
3	338	30	49
3	345	36	49
3	347	29	50
4	333	34	46
4	334	29	49
4	344	22	40
4	346	29	38

		Level 3	Level 4
Overall	Median	35	46
	25%ile	29.5	43
	75%ile	38	49
	Minimum	22	38
	Maximum	41	51

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North Carolina EXTEND1 Math 1 Math
Round 1 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	340	27	44
1	341	28	37
1	342	31	44
1	343	29	39
2	331	39	49
2	332	33	41
2	335	31	50
2	339	38	49
3	336	25	41
3	337	26	42
3	338	29	47
3	345	32	45
3	347	23	43
4	333	33	45
4	334	29	50
4	344	33	45
4	346	31	42

		Level 3	Level 4
Overall	Median	31	44
	25%ile	27.5	41.5
	75%ile	33	48
	Minimum	23	37
	Maximum	39	50

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North Carolina EXTEND1 Math 1 Math
Round 2 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	340	33	45
1	341	34	41
1	342	35	46
1	343	36	44
2	331	39	45
2	332	34	43
2	335	35	47
2	339	39	48
3	336	26	42
3	337	26	44
3	338	32	47
3	345	32	45
3	347	32	44
4	333	36	46
4	334	31	46
4	344	33	43
4	346	32	42

		Level 3	Level 4
Overall	Median	33	45
	25%ile	32	43
	75%ile	35.5	46
	Minimum	26	41
	Maximum	39	48

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North Carolina EXTEND1 Math 1 Math
Round 3 Angoff Ratings

Table	Packet Number	Level 3	Level 4
1	340	33	46
1	341	35	44
1	342	35	47
1	343	37	46
2	331	39	45
2	332	35	42
2	335	37	47
2	339	38	46
3	336	29	42
3	337	28	42
3	338	34	47
3	345	32	45
3	347	32	44
4	333	38	46
4	334	35	48
4	344	33	41
4	346	32	41

		Level 3	Level 4
Overall	Median	35	45
	25%ile	32	42
	75%ile	37	46.5
	Minimum	28	41
	Maximum	39	48

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G

Graphical Representation of Participants' Judgments

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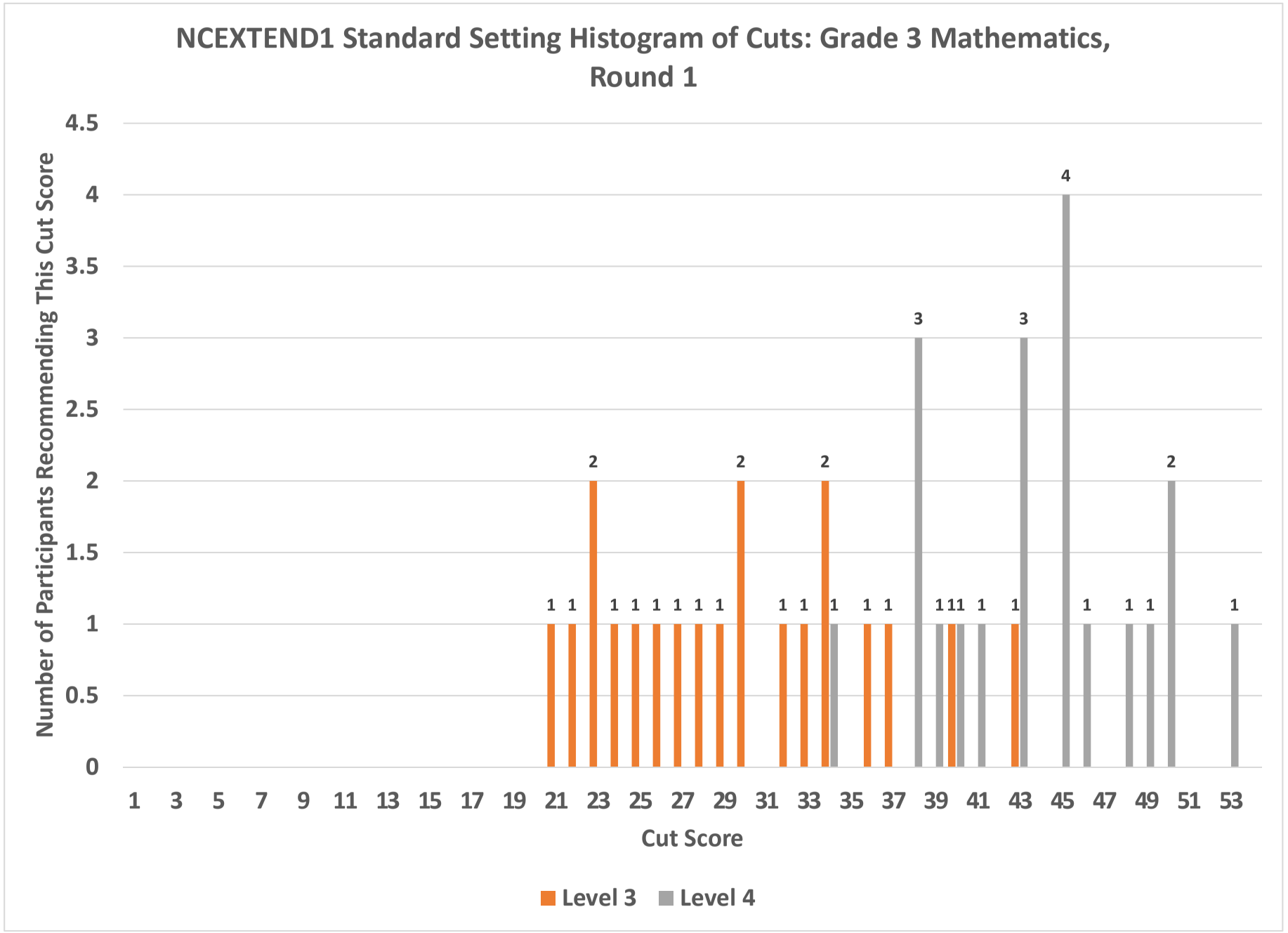

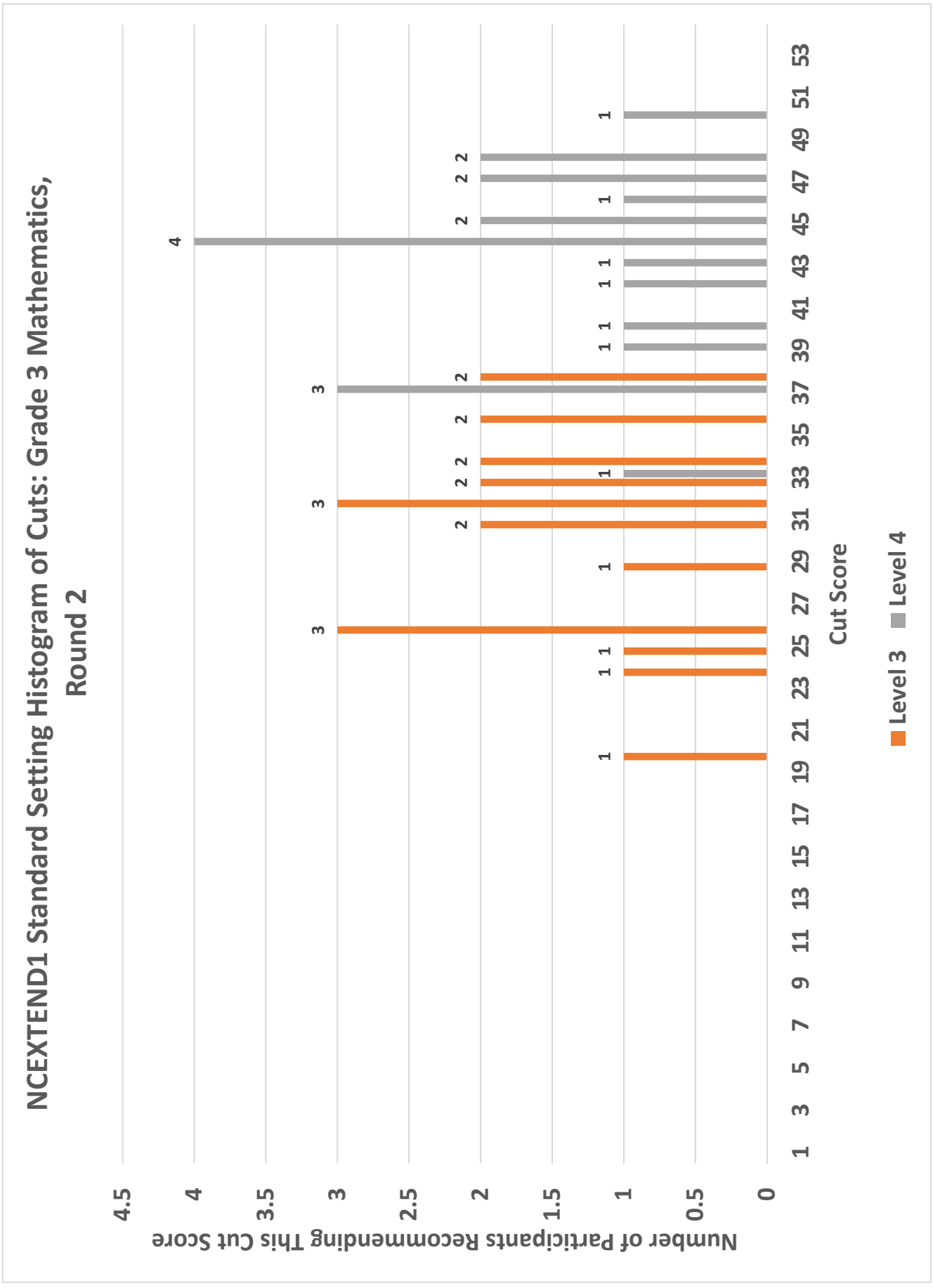

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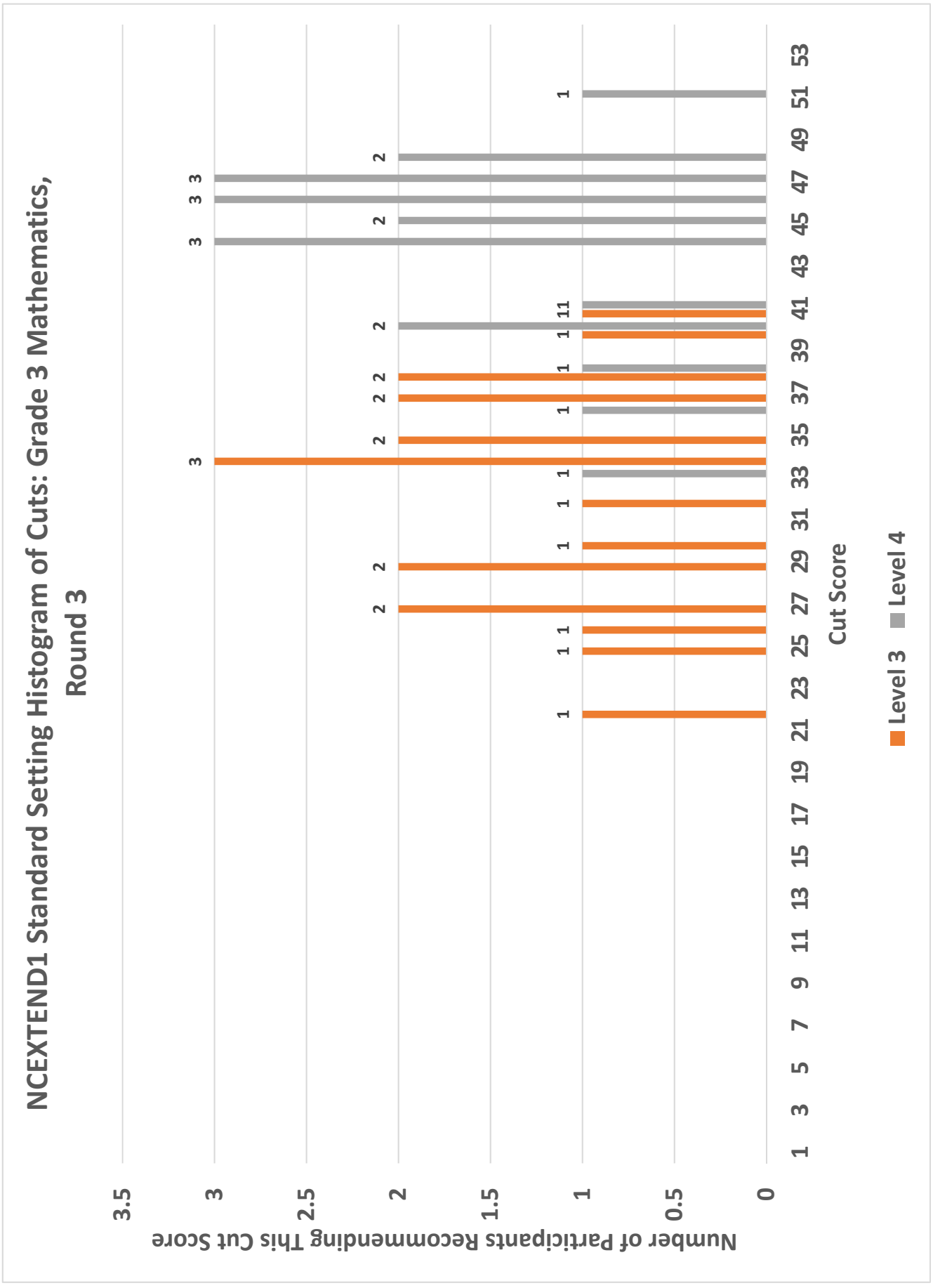
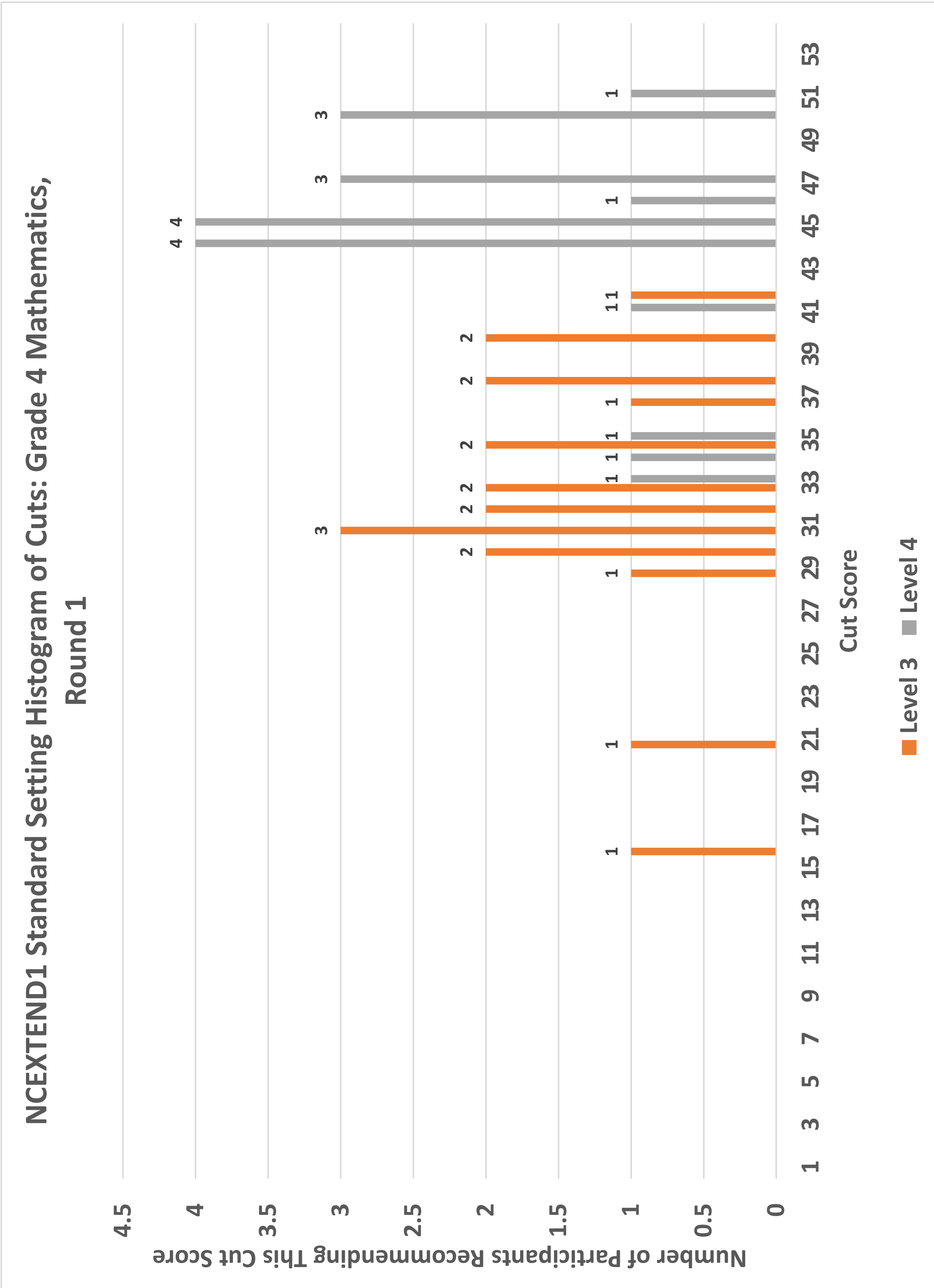

NCEXTEND1 Standard Setting Histogram of Cuts: Grade 3 Mathematics, Round 3
Number of Participants Recommending This Cut Score
Cut Score
Level 3
Level 4
0
0.5
1
1.5
2
2.5
3
3.5
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53


NCEXTEND1 Standard Setting Histogram of Cuts: Grade 4 Mathematics, Round 1
Number of Participants Recommending This Cut Score
Cut Score
Level 3
Level 4

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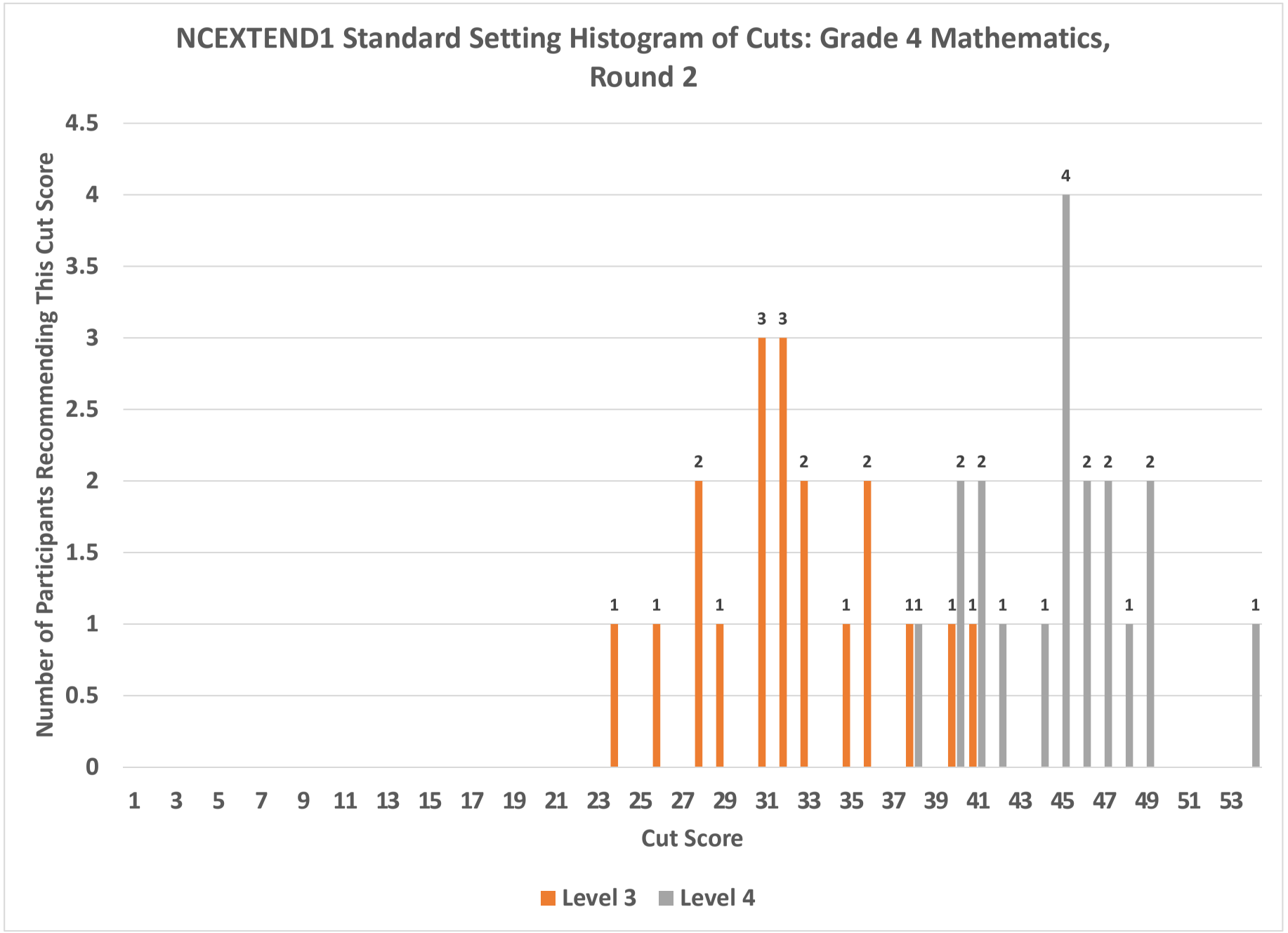
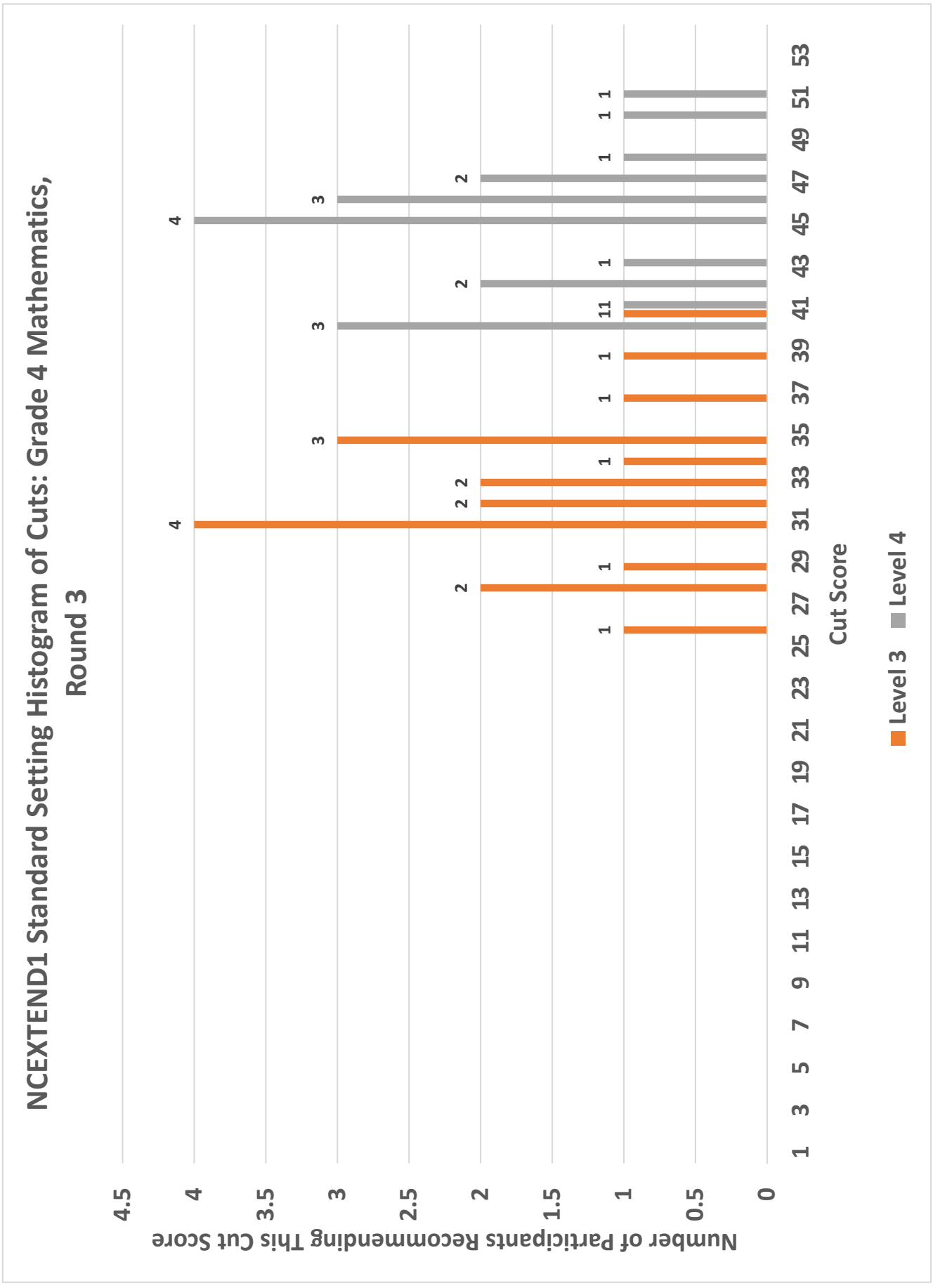
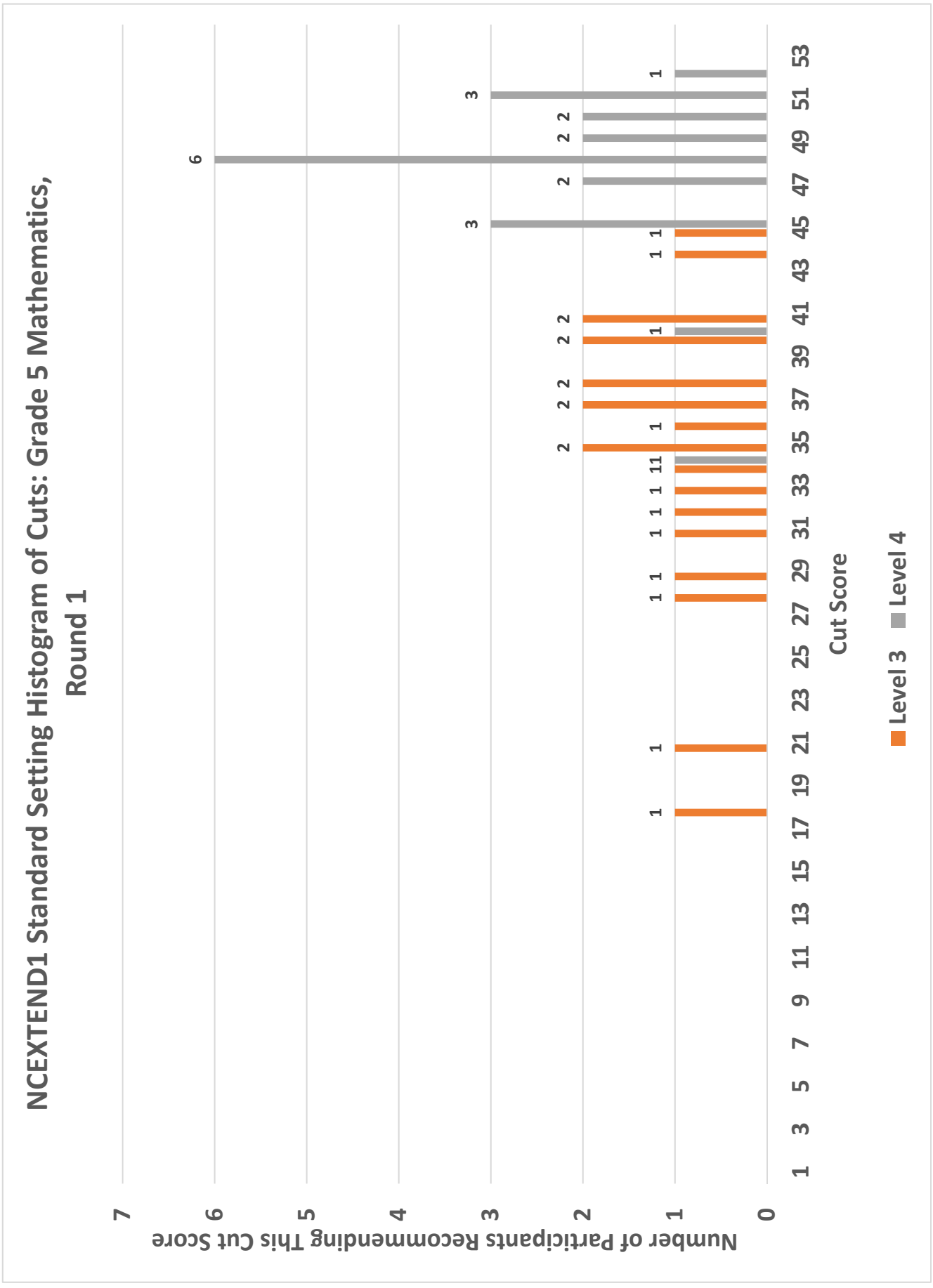



NCEXTEND1 Standard Setting Histogram of Cuts: Grade 4 Mathematics, Round 3
Number of Participants Recommending This Cut Score
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53
Cut Score
Level 3
Level 4



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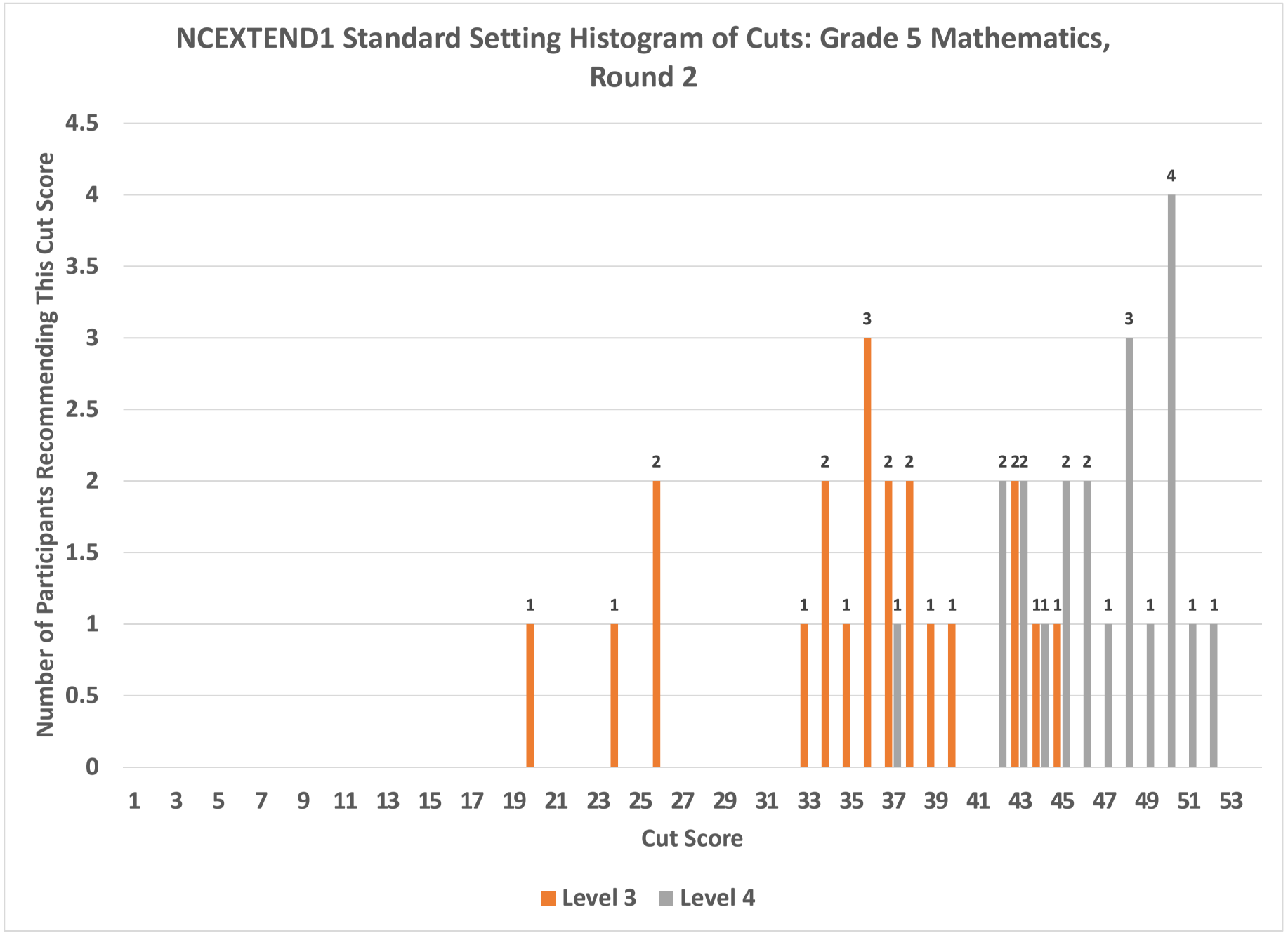

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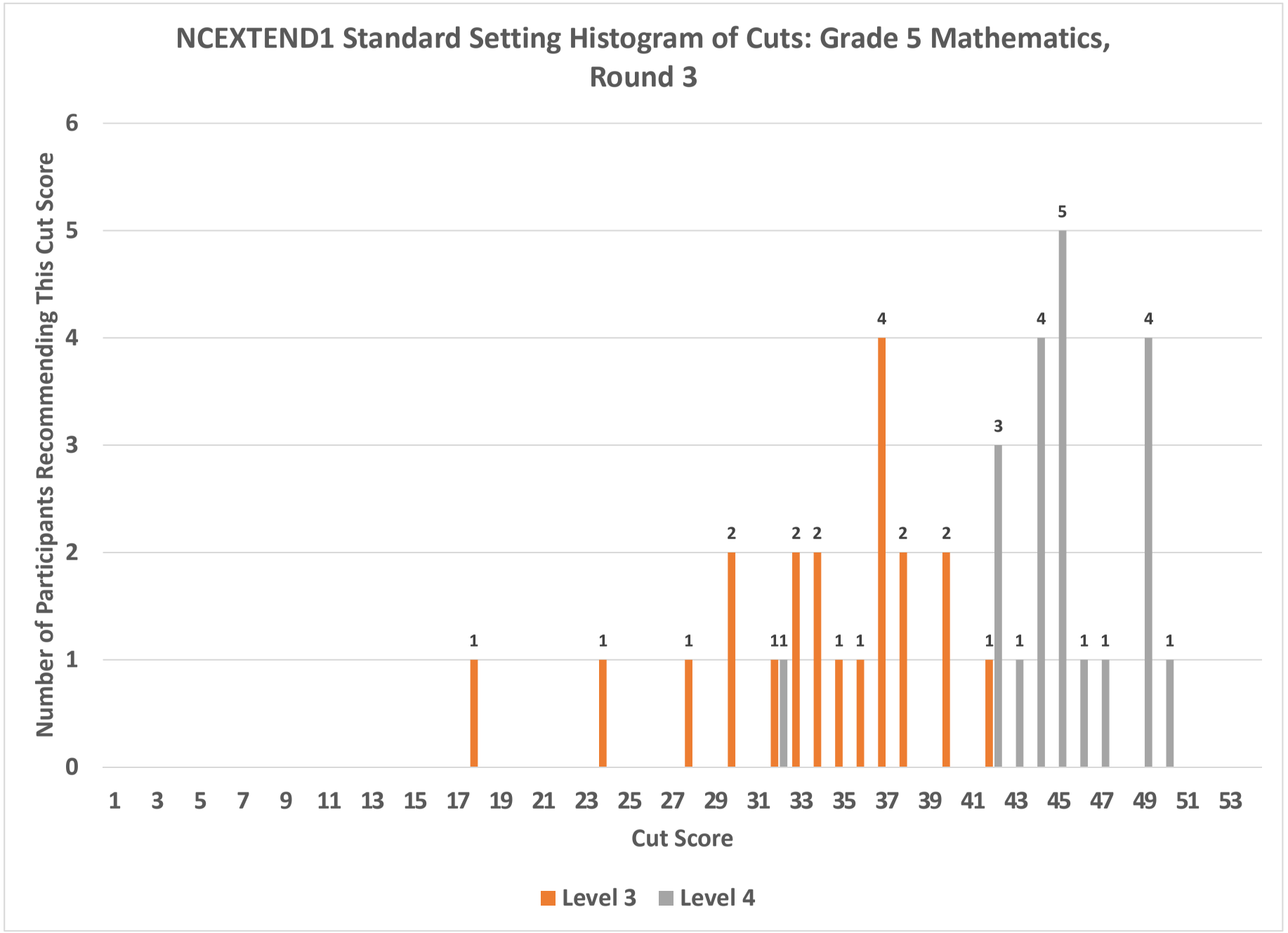

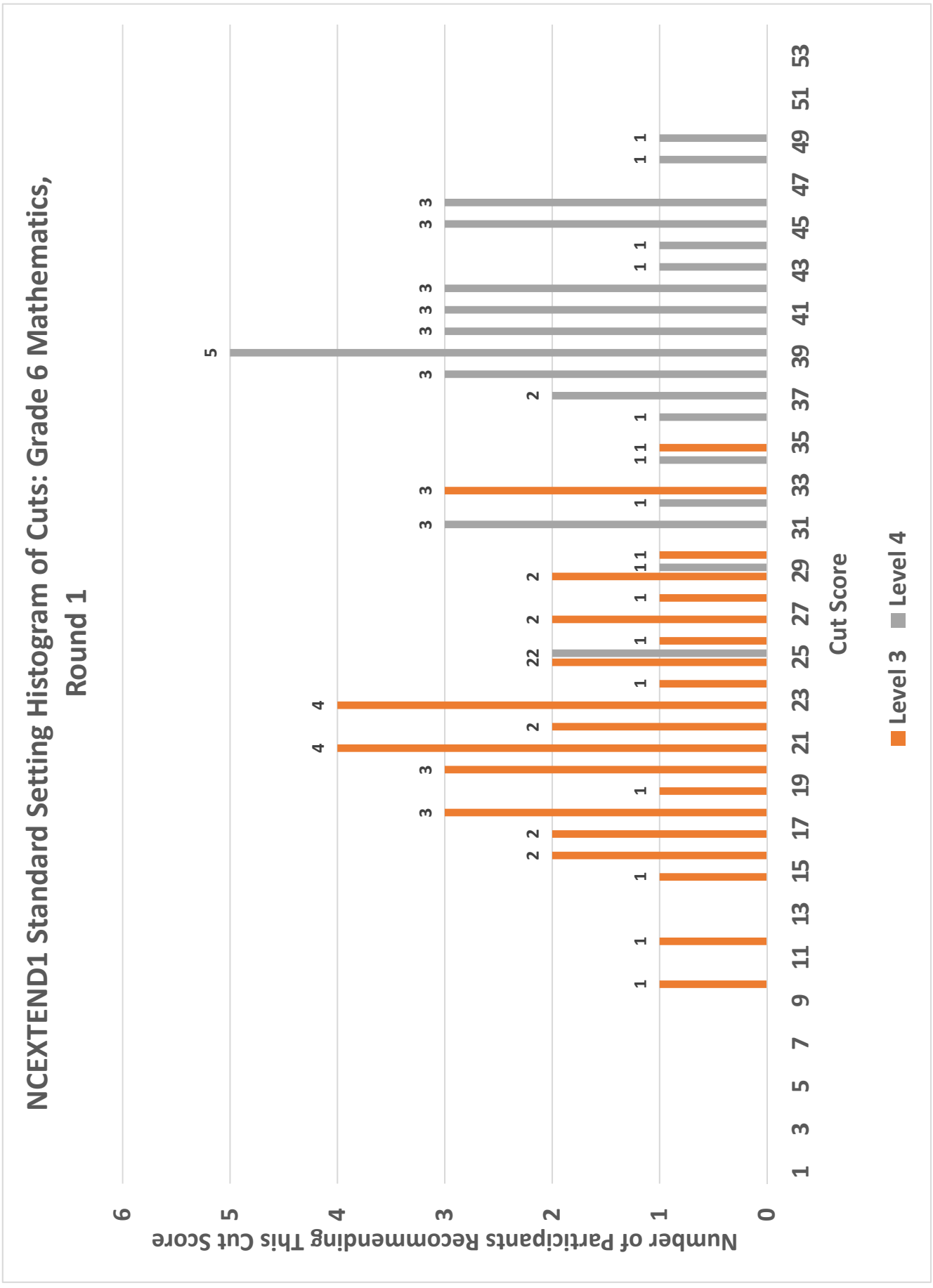

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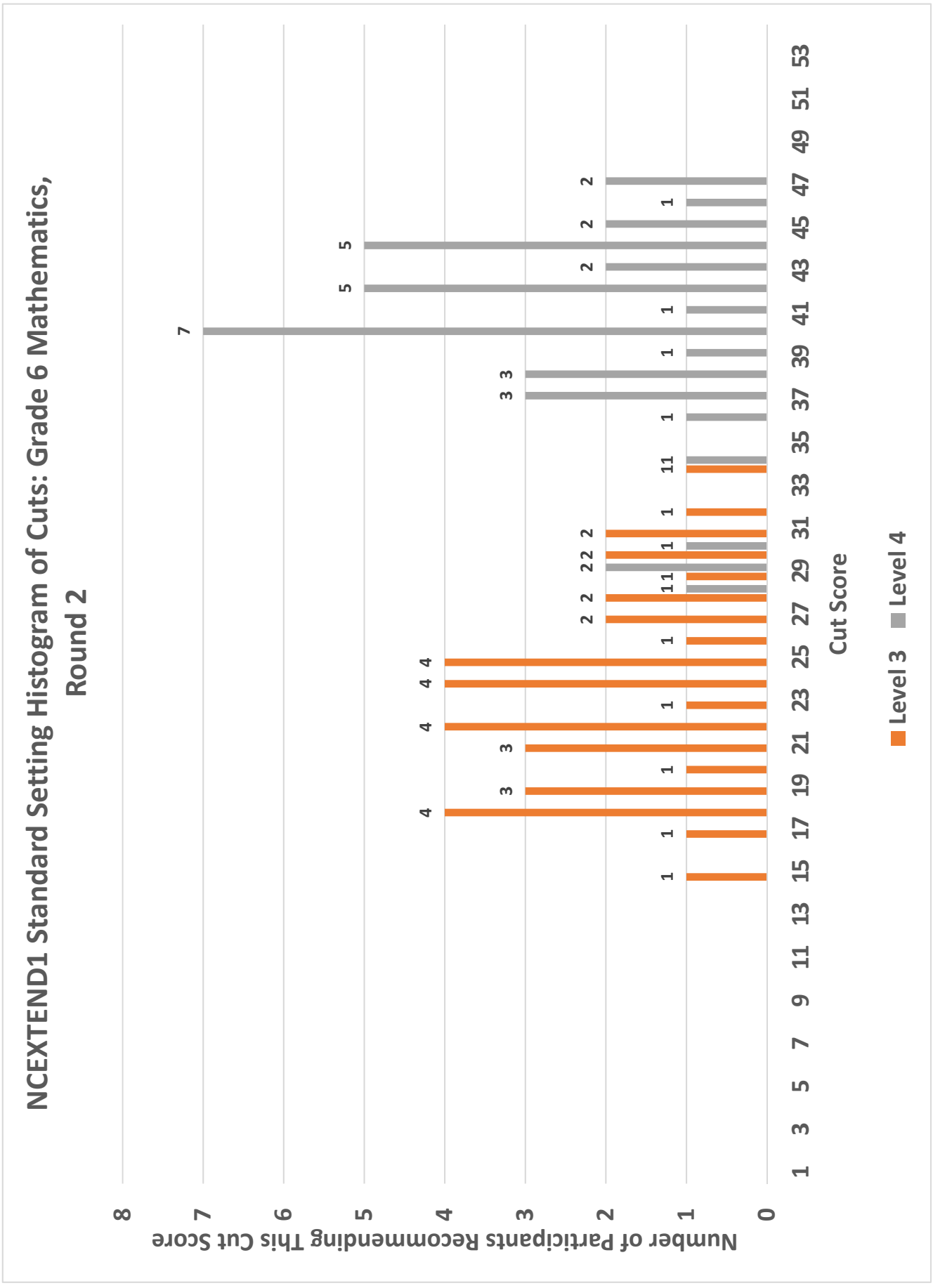
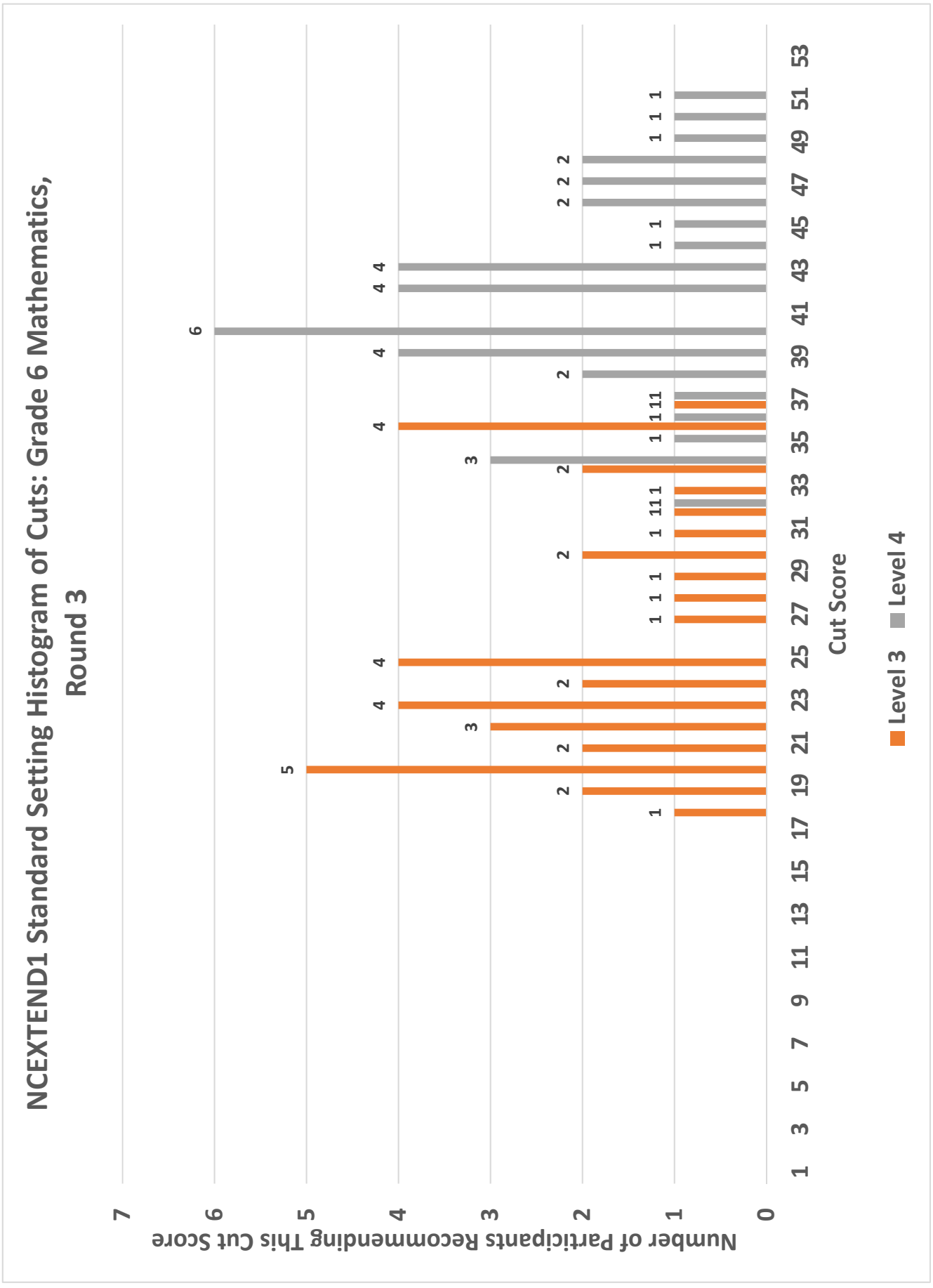

NCEXTEND1 Standard Setting Histogram of Cuts: Grade 6 Mathematics, Round 2
Number of Participants Recommending This Cut Score
Cut Score
Level 3
Level 4
0
1
2
3
4
5
6
7
8
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53



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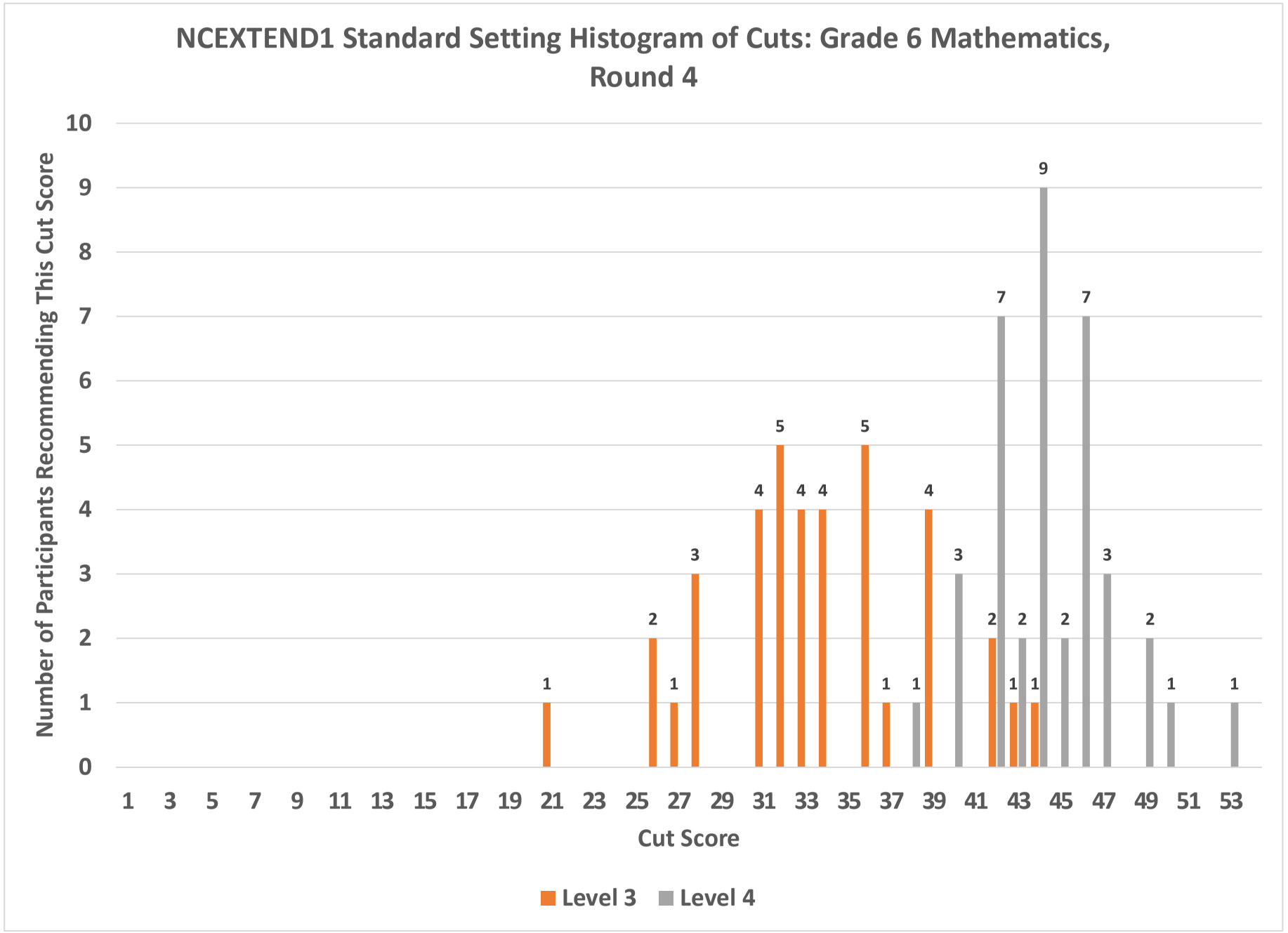

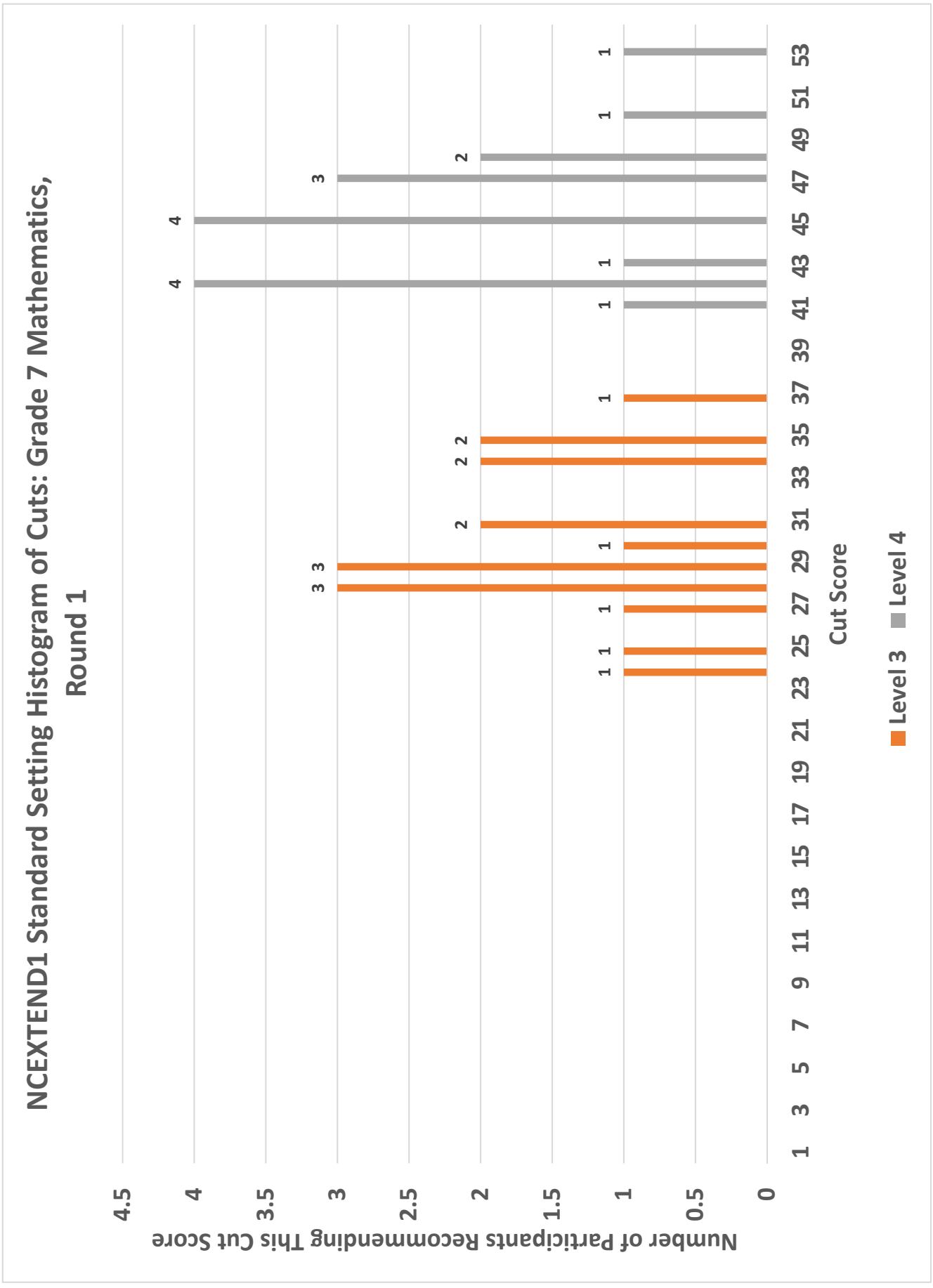
NCEXTEND1 Standard Setting Histogram of Cuts: Grade 7 Mathematics, Round 1
Number of Participants Recommending This Cut Score
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53
Cut Score
Level 3
Level 4

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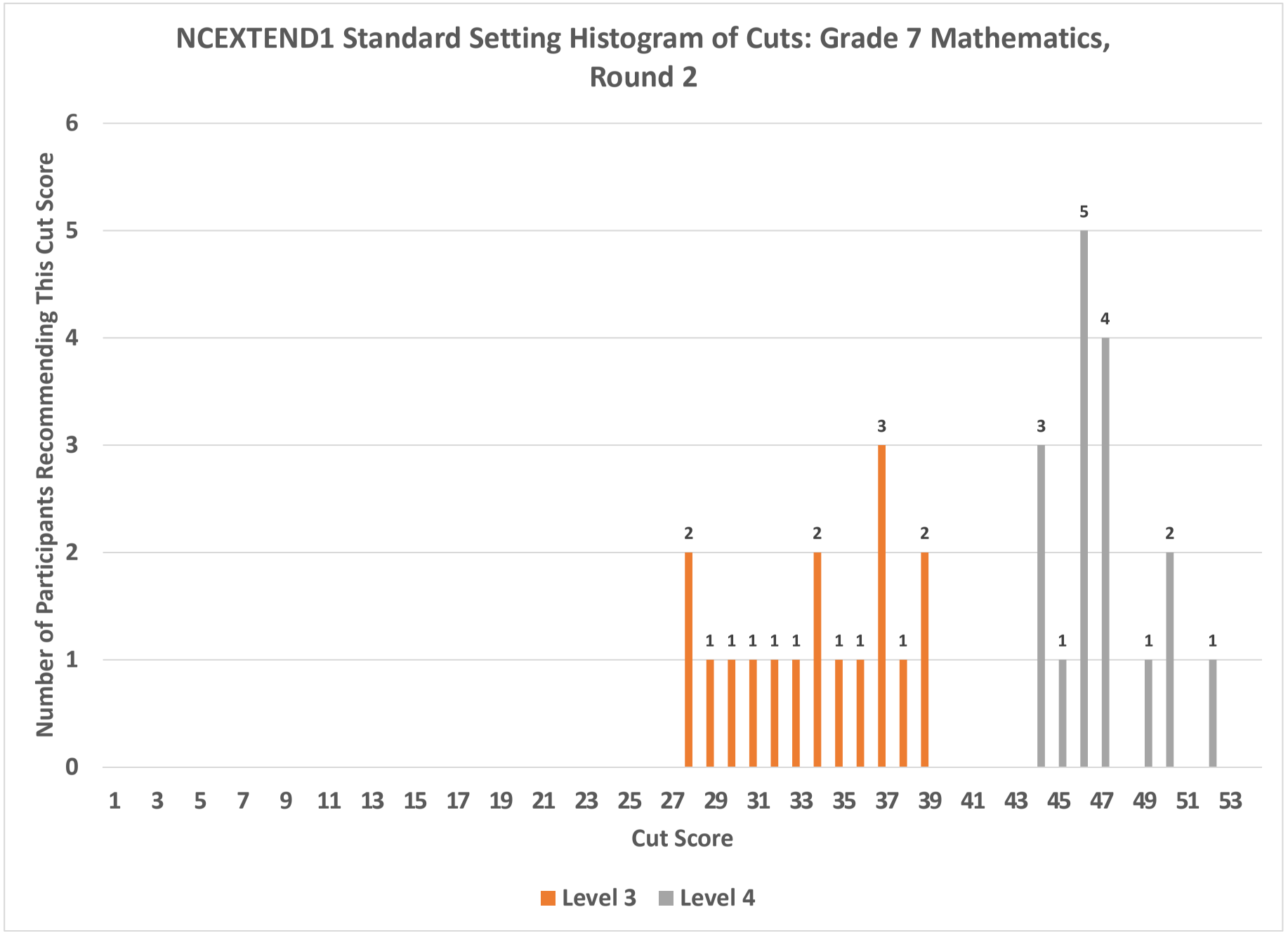

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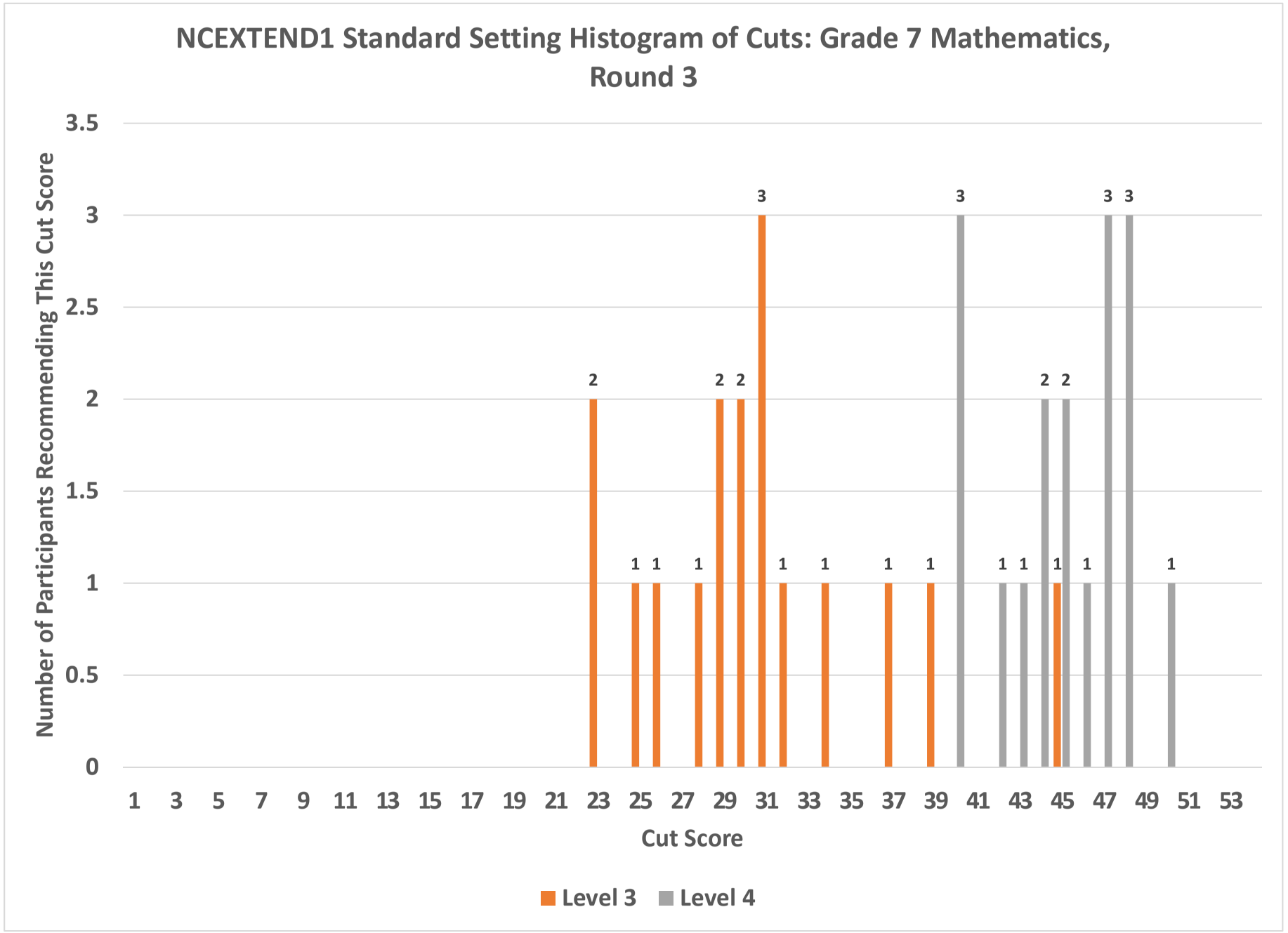

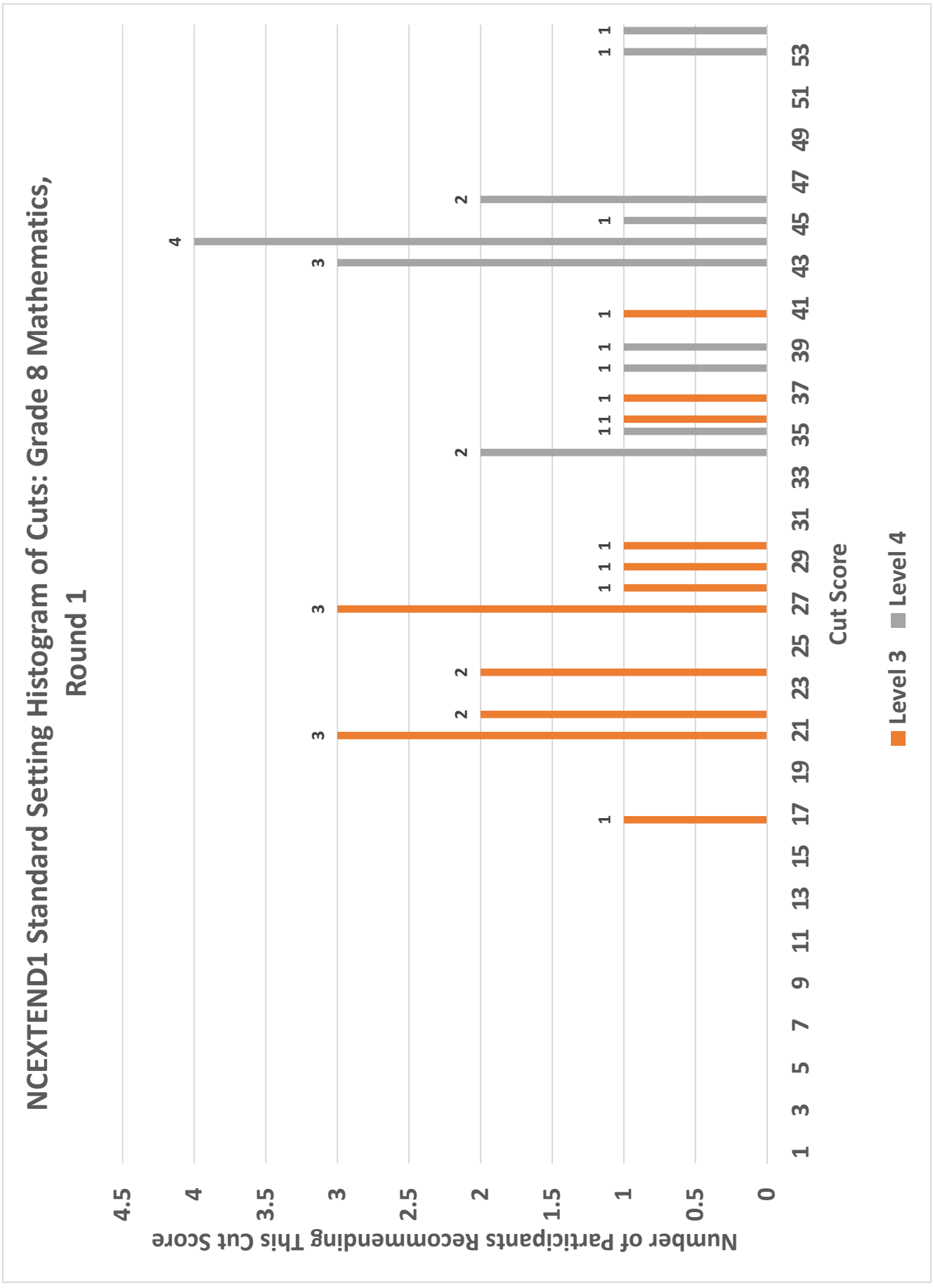
NCEXTEND1 Standard Setting Histogram of Cuts: Grade 8 Mathematics, Round 1
Number of Participants Recommending This Cut Score
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53
Cut Score
Level 3
Level 4

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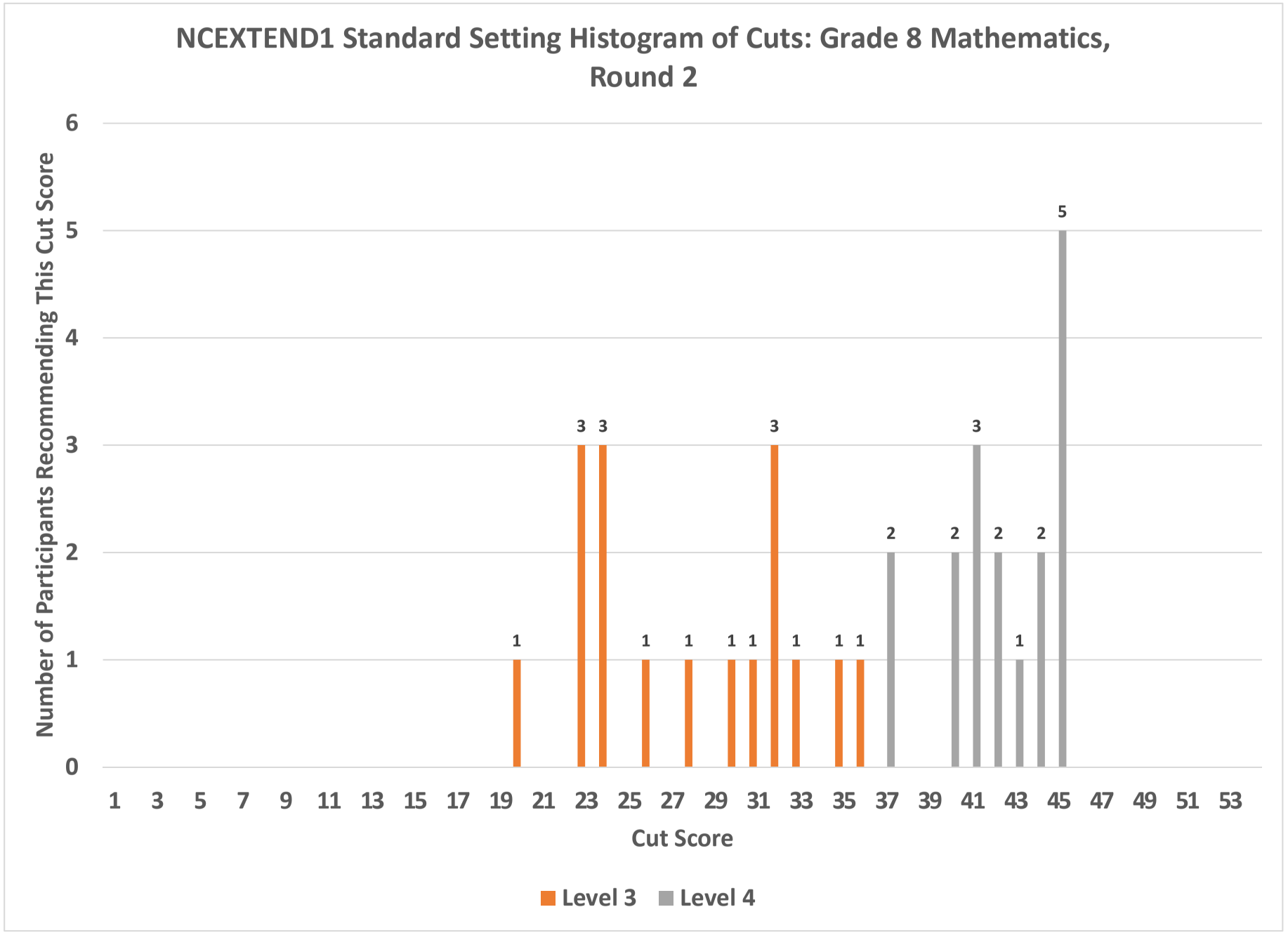

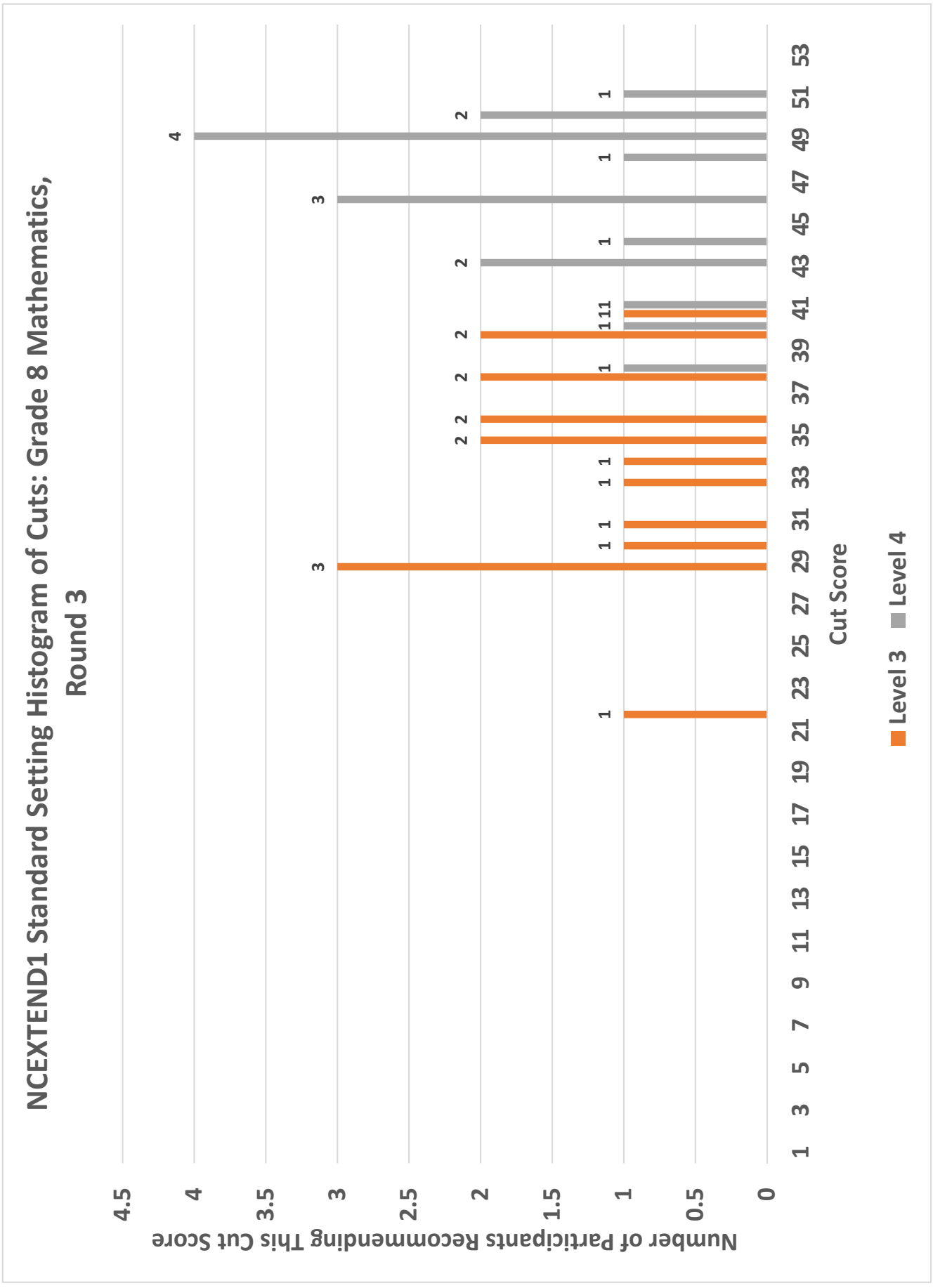
NCEXTEND1 Standard Setting Histogram of Cuts: Grade 8 Mathematics, Round 3
Number of Participants Recommending This Cut Score
Cut Score
Level 3
Level 4
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47 49 51 53
1
3
1 1
1 1
2 2
2 2
2
1 1 1
2
1
3
1
2
4

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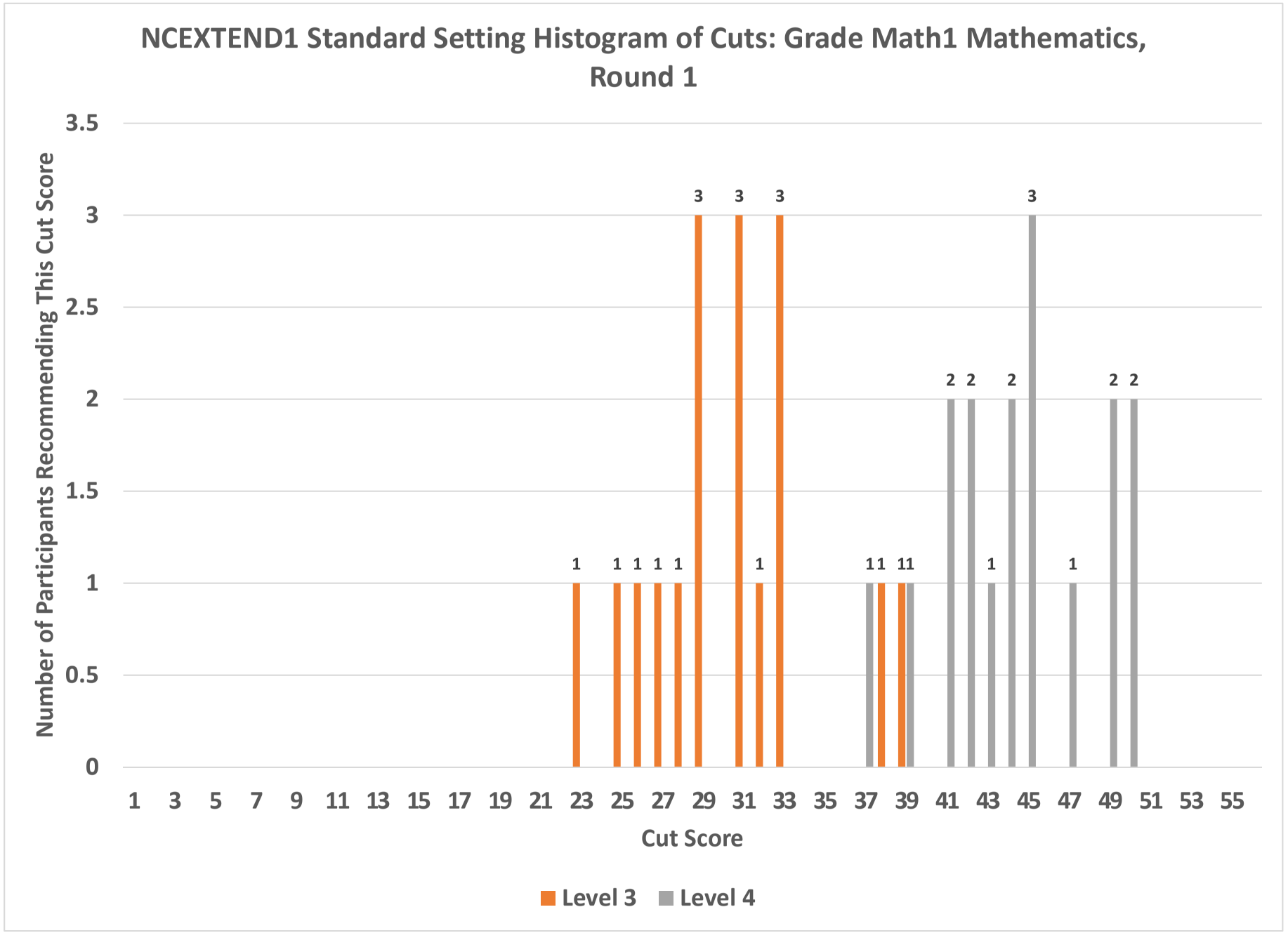

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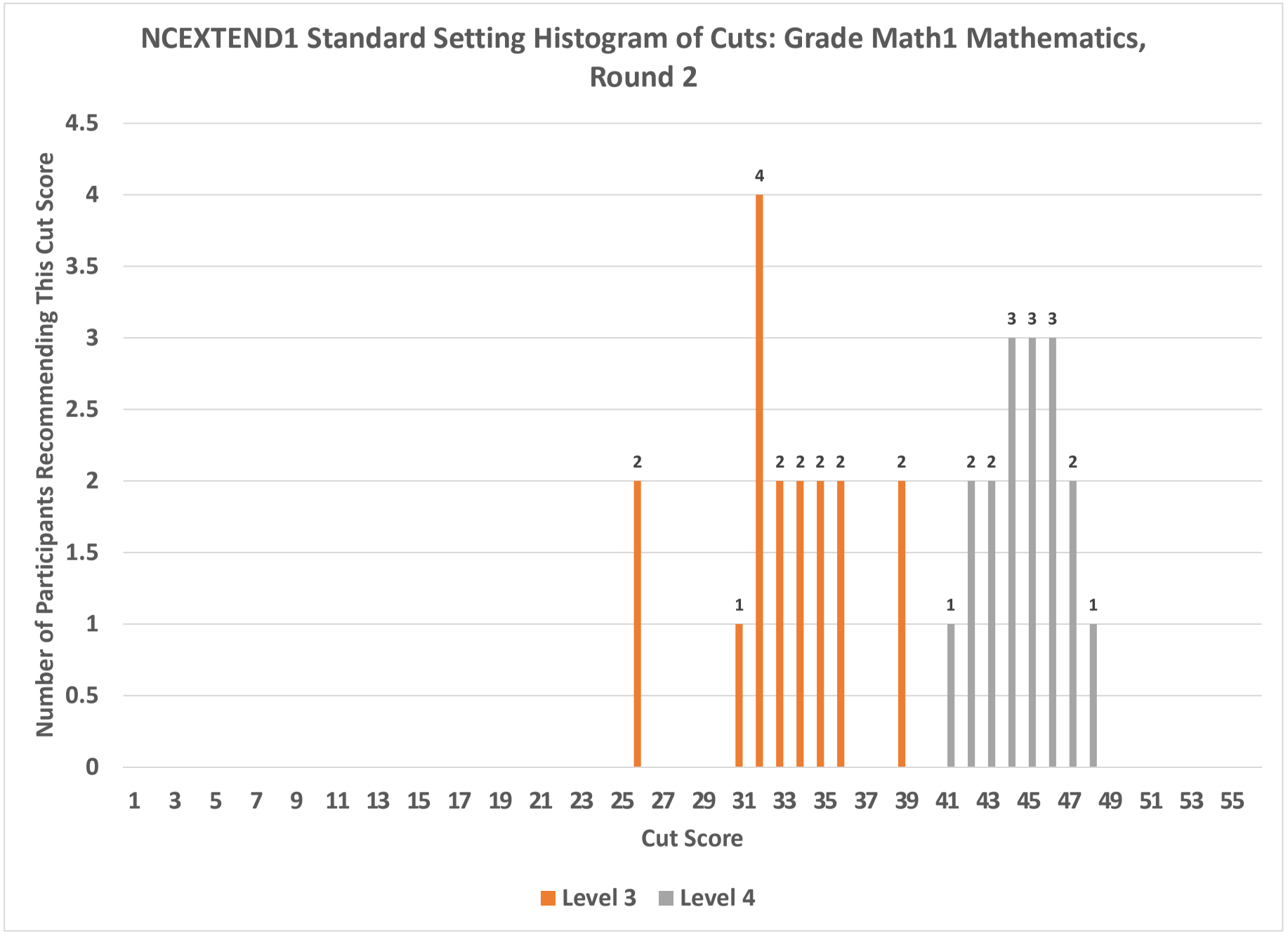

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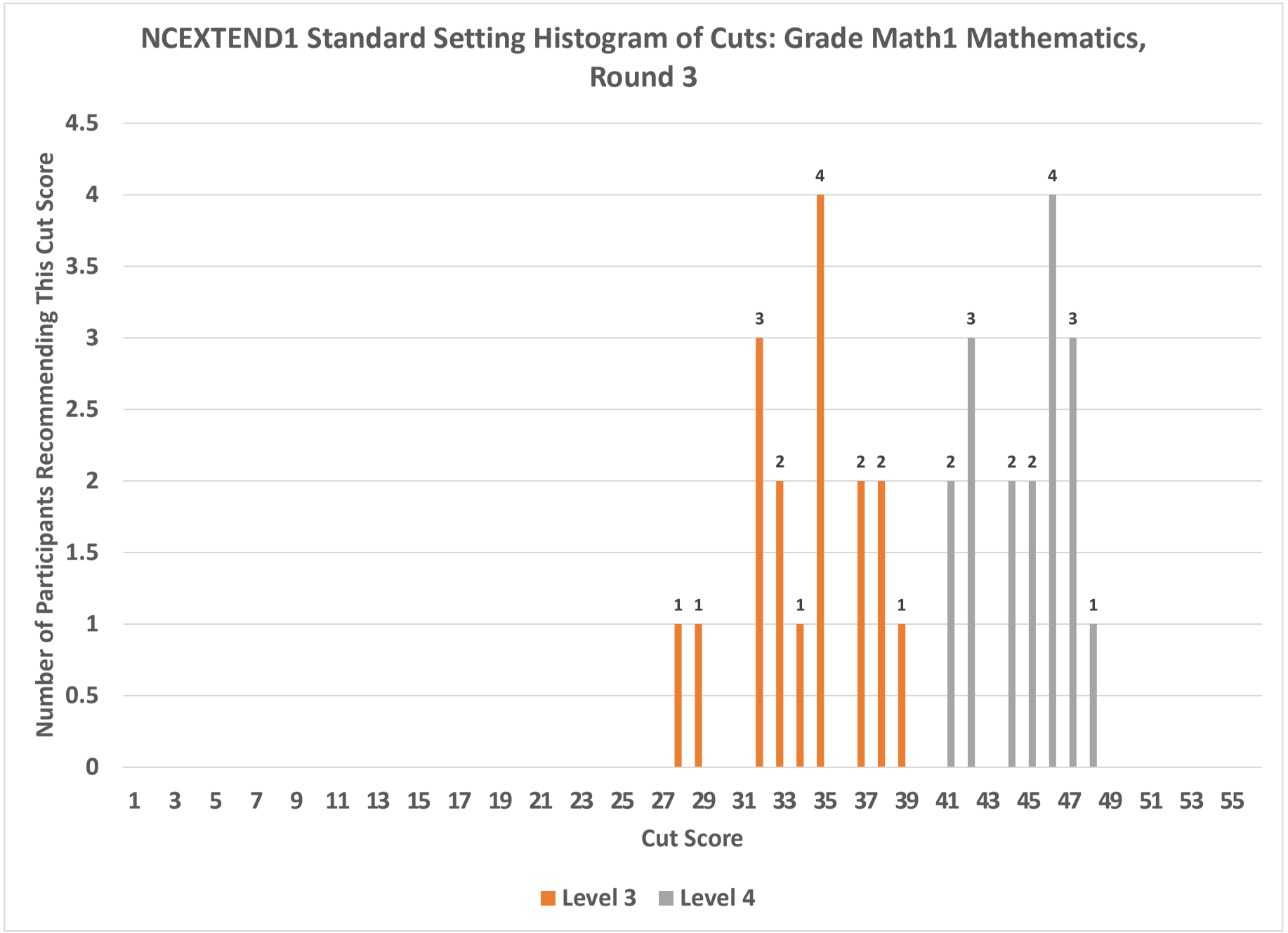

H

Participant Evaluations of the Workshop

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North Carolina 2019 Standard Setting Pre-Session Survey *for* Mathematics

The purpose of this survey is (a) to document the experience and diversity of standard setting participants, and (b) to learn about factors affecting panelists in a standard setting. By completing this evaluation, you consent to having your responses aggregated with others and used in research. ***Please do not put your name on this form.*** While we need the information to describe the committee in the aggregate, your individual responses will be kept confidential. **When you have completed the survey, please hold on to it until collected by a facilitator.** ***Thank you!***

Part 1: About Your Experience Before the Workshop

1. How were you initially contacted about participating in this standard setting? **Please select only one response.**

- ○ Principal
- ○ Other school administrator
- ○ District personnel
- ○ DRC (Data Recognition Corporation)
- ○ Referral from a teaching staff member
- ○ State department of education

2. Have you ever attended a standard setting meeting before?

- ○ Yes – Please go to question 3
- ○ No – Please go to question 5

IF YES →

3. How many years has it been since your most recent standard setting attendance?

- ○ Less than 2 years
- ○ 2 to 5 years
- ○ Over 5 years

4. How many previous standard settings have you attended?

- ○ 1
- ○ 2
- ○ 3 or more

5. Have you been in contact with people in these positions about the standard setting meeting prior to today?

	Yes	No
5a. Principal	○	○
5b. Other School administrator	○	○
5c. Other teachers in your school	○	○
5d. District personnel	○	○
5e. Other teachers outside of your school	○	○
5f. State department of education staff	○	○
5g. DRC meeting planning	○	○
5h. DRC facilitator	○	○

6. Do you feel in anyway pressured to make certain decisions at the standard setting by people in these positions?

	Yes	No
6a. Principal	○	○
6b. Other School administrator	○	○
6c. Other teachers in your school	○	○
6d. District personnel	○	○
6e. Other teachers outside of your school	○	○
6f. State department of education staff	○	○
6g. DRC meeting planning	○	○
6h. DRC facilitator	○	○

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Part 1 (*continued*): About Your Experience Before the Workshop

7. When you arrived at the meeting today, did you feel that any of the following provided direction for your participation in the standard setting meeting? An agenda can be defined as a specific plan or motive to follow.

	Yes	No
7a. An agenda from your school community	○	○
7b. An agenda from your school administration	○	○
7c. An agenda from your other teachers	○	○
7d. An agenda from your district	○	○
7e. An agenda from the state department of education	○	○
7f. Pressure to set cut-scores high (stringent)	○	○
7g. Pressure to set cut-scores low	○	○

8. What is your level of confidence with these skills and characteristics?

	Not Confident	Somewhat Confident	Mostly Confident	Very Confident
8a. Learning what is needed to make cut-score decisions	○	○	○	○
8b. Learning the statistical processes needed to make these decisions	○	○	○	○
8c. Making cut-score decisions	○	○	○	○
8d. Making a cut score decision regardless of another panelist's opinion	○	○	○	○
8e. Tuning out all preconceived notions and focus on training	○	○	○	○
8f. Speaking up and asking questions when needed	○	○	○	○
8g. Setting aside any preconceptions	○	○	○	○
8h. Setting aside other agendas and focus on the current meeting	○	○	○	○

9. To what extent do you agree or disagree with the following statements about working in small groups?

	Disagree	Slightly Disagree	Slightly Agree	Agree
9a. I feel confident in sharing my thoughts and opinions	○	○	○	○
9b. I am usually the quiet one	○	○	○	○
9c. I let others talk	○	○	○	○
9d. I tend to lead	○	○	○	○
9e. I like to listen and not speak	○	○	○	○
9f. I am good at listening to people even if I disagree	○	○	○	○
9g. I keep an open mind and wait for all information to be presented before making my decisions	○	○	○	○

10. What other committees related to educational assessment have you been on?

	Yes	No
10a. Item writing	○	○
10b. Performance/achievement level descriptor writing	○	○
10c. Rangefinding	○	○
10d. Academic content standard development	○	○
10e. Development of Content Standards	○	○
11. Have you worked with the content standards before?	○	○
12. Have you worked with the achievement level descriptors before?	○	○
13. Do you believe that your input at this standard setting will have value?	○	○

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

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Part 2: About Your Pre-Workshop Knowledge of Standard Setting

14. How was standard setting described to you?

15. What do you envision your role being?

16. What is your definition of a *threshold student*?

17. How will your recommended cut scores be used after this meeting is over?

18. Do you have any questions at this time?

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Part 3: About You and Your Experience

19. What is your current position? (Please choose one answer that best describes where a majority of your time is spent.)

- ○ General education teacher
- ○ Special education teacher
- ○ ELL teacher
- ○ Curriculum staff
- ○ District assessment staff
- ○ State department staff
- ○ Higher education
- ○ Teacher on special assignment
- ○ Administrator

20. What is your educational setting? (Please choose one answer that best meets where a majority of your time is spent.)

- ○ Elementary school
- ○ Middle/junior high school
- ○ High school
- ○ Higher education
- ○ K-8
- ○ 6-12

21. How many years have you been in education?

- ○ None
- ○ Less than 1
- ○ 1–5
- ○ 6–10
- ○ 11–15
- ○ 16–20
- ○ 21–25
- ○ Over 25

22. Approximately what percent of your students qualify for free or reduced-price meals?

- ○ 0–25%
- ○ 26%–50%
- ○ 51%–75%
- ○ 76%–100%
- ○ Unknown

23. What is your ethnicity?

- ○ American Indian / Alaska Native
- ○ Asian
- ○ Hawaiian or Pacific Islander
- ○ Black
- ○ Hispanic
- ○ Mixed (Two or more races)
- ○ Caucasian

24. What is your gender?

- ○ Female
- ○ Male
- ○ Other

25. In which community type is your district?

- ○ Rural
- ○ Urban
- ○ Suburban

26. In which group will you participate in this standard setting?

- ○ General Mathematics 3–5
- ○ General Mathematics 6–8
- ○ General NC Mathematics 1 / 3
- ○ NCEXTEND1 Mathematics 3–5
- ○ NCEXTEND1 Mathematics 6–8
- ○ NCEXTEND1 NC Mathematics 1

27. What is the name of your school district?

_____

28. Which of these groups do you have experience teaching?

- ○ Special ed. (in a self-contained classroom)
- ○ Special ed. (in a mainstream classroom)
- ○ English language learners
- ○ Gifted and talented education
- ○ Vocational education
- ○ Alternative education
- ○ Adult education

29. In which grades and subjects (and for how many years) have you taught?

Example: Grade 8 math (5 years), grade 3 extended content standards (2yrs)

_____

_____

_____

_____

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

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NC Pre-Session Survey EXTEND1

1. How were you initially contacted about participating in this standard setting?

Response	Frequency	Percent	Mean: 2.24
Principal	8	21.62	
Other school administrator	4	10.81	
District personnel	10	27.03	
DRC Data Recognition Corporation	6	16.22	
Referral from a teaching staff member	4	10.81	
State department of education	5	13.51	

2. Have you ever attended a standard setting meeting before?

Response	Frequency	Percent	Mean: 1.97
Yes	1	2.70	
No	36	97.30	

3. How many years has it been since your most recent standard setting attendance?

Response	Frequency	Percent	Mean: 2.00
Less than 2 years	0	0.00	
2 to 5 years	1	2.70	
Over 5 years	0	0.00	
No Response	36	97.30	

4. How many previous standard settings have you attended?

Response	Frequency	Percent	Mean: 1.00
1	1	2.70	
2	0	0.00	
3 or more	0	0.00	
No Response	36	97.30	

5a. Principal

Response	Frequency	Percent	Mean: 0.39
Yes	14	37.84	
No	22	59.46	
No Response	1	2.70	

5b. Other School administrator

Response	Frequency	Percent	Mean: 0.25
Yes	9	24.32	
No	27	72.97	
No Response	1	2.70	

5c. Other teachers in your school

Response	Frequency	Percent	Mean: 0.27
Yes	10	27.03	
No	27	72.97	

5d. District personnel

Response	Frequency	Percent	Mean: 0.28
Yes	10	27.03	
No	26	70.27	
No Response	1	2.70	

5e. Other teachers outside of your school

Response	Frequency	Percent	Mean: 0.17
Yes	6	16.22	
No	30	81.08	
No Response	1	2.70	

5f. State department of education staff

Response	Frequency	Percent	Mean: 0.09
Yes	3	8.11	
No	32	86.49	
No Response	2	5.41	

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5g. DRC meeting planning

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	35	94.59	
No Response	2	5.41	

5h. DRC facilitator

Response	Frequency	Percent	Mean: 0.03
Yes	1	2.70	
No	34	91.89	
No Response	2	5.41	

6a. Principal

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	37	100.00	

6b. Other School administrator

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	36	97.30	
No Response	1	2.70	

6c. Other teachers in your school

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	37	100.00	

6d. District personnel

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	37	100.00	

6e. Other teachers outside of your school

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	37	100.00	

6f. State department of education staff

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	36	97.30	
No Response	1	2.70	

6g. DRC meeting planning

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	36	97.30	
No Response	1	2.70	

6h. DRC facilitator

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	36	97.30	
No Response	1	2.70	

7a. An agenda from your school community

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	35	94.59	
No Response	2	5.41	

7b. An agenda from your school administration

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	35	94.59	
No Response	2	5.41	

7c. An agenda from your other teachers

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	35	94.59	
No Response	2	5.41	

7d. An agenda from your district

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	35	94.59	
No Response	2	5.41	

7e. An agenda from the state department of eduction

Response	Frequency	Percent	Mean: 0.11
Yes	4	10.81	
No	31	83.78	
No Response	2	5.41	

7f. Pressure to set cut-scores high (stringent)

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	36	97.30	
No Response	1	2.70	

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7g. Pressure to set cut-scores low

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	36	97.30	
No Response	1	2.70	

8a. Learning what is needed to make cut-score decisions

Response	Frequency	Percent	Mean: 3.11
Not Confident	0	0.00	
Somewhat Confident	6	16.22	
Mostly Confident	21	56.76	
Very Confident	10	27.03	

8b. Learning the statistical processes needed to make these decisions

Response	Frequency	Percent	Mean: 2.95
Not Confident	0	0.00	
Somewhat Confident	10	27.03	
Mostly Confident	19	51.35	
Very Confident	8	21.62	

8c. Making cut-score decisions

Response	Frequency	Percent	Mean: 2.81
Not Confident	1	2.70	
Somewhat Confident	9	24.32	
Mostly Confident	23	62.16	
Very Confident	4	10.81	

8d. Making a cut score decision regardless of another panelist's opinion

Response	Frequency	Percent	Mean: 3.17
Not Confident	0	0.00	
Somewhat Confident	6	16.22	
Mostly Confident	18	48.65	
Very Confident	12	32.43	
No Response	1	2.70	

8e. Tuning out all preconceived notions and focus on training

Response	Frequency	Percent	Mean: 3.39
Not Confident	0	0.00	
Somewhat Confident	1	2.70	
Mostly Confident	20	54.05	
Very Confident	15	40.54	
No Response	1	2.70	

8f. Speaking up and asking questions when needed

Response	Frequency	Percent	Mean: 3.68
Not Confident	0	0.00	
Somewhat Confident	1	2.70	
Mostly Confident	10	27.03	
Very Confident	26	70.27	

8g. Setting aside any preconceptions

Response	Frequency	Percent	Mean: 3.43
Not Confident	0	0.00	
Somewhat Confident	1	2.70	
Mostly Confident	19	51.35	
Very Confident	17	45.95	

8h. Setting aside other agendas and focus on the current meeting

Response	Frequency	Percent	Mean: 3.73
Not Confident	0	0.00	
Somewhat Confident	0	0.00	
Mostly Confident	10	27.03	
Very Confident	27	72.97	

9a. I feel confident in sharing my thoughts and opinions

Response	Frequency	Percent	Mean: 3.95
Disagree	0	0.00	
Slightly Disagree	0	0.00	
Slightly Agree	2	5.41	
Agree	35	94.59	

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9b. I am usually the quiet one

Response	Frequency	Percent	Mean: 2.08
Disagree	11	29.73	
Slightly Disagree	14	37.84	
Slightly Agree	8	21.62	
Agree	3	8.11	
No Response	1	2.70	

9c. I let others talk

Response	Frequency	Percent	Mean: 3.68
Disagree	1	2.70	
Slightly Disagree	1	2.70	
Slightly Agree	7	18.92	
Agree	28	75.68	

9d. I tend to lead

Response	Frequency	Percent	Mean: 2.75
Disagree	3	8.11	
Slightly Disagree	8	21.62	
Slightly Agree	20	54.05	
Agree	5	13.51	
No Response	1	2.70	

9e. I like to listen and not speak

Response	Frequency	Percent	Mean: 2.24
Disagree	9	24.32	
Slightly Disagree	12	32.43	
Slightly Agree	14	37.84	
Agree	2	5.41	

9f. I am good at listening to people even if I disagree

Response	Frequency	Percent	Mean: 3.70
Disagree	0	0.00	
Slightly Disagree	1	2.70	
Slightly Agree	9	24.32	
Agree	27	72.97	

9g. I keep an open mind and wait for all information to be presented before making my decisions

Response	Frequency	Percent	Mean: 3.84
Disagree	0	0.00	
Slightly Disagree	0	0.00	
Slightly Agree	6	16.22	
Agree	31	83.78	

10a. Item writing

Response	Frequency	Percent	Mean: 0.22
Yes	8	21.62	
No	28	75.68	
No Response	1	2.70	

10b. Performance/achievement level descriptor writing

Response	Frequency	Percent	Mean: 0.05
Yes	2	5.41	
No	35	94.59	

10c. Rangefinding

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	37	100.00	

10d. Academic content standard development

Response	Frequency	Percent	Mean: 0.11
Yes	4	10.81	
No	33	89.19	

11. Have you worked with the content standards before?

Response	Frequency	Percent	Mean: 0.57
Yes	21	56.76	
No	16	43.24	

12. Have you worked with the achievement level descriptors before?

Response	Frequency	Percent	Mean: 0.14
Yes	5	13.51	
No	32	86.49	

13. Do you believe that your input at this standard setting will have value?

Response	Frequency	Percent	Mean: 0.86
Yes	32	86.49	
No	5	13.51	

10e. Development of Content Standards

Response	Frequency	Percent	Mean: 0.08
Yes	3	8.11	
No	34	91.89	

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19. What is your current position? (Please choose one answer that best describes where a majority of your time is spent.)

Response	Frequency	Percent	Mean: 2.06
General education teacher	20	54.05	
Special education teacher	7	18.92	
ELL teacher	1	2.70	
Curriculum staff	7	18.92	
District assessment staff	0	0.00	
State department staff	0	0.00	
Higher education	0	0.00	
Teacher on special assignment	0	0.00	
Administrator	1	2.70	
No Response	1	2.70	

20. What is your educational setting? (Please choose one answer that best meets where a majority of your time is spent.)

Response	Frequency	Percent	Mean: 1.86
Elementary school	20	54.05	
Middle/junior high school	8	21.62	
High school	5	13.51	
Higher education	0	0.00	
K-8	2	5.41	
6-12	1	2.70	
No Response	1	2.70	

21. How many years have you been in education?

Response	Frequency	Percent	Mean: 5.67
None	0	0.00	
Less than 1	0	0.00	
1-5	2	5.41	
6-10	9	24.32	
11-15	6	16.22	
16-20	7	18.92	
21-25	6	16.22	
Over 25	6	16.22	
No Response	1	2.70	

22. Approximately what percent of your students qualify for free or reduced-price meals?

Response	Frequency	Percent	Mean: 2.97
0-25%	4	10.81	
26%-50%	10	27.03	
51%-75%	7	18.92	
76%-100%	13	35.14	
Unknown	2	5.41	
No Response	1	2.70	

23. What is your ethnicity?

Response	Frequency	Percent	Mean: 6.39
American Indian / Alaska Native	1	2.70	
Asian	0	0.00	
Hawaiian or Pacific Islander	0	0.00	
Black	5	13.51	
Hispanic	0	0.00	
Mixed	1	2.70	
Caucasian	29	78.38	
No Response	1	2.70	

24. What is your gender?

Response	Frequency	Percent	Mean: 1.06
Female	34	91.89	
Male	2	5.41	
Other	0	0.00	
No Response	1	2.70	

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25. In which community type is your district?

Response	Frequency	Percent	Mean: 1.66
Rural	19	51.35	
Urban	9	24.32	
Suburban	7	18.92	
No Response	2	5.41	

26. In which group will you participate in this standard setting?

Response	Frequency	Percent	Mean: 4.55
General Mathematics 3-5	0	0.00	
General Mathematics 6-8	0	0.00	
General NC Mathematics 1 / 3	0	0.00	
NCEXTEND1 Mathematics 3-5	20	54.05	
NCEXTEND1 Mathematics 6-8	8	21.62	
NCEXTEND1 NC Mathematics 1	5	13.51	
No Response	1	2.70	
Multiple	3	8.11	

28. Which of these groups do you have experience teaching?

Response	Frequency	Percent	Mean: -
Special ed. in a self-contained classroom	8	21.62	
Special ed. in a mainstream classroom	27	72.97	
English language learners	19	51.35	
Gifted and talented education	15	40.54	
Vocational education	4	10.81	
Alternative education	1	2.70	
Adult education	2	5.41	
No Response	3	8.11	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 1? *Please bubble one option per factor.*	**Not Influential**	**Somewhat Influential**	**Influential**	**Very Influential**
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	N/A	N/A	N/A	N/A
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Table discussion	N/A	N/A	N/A	N/A
	10. I felt strongly about my placements	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Most Important	○	○	○	N/A	○	○	○	○	○	○
More Important	○	○	○	N/A	○	○	○	○	○	○
Important	○	○	○	N/A	○	○	○	○	○	○
Less Important	○	○	○	N/A	○	○	○	○	○	○
Least Important	○	○	○	N/A	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

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① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⓪
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⓪
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⓪

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Grade 6 Post Round 1 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 1.47
Not Influential	24	63.16	
Somewhat Influential	11	28.95	
Influential	2	5.26	
Very Influential	1	2.63	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.37
Not Influential	5	13.16	
Somewhat Influential	21	55.26	
Influential	5	13.16	
Very Influential	7	18.42	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.68
Not Influential	0	0.00	
Somewhat Influential	0	0.00	
Influential	12	31.58	
Very Influential	26	68.42	

5. State content standards

Response	Frequency	Percent	Mean: 3.63
Not Influential	0	0.00	
Somewhat Influential	2	5.26	
Influential	10	26.32	
Very Influential	26	68.42	

6. Test items

Response	Frequency	Percent	Mean: 3.38
Not Influential	0	0.00	
Somewhat Influential	2	5.26	
Influential	19	50.00	
Very Influential	16	42.11	
No Response	1	2.63	

7. Personal experience teaching content at this grade level

Response	Frequency	Percent	Mean: 1.79
Not Influential	21	55.26	
Somewhat Influential	7	18.42	
Influential	7	18.42	
Very Influential	3	7.89	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.11
Not Influential	35	92.11	
Somewhat Influential	2	5.26	
Influential	1	2.63	
Very Influential	0	0.00	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.73
Not Influential	2	5.26	
Somewhat Influential	10	26.32	
Influential	21	55.26	
Very Influential	4	10.53	
No Response	1	2.63	

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Most Important

Response	Frequency	Percent	Mean: 3.34
1	0	0.00	
2	4	10.53	
3	15	39.47	
5	16	42.11	
6	0	0.00	
7	0	0.00	
8	0	0.00	
10	0	0.00	
No Response	1	2.63	
Multiple	2	5.26	

More Important

Response	Frequency	Percent	Mean: 3.73
1	0	0.00	
2	2	5.26	
3	13	34.21	
5	11	28.95	
6	6	15.79	
7	1	2.63	
8	0	0.00	
10	0	0.00	
No Response	2	5.26	
Multiple	2	5.26	
Invalid	1	2.63	

Important

Response	Frequency	Percent	Mean: 4.53
1	1	2.63	
2	3	7.89	
3	4	10.53	
5	5	13.16	
6	18	47.37	
7	3	7.89	
8	0	0.00	
10	2	5.26	
Multiple	2	5.26	

Less Important

Response	Frequency	Percent	Mean: 3.88
1	6	15.79	
2	10	26.32	
3	1	2.63	
5	1	2.63	
6	5	13.16	
7	6	15.79	
8	2	5.26	
10	3	7.89	
No Response	4	10.53	

Least Important

Response	Frequency	Percent	Mean: 5.28
1	5	13.16	
2	4	10.53	
3	0	0.00	
5	0	0.00	
6	0	0.00	
7	7	18.42	
8	6	15.79	
10	7	18.42	
No Response	3	7.89	
Multiple	4	10.53	
Invalid	2	5.26	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 2? *Please bubble one option per factor.*	Not Influential	Somewhat Influential	Influential	Very Influential
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	○	○	○	○
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Table discussion	○	○	○	○
	10. I felt strongly about my placements	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Most Important	○	○	○	○	○	○	○	○	○	○
More Important	○	○	○	○	○	○	○	○	○	○
Important	○	○	○	○	○	○	○	○	○	○
Less Important	○	○	○	○	○	○	○	○	○	○
Least Important	○	○	○	○	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

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Grade 6 Post Round 2 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 2.63
Not Influential	1	2.63	
Somewhat Influential	17	44.74	
Influential	15	39.47	
Very Influential	5	13.16	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.32
Not Influential	5	13.16	
Somewhat Influential	22	57.89	
Influential	5	13.16	
Very Influential	6	15.79	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.61
Not Influential	0	0.00	
Somewhat Influential	2	5.26	
Influential	11	28.95	
Very Influential	25	65.79	

4. Percentage of students classified in each level for this grade, impact data

Response	Frequency	Percent	Mean: 1.76
Not Influential	18	47.37	
Somewhat Influential	10	26.32	
Influential	9	23.68	
Very Influential	0	0.00	
No Response	1	2.63	

5. State content standards

Response	Frequency	Percent	Mean: 3.53
Not Influential	1	2.63	
Somewhat Influential	2	5.26	
Influential	11	28.95	
Very Influential	24	63.16	

6. Items in the ordered item booklet

Response	Frequency	Percent	Mean: 3.37
Not Influential	1	2.63	
Somewhat Influential	1	2.63	
Influential	19	50.00	
Very Influential	17	44.74	

7. Personal experience teaching the content at this grade level

Response	Frequency	Percent	Mean: 1.68
Not Influential	23	60.53	
Somewhat Influential	5	13.16	
Influential	9	23.68	
Very Influential	1	2.63	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.11
Not Influential	36	94.74	
Somewhat Influential	0	0.00	
Influential	2	5.26	
Very Influential	0	0.00	

9. Table discussion

Response	Frequency	Percent	Mean: 3.13
Not Influential	0	0.00	
Somewhat Influential	7	18.42	
Influential	19	50.00	
Very Influential	12	31.58	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.59
Not Influential	2	5.26	
Somewhat Influential	14	36.84	
Influential	18	47.37	
Very Influential	3	7.89	
No Response	1	2.63	

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Most Important

Response	Frequency	Percent	Mean: 4.49
1	2	5.26	
2	0	0.00	
3	13	34.21	
4	1	2.63	
5	14	36.84	
6	1	2.63	
7	0	0.00	
8	0	0.00	
9	4	10.53	
10	0	0.00	
Multiple	3	7.89	

More Important

Response	Frequency	Percent	Mean: 4.39
1	3	7.89	
2	1	2.63	
3	13	34.21	
4	0	0.00	
5	9	23.68	
6	7	18.42	
7	0	0.00	
8	0	0.00	
9	3	7.89	
10	0	0.00	
Multiple	2	5.26	

Important

Response	Frequency	Percent	Mean: 5.64
1	1	2.63	
2	2	5.26	
3	1	2.63	
4	4	10.53	
5	7	18.42	
6	15	39.47	
7	0	0.00	
8	0	0.00	
9	6	15.79	
10	0	0.00	
No Response	1	2.63	
Multiple	1	2.63	

Less Important

Response	Frequency	Percent	Mean: 5.30
1	4	10.53	
2	7	18.42	
3	3	7.89	
4	2	5.26	
5	0	0.00	
6	6	15.79	
7	6	15.79	
8	1	2.63	
9	5	13.16	
10	3	7.89	
Multiple	1	2.63	

Least Important

Response	Frequency	Percent	Mean: 7.00
1	3	7.89	
2	1	2.63	
3	1	2.63	
4	3	7.89	
5	1	2.63	
6	0	0.00	
7	3	7.89	
8	13	34.21	
9	8	21.05	
10	3	7.89	
No Response	1	2.63	
Multiple	1	2.63	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 3? *Please bubble one option per factor.*	**Not Influential**	**Somewhat Influential**	**Influential**	**Very Influential**
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	○	○	○	○
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Large group discussion	○	○	○	○
	10. I felt strongly about my placements	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Most Important	○	○	○	○	○	○	○	○	○	○
More Important	○	○	○	○	○	○	○	○	○	○
Important	○	○	○	○	○	○	○	○	○	○
Less Important	○	○	○	○	○	○	○	○	○	○
Least Important	○	○	○	○	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

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① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⓪
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⓪

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Grade 6 Post Round 3 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 2.55
Not Influential	4	10.53	
Somewhat Influential	16	42.11	
Influential	11	28.95	
Very Influential	7	18.42	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.18
Not Influential	7	18.42	
Somewhat Influential	20	52.63	
Influential	8	21.05	
Very Influential	3	7.89	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.42
Not Influential	0	0.00	
Somewhat Influential	4	10.53	
Influential	14	36.84	
Very Influential	20	52.63	

4. Percentage of students classified in each level for this grade, impact data

Response	Frequency	Percent	Mean: 2.41
Not Influential	10	26.32	
Somewhat Influential	8	21.05	
Influential	13	34.21	
Very Influential	6	15.79	
No Response	1	2.63	

5. State content standards

Response	Frequency	Percent	Mean: 3.58
Not Influential	1	2.63	
Somewhat Influential	2	5.26	
Influential	9	23.68	
Very Influential	26	68.42	

6. Items in the ordered item booklet

Response	Frequency	Percent	Mean: 3.24
Not Influential	0	0.00	
Somewhat Influential	2	5.26	
Influential	25	65.79	
Very Influential	11	28.95	

7. Personal experience teaching the content at this grade level

Response	Frequency	Percent	Mean: 1.78
Not Influential	18	47.37	
Somewhat Influential	12	31.58	
Influential	4	10.53	
Very Influential	3	7.89	
No Response	1	2.63	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.13
Not Influential	34	89.47	
Somewhat Influential	3	7.89	
Influential	1	2.63	
Very Influential	0	0.00	

9. Table discussion

Response	Frequency	Percent	Mean: 2.34
Not Influential	7	18.42	
Somewhat Influential	16	42.11	
Influential	10	26.32	
Very Influential	5	13.16	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.95
Not Influential	1	2.63	
Somewhat Influential	11	28.95	
Influential	15	39.47	
Very Influential	11	28.95	

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Most Important

Response	Frequency	Percent	Mean: 4.66
1	2	5.26	
2	0	0.00	
3	12	31.58	
4	4	10.53	
5	12	31.58	
6	0	0.00	
7	0	0.00	
8	0	0.00	
9	1	2.63	
10	4	10.53	
Multiple	3	7.89	

More Important

Response	Frequency	Percent	Mean: 4.68
1	3	7.89	
2	1	2.63	
3	6	15.79	
4	2	5.26	
5	12	31.58	
6	7	18.42	
7	1	2.63	
8	0	0.00	
9	1	2.63	
10	1	2.63	
No Response	1	2.63	
Multiple	3	7.89	

Important

Response	Frequency	Percent	Mean: 4.85
1	2	5.26	
2	3	7.89	
3	5	13.16	
4	2	5.26	
5	5	13.16	
6	14	36.84	
7	1	2.63	
8	0	0.00	
9	2	5.26	
10	0	0.00	
No Response	1	2.63	
Multiple	3	7.89	

Less Important

Response	Frequency	Percent	Mean: 5.56
1	3	7.89	
2	3	7.89	
3	6	15.79	
4	6	15.79	
5	1	2.63	
6	2	5.26	
7	3	7.89	
8	2	5.26	
9	5	13.16	
10	5	13.16	
No Response	2	5.26	

Least Important

Response	Frequency	Percent	Mean: 6.41
1	4	10.53	
2	2	5.26	
3	1	2.63	
4	3	7.89	
5	1	2.63	
6	2	5.26	
7	2	5.26	
8	10	26.32	
9	6	15.79	
10	3	7.89	
No Response	2	5.26	
Multiple	2	5.26	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 1? *Please bubble one option per factor.*	**Not Influential**	**Somewhat Influential**	**Influential**	**Very Influential**
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	N/A	N/A	N/A	N/A
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Table discussion	N/A	N/A	N/A	N/A
	10. I felt strongly about my placements	○	○	○	○
	11 Percentage of students classified in each level (impact data) for other previous grade(s)	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Most Important	○	○	○	N/A	○	○	○	○	○	○	○
More Important	○	○	○	N/A	○	○	○	○	○	○	○
Important	○	○	○	N/A	○	○	○	○	○	○	○
Less Important	○	○	○	N/A	○	○	○	○	○	○	○
Least Important	○	○	○	N/A	○	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

End-of-round survey for NCEXTEND1 mathematics, subsequent grades.

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

Grades 5 & 7 Post Round 1 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 1.45
Not Influential	26	68.42	
Somewhat Influential	8	21.05	
Influential	3	7.89	
Very Influential	1	2.63	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.32
Not Influential	8	21.05	
Somewhat Influential	17	44.74	
Influential	6	15.79	
Very Influential	7	18.42	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.59
Not Influential	0	0.00	
Somewhat Influential	1	2.63	
Influential	13	34.21	
Very Influential	23	60.53	
Multiple	1	2.63	

5. State content standards

Response	Frequency	Percent	Mean: 3.63
Not Influential	1	2.63	
Somewhat Influential	0	0.00	
Influential	11	28.95	
Very Influential	26	68.42	

6. Test items

Response	Frequency	Percent	Mean: 3.58
Not Influential	0	0.00	
Somewhat Influential	2	5.26	
Influential	12	31.58	
Very Influential	24	63.16	

7. Personal experience teaching content at this grade level

Response	Frequency	Percent	Mean: 2.18
Not Influential	15	39.47	
Somewhat Influential	8	21.05	
Influential	8	21.05	
Very Influential	7	18.42	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.11
Not Influential	35	92.11	
Somewhat Influential	2	5.26	
Influential	1	2.63	
Very Influential	0	0.00	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.66
Not Influential	6	15.79	
Somewhat Influential	6	15.79	
Influential	21	55.26	
Very Influential	5	13.16	

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11. Percentage of students classified in each level (impact data) for other previous grade(s)

Response	Frequency	Percent	Mean: 1.92
Not Influential	16	42.11	
Somewhat Influential	12	31.58	
Influential	5	13.16	
Very Influential	4	10.53	
No Response	1	2.63	

Most Important

Response	Frequency	Percent	Mean: 4.06
1	0	0.00	
2	0	0.00	
3	18	47.37	
5	10	26.32	
6	3	7.89	
7	1	2.63	
8	0	0.00	
10	0	0.00	
11	3	7.89	
No Response	1	2.63	
Multiple	2	5.26	

More Important

Response	Frequency	Percent	Mean: 4.37
1	0	0.00	
2	3	7.89	
3	7	18.42	
5	12	31.58	
6	9	23.68	
7	1	2.63	
8	0	0.00	
10	0	0.00	
11	3	7.89	
No Response	1	2.63	
Multiple	2	5.26	

Important

Response	Frequency	Percent	Mean: 4.22
1	2	5.26	
2	4	10.53	
3	6	15.79	
5	7	18.42	
6	15	39.47	
7	0	0.00	
8	0	0.00	
10	2	5.26	
11	1	2.63	
Multiple	1	2.63	

Less Important

Response	Frequency	Percent	Mean: 5.58
1	1	2.63	
2	6	15.79	
3	1	2.63	
5	1	2.63	
6	3	7.89	
7	10	26.32	
8	2	5.26	
10	6	15.79	
11	3	7.89	
No Response	4	10.53	
Invalid	1	2.63	

Least Important

Response	Frequency	Percent	Mean: 5.30
1	5	13.16	
2	6	15.79	
3	0	0.00	
5	0	0.00	
6	2	5.26	
7	5	13.16	
8	7	18.42	
10	3	7.89	
11	5	13.16	
No Response	2	5.26	
Multiple	2	5.26	
Invalid	1	2.63	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 2? *Please bubble one option per factor.*	Not Influential	Somewhat Influential	Influential	Very Influential
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	○	○	○	○
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Table discussion	○	○	○	○
	10. I felt strongly about my placements	○	○	○	○
	11. Percentage of students classified in each level (impact data) for other previous grade(s)	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Most Important	○	○	○	○	○	○	○	○	○	○	○
More Important	○	○	○	○	○	○	○	○	○	○	○
Important	○	○	○	○	○	○	○	○	○	○	○
Less Important	○	○	○	○	○	○	○	○	○	○	○
Least Important	○	○	○	○	○	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

End-of-round survey for NCEXTEND1 mathematics, subsequent grades.

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

Grades 5 & 7 Post Round 2 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 2.66
Not Influential	2	5.26	
Somewhat Influential	14	36.84	
Influential	17	44.74	
Very Influential	5	13.16	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.30
Not Influential	8	21.05	
Somewhat Influential	15	39.47	
Influential	9	23.68	
Very Influential	5	13.16	
Multiple	1	2.63	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.50
Not Influential	0	0.00	
Somewhat Influential	0	0.00	
Influential	19	50.00	
Very Influential	19	50.00	

4. Percentage of students classified in each level for this grade, impact data

Response	Frequency	Percent	Mean: 2.00
Not Influential	15	39.47	
Somewhat Influential	8	21.05	
Influential	9	23.68	
Very Influential	3	7.89	
No Response	2	5.26	
Multiple	1	2.63	

5. State content standards

Response	Frequency	Percent	Mean: 3.42
Not Influential	1	2.63	
Somewhat Influential	1	2.63	
Influential	16	42.11	
Very Influential	18	47.37	
No Response	2	5.26	

6. Items in the ordered item booklet

Response	Frequency	Percent	Mean: 3.50
Not Influential	0	0.00	
Somewhat Influential	0	0.00	
Influential	19	50.00	
Very Influential	19	50.00	

7. Personal experience teaching the content at this grade level

Response	Frequency	Percent	Mean: 2.00
Not Influential	15	39.47	
Somewhat Influential	13	34.21	
Influential	5	13.16	
Very Influential	5	13.16	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.11
Not Influential	35	92.11	
Somewhat Influential	2	5.26	
Influential	1	2.63	
Very Influential	0	0.00	

9. Table discussion

Response	Frequency	Percent	Mean: 2.97
Not Influential	1	2.63	
Somewhat Influential	10	26.32	
Influential	16	42.11	
Very Influential	11	28.95	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.95
Not Influential	0	0.00	
Somewhat Influential	8	21.05	
Influential	24	63.16	
Very Influential	6	15.79	

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11. Percentage of students classified in each level (impact data) for other previous grade(s)

Response	Frequency	Percent	Mean: 1.89
Not Influential	15	39.47	
Somewhat Influential	13	34.21	
Influential	9	23.68	
Very Influential	1	2.63	

Most Important

Response	Frequency	Percent	Mean: 5.56
1	0	0.00	
2	0	0.00	
3	13	34.21	
4	0	0.00	
5	8	21.05	
6	3	7.89	
7	1	2.63	
8	0	0.00	
9	7	18.42	
10	0	0.00	
11	2	5.26	
No Response	1	2.63	
Multiple	3	7.89	

More Important

Response	Frequency	Percent	Mean: 5.69
1	0	0.00	
2	2	5.26	
3	4	10.53	
4	4	10.53	
5	12	31.58	
6	5	13.16	
7	0	0.00	
8	0	0.00	
9	3	7.89	
10	5	13.16	
11	0	0.00	
No Response	1	2.63	
Multiple	2	5.26	

Important

Response	Frequency	Percent	Mean: 5.46
1	2	5.26	
2	2	5.26	
3	6	15.79	
4	0	0.00	
5	3	7.89	
6	15	39.47	
7	2	5.26	
8	0	0.00	
9	3	7.89	
10	1	2.63	
11	1	2.63	
No Response	2	5.26	
Multiple	1	2.63	

Less Important

Response	Frequency	Percent	Mean: 5.94
1	3	7.89	
2	4	10.53	
3	4	10.53	
4	3	7.89	
5	3	7.89	
6	2	5.26	
7	2	5.26	
8	2	5.26	
9	7	18.42	
10	2	5.26	
11	3	7.89	
No Response	2	5.26	
Multiple	1	2.63	

Least Important

Response	Frequency	Percent	Mean: 6.79
1	5	13.16	
2	3	7.89	
3	0	0.00	
4	0	0.00	
5	1	2.63	
6	2	5.26	
7	5	13.16	
8	7	18.42	
9	3	7.89	
10	3	7.89	
11	5	13.16	
No Response	2	5.26	
Multiple	2	5.26	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 3? *Please bubble one option per factor.*	Not Influential	Somewhat Influential	Influential	Very Influential
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	○	○	○	○
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Large group discussion	○	○	○	○
	10. I felt strongly about my placements	○	○	○	○
	11. Percentage of students classified in each level (impact data) for other previous grade(s)	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Most Important	○	○	○	○	○	○	○	○	○	○	○
More Important	○	○	○	○	○	○	○	○	○	○	○
Important	○	○	○	○	○	○	○	○	○	○	○
Less Important	○	○	○	○	○	○	○	○	○	○	○
Least Important	○	○	○	○	○	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

End-of-round survey for NCEXTEND1 mathematics, subsequent grades.

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

Grades 5 & 7 Post Round 3 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 2.42
Not Influential	6	15.79	
Somewhat Influential	16	42.11	
Influential	10	26.32	
Very Influential	6	15.79	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.24
Not Influential	7	18.42	
Somewhat Influential	19	50.00	
Influential	8	21.05	
Very Influential	4	10.53	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.45
Not Influential	0	0.00	
Somewhat Influential	2	5.26	
Influential	17	44.74	
Very Influential	19	50.00	

4. Percentage of students classified in each level for this grade, impact data

Response	Frequency	Percent	Mean: 2.70
Not Influential	7	18.42	
Somewhat Influential	8	21.05	
Influential	11	28.95	
Very Influential	11	28.95	
Multiple	1	2.63	

5. State content standards

Response	Frequency	Percent	Mean: 3.39
Not Influential	1	2.63	
Somewhat Influential	4	10.53	
Influential	12	31.58	
Very Influential	21	55.26	

6. Items in the ordered item booklet

Response	Frequency	Percent	Mean: 3.45
Not Influential	0	0.00	
Somewhat Influential	2	5.26	
Influential	17	44.74	
Very Influential	19	50.00	

7. Personal experience teaching the content at this grade level

Response	Frequency	Percent	Mean: 2.00
Not Influential	16	42.11	
Somewhat Influential	11	28.95	
Influential	6	15.79	
Very Influential	5	13.16	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.14
Not Influential	33	86.84	
Somewhat Influential	3	7.89	
Influential	1	2.63	
Very Influential	0	0.00	
Multiple	1	2.63	

9. Table discussion

Response	Frequency	Percent	Mean: 2.53
Not Influential	4	10.53	
Somewhat Influential	16	42.11	
Influential	12	31.58	
Very Influential	6	15.79	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.92
Not Influential	2	5.26	
Somewhat Influential	7	18.42	
Influential	21	55.26	
Very Influential	8	21.05	

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11. Percentage of students classified in each level (impact data) for other previous grade(s)

Response	Frequency	Percent	Mean: 2.35
Not Influential	11	28.95	
Somewhat Influential	6	15.79	
Influential	11	28.95	
Very Influential	6	15.79	
No Response	4	10.53	

Most Important

Response	Frequency	Percent	Mean: 4.63
1	2	5.26	
2	0	0.00	
3	12	31.58	
4	6	15.79	
5	6	15.79	
6	4	10.53	
7	1	2.63	
8	0	0.00	
9	2	5.26	
10	1	2.63	
11	1	2.63	
No Response	1	2.63	
Multiple	2	5.26	

More Important

Response	Frequency	Percent	Mean: 5.59
1	0	0.00	
2	2	5.26	
3	2	5.26	
4	6	15.79	
5	12	31.58	
6	8	21.05	
7	1	2.63	
8	0	0.00	
9	3	7.89	
10	2	5.26	
11	1	2.63	
No Response	1	2.63	

Important

Response	Frequency	Percent	Mean: 5.35
1	2	5.26	
2	0	0.00	
3	4	10.53	
4	5	13.16	
5	7	18.42	
6	11	28.95	
7	1	2.63	
8	0	0.00	
9	1	2.63	
10	2	5.26	
11	1	2.63	
No Response	2	5.26	
Multiple	2	5.26	

Less Important

Response	Frequency	Percent	Mean: 6.78
1	0	0.00	
2	4	10.53	
3	5	13.16	
4	2	5.26	
5	2	5.26	
6	1	2.63	
7	4	10.53	
8	1	2.63	
9	10	26.32	
10	6	15.79	
11	1	2.63	
No Response	2	5.26	

Least Important

Response	Frequency	Percent	Mean: 7.18
1	4	10.53	
2	1	2.63	
3	1	2.63	
4	1	2.63	
5	0	0.00	
6	2	5.26	
7	3	7.89	
8	10	26.32	
9	3	7.89	
10	4	10.53	
11	4	10.53	
No Response	2	5.26	
Multiple	3	7.89	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 1? *Please bubble one option per factor.*	**Not Influential**	**Somewhat Influential**	**Influential**	**Very Influential**
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	N/A	N/A	N/A	N/A
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Table discussion	N/A	N/A	N/A	N/A
	10. I felt strongly about my placements	○	○	○	○
	11 Percentage of students classified in each level (impact data) for other previous grade(s)	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Most Important	○	○	○	N/A	○	○	○	○	○	○	○
More Important	○	○	○	N/A	○	○	○	○	○	○	○
Important	○	○	○	N/A	○	○	○	○	○	○	○
Less Important	○	○	○	N/A	○	○	○	○	○	○	○
Least Important	○	○	○	N/A	○	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

End-of-round survey for NCEXTEND1 mathematics, subsequent grades.

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

Grades 4 & 8 Post Round 1 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 1.62
Not Influential	23	62.16	
Somewhat Influential	7	18.92	
Influential	5	13.51	
Very Influential	2	5.41	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.43
Not Influential	4	10.81	
Somewhat Influential	18	48.65	
Influential	10	27.03	
Very Influential	5	13.51	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.59
Not Influential	0	0.00	
Somewhat Influential	2	5.41	
Influential	11	29.73	
Very Influential	24	64.86	

5. State content standards

Response	Frequency	Percent	Mean: 3.41
Not Influential	2	5.41	
Somewhat Influential	1	2.70	
Influential	14	37.84	
Very Influential	20	54.05	

6. Test items

Response	Frequency	Percent	Mean: 3.59
Not Influential	0	0.00	
Somewhat Influential	0	0.00	
Influential	15	40.54	
Very Influential	22	59.46	

7. Personal experience teaching content at this grade level

Response	Frequency	Percent	Mean: 2.22
Not Influential	12	32.43	
Somewhat Influential	12	32.43	
Influential	6	16.22	
Very Influential	7	18.92	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.16
Not Influential	33	89.19	
Somewhat Influential	2	5.41	
Influential	2	5.41	
Very Influential	0	0.00	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.54
Not Influential	4	10.81	
Somewhat Influential	11	29.73	
Influential	20	54.05	
Very Influential	2	5.41	

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11. Percentage of students classified in each level (impact data) for other previous grade(s)

Response	Frequency	Percent	Mean: 1.92
Not Influential	18	48.65	
Somewhat Influential	7	18.92	
Influential	9	24.32	
Very Influential	3	8.11	

Most Important

Response	Frequency	Percent	Mean: 3.91
1	0	0.00	
2	0	0.00	
3	17	45.95	
5	11	29.73	
6	4	10.81	
7	0	0.00	
8	0	0.00	
10	0	0.00	
11	2	5.41	
No Response	1	2.70	
Multiple	2	5.41	

More Important

Response	Frequency	Percent	Mean: 4.17
1	1	2.70	
2	1	2.70	
3	9	24.32	
5	12	32.43	
6	9	24.32	
7	1	2.70	
8	0	0.00	
10	1	2.70	
11	1	2.70	
No Response	1	2.70	
Multiple	1	2.70	

Important

Response	Frequency	Percent	Mean: 5.15
1	1	2.70	
2	2	5.41	
3	4	10.81	
5	4	10.81	
6	14	37.84	
7	2	5.41	
8	1	2.70	
10	1	2.70	
11	5	13.51	
No Response	1	2.70	
Multiple	1	2.70	
Invalid	1	2.70	

Less Important

Response	Frequency	Percent	Mean: 5.36
1	3	8.11	
2	6	16.22	
3	3	8.11	
5	1	2.70	
6	0	0.00	
7	7	18.92	
8	1	2.70	
10	8	21.62	
11	4	10.81	
No Response	1	2.70	
Multiple	2	5.41	
Invalid	1	2.70	

Least Important

Response	Frequency	Percent	Mean: 5.78
1	2	5.41	
2	4	10.81	
3	2	5.41	
5	2	5.41	
6	1	2.70	
7	3	8.11	
8	10	27.03	
10	4	10.81	
11	4	10.81	
No Response	3	8.11	
Multiple	2	5.41	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 2? *Please bubble one option per factor.*	**Not Influential**	**Somewhat Influential**	**Influential**	**Very Influential**
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	○	○	○	○
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Table discussion	○	○	○	○
	10. I felt strongly about my placements	○	○	○	○
	11. Percentage of students classified in each level (impact data) for other previous grade(s)	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Most Important	○	○	○	○	○	○	○	○	○	○	○
More Important	○	○	○	○	○	○	○	○	○	○	○
Important	○	○	○	○	○	○	○	○	○	○	○
Less Important	○	○	○	○	○	○	○	○	○	○	○
Least Important	○	○	○	○	○	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

End-of-round survey for NCEXTEND1 mathematics, subsequent grades.

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

Grades 4 & 8 Post Round 2 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 2.53
Not Influential	5	13.89	
Somewhat Influential	13	36.11	
Influential	12	33.33	
Very Influential	6	16.67	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.23
Not Influential	8	22.22	
Somewhat Influential	14	38.89	
Influential	10	27.78	
Very Influential	3	8.33	
No Response	1	2.78	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.58
Not Influential	0	0.00	
Somewhat Influential	1	2.78	
Influential	13	36.11	
Very Influential	22	61.11	

4. Percentage of students classified in each level for this grade, impact data

Response	Frequency	Percent	Mean: 2.11
Not Influential	13	36.11	
Somewhat Influential	10	27.78	
Influential	9	25.00	
Very Influential	4	11.11	

5. State content standards

Response	Frequency	Percent	Mean: 3.33
Not Influential	1	2.78	
Somewhat Influential	3	8.33	
Influential	15	41.67	
Very Influential	17	47.22	

6. Items in the ordered item booklet

Response	Frequency	Percent	Mean: 3.50
Not Influential	0	0.00	
Somewhat Influential	1	2.78	
Influential	16	44.44	
Very Influential	19	52.78	

7. Personal experience teaching the content at this grade level

Response	Frequency	Percent	Mean: 2.06
Not Influential	13	36.11	
Somewhat Influential	10	27.78	
Influential	11	30.56	
Very Influential	2	5.56	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.17
Not Influential	31	86.11	
Somewhat Influential	4	11.11	
Influential	1	2.78	
Very Influential	0	0.00	

9. Table discussion

Response	Frequency	Percent	Mean: 3.00
Not Influential	1	2.78	
Somewhat Influential	7	19.44	
Influential	19	52.78	
Very Influential	9	25.00	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.72
Not Influential	2	5.56	
Somewhat Influential	9	25.00	
Influential	22	61.11	
Very Influential	3	8.33	

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11. Percentage of students classified in each level (impact data) for other previous grade(s)

Response	Frequency	Percent	Mean: 2.00
Not Influential	16	44.44	
Somewhat Influential	8	22.22	
Influential	8	22.22	
Very Influential	4	11.11	

Most Important

Response	Frequency	Percent	Mean: 4.45
1	2	5.56	
2	2	5.56	
3	14	38.89	
4	2	5.56	
5	5	13.89	
6	2	5.56	
7	0	0.00	
8	0	0.00	
9	6	16.67	
10	0	0.00	
11	0	0.00	
No Response	1	2.78	
Multiple	2	5.56	

More Important

Response	Frequency	Percent	Mean: 4.76
1	3	8.33	
2	0	0.00	
3	6	16.67	
4	3	8.33	
5	12	33.33	
6	7	19.44	
7	1	2.78	
8	0	0.00	
9	1	2.78	
10	0	0.00	
11	1	2.78	
Multiple	2	5.56	

Important

Response	Frequency	Percent	Mean: 6.00
1	2	5.56	
2	0	0.00	
3	4	11.11	
4	2	5.56	
5	6	16.67	
6	9	25.00	
7	0	0.00	
8	0	0.00	
9	6	16.67	
10	1	2.78	
11	2	5.56	
No Response	1	2.78	
Multiple	3	8.33	

Less Important

Response	Frequency	Percent	Mean: 6.46
1	6	16.67	
2	1	2.78	
3	3	8.33	
4	2	5.56	
5	0	0.00	
6	2	5.56	
7	7	19.44	
8	1	2.78	
9	3	8.33	
10	5	13.89	
11	5	13.89	
Multiple	1	2.78	

Least Important

Response	Frequency	Percent	Mean: 7.81
1	1	2.78	
2	2	5.56	
3	1	2.78	
4	1	2.78	
5	0	0.00	
6	2	5.56	
7	3	8.33	
8	8	22.22	
9	3	8.33	
10	7	19.44	
11	4	11.11	
No Response	1	2.78	
Multiple	3	8.33	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 3? *Please bubble one option per factor.*	Not Influential	Somewhat Influential	Influential	Very Influential
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	○	○	○	○
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Large group discussion	○	○	○	○
	10. I felt strongly about my placements	○	○	○	○
	11. Percentage of students classified in each level (impact data) for other previous grade(s)	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Most Important	○	○	○	○	○	○	○	○	○	○	○
More Important	○	○	○	○	○	○	○	○	○	○	○
Important	○	○	○	○	○	○	○	○	○	○	○
Less Important	○	○	○	○	○	○	○	○	○	○	○
Least Important	○	○	○	○	○	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

Grades 4 & 8 Post Round 3 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 2.39
Not Influential	6	16.67	
Somewhat Influential	15	41.67	
Influential	10	27.78	
Very Influential	5	13.89	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.22
Not Influential	9	25.00	
Somewhat Influential	13	36.11	
Influential	11	30.56	
Very Influential	3	8.33	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.47
Not Influential	0	0.00	
Somewhat Influential	3	8.33	
Influential	13	36.11	
Very Influential	20	55.56	

4. Percentage of students classified in each level for this grade, impact data

Response	Frequency	Percent	Mean: 2.56
Not Influential	6	16.67	
Somewhat Influential	10	27.78	
Influential	14	38.89	
Very Influential	6	16.67	

5. State content standards

Response	Frequency	Percent	Mean: 3.22
Not Influential	1	2.78	
Somewhat Influential	3	8.33	
Influential	19	52.78	
Very Influential	13	36.11	

6. Items in the ordered item booklet

Response	Frequency	Percent	Mean: 3.39
Not Influential	0	0.00	
Somewhat Influential	1	2.78	
Influential	20	55.56	
Very Influential	15	41.67	

7. Personal experience teaching the content at this grade level

Response	Frequency	Percent	Mean: 2.19
Not Influential	12	33.33	
Somewhat Influential	7	19.44	
Influential	15	41.67	
Very Influential	2	5.56	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.19
Not Influential	31	86.11	
Somewhat Influential	3	8.33	
Influential	2	5.56	
Very Influential	0	0.00	

9. Table discussion

Response	Frequency	Percent	Mean: 2.28
Not Influential	3	8.33	
Somewhat Influential	21	58.33	
Influential	11	30.56	
Very Influential	1	2.78	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.81
Not Influential	2	5.56	
Somewhat Influential	8	22.22	
Influential	21	58.33	
Very Influential	5	13.89	

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11. Percentage of students classified in each level (impact data) for other previous grade(s)

Response	Frequency	Percent	Mean: 2.03
Not Influential	9	25.00	
Somewhat Influential	11	30.56	
Influential	8	22.22	
Very Influential	1	2.78	
No Response	7	19.44	

Most Important

Response	Frequency	Percent	Mean: 4.30
1	1	2.78	
2	0	0.00	
3	11	30.56	
4	10	27.78	
5	7	19.44	
6	1	2.78	
7	1	2.78	
8	0	0.00	
9	0	0.00	
10	2	5.56	
11	0	0.00	
No Response	2	5.56	
Invalid	1	2.78	

More Important

Response	Frequency	Percent	Mean: 5.36
1	2	5.56	
2	0	0.00	
3	4	11.11	
4	0	0.00	
5	13	36.11	
6	10	27.78	
7	0	0.00	
8	0	0.00	
9	2	5.56	
10	2	5.56	
11	0	0.00	
Multiple	2	5.56	
Invalid	1	2.78	

Important

Response	Frequency	Percent	Mean: 5.27
1	0	0.00	
2	1	2.78	
3	8	22.22	
4	1	2.78	
5	5	13.89	
6	14	38.89	
7	1	2.78	
8	1	2.78	
9	1	2.78	
10	0	0.00	
11	1	2.78	
Multiple	2	5.56	
Invalid	1	2.78	

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Less Important

Response	Frequency	Percent	Mean: 6.24
1	1	2.78	
2	4	11.11	
3	5	13.89	
4	2	5.56	
5	2	5.56	
6	1	2.78	
7	5	13.89	
8	3	8.33	
9	6	16.67	
10	4	11.11	
11	1	2.78	
No Response	2	5.56	

Least Important

Response	Frequency	Percent	Mean: 7.21
1	2	5.56	
2	1	2.78	
3	2	5.56	
4	0	0.00	
5	2	5.56	
6	2	5.56	
7	6	16.67	
8	7	19.44	
9	5	13.89	
10	3	8.33	
11	3	8.33	
No Response	1	2.78	
Multiple	2	5.56	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 1? *Please bubble one option per factor.*	**Not Influential**	**Somewhat Influential**	**Influential**	**Very Influential**
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	N/A	N/A	N/A	N/A
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Table discussion	N/A	N/A	N/A	N/A
	10. I felt strongly about my placements	○	○	○	○
	11 Percentage of students classified in each level (impact data) for other previous grade(s)	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Most Important	○	○	○	N/A	○	○	○	○	○	○	○
More Important	○	○	○	N/A	○	○	○	○	○	○	○
Important	○	○	○	N/A	○	○	○	○	○	○	○
Less Important	○	○	○	N/A	○	○	○	○	○	○	○
Least Important	○	○	○	N/A	○	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

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Grades 3 & Math 1 Post Round 1 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 1.43
Not Influential	26	70.27	
Somewhat Influential	7	18.92	
Influential	3	8.11	
Very Influential	1	2.70	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.24
Not Influential	9	24.32	
Somewhat Influential	16	43.24	
Influential	6	16.22	
Very Influential	6	16.22	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.73
Not Influential	0	0.00	
Somewhat Influential	0	0.00	
Influential	10	27.03	
Very Influential	27	72.97	

5. State content standards

Response	Frequency	Percent	Mean: 3.49
Not Influential	3	8.11	
Somewhat Influential	1	2.70	
Influential	8	21.62	
Very Influential	25	67.57	

6. Test items

Response	Frequency	Percent	Mean: 3.65
Not Influential	0	0.00	
Somewhat Influential	0	0.00	
Influential	13	35.14	
Very Influential	24	64.86	

7. Personal experience teaching content at this grade level

Response	Frequency	Percent	Mean: 2.11
Not Influential	13	35.14	
Somewhat Influential	11	29.73	
Influential	9	24.32	
Very Influential	4	10.81	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.11
Not Influential	34	91.89	
Somewhat Influential	2	5.41	
Influential	1	2.70	
Very Influential	0	0.00	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.49
Not Influential	6	16.22	
Somewhat Influential	10	27.03	
Influential	18	48.65	
Very Influential	3	8.11	

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11. Percentage of students classified in each level (impact data) for other previous grade(s)

Response	Frequency	Percent	Mean: 1.75
Not Influential	16	43.24	
Somewhat Influential	10	27.03	
Influential	4	10.81	
Very Influential	2	5.41	
No Response	5	13.51	

Most Important

Response	Frequency	Percent	Mean: 3.29
1	2	5.41	
2	1	2.70	
3	19	51.35	
5	9	24.32	
6	3	8.11	
7	0	0.00	
8	0	0.00	
10	0	0.00	
11	0	0.00	
No Response	1	2.70	
Multiple	2	5.41	

More Important

Response	Frequency	Percent	Mean: 4.06
1	0	0.00	
2	3	8.11	
3	5	13.51	
5	14	37.84	
6	11	29.73	
7	1	2.70	
8	0	0.00	
10	0	0.00	
11	0	0.00	
No Response	1	2.70	
Multiple	2	5.41	

Important

Response	Frequency	Percent	Mean: 4.03
1	3	8.11	
2	4	10.81	
3	6	16.22	
5	3	8.11	
6	14	37.84	
7	3	8.11	
8	0	0.00	
10	1	2.70	
11	0	0.00	
Multiple	2	5.41	
Invalid	1	2.70	

Less Important

Response	Frequency	Percent	Mean: 5.94
1	3	8.11	
2	5	13.51	
3	0	0.00	
5	0	0.00	
6	2	5.41	
7	7	18.92	
8	2	5.41	
10	9	24.32	
11	5	13.51	
No Response	1	2.70	
Multiple	2	5.41	
Invalid	1	2.70	

Least Important

Response	Frequency	Percent	Mean: 4.91
1	6	16.22	
2	7	18.92	
3	1	2.70	
5	1	2.70	
6	1	2.70	
7	2	5.41	
8	9	24.32	
10	3	8.11	
11	4	10.81	
Multiple	2	5.41	
Invalid	1	2.70	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 2? *Please bubble one option per factor.*	**Not Influential**	**Somewhat Influential**	**Influential**	**Very Influential**
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	○	○	○	○
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Table discussion	○	○	○	○
	10. I felt strongly about my placements	○	○	○	○
	11. Percentage of students classified in each level (impact data) for other previous grade(s)	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Most Important	○	○	○	○	○	○	○	○	○	○	○
More Important	○	○	○	○	○	○	○	○	○	○	○
Important	○	○	○	○	○	○	○	○	○	○	○
Less Important	○	○	○	○	○	○	○	○	○	○	○
Least Important	○	○	○	○	○	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

End-of-round survey for NCEXTEND1 mathematics, subsequent grades.

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

Grades 3 & Math 1 Post Round 2 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 2.57
Not Influential	5	13.51	
Somewhat Influential	10	27.03	
Influential	18	48.65	
Very Influential	4	10.81	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.35
Not Influential	6	16.22	
Somewhat Influential	17	45.95	
Influential	9	24.32	
Very Influential	5	13.51	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.57
Not Influential	0	0.00	
Somewhat Influential	1	2.70	
Influential	14	37.84	
Very Influential	22	59.46	

4. Percentage of students classified in each level for this grade, impact data

Response	Frequency	Percent	Mean: 1.89
Not Influential	17	45.95	
Somewhat Influential	8	21.62	
Influential	7	18.92	
Very Influential	3	8.11	
No Response	2	5.41	

5. State content standards

Response	Frequency	Percent	Mean: 3.32
Not Influential	1	2.70	
Somewhat Influential	5	13.51	
Influential	12	32.43	
Very Influential	19	51.35	

6. Items in the ordered item booklet

Response	Frequency	Percent	Mean: 3.57
Not Influential	0	0.00	
Somewhat Influential	0	0.00	
Influential	16	43.24	
Very Influential	21	56.76	

7. Personal experience teaching the content at this grade level

Response	Frequency	Percent	Mean: 2.05
Not Influential	12	32.43	
Somewhat Influential	14	37.84	
Influential	8	21.62	
Very Influential	3	8.11	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.16
Not Influential	33	89.19	
Somewhat Influential	2	5.41	
Influential	2	5.41	
Very Influential	0	0.00	

9. Table discussion

Response	Frequency	Percent	Mean: 2.91
Not Influential	0	0.00	
Somewhat Influential	10	27.03	
Influential	18	48.65	
Very Influential	7	18.92	
No Response	2	5.41	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.81
Not Influential	3	8.11	
Somewhat Influential	7	18.92	
Influential	21	56.76	
Very Influential	6	16.22	

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11. Percentage of students classified in each level (impact data) for other previous grade(s)

Response	Frequency	Percent	Mean: 2.00
Not Influential	9	24.32	
Somewhat Influential	6	16.22	
Influential	9	24.32	
Very Influential	0	0.00	
No Response	13	35.14	

Most Important

Response	Frequency	Percent	Mean: 4.94
1	1	2.70	
2	1	2.70	
3	11	29.73	
4	1	2.70	
5	8	21.62	
6	7	18.92	
7	0	0.00	
8	0	0.00	
9	4	10.81	
10	1	2.70	
11	0	0.00	
No Response	1	2.70	
Invalid	2	5.41	

More Important

Response	Frequency	Percent	Mean: 5.20
1	0	0.00	
2	1	2.70	
3	6	16.22	
4	3	8.11	
5	13	35.14	
6	8	21.62	
7	0	0.00	
8	0	0.00	
9	3	8.11	
10	1	2.70	
11	0	0.00	
Invalid	2	5.41	

Important

Response	Frequency	Percent	Mean: 5.54
1	1	2.70	
2	2	5.41	
3	9	24.32	
4	0	0.00	
5	2	5.41	
6	12	32.43	
7	1	2.70	
8	1	2.70	
9	5	13.51	
10	2	5.41	
11	0	0.00	
Multiple	1	2.70	
Invalid	1	2.70	

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Less Important

Response	Frequency	Percent	Mean: 6.47
1	3	8.11	
2	1	2.70	
3	1	2.70	
4	3	8.11	
5	4	10.81	
6	1	2.70	
7	7	18.92	
8	4	10.81	
9	7	18.92	
10	3	8.11	
11	0	0.00	
No Response	2	5.41	
Multiple	1	2.70	

Least Important

Response	Frequency	Percent	Mean: 6.76
1	7	18.92	
2	1	2.70	
3	2	5.41	
4	0	0.00	
5	0	0.00	
6	1	2.70	
7	3	8.11	
8	7	18.92	
9	2	5.41	
10	7	18.92	
11	4	10.81	
No Response	1	2.70	
Multiple	1	2.70	
Invalid	1	2.70	

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North Carolina 2019 Standard Setting Post-Round Survey *for* NCEXTEND1 Mathematics Participant Number: _____

	What influenced your bookmark placements for Round 3? *Please bubble one option per factor.*	Not Influential	Somewhat Influential	Influential	Very Influential
Factors	1. Opinion of fellow panelists	○	○	○	○
	2. Personal experience working with students	○	○	○	○
	3. Definition of threshold student	○	○	○	○
	4. Percentage of students classified in each level for this grade, impact data	○	○	○	○
	5. State content standards	○	○	○	○
	6. Test items	○	○	○	○
	7. Personal experience teaching the content at this grade level	○	○	○	○
	8. Possibility of not meeting standards in my school/district	○	○	○	○
	9. Large group discussion	○	○	○	○
	10. I felt strongly about my placements	○	○	○	○
	11. Percentage of students classified in each level (impact data) for other previous grade(s)	○	○	○	○

Which five Factors influenced you the most, ranking in order of importance. ***Please bubble only one factor per row.***	**Factors *(Numbers from Table Above, ONE ANSWER PER ROW)***										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
Most Important	○	○	○	○	○	○	○	○	○	○	○
More Important	○	○	○	○	○	○	○	○	○	○	○
Important	○	○	○	○	○	○	○	○	○	○	○
Less Important	○	○	○	○	○	○	○	○	○	○	○
Least Important	○	○	○	○	○	○	○	○	○	○	○

Is there a factor that influenced you in this round that is not listed above? _____

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

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Grades 3 & Math 1 Post Round 3 Survey

1. Opinion of fellow panelists

Response	Frequency	Percent	Mean: 2.51
Not Influential	4	11.43	
Somewhat Influential	12	34.29	
Influential	16	45.71	
Very Influential	3	8.57	

2. Personal experience working with students

Response	Frequency	Percent	Mean: 2.46
Not Influential	7	20.00	
Somewhat Influential	12	34.29	
Influential	9	25.71	
Very Influential	7	20.00	

3. Definition of threshold student

Response	Frequency	Percent	Mean: 3.32
Not Influential	0	0.00	
Somewhat Influential	5	14.29	
Influential	13	37.14	
Very Influential	16	45.71	
No Response	1	2.86	

4. Percentage of students classified in each level for this grade, impact data

Response	Frequency	Percent	Mean: 2.62
Not Influential	8	22.86	
Somewhat Influential	7	20.00	
Influential	9	25.71	
Very Influential	10	28.57	
No Response	1	2.86	

5. State content standards

Response	Frequency	Percent	Mean: 3.43
Not Influential	1	2.86	
Somewhat Influential	2	5.71	
Influential	13	37.14	
Very Influential	19	54.29	

6. Items in the ordered item booklet

Response	Frequency	Percent	Mean: 3.37
Not Influential	2	5.71	
Somewhat Influential	1	2.86	
Influential	14	40.00	
Very Influential	18	51.43	

7. Personal experience teaching the content at this grade level

Response	Frequency	Percent	Mean: 2.09
Not Influential	12	34.29	
Somewhat Influential	11	31.43	
Influential	9	25.71	
Very Influential	3	8.57	

8. Possibility of not meeting standards in my school/district

Response	Frequency	Percent	Mean: 1.31
Not Influential	29	82.86	
Somewhat Influential	2	5.71	
Influential	3	8.57	
Very Influential	1	2.86	

9. Table discussion

Response	Frequency	Percent	Mean: 2.23
Not Influential	4	11.43	
Somewhat Influential	21	60.00	
Influential	8	22.86	
Very Influential	2	5.71	

10. I felt strongly about my placements

Response	Frequency	Percent	Mean: 2.80
Not Influential	3	8.57	
Somewhat Influential	9	25.71	
Influential	15	42.86	
Very Influential	8	22.86	

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11. Percentage of students classified in each level (impact data) for other previous grade(s)

Response	Frequency	Percent	Mean: 2.14
Not Influential	13	37.14	
Somewhat Influential	8	22.86	
Influential	10	28.57	
Very Influential	4	11.43	

Most Important

Response	Frequency	Percent	Mean: 4.35
1	0	0.00	
2	1	2.86	
3	12	34.29	
4	6	17.14	
5	7	20.00	
6	3	8.57	
7	0	0.00	
8	0	0.00	
9	0	0.00	
10	2	5.71	
11	0	0.00	
No Response	2	5.71	
Multiple	1	2.86	
Invalid	1	2.86	

More Important

Response	Frequency	Percent	Mean: 5.61
1	0	0.00	
2	0	0.00	
3	6	17.14	
4	2	5.71	
5	11	31.43	
6	8	22.86	
7	2	5.71	
8	0	0.00	
9	0	0.00	
10	2	5.71	
11	2	5.71	
Multiple	1	2.86	
Invalid	1	2.86	

Important

Response	Frequency	Percent	Mean: 5.44
1	3	8.57	
2	1	2.86	
3	6	17.14	
4	1	2.86	
5	3	8.57	
6	10	28.57	
7	2	5.71	
8	1	2.86	
9	1	2.86	
10	3	8.57	
11	1	2.86	
Multiple	2	5.71	
Invalid	1	2.86	

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Less Important

Response	Frequency	Percent	Mean: 5.88
1	3	8.57	
2	1	2.86	
3	2	5.71	
4	7	20.00	
5	2	5.71	
6	3	8.57	
7	3	8.57	
8	3	8.57	
9	5	14.29	
10	2	5.71	
11	1	2.86	
No Response	2	5.71	
Multiple	1	2.86	

Least Important

Response	Frequency	Percent	Mean: 6.97
1	4	11.43	
2	3	8.57	
3	1	2.86	
4	0	0.00	
5	1	2.86	
6	1	2.86	
7	0	0.00	
8	10	28.57	
9	4	11.43	
10	5	14.29	
11	3	8.57	
No Response	1	2.86	
Multiple	2	5.71	

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Participant Number: _____

North Carolina 2019 Standard Setting Evaluation *for* NCEXTEND1 Mathematics

The purpose of this survey is (a) to document the experience and diversity of standard setting participants, and (b) to learn about factors affecting panelists in a standard setting. Your opinions and comments are important, as they will provide a basis for judging the quality of this process. By completing this evaluation, you consent to your responses being aggregated with others and used in research. **Your name will not be associated with your responses.**

Please do not put your name on this form. While we need the information to examine various steps in the process, we want your comments to remain anonymous. At the end of the evaluation, there is an opportunity for you to ask questions should you have any. **When you have completed the evaluation, please give it to a facilitator. *Thank you!***

Part 1: About the Standard Setting

	Please *consider the statements below* and mark the level of agreement or disagreement you have with each. Please bubble ***only one*** of the four options for each statement.	Strongly Disagree	Disagree	Agree	Strongly Agree
Training & ALDs	1. The training provided a clear description of the workshop goals.	O	O	O	O
	2. The training session leader clearly explained the Angoff procedure.	O	O	O	O
	3. The training session leader clearly explained the materials used in the Angoff process.	O	O	O	O
	4. The training addressed many of my questions and concerns.	O	O	O	O
	5. The practice exercises were useful.	O	O	O	O
	6. The opening session provided a clear overview of the standard setting process.	O	O	O	O
	7. My role in the standard setting was well described.	O	O	O	O
	8. After the training, I felt confident I was prepared to complete the standard setting task.	O	O	O	O
	9. The achievement level descriptors (ALDs) were clear.	O	O	O	O
	10. Adequate information was provided regarding the ALDs.	O	O	O	O
	11. Enough time was provided to read and understand the ALDs.	O	O	O	O
	12. The ALDs communicate a reasonable profile of students' performance at each level.	O	O	O	O
Ratings	13. I understood how to make my Angoff ratings.	O	O	O	O
	14. I had adequate time to make my Angoff ratings.	O	O	O	O
	15. I considered the threshold students when making my Angoff ratings.	O	O	O	O
	16. There was adequate time provided for discussion.	O	O	O	O
	17. Discussing the threshold students helped me make my Angoff ratings.	O	O	O	O
	18. I considered the content standards when I made my Angoff ratings.	O	O	O	O
Overall	19. My opinions were considered.	O	O	O	O
	20. My opinions were valued by my group.	O	O	O	O
	21. My group's work was reflected in the presentation of recommendations across grades.	O	O	O	O
	22. The facilitator in my breakout room provided clear instructions.	O	O	O	O
	23. Overall, I valued the workshop as a professional development experience.	O	O	O	O
	24. The food and service at the facility met my expectations.	O	O	O	O
	25. The breakout rooms had appropriate accommodations to facilitate our work.	O	O	O	O

	Please indicate your opinion regarding the usefulness of the following **materials** used. Please bubble ***only one*** of the four options for each material.	Not Useful	Somewhat Useful	Useful	Very Useful
Materials	26. Achievement level descriptors (ALDs)	O	O	O	O
	27. Descriptions of threshold students	O	O	O	O
	28. Test items	O	O	O	O
	29. Item maps	O	O	O	O
	30. Impact data	O	O	O	O

	Please indicate the extent of your satisfaction with staff members in the following **roles**. Please bubble ***only one*** of the four options for each role.	Not Satisfied	Partially Satisfied	Satisfied	Very Satisfied
Roles	31. DRC content specialist (who led the ALD session on Monday)	O	O	O	O
	32. DRC general facilitator (who led the Angoff training on Tuesday)	O	O	O	O
	33. DRC in-room facilitator (who worked with my room each day)	O	O	O	O
	34. DRC staff members in other roles	O	O	O	O

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Participant Number: _____

	Please indicate your opinion regarding the amount of **time allotted** for each activity. Please bubble ***only one*** of the three options for each activity.	Too Little Time	About Right	Too Much Time
Time Allotted	35. Training	O	O	O
	36. ALD development	O	O	O
	37. Round 1 ratings	O	O	O
	38. Discussion after Round 1	O	O	O
	39. Round 2 ratings	O	O	O
	40. Discussion after Round 2	O	O	O
	41. Round 3 ratings	O	O	O
	42. Discussion of final recommendations	O	O	O

Grade	Please indicate the level of confidence you had in **recommending the cut scores** for each achievement level. Please bubble ***only one*** of the four options for each cut score. ***Important:*** **Only complete this section for the grade(s) you worked on.**	Not Confident	Partially Confident	Confident	Very Confident
3	43. *Level 3* cut score	O	O	O	O
	44. *Level 4* cut score	O	O	O	O
4	45. *Level 3* cut score	O	O	O	O
	46. *Level 4* cut score	O	O	O	O
5	47. *Level 3* cut score	O	O	O	O
	48. *Level 4* cut score	O	O	O	O
6	49. *Level 3* cut score	O	O	O	O
	50. *Level 4* cut score	O	O	O	O
7	51. *Level 3* cut score	O	O	O	O
	52. *Level 4* cut score	O	O	O	O
8	53. *Level 3* cut score	O	O	O	O
	54. *Level 4* cut score	O	O	O	O
M.1	55. *Level 3* cut score	O	O	O	O
	56. *Level 4* cut score	O	O	O	O

Part 2: About You

57. In which group did you work?

O Grades 3–6 Mathematics
O Grades 6–HS Mathematics

In this box, please feel free to add comments about your responses, make suggestions for future workshops, or tell us what you liked or did not like about the workshop.

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Participant Number: _____

Part 3: About Your Standard Setting Experience

58. What was the most rewarding part of this experience?

59. If you struggled with any part of the process, what was most challenging?

60. What is your definition of a *threshold student*?

61. How will your recommended cut scores be used after this meeting is over?

	What is your level of confidence, if at all, with these **skills and characteristics**?	Not Confident	Somewhat Confident	Mostly Confident	Very Confident
Skills & Characteristics	62. Learning what is needed to make cut-score decisions	O	O	O	O
	63. Learning the statistical processes needed to make these decisions	O	O	O	O
	64. Making cut-score decisions	O	O	O	O
	65. Making a cut score decision regardless of another panelist's opinion	O	O	O	O
	66. Tuning out all preconceived notions and focus on training	O	O	O	O
	67. Speaking up and asking questions when needed	O	O	O	O
	68. Setting aside any preconceptions	O	O	O	O
	69. Setting aside other agendas and focus on the current meeting (An agenda can be defined as a specific plan or motive to follow.)	O	O	O	O

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Participant Number: _____

	When you arrived at the meeting today, did you feel that any of the following provided direction for your participation in the standard setting meeting today? In questions 82-88, an agenda can be defined as a specific plan or motive to follow.	Yes	No
Agendas	70. An agenda from your school community	○	○
	71. An agenda from your school administration	○	○
	72. An agenda from your other teachers	○	○
	73. An agenda from your district	○	○
	74. An agenda from the state department of education	○	○
	75. Pressure to set cut-scores high (stringent)	○	○
	76. Pressure to set cut-scores low	○	○

77. Do you have any questions at this time?

Thank you for your participation!

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①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⓪

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1. The training provided a clear description of the workshop goals.

Response	Frequency	Percent	Mean: 3.17
Strongly Disagree	0	0.00	
Disagree	1	2.78	
Agree	28	77.78	
Strongly Agree	7	19.44	

2. The training session leader clearly explained the Angoff procedure.

Response	Frequency	Percent	Mean: 3.31
Strongly Disagree	0	0.00	
Disagree	1	2.78	
Agree	23	63.89	
Strongly Agree	12	33.33	

3. The training session leader clearly explained the materials used in the Angoff process.

Response	Frequency	Percent	Mean: 3.25
Strongly Disagree	0	0.00	
Disagree	1	2.78	
Agree	25	69.44	
Strongly Agree	10	27.78	

4. The training addressed many of my questions and concerns.

Response	Frequency	Percent	Mean: 2.91
Strongly Disagree	0	0.00	
Disagree	6	16.67	
Agree	26	72.22	
Strongly Agree	3	8.33	
No Response	1	2.78	

5. The practice excercises were useful.

Response	Frequency	Percent	Mean: 3.39
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Agree	22	61.11	
Strongly Agree	14	38.89	

6. The opening session provided a clear overview of the standard setting process.

Response	Frequency	Percent	Mean: 2.81
Strongly Disagree	0	0.00	
Disagree	9	25.00	
Agree	25	69.44	
Strongly Agree	2	5.56	

7. My role in the standard setting was well described.

Response	Frequency	Percent	Mean: 2.92
Strongly Disagree	1	2.78	
Disagree	3	8.33	
Agree	30	83.33	
Strongly Agree	2	5.56	

8. After the training, I felt confident I was prepared to complete the standard setting task.

Response	Frequency	Percent	Mean: 3.06
Strongly Disagree	1	2.78	
Disagree	3	8.33	
Agree	25	69.44	
Strongly Agree	7	19.44	

9. The achievement level descriptors (ALDs) were clear.

Response	Frequency	Percent	Mean: 2.17
Strongly Disagree	5	13.89	
Disagree	20	55.56	
Agree	11	30.56	
Strongly Agree	0	0.00	

10. Adequate information was provided regarding the ALDs.

Response	Frequency	Percent	Mean: 2.28
Strongly Disagree	5	13.89	
Disagree	17	47.22	
Agree	13	36.11	
Strongly Agree	1	2.78	

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11. Enough time was provided to read and understand the ALDs.

Response	Frequency	Percent	Mean: 2.78
Strongly Disagree	1	2.78	
Disagree	10	27.78	
Agree	21	58.33	
Strongly Agree	4	11.11	

12. The ALDs communicate a reasonable profile of students' performance at each level.

Response	Frequency	Percent	Mean: 2.23
Strongly Disagree	4	11.11	
Disagree	20	55.56	
Agree	10	27.78	
Strongly Agree	1	2.78	
No Response	1	2.78	

13. I understood how to make my Angoff ratings.

Response	Frequency	Percent	Mean: 3.25
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Agree	27	75.00	
Strongly Agree	9	25.00	

14. I had adequate time to make my Angoff ratings.

Response	Frequency	Percent	Mean: 3.28
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Agree	26	72.22	
Strongly Agree	10	27.78	

15. I considered the threshold students when making my Angoff ratings.

Response	Frequency	Percent	Mean: 3.64
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Agree	13	36.11	
Strongly Agree	23	63.89	

16. There was adequate time provided for discussion.

Response	Frequency	Percent	Mean: 3.58
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Agree	15	41.67	
Strongly Agree	21	58.33	

17. Discussing the threshold students helped me make my Angoff ratings.

Response	Frequency	Percent	Mean: 3.56
Strongly Disagree	0	0.00	
Disagree	1	2.78	
Agree	14	38.89	
Strongly Agree	21	58.33	

18. I considered the content standards when I placed my Angoff ratings.

Response	Frequency	Percent	Mean: 3.58
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Agree	15	41.67	
Strongly Agree	21	58.33	

19. My opinions were considered.

Response	Frequency	Percent	Mean: 3.31
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Agree	25	69.44	
Strongly Agree	11	30.56	

20. My opinions were valued by my group.

Response	Frequency	Percent	Mean: 3.33
Strongly Disagree	0	0.00	
Disagree	2	5.56	
Agree	20	55.56	
Strongly Agree	14	38.89	

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21. My group's work was reflected in the presentation of recommendations across grades.

Response	Frequency	Percent	Mean: 3.31
Strongly Disagree	0	0.00	
Disagree	1	2.78	
Agree	23	63.89	
Strongly Agree	12	33.33	

22. The facilitator in my breakout room provided clear instructions.

Response	Frequency	Percent	Mean: 3.42
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Agree	21	58.33	
Strongly Agree	15	41.67	

23. Overall, I valued the workshop as a professional development experience.

Response	Frequency	Percent	Mean: 3.33
Strongly Disagree	0	0.00	
Disagree	1	2.78	
Agree	22	61.11	
Strongly Agree	13	36.11	

24. The food and service at the facility met my expectations.

Response	Frequency	Percent	Mean: 3.86
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Agree	5	13.89	
Strongly Agree	31	86.11	

25. The breakout rooms had appropriate accommodations to facilitate our work.

Response	Frequency	Percent	Mean: 3.67
Strongly Disagree	0	0.00	
Disagree	0	0.00	
Agree	12	33.33	
Strongly Agree	24	66.67	

26. Achievement level descriptors (ALDs)

Response	Frequency	Percent	Mean: 2.75
Not Useful	1	2.78	
Somewhat Useful	14	38.89	
Useful	14	38.89	
Very Useful	7	19.44	

27. Descriptions of threshold students

Response	Frequency	Percent	Mean: 3.33
Not Useful	0	0.00	
Somewhat Useful	6	16.67	
Useful	12	33.33	
Very Useful	18	50.00	

28. Test items

Response	Frequency	Percent	Mean: 3.72
Not Useful	0	0.00	
Somewhat Useful	0	0.00	
Useful	10	27.78	
Very Useful	26	72.22	

29. Item maps

Response	Frequency	Percent	Mean: 3.22
Not Useful	0	0.00	
Somewhat Useful	4	11.11	
Useful	20	55.56	
Very Useful	12	33.33	

30. Impact data

Response	Frequency	Percent	Mean: 3.42
Not Useful	1	2.78	
Somewhat Useful	3	8.33	
Useful	12	33.33	
Very Useful	20	55.56	

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31. DRC content specialist (who led the ALD session on Monday)

Response	Frequency	Percent	Mean: 3.44
Not Satisfied	0	0.00	
Partially Satisfied	2	5.56	
Satisfied	16	44.44	
Very Satisfied	18	50.00	

32. DRC general facilitator (who led the Bookmark training on Tuesday)

Response	Frequency	Percent	Mean: 3.39
Not Satisfied	0	0.00	
Partially Satisfied	4	11.11	
Satisfied	14	38.89	
Very Satisfied	18	50.00	

33. DRC in-room facilitator (who worked with my room each day)

Response	Frequency	Percent	Mean: 3.64
Not Satisfied	0	0.00	
Partially Satisfied	1	2.78	
Satisfied	11	30.56	
Very Satisfied	24	66.67	

34. DRC staff members in other roles

Response	Frequency	Percent	Mean: 3.46
Not Satisfied	0	0.00	
Partially Satisfied	1	2.78	
Satisfied	17	47.22	
Very Satisfied	17	47.22	
No Response	1	2.78	

35. Training

Response	Frequency	Percent	Mean: 1.92
Too Little Time	4	11.11	
About Right	31	86.11	
Too Much Time	1	2.78	

36. ALD development

Response	Frequency	Percent	Mean: 1.54
Too Little Time	16	44.44	
About Right	19	52.78	
Too Much Time	0	0.00	
No Response	1	2.78	

37. Round 1 ratings

Response	Frequency	Percent	Mean: 2.00
Too Little Time	1	2.78	
About Right	34	94.44	
Too Much Time	1	2.78	

38. Discussion after Round 1

Response	Frequency	Percent	Mean: 2.19
Too Little Time	0	0.00	
About Right	29	80.56	
Too Much Time	7	19.44	

39. Round 2 ratings

Response	Frequency	Percent	Mean: 2.00
Too Little Time	1	2.78	
About Right	34	94.44	
Too Much Time	1	2.78	

40. Discussion after Round 2

Response	Frequency	Percent	Mean: 2.19
Too Little Time	1	2.78	
About Right	27	75.00	
Too Much Time	8	22.22	

41. Round 3 ratings

Response	Frequency	Percent	Mean: 2.08
Too Little Time	0	0.00	
About Right	33	91.67	
Too Much Time	3	8.33	

42. Discussion of final recommendations

Response	Frequency	Percent	Mean: 2.09
Too Little Time	1	2.78	
About Right	27	75.00	
Too Much Time	4	11.11	
No Response	4	11.11	

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43. Grade 3 Level 3 cut score

Response	Frequency	Percent	Mean: 2.85
Not Confident	0	0.00	
Somewhat Confident	9	25.00	
Mostly Confident	5	13.89	
Very Confident	6	16.67	
No Response	16	44.44	

44. Grade 3 Level 4 cut score

Response	Frequency	Percent	Mean: 2.95
Not Confident	0	0.00	
Somewhat Confident	7	19.44	
Mostly Confident	7	19.44	
Very Confident	6	16.67	
No Response	16	44.44	

45. Grade 4 Level 3 cut score

Response	Frequency	Percent	Mean: 2.95
Not Confident	0	0.00	
Somewhat Confident	7	19.44	
Mostly Confident	7	19.44	
Very Confident	6	16.67	
No Response	16	44.44	

46. Grade 4 Level 4 cut score

Response	Frequency	Percent	Mean: 2.95
Not Confident	0	0.00	
Somewhat Confident	7	19.44	
Mostly Confident	7	19.44	
Very Confident	6	16.67	
No Response	16	44.44	

47. Grade 5 Level 3 cut score

Response	Frequency	Percent	Mean: 2.60
Not Confident	2	5.56	
Somewhat Confident	8	22.22	
Mostly Confident	6	16.67	
Very Confident	4	11.11	
No Response	16	44.44	

48. Grade 5 Level 4 cut score

Response	Frequency	Percent	Mean: 2.80
Not Confident	0	0.00	
Somewhat Confident	8	22.22	
Mostly Confident	8	22.22	
Very Confident	4	11.11	
No Response	16	44.44	

49. Grade 6 Level 3 cut score

Response	Frequency	Percent	Mean: 2.42
Not Confident	3	8.33	
Somewhat Confident	18	50.00	
Mostly Confident	12	33.33	
Very Confident	3	8.33	

50. Grade 6 Level 4 cut score

Response	Frequency	Percent	Mean: 2.47
Not Confident	3	8.33	
Somewhat Confident	17	47.22	
Mostly Confident	12	33.33	
Very Confident	4	11.11	

51. Grade 7 Level 3 cut score

Response	Frequency	Percent	Mean: 3.06
Not Confident	0	0.00	
Somewhat Confident	3	8.33	
Mostly Confident	9	25.00	
Very Confident	4	11.11	
No Response	20	55.56	

52. Grade 7 Level 4 cut score

Response	Frequency	Percent	Mean: 3.19
Not Confident	0	0.00	
Somewhat Confident	1	2.78	
Mostly Confident	11	30.56	
Very Confident	4	11.11	
No Response	20	55.56	

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53. Grade 8 Level 3 cut score

Response	Frequency	Percent	Mean: 2.75
Not Confident	1	2.78	
Somewhat Confident	5	13.89	
Mostly Confident	7	19.44	
Very Confident	3	8.33	
No Response	20	55.56	

54. Grade 8 Level 4 cut score

Response	Frequency	Percent	Mean: 2.94
Not Confident	1	2.78	
Somewhat Confident	3	8.33	
Mostly Confident	8	22.22	
Very Confident	4	11.11	
No Response	20	55.56	

55. Math 1 Level 3 cut score

Response	Frequency	Percent	Mean: 3.06
Not Confident	1	2.78	
Somewhat Confident	1	2.78	
Mostly Confident	10	27.78	
Very Confident	4	11.11	
No Response	20	55.56	

56. Math 1 Level 4 cut score

Response	Frequency	Percent	Mean: 3.06
Not Confident	1	2.78	
Somewhat Confident	1	2.78	
Mostly Confident	10	27.78	
Very Confident	4	11.11	
No Response	20	55.56	

67. In which group did you work?

Response	Frequency	Percent	Mean: 1.44
Grades 3-6 Mathematics	20	55.56	
Grades 6-HS Mathematics	16	44.44	

62. Learning what is needed to make cut-score decisions

Response	Frequency	Percent	Mean: 3.24
Not Confident	0	0.00	
Somewhat Confident	1	2.78	
Mostly Confident	24	66.67	
Very Confident	9	25.00	
No Response	1	2.78	
Multiple	1	2.78	

63. Learning the statistical processes needed to make these decisions

Response	Frequency	Percent	Mean: 2.86
Not Confident	0	0.00	
Somewhat Confident	9	25.00	
Mostly Confident	22	61.11	
Very Confident	4	11.11	
No Response	1	2.78	

64. Making cut-score decisions

Response	Frequency	Percent	Mean: 3.17
Not Confident	0	0.00	
Somewhat Confident	3	8.33	
Mostly Confident	23	63.89	
Very Confident	9	25.00	
No Response	1	2.78	

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65. Making a cut score decisions regardless of another panelist's opinion

Response	Frequency	Percent	Mean: 3.49
Not Confident	0	0.00	
Somewhat Confident	1	2.78	
Mostly Confident	16	44.44	
Very Confident	18	50.00	
No Response	1	2.78	

66. Tuning out all preconcieved notions and focus on training

Response	Frequency	Percent	Mean: 3.40
Not Confident	0	0.00	
Somewhat Confident	5	13.89	
Mostly Confident	11	30.56	
Very Confident	19	52.78	
No Response	1	2.78	

67. Speaking up and asking questions when needed

Response	Frequency	Percent	Mean: 3.60
Not Confident	0	0.00	
Somewhat Confident	1	2.78	
Mostly Confident	12	33.33	
Very Confident	22	61.11	
No Response	1	2.78	

68. Setting aside any proconceptions

Response	Frequency	Percent	Mean: 3.31
Not Confident	0	0.00	
Somewhat Confident	4	11.11	
Mostly Confident	16	44.44	
Very Confident	15	41.67	
No Response	1	2.78	

69. Setting aside other agendas and focus on the current meeting (An agenda cna be defined as a specific plan or motive to follow.)

Response	Frequency	Percent	Mean: 3.74
Not Confident	0	0.00	
Somewhat Confident	1	2.78	
Mostly Confident	7	19.44	
Very Confident	27	75.00	
No Response	1	2.78	

70. An agenda from your school community

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	35	97.22	
No Response	1	2.78	

71. An agenda from your school administration

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	35	97.22	
No Response	1	2.78	

72. An agenda from your other teachers

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	35	97.22	
No Response	1	2.78	

73. An agenda from your district

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	35	97.22	
No Response	1	2.78	

74. An agenda from the state department of education

Response	Frequency	Percent	Mean: 0.17
Yes	6	16.67	
No	29	80.56	
No Response	1	2.78	

75. Pressure to set cut-scores high (stringent)

Response	Frequency	Percent	Mean: 0.20
Yes	7	19.44	
No	28	77.78	
No Response	1	2.78	

76. Pressure to set cut-scores low

Response	Frequency	Percent	Mean: 0.00
Yes	0	0.00	
No	35	97.22	
No Response	1	2.78	

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