Arizona

Arizona's Instrument to Measure Standards

Standard Setting Report: Writing
Grades 5, 6, 7, and High School

Submitted to the
Arizona Department of Education
November 2011

ALWAYS LEARNING PEARSON

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EXECUTIVE SUMMARY

This document provides information about the procedures that were implemented for the standard setting that took place after the Spring 2011 administration of Arizona's Instrument to Measure Standards (AIMS) for Writing. The AIMS writing assessment was administered to students in Grades 5-7 and high school in spring 2011. The AIMS assessments are designed to measure Arizona students' performance on the Arizona content standards. All AIMS Writing tests are written to Arizona content standards adopted in June 2004.

The AIMS high school Writing tests are criterion-referenced competency tests. Students' test scores on the AIMS high school tests are one component of the high school graduation requirements, and, beginning in spring 2006, passing scores have been required for students seeking to earn a diploma for graduation. Students in Grade 10 have five opportunities to pass the test prior to graduation. The AIMS high school test in Writing consists of multiple-choice items and one extended response writing prompt.

The AIMS Writing tests for Grades 5-7 are dual purpose assessments —both criterion and norm-referenced scores are given based on performance on the tests. Criterion-referenced scores and norm-referenced scores are reported. Each Writing test consists of items written by Arizona teachers and items from Pearson's norm-referenced test, *Stanford Achievement Test Series, Tenth Edition* (Stanford 10). Some of the Stanford 10 items contribute to both criterion-referenced and norm-referenced scores. These items all match the Arizona content standards.

Prior to spring 2011, the writing tests consisted of a single writing prompt. Multiple choice items were added to the tests and new test blueprints were developed for administrations beginning in spring 2011[1]. Due to this change in the structure of the tests, there was a need to set new performance level cuts for the 2011 tests. A standard setting was conducted on April 21 and 22, 2011, for the AIMS high school test. A separate standard setting was conducted from June 8 through June 10, 2011, for Grades 5 through 7. A vertical articulation process was conducted on June 9, 2011, for Grades 5-7 and high school. All meetings were held at the Black Canyon Conference Center in Phoenix, Arizona.

There are four performance levels for the AIMS assessment:

1) Falls Far Below the Standard
2) Approaches the Standard
3) Meets the Standard
4) Exceeds the Standard

Performance standards were determined separately for the multiple choice and essay components of the writing tests. The Item Mapping procedure (also known as Bookmark) was used to identify the standard on the theta scale for each performance level for the multiple choice component. This approach has a number of advantages:

- The item mapping approach contains elements of both test-centered in the context of specific items from the assessment and grade level for which standards are being set, and examinee-centered approaches which focus on the performance of borderline students at each proficiency level.
- This approach provides a logical supporting framework within which panelists can make inferences about the knowledge and skills associated with students at different levels of performance.
- The item mapping procedure has been used for previous versions of the AIMS assessment, and thus is already relatively well known and accepted in the state. Aside from the technical reasons for using this approach, it also provided a degree of continuity between old and new AIMS tests.

The performance standards were set for the essay component such that the theta value for each performance level corresponded approximately to a specific raw score on the essay. For Grades 5, 6, and 7, the value of theta

[1] Please see Appendix Q for a copy of the Test Blueprints.

corresponding raw scores of 3, 4, and 5.5 were used as the cut points for Approaches, Meets, and Exceeds the Standard, respectively. For the high school test, the value of theta corresponding raw scores of 5, 7, and 11 were used as the cut points for Approaches, Meets, and Exceeds the Standard, respectively. The final theta cut points were determined by weighting the multiple choice theta at each cut point by 40% and the essay theta at each cut by 60% and combining them into a final theta cut point for each performance level.

The duration for the standard setting meeting for the high school meeting was two days, and the duration for the standard setting meeting for the Grades 5–7 groups was three days. The standard setting panelists engaged in the following activities:

1. Opening session[2]
2. Review performance level descriptors[3] and writing exemplars
3. Develop borderline student descriptors
4. Experience the test
5. Item mapping training[4]
6. Practice round of ratings
7. Round readiness check[5]
8. Round 1 ratings
9. Round 1 feedback and discussion
    a. Table page ratings
    b. Item p-values
10. Round 2 ratings
11. Round 2 feedback and discussion
    a. Table page ratings
    b. Total group page ratings
    c. Impact data
12. Round 3 ratings[6]
13. Vertical articulation
14. Performance level descriptor review and revision
15. Complete standard setting evaluation[7]

The final results after vertical articulation are presented below. Table 1 presents the final raw score cuts and percentage of points required for *Approaches the Standard*, *Meets the Standard*, and *Exceeds the Standard*. To achieve the *Approaches the Standard* cut, students had to have obtained 43% of the total test points for Grade 5 to as much as 48% for Grade 7. For this cut, the percent of points increases as grade increases across Grades 5, 6, and 7. The raw score cut range for *Meets the Standard* was between 62%-67% of the points, and for *Exceeds the Standard*, it was approximately 86%-88% of the points.

Table 1: Final Raw Score Cuts after Vertical Articulation

Grade	Approaches		Meets		Exceeds		Total Points
	RS	% of Pts.	RS	% of Pts.	RS	% of Pts.	
Grade 5	30	43%	45	65%	60	87%	69
Grade 6	32	46%	44	64%	59	86%	69

[2] Please see Appendix F: Standard Setting Opening Comments.
[3] Please see Appendix A: Performance Level Descriptors.
[4] Please see Appendix G: Standard Setting Training.
[5] Please see Appendix K: Standard Setting Panelist Readiness Forms.
[6] The High-School Committee had four rounds of ratings.
[7] Please see Appendix S: Standard Setting Evaluation Forms.

Grade 7	33	48%	46	67%	60	87%	69
High School	64	46%	86	62%	122	88%	138

Table 2 presents the final scaled score ranges for each performance level for each grade. The scale scores for each grade are on an independent scale that ranges from 300 to 700 and has a mean of 500 and a standard deviation of 50.

Table 2: Final Scale Score Ranges by Grade

Grade	Falls Far Below	Approaches	Meets	Exceeds
Grade 5	300 - 438	439 - 493	494 - 600	601 - 700
Grade 6	300 - 448	449 – 492	493 – 580	581 – 700
Grade 7	300 – 449	450 – 494	495 – 594	595 – 700
High School	300 – 432	433 – 479	480 – 586	587 - 700

Figure 1 presents the impact data for Grades 5, 6, 7, and high school after the vertical articulation process. The percentage of students in *Exceeds the Standard* is approximately 5%-7% for all grades. The percentage of students in *Falls Far Below the Standard* is in the range of 8%-12%. The percentage of students in *Approaches the Standard* is approximately 31%-37% for Grades 5, 6 and 7, but is smaller at 25% for high school. The percentage of students at *Meets the Standard* is approximately 50% for students in Grades 5, 6 and 7. For high school, the percentage of students at *Meets the Standard* is approximately 63%.

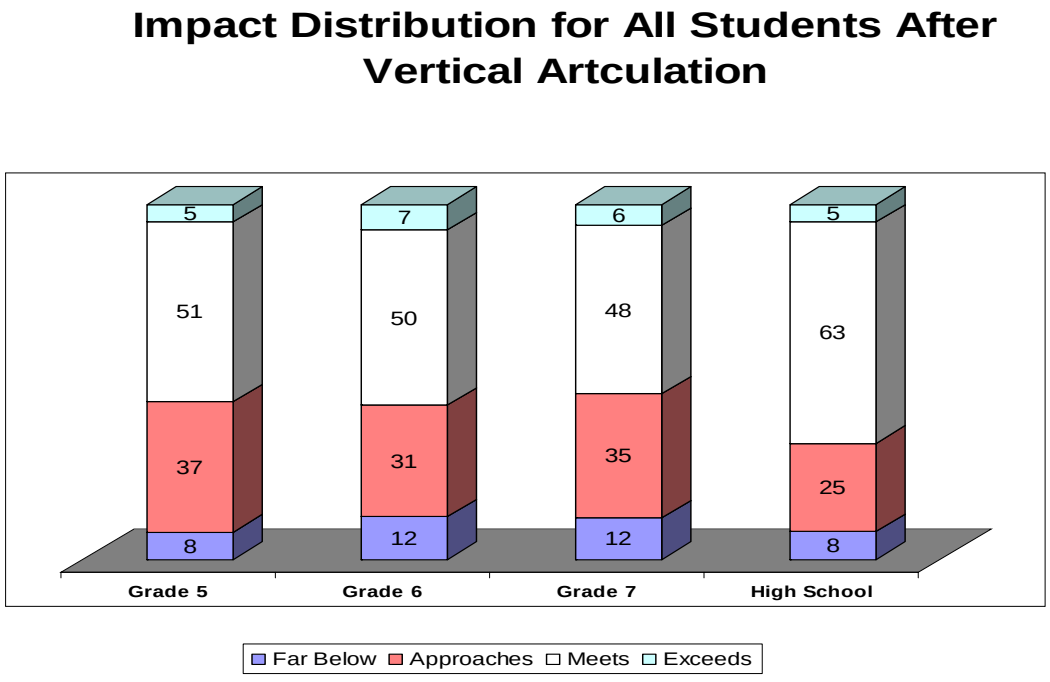


Figure 1: Final Percent of Students at Each Performance Level by Grade after Vertical Articulation

GENERAL STANDARD SETTING PROCEDURES

Panels

ADE invited Arizona educators to participate in the standard setting. Arizona educators have had experience with the curriculum, content, and performance standards, as well as with the student groups and grade levels for which standards were set. Participating educators represented the diverse demographics of students educated across the state. The input of these educators ensured standard setting reflected what students should know and be able to do.

ADE recruited panelists based on the following characteristics:

- Be subject matter experts
- Understand the examinee population
- Understand what contributes to item difficulty
- Have knowledge of the instructional environment
- Appreciate the consequences of the standards
- Be representative of all the stakeholder groups

There were three panels and each panel consisted of approximately 18 panelists. Within each of the panels, there were three table groups. Each table group had a table leader. Prior to the standard setting meeting, table leaders were trained on their roles and responsibilities. Materials were emailed to the table leaders approximately one week prior to the standard setting meeting. In addition, table leaders met on the morning of the meeting to go over the table leader information sheet and table leader PowerPoint training that had been emailed to them. For more information about the table leader training, please review these documents in Appendices B and C. Appendix B contains the *Table Leader Information Sheet* and Appendix C contains the *Table Leader Training*.

Separate panels set standards for the high school test and Grades 5, 6, and 7. Panelists were divided into three tables of six panelists each. Please see Appendix R for information about the panelists. A chart is provided that displays information about the panelists' occupation, years of experience, highest level of education, certification, endorsements, gender, ethnicity, urbanicity, and district size, among other information.

Performance Level Descriptors

The Performance Level Descriptors (PLDs) were created in August 2010 by Arizona educators. Peer Review requires that PLDs be developed prior to the administration of the assessments and the subsequent Standard Setting. There are four performance levels[8] for the AIMS assessment:

1) *Falls Far Below the Standard*
2) *Approaches the Standard*
3) *Meets the Standard*
4) *Exceeds the Standard*

The PLD document found in Appendix A begins with a concise description of all four performance levels, each of which is further articulated in the bullets on the bottom of the document. This initial narrative piece is used for student reports. The bullets at the bottom are designated as highlighted Performance Objectives (POs) from the Writing Standard, and several POs may have been combined into single bullets. Hence, the bullets were not necessarily verbatim transcriptions of the POs. In order to not replicate the entire academic standard, not all POs are represented in the

[8] Please see Appendix A for a copy of the PLDs. Appendix A.1 provides the preliminary PLDs and Appendix A.3 provides the refined PLDs that came out of the standard setting.

PLDs, and the following statement is included below the bullets as a reminder of this fact: "These descriptors do not include all the skills and knowledge as contained in the Writing Standard."

Methodology Overview

There are several well-established methods available for establishing performance standards. The item mapping procedure (Lewis, Green, Mitzel, Baum, & Patz, 1998)[9] was used in previous standard settings in Arizona. It has several favorable characteristics, namely: 1) it is a straightforward method based on the difficulty order of the test items; 2) it connects the judgment task of setting cut scores with the measurement model; and, 3) it connects test content with the performance level descriptors.

The item mapping procedure orders items for each test into a booklet according to the difficulty of the items, which is determined by item response theory (IRT) scaling techniques. Easy items are placed in the beginning of the booklet, and subsequent items become increasingly more difficult to the end of the booklet. Panelists examine each item and discuss: 1) the knowledge, skills, and abilities that must be applied to correctly respond to a given item; and, 2) the characteristics that make each item progressively more difficult than the previous item in the booklet.

Performance standards were determined separately for the multiple choice and essay components of the writing tests. The Item Mapping procedure was used to identify the standard on the theta scale for each performance level for the multiple choice component. The performance standards were set for the essay component such that the theta value for each performance level corresponded approximately to a specific raw score on the essay. For Grades 5, 6, and 7, the value of theta corresponding raw scores of 3, 4, and 5.5 were used as the cut points for Approaches, Meets, and Exceeds, respectively. For the high school test, the value of theta corresponding raw scores of 5, 7, and 11 were used as the cut points for Approaches, Meets, and Exceeds, respectively. The final theta cut points were determined by weighting the multiple choice theta at each cut point by 40% and the essay theta at each cut by 60% and combining them into a final theta cut point for each performance level.

The actual standard setting for the multiple choice component then proceeded in three rounds for high school and Grades 5-7. Each round was designed to foster increased consensus among panelists, although reaching consensus was not necessary. The methodology is discussed in detail later in this report.

Data

Data from the Spring 2011 administration of the AIMS writing tests were used for all computations and analyses. The Rasch model was used for the multiple choice items, and the Partial Credit model was used for the essay responses to scale the tests. The essay is scored on a scale of 1 to 6 by a single rater for Grades 5, 6, and 7. At the high school level, the essay is scored on a scale of 1 to 6 by two raters and identical or adjacent scores are summed to produce a final score ranging from 2 to 12. A prior ADE policy committee determined that the multiple choice items would contribute 40 percent to the total test score and the essay would contribute 60 percent. In order to accomplish this during the calibration of the tests, the essay was weighted by 7 for Grades 5, 6, and 7, and the multiple choice items were weighted by 2 and the essay was weighted by 7 for the high school test. This results in a maximum of 69 points for the tests in Grades 5, 6, and 7, and 138 points for the high school test. Details of the scaling process can be found in the 2011 AIMS Technical Report available from the ADE.

Response Probabilities

Once the tests were calibrated within each grade, the Rasch item difficulty for each multiple choice item was used to calculate the value of theta corresponding to a response probability of 0.67 using the following formula:

[9] Lewis, D.M., Green, D.R., Mitzel, H.C., Baum, K., & Patz, R.J. (1998). *The bookmark standard setting procedure: Methodology and recent implementations*. Paper presented at the Annual Meeting of the National Council on Measurement in Education.

$$\theta_{RP} = \ln\left(\frac{k}{1-k}\right) + b$$

where *k* is the desired response probability and *b* is the Rasch item difficulty estimate.

The ordered item books were ordered by this value. The theta values at RP=0.67 were included in the item map as item locations. The 27 operational multiple choice items were included for each grade level. An additional twenty field test items were included in the ordered book for Grades 5, 6, 7 for a total of 47 items, and an additional 30 items were included in the high school ordered item book for a total of 57 items.

The essay score points were not included in the ordered item book as is often done. Rather, the performance standards for the essay were based on the RP67 values of the score points. This tied the performance standards to the score points as mentioned above. The Partial Credit Model (PCM) was used to scale and obtain RP67 values for the essay responses. The PCM reduces to the Rasch model for items with only two response categories, such as multiple-choice items. For an item involving m_i score categories, the general expression for the probability of scoring in category *x* on item *i* is given by:

$$P_{xi} = \exp\sum_{j=0}^{x}(\theta - D_{ij}) / \sum_{k=0}^{m_i}\left[\exp\sum_{j=0}^{k}(\theta - D_{ij})\right]$$

where $x = 0, 1, \ldots, m_i$, and by definition, $\sum_{j=0}^{0}(\theta - D_{ij}) = 0$.

The above equation gives the probability of scoring in category *x* on the essay as a function of ability (θ) and the difficulty (*Dij*) of the m_i steps of the task. When using the item mapping procedure with items with more than two categories, it is common practice to locate each category in the ordered item book by the theta corresponding to an RP value of being in that category **or higher**. This is equivalent to finding the value of theta such that the sum of the probabilities of responding in category x or each of the higher categories is equal to the desired RP value. The equation below denotes this for an RP value of 0.67 for response category *x*.

$$0.67 = \sum_{j=x}^{m} P_j(\theta)$$

There is no closed form solution for the value of theta that satisfies this equation, so an iterative method must be used.

For Grades 5, 6, and 7, the RP67 value for an essay score of 3 was used as the performance standard for the essay component at the Approaches the Standard level, the RP67 value for a score of 4 was used for the Meets the Standard level, and the average of the RP67 values for scores of 5 and 6 was used as the standard for the Exceeds the Standard level. For the high school test, the RP67 values corresponding to scores of 5, 7, and 11 were used as the standard for Approaches, Meets, and Exceeds the standard, respectively. These values of theta were then combined with the theta values for each cut point on the multiple choice items from item mapping procedure. The corresponding theta for each essay cut was weighted by 0.6, and the corresponding theta for the multiple choice cut was weighed by 0.4 in the combination.

Impact Data

Raw score to theta tables were created for each grade level as part of the calibration and scaling of the new tests. The raw score frequency distributions were used to identify the percent of students in each performance level during the standard setting. The theta values representing each of the performance cuts were compared to the thetas corresponding to raw scores in order to separate the distribution into performance levels.

Security

Maintaining the security and confidentiality of test items and student responses is of utmost importance. Pearson has experience providing for and working in secure environments and has established procedures for maintaining the confidentiality of student responses and the security of test forms and materials. These procedures were implemented at each standard setting meeting session.

As the panelists arrived, Pearson staff registered them and asked them to sign a statement of confidentiality. Upon registration, each panelist received a unique identification number. All materials received throughout the standard setting meeting possessed identification numbers, so strict inventory control could be implemented and maintained. Panelists were reminded of the confidential nature of the items, responses, and cut scores, and had to sign-in all material before leaving each day.

Staff

The following Pearson psychometric and content staff supported the AIMS writing standard settings:

Dr. Steven Fitzpatrick received his Ph.D. in Educational Psychology with a specialization in Quantitative Methods from the University of Texas at Austin and has been employed at Pearson since 2002. He is a Principal Research Scientist and serves as the lead Research Scientist on the AIMS program. He has nearly 30 years of experience in the psychometric field and is nationally renowned for his extensive experience and technical skill. Dr. Fitzpatrick oversaw the standard setting and data analysis in support of the standard setting activities during the standard setting meeting. He also presented the standard setting results to the Arizona State Board of Education.

Dr. Marc Johnson received his Ph.D. in Educational Psychology with a specialization in Quantitative Methods from the University of Texas at Austin and has been employed at Pearson as a Research Scientist since 2006. He has served as a facilitator for several standard setting meetings during his time at Pearson. Dr. Johnson served as the facilitator of the high school standard setting committee.

Dr. Katie McClarty received her Ph.D. in Social and Personality Psychology from the University of Texas at Austin and has been employed at Pearson since 2005. She is a manager in Psychometric and Research Services and coordinates research initiatives for that group. She has served as a lead Research Scientist on the Texas assessment program and has completed projects for clients in Mississippi, North Carolina, New York, and Oklahoma. Dr. McClarty facilitated the AIMS Grade 7 writing standard setting committee meeting as well as the PLD refinement across Grades 5-7.

Dr. Daniel Murphy received his Ph.D. in Educational Psychology with a specialization in Quantitative Methods from the University of Texas at Austin and has been employed at Pearson since 2007. He serves as the lead Research Scientist on the Texas STAAR End-of-Course program. He has 5 years of experience in the psychometric field and a particular interest in the measurement of growth. Dr. Murphy facilitated the Grade 6 writing standard setting meeting.

Dr. Sonya Powers received her Ph.D. in Educational Measurement and Statistics from the University of Iowa and has been employed at Pearson since 2010. She is an Associate Research Scientist working primarily on the Texas program. Dr. Powers facilitated the Grade 5 AIMS writing committee.

Ms. Lillian Moore received her B.S. in Interdisciplinary Studies, Reading Specialization, from the University of Houston - Victoria and has been employed at Pearson since 2004. Ms. Moore is a Senior Content Specialist in English Language Arts and manages the content development activities and processes on AIMS Writing. She provided content support for all writing committees.

Additional psychometric and content staff members were provided by the ADE.

DETAILED STANDARD SETTING PROCEDURES

Opening Session

The standard setting meeting opened with a general session[10] that welcomed the panelists, introduced members of the ADE and Pearson, explained roles of ADE, Pearson, and participants, and provided a general overview of the standard setting purpose and procedures. The ADE also provided a general overview of AIMS writing tests. Logistics, security, and reimbursement forms were discussed as well.

Introductions

After a break, panelists convened in their break-out room to begin the standard setting process. The participants were asked to introduce themselves and provide some information about their professional experience. Participants responded with the following information:

- Name
- Where are you from?
- How long have you been in your current position/field?
- What educational roles have you fulfilled?
- Have you participated in a standard setting before?
- Tell us something interesting about yourself.

Next, the facilitator provided a review of the agenda in order for participants to develop a perspective of what was to be accomplished and the pace at which the meetings should proceed. It was noted that the facilitator might deviate from the time allotments on the agenda if ADE or Pearson felt that a topic required additional discussion.

Performance Level Descriptors and Writing Exemplars

Next, panelists were familiarized with the performance levels. To familiarize panelists with the performance level descriptors (PLDs) and to help foster a shared understanding of them, Pearson facilitators distributed the preliminary PLDs that were developed by an Arizona educator committee in 2010. Discussion took place within the table group first and then continued as a full committee discussion. The goal of the table discussion was to help all panelists develop and share a strong, common understanding of the proficiency levels, with specific emphasis on the way those proficiency level descriptions relate to the relevant content and grade level of the appropriate AIMS test. The panelists were also given samples of written essay responses to review that had been classified into performance levels by the ADE as an additional source of information about the characteristics of writing at each performance level.

Panelists were asked to identify the main topics and skill sets addressed by the PLDs and writing exemplars and then to identify the three to four key characteristics that distinguished performance at a given level from that of adjacent performance levels for each topic or skill set. Panelists conducted these tasks first in small group discussions at their table and then in a single large group for each committee.

After panelists had a good understanding of the distinguishing characteristics between the levels of performance, they worked on identifying three characteristics that most distinguish students that were at the borderline of each performance level. They started with the borderline between *Meets the Standard* vs. *Approaches the Standard*. Within each table group, panelists were asked to identify three characteristics that most distinguished students that are at the borderline of *Meets the Standard* from the top of *Approaches the Standard*. Each table group recorded their responses on a flip chart. They repeated the same activity to distinguish three characteristics that differentiated between *Meets the Standard* vs. *Exceeds the Standard* and for *Falls Far Below the Standard* vs. *Approaches the Standard*. Once the table groups completed this task, they reconvened as a committee. Each table presented their distinguishing characteristics

[10] Please see Appendix F for a copy of the opening session training.

and the facilitator led a discussion of the commonalities and differences across the table groups. The facilitator captured the discussion on the group flip chart and then typed it up over the lunch break so that panelists could refer to the list throughout the standard setting meeting. Upon completing this task, the panelists were excused for lunch.

Experiencing the Test

After returning from lunch, the panelists took the test. An efficient way to help panelists become familiar with test content is to have them actually take the test under simulated testing conditions. Panelists were administered the test in a simulated testing environment and asked to consider carefully the skills and knowledge needed to successfully answer each item. In addition, they were asked to simultaneously put themselves in the position of a typical student in the course for which the test was developed to assess, and to try to "get inside the student's head" as they worked to solve each test item. Panelists had approximately one hour to take the test. After everyone completed the tests, the panelists self scored their responses using official keys and then had a group discussion. The facilitator asked the following questions during the group discussion:

1. What are your general impressions about the test?
2. Did the test generally cover the depth and breadth of the content standards?
3. Does the test generally have a range of item difficulties (e.g., easier items, moderate items, difficult items)?

Although some discussion about individual test items took place, the facilitator focused participants away from prolonged discussion on individual questions and brought the discussion back to the test in general. The facilitator encouraged participants to record any comments about test items on the index cards provided and advised the panelists that the comments would be passed along to ADE.

After the general group discussion about the test, the facilitator revisited the borderline student descriptors since some participants made reference to the descriptors during the general discussion of the test. The facilitator displayed the borderline student descriptors up on the screen with a projector, and the participants reviewed and discussed the descriptors that they constructed prior to lunch. In some cases, they added a few additional knowledge, skills, or abilities to the list.

Standard Setting Methodology Training

In the next activity, the lead Pearson facilitator led a training session on the item mapping procedure[11]. Under the item mapping procedure, panelists would receive an ordered item booklet (OIB) with test items in the actual order of empirical item difficulty. For the training, the facilitator showed an actual OIB and explained that items were placed in order of difficulty with only -one item per page. The easiest item was first and the most difficult item was last. Therefore, the likelihood of getting an item correct decreases as one moves through the OIB.

Figure 2 was presented for illustrative purposes and the facilitator explained that this example assumed a 15-item writing practice test was used and one cut score was being selected. The facilitator emphasized that page numbers do not correspond to raw scores.

[11] Please see Appendix G for a copy of the training handouts.

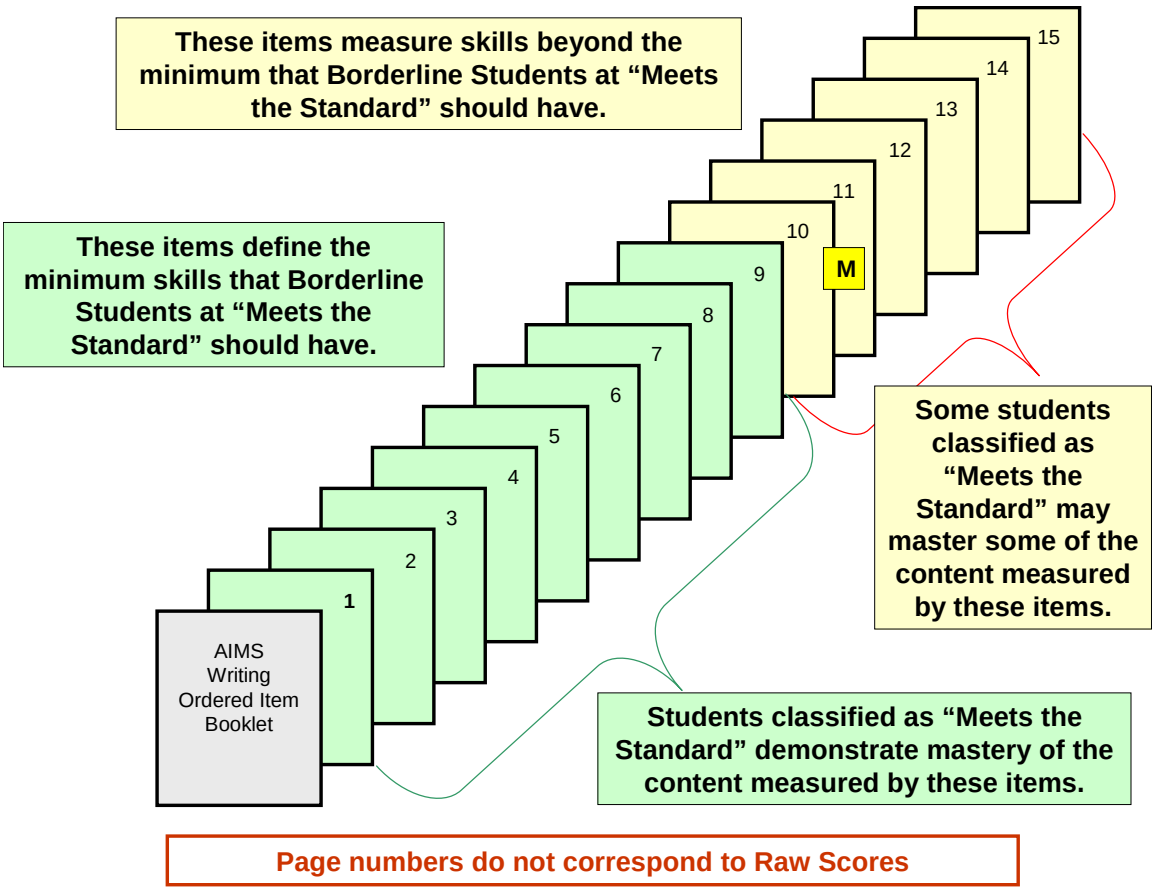


Figure 2: Locating Borderline Performance in the Ordered Item Booklet

Next, the facilitator provided a definition of mastery as defined by a standard dictionary and as defined for the AIMS standard setting. For AIMS standard setting, a group of students demonstrate mastery of the skills represented by an item if at least 2/3 of the borderline students answer the item correctly. An illustrative example as shown in Figure 3 below was discussed. In this example, the low performing group mastered items 1-7; the middle performing group mastered items 1-11; the high performing group mastered items 1-14.

- **Group A (Low Performing)**
  - **Mastered items 1-7**
- **Group B (Middle Performing)**
  - **Mastered items 1-11**
- **Group C (High Performing)**
  - **Mastered items 1-14**

Percentage of Students Obtaining the Correct Answer

Page	Group A	Group B	Group C
1	94	96	99
2	92	94	99
3	90	92	96
4	86	90	94
5	81	89	92
6	75	85	90
7	70	82	88
8	66	76	85
9	61	75	84
10	58	72	83
11	53	69	83
12	45	63	81
13	30	56	76
14	26	50	70
15	14	47	65

Figure 3: Sample Performance Characteristics of Various Groups

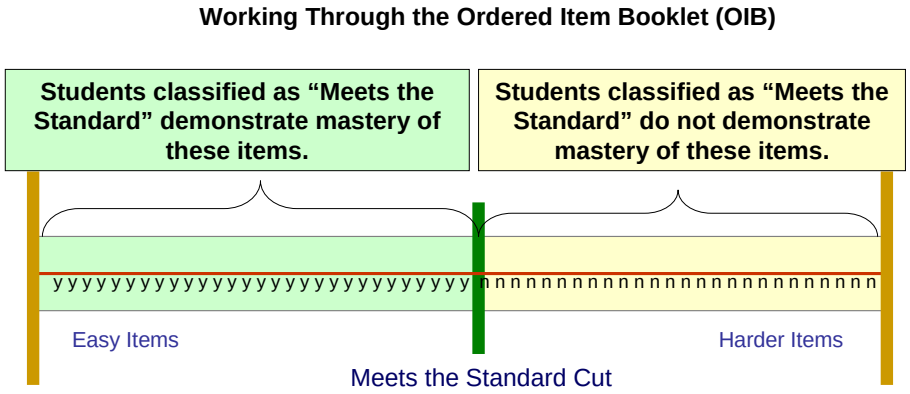
The facilitator then provided information on how to move through the OIB. Panelists were asked to consider the following questions:

1. What does this item measure?
2. What makes this item more difficult than the items that precede it?

They were asked to read each page and consider the knowledge, skills, and abilities required to successfully answer the item. The page cut for *Meets the Standard* is placed to distinguish the content that borderline students at *Meets the Standard* should answer correctly from the content that they may not answer correctly. Panelists were asked to consider the following question, "Should most (67%) borderline students at *Meets the Standard* be able to answer this item correctly?" If the answer is "yes," then they should read on because they have likely not yet hit the beginning of *Meets the Standard*. If the answer is "no," then they may have entered into the content that borderline students at *Meets the Standard* may not answer correctly. Panelists were instructed to place their bookmark on the page after the last item that they expected the borderline students should be able to master.

In order to illustrate this process more concretely, the facilitator used a visual aid. See Figure 4 and Figure 5**.** Figure 4 shows how one would move through the OIB in theory. This figure attempted to illustrate that there is an absolute stopping point that separates the content that students at the borderline of *Meets the Standard* should master from the content that they will not likely master. The second figure (Figure 5) shows how one would move through the OIB in practice. In this real world example, the figure illustrates that there are some items that students at the borderline of *Meets the Standard* should not need to master earlier in the OIB than where the cut page is. In addition, it shows that there are some items after the cut page that students who are at the borderline of *Meets the Standard* should be able to master. Panelists were instructed that this is a likely pattern and that they should not stop to place the bookmark because of one item.

Establishing the Page Cut for "Meets the Standard" (Theoretically)

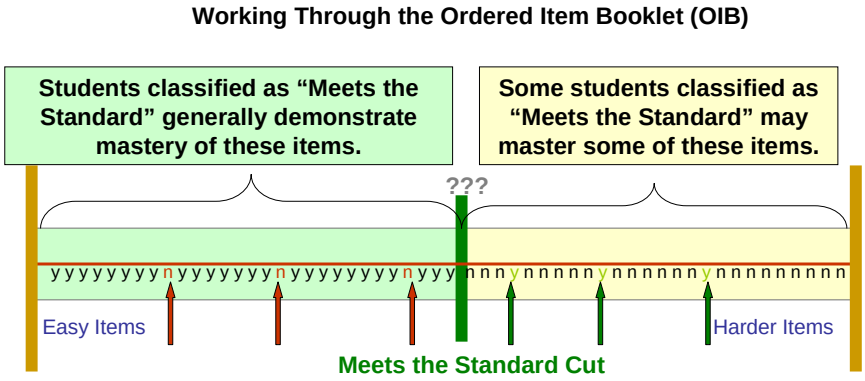


The "Meets the Standard" page cut is placed to separate the items that the borderline students at "Meets the Standard" should answer correctly from those that they may not answer correctly.

1

Figure 4: Establishing the Page Cut for *Meets the Standard* (Theoretically)

Establishing the Page Cut for "Meets the Standard" (In-Practice)



The "Meets the Standard" page cut is placed to separate the items that the borderline students at "Meets the Standard" should answer correctly from those that they may not answer correctly.

1

Figure 5: Establishing the Page Cut for *Meets the Standard* (In-Practice)

After going through the animated slides, the facilitator summarized the page cuts for the *Meets the Standard*, *Exceeds the Standard*, and *Approaches the Standard*:

- The page cut for *Meets the Standard* is placed to distinguish the content that borderline students at *Meets the Standard* should answer correctly from the content that they may not answer correctly.
- The page cut for *Exceeds the Standard* is placed to distinguish the content that borderline students at *Exceeds the Standard* should answer correctly from the content that they may not answer correctly.
- The page cut for *Approaches the Standard* is placed to distinguish the content that borderline students at *Approaches the Standard* should answer correctly from the content that they may not answer correctly.

To further explain the page cuts, animated graphics were presented to show the cut for *Exceeds the Standard* and *Approaches the Standard*. The facilitator provided some advice in placing page selections. First, he informed the panelists that items do not differ a great deal in difficulty from one item to the next in the ordered item booklet. But because this empirical ordering may not exactly match the conceptual difficulty perceived by committee members as they proceed through the OIB, items may seem misplaced sometimes. However, in general, as the item difficulty increases, the likelihood of answering the item correctly decreases. He suggested finding the "ballpark" first, and then considering each item in that range to determine where to place the bookmark to indicate the selected page cut. He reminded the panelists to place their bookmark on the page after the last item that they expected the borderline student for that proficiency level should be able to master. He indicated that they should find the cut for *Meets the Standard* first, followed by the cut for *Exceeds the Standard* followed by the cut for *Approaches the Standard*. The facilitator informed the panelists that there is no "right" answer, but reminded them to keep the following information in mind. First, consider what students "should" do, rather than what students "would" do. Second, he reminded them to bear in mind the 67% of the borderline students when deciding on a cut page. Third, panelists should take into account all students taking the AIMS writing assessment and not just students in their classroom or school.

The facilitator informed the panelists that they would have three rounds of ratings and that Rounds 2 and 3 would come after feedback is provided to help inform judgments. The facilitator showed the panelists how to use the item map and page number recording sheet to capture their page cuts.

Practice Round

After the facilitator gave an explanation of the methodology, the panelists worked through a practice example with ten released items that allowed them to become familiar with the general process and materials to be employed. Each panelist provided a recommended page cut for the *Meets the Standard* cut and then had a discussion within their table group. Once the panelists indicated that they understood the procedure, they preceded to the next task – the round 1 ratings.

Round 1 Ratings

The table leader at each table asked for confirmation that panelists understood the task and asked if anyone had any questions. The panelists also filled out a readiness form, which indicated that they were willing and prepared to proceed with the next task. Once a panelist completed Round 1, the facilitator or tabled leader collected the *Page Number Recording Sheet*, spot checked the sheet against the ordered item booklet, , and placed it in a designated folder for data entry. The facilitator or table leader also collected and signed in the remaining secure materials including the Ordered Item Booklets, Item Map, Test Booklet, Directions for Administration (DFA), Answer Key, and any notes. After all panelists were dismissed, the table leaders met with Pearson and ADE staff to discuss the activities of the day.

Round 2 Ratings

On the morning of the second day, the facilitator provided a process overview of the day and answered any questions of the panelists. Next, the facilitator discussed the types of feedback that would be provided. First, it was explained that

panelists would receive the panelist agreement data, which indicate how panelists page cuts compare, one to another. These data showed the median, low, and high pages for the entire standard setting panel and for the individual table groups as well as a graph indicating page numbers for each panelist at each performance level. Second, the facilitator noted that the panelists would receive student performance data, which will provide the percentage of students that obtained the correct answer for each question. Third, the facilitator assured the panelists that *after* the completion of Round 2, they would be receiving impact data, which will indicate the percentage of students that would be classified in each performance level if the page cuts were implemented.

Each table received a document listing the OIB page number cuts for that table. This document included the OIB page number cuts for each participant based on the Round 1 ratings in addition to the median OIB page number cut at each level for that table. Panelists were told the following: "The feedback we just handed out provides the OIB page number cuts for each level by each participant in your table. The maximum, minimum, and standard deviations of the OIB page number cuts are also provided. The median is the middle value of the OIB page number cuts from all participants at your table. The maximum is the highest value of the OIB page number cuts from all participants at your table. The minimum is the lowest value of the OIB page number cuts from all participants at your table."

The panelists were informed that they were not expected to come to consensus on their OIB page number cut judgments, but that they were expected to discuss differences to get a feel for the reasons these differences in page cut locations exist. For example, are there underlying differences in what the participants believe these borderline students can/cannot do? Is there any evidence that participants implemented different procedures to assign ratings?

The facilitator instructed the participants to discuss their "Meets" ratings first, then move to "Exceeds," and then finally discuss the "Approaches" ratings. The table leader generally facilitated discussion within the table, but the facilitator floated among the tables to observe discussion and answer questions.

After approximately 45 minutes of discussion with the table group, the table leader handed out the *p*-values that corresponded to the items in the OIB. The facilitator explained that the *p*-values represented the percentage of students that answered the item correctly. The *p*-values are based on all the students[12], not just the borderline students at "Approaches," "Meets," and "Exceeds." The facilitator explained that the participants should use the *p*-values to check their estimates of how difficult an item is.

Following Round 1, panelists received feedback on their bookmark placement relative to the bookmark placement of other panelists within their small group. After Round 1, still in small table groups, panelists compared bookmarks and discussed the differences between them. Panelists were encouraged to describe the reasons they set bookmarks where they did. The discussion addressed all items in the range between the highest and lowest bookmark for a given achievement level. Discussion took place within the table only for this round. Following the discussion, panelists made their Round 2 ratings.

Round 3 Ratings

After Round 2, panelists engaged in similar discussion that that took place after Round 1. Feedback similar to the report provided after Round 1 was handed out to the table leaders. An OIB page number cut summary document was provided to each table. This document provided the median, minimum, and maximum OIB page number cut at each level for that table. In addition, participants were provided the median, maximum, and minimum OIB page number cuts for the committee. Discussion took place within the table group first, followed by discussion within the entire committee.

Following that discussion, panelists from the entire committee were presented with student impact data illustrating the percent of examinees that would be classified into each achievement category based on operational test results. The facilitator led a discussion about the impact data results and tried to ascertain if the results seemed reasonable and/or consistent with their expectations based on what students should know and be able to do as defined by the

[12] For the HS group only, the *p*-values were based on students in Cohort 13.

performance level descriptors. The impact data graphic representation provided panelists with information on what percentages of students were at each performance level for the populations of interest (all students, female/male, and ethnic groups: white, African-American, Hispanic, Native American, Asian). Panelists were given time to discuss the appropriateness of the group level OIB page number cuts given the proportion of students that would fall into each level. Panelists were instructed that they should make these decisions based on what they know about students in the state, the requirements of the test, and the standards.

After panelists completed their discussions and indicated that they understood the impact data and the other data associated with Round 2, they responded to the readiness survey. When participants answered "yes" to all of these questions, they made their Round 3 ratings.

Panelist Evaluation Survey

The panelists responded to an evaluation survey upon completion of the standard setting activities. Their responses are summarized in Appendix S.

Review PLDs for Grades 5, 6, and 7

After completing their Round 3 ratings, the panelists reviewed the PLDs for Grades 5, 6, or 7 in order to get prepared for the vertical articulation committee that would take place after lunch. Panelists were asked to identify the main topics and skill sets assessed and then to identify the three to four key characteristics that distinguished performance at a given level from that of adjacent performance levels for each topic or skill set. Panelists conducted these tasks first in small group discussions at their table and then in a single large group for each committee.

After panelists had a good understanding of the distinguishing characteristics between the performance levels, they worked on identifying three characteristics that most distinguish students that are at the borderline of each performance level. They started with the borderline between *Meets the Standard* vs. *Approaches the Standard*. Within each table group, panelists were asked to identify three characteristics that most distinguished students that are at the borderline of *Meets the Standard* from the top of *Approaches the Standard*. Each table group recorded their responses on a flip chart. They repeated the same activity to distinguish three characteristics that differentiated between *Meets the Standard* vs. *Exceeds the Standard* and for *Falls Far Below the Standard* vs. *Approaches the Standard*. Once the table groups completed this task, they reconvened as a committee. Each table presented their distinguishing characteristics and the facilitator led a discussion of the commonalities and differences across the table groups. The facilitator captured the discussion on the group flip chart and then typed it up over the lunch break. Upon completing this task, the panelists were excused for lunch.

Vertical Articulation Process

On June 9, 2011, all of the panelists from all committees and the three table leaders from the HS committee met as a large group as a vertical articulation committee in order to provide recommendations on the final cuts for Grades 5-7 and HS. Pearson facilitators guided the panelists in discussing and comparing final recommended cut scores resulting from the panel meetings. The facilitators assisted the panelists in evaluating the extent to which the recommended cut scores demonstrate a smooth, consistent articulation across the grade levels.

The vertical articulation started with a brief introduction by the Pearson lead facilitator who presented the committee a series of data. The committee received a chart that contained the final page numbers cut scores for Grades 5, 6, and 7. They were also presented with a graphic that showed the impact data for Grades 5-7 and HS. The lead facilitator led the committee in a discussion about the initial results and then provided the committee members time to discuss the results with their original standard setting committee members (i.e., Grades 5-7). Panelists made minor modifications to some page cut recommendations to bring outliers more into congruence with the recommendations of other grade panels.

PLD Refinement Process

On June 4, the committees met to refine the PLDs. The lead facilitator provided instruction for refining PLDs and provided a handout. (See Appendix A.2.) The panelists were told that the PLDs were created in 2010 by Arizona educators, some of whom were serving on the standard setting committee. ADE staff explained that the PLD document begins with a concise description of all four performance levels, each of which is further articulated in the bullets on the bottom of the document. The committee members learned that the PLDs were designed as concise statements so that they could fit on student reports, viz., that there was a maximum character limit that could not be exceeded. The bullets at the bottom of the document were designated as highlighted Performance Objectives (POs) from the Writing Standard, and several POs may have been combined into single bullets. Hence, the bullets were not necessarily verbatim transcriptions of the POs. In summary, the committee members came to understand that the entire academic standard that was eligible for assessing had not been replicated in the PLDs. The PLDs actually provided a representative sample of the content standards by reflecting a portion of the POs.

Within each table group, the panelists began by discussing the bullets at the bottom of the PLDs for their grade. They were asked to determine if any bullets should move from one performance level to another. ADE staff explained that if a bullet (PO) is moved and the objective is noted in the narrative at the top of the PLD document, the objective must also be moved to the new performance level in the narrative. Because some bullets are a combination of POs, it may be necessary to break apart the bullet to associate the separate parts with different performance levels.

With respect to procedure, the panelists were told that, if needed, they should make the appropriate adjustments to the narrative. ADE staff advised the panelists that bullets should begin with an action verb if the panelists determine that new bullets are needed; however, removal of bullets was not recommended.

With respect to substance, the panelists were told that all assessments must conform to the test blueprint. With respect to the standards, even though not every bullet or PO had been covered in the current assessment, the cumulative coverage of current and future assessments will include all the performance objectives.

Once the discussions began in earnest, the table leaders captured the key points discussed at their table for each grade. Upon completion of the PLD bullet discussion, all panelists with the exception of the table leaders were dismissed. Prior to dismissal, the table leaders and facilitators collected and signed in all materials, and the facilitator and ADE staff thanked participants for their participation.

After dismissal of the participants, the table leaders for Grades 5-7 met all together to share their tables' recommendations on the changes to the bullet statements. The lead facilitator conducted the discussion of the recommended changes and used track changes on an overhead projector to capture the changes in the existing PLD documents. Discussion started with Grade 7 and moved backwards down to Grade 5. It should be noted that the HS descriptors were reviewed as well during this meeting, but HS table leaders were not present since the HS writing standard setting meeting took place six weeks prior and they revised the PLDs at that time. Once the adjustments were made to the bullets, the table leaders were instructed to adjust the narrative accordingly, but they were reminded that they could not exceed the maximum amount of characters assigned to the space. Once table leaders concluded this activity by coming to consensus, Pearson and ADE updated the PLDs as needed and provided final copies of all PLDs to the ADE for presentation to the State Board of Education (SBE).

STANDARD SETTING RESULTS

Table 3 shows a summary of the median page number cuts by round for each grade. Each cut recommended by the standard setting panels is shown. In some instances, the cuts by round are similar (i.e., the range of recommended cuts is small from Round 1 to Round 3). However, there are a few cases where the range of cuts from Round 1 to Round 3 is not small. For example, the final recommended page cut (Round 3) for Grade 5 *Meets the Standard* is at 24; whereas, the initial cut (Round 1) was at 16. The page cuts for *Approaches the Standard* and *Exceeds the Standard* were generally consistent across the rounds within grade level.

Table 3: **Page Number Summary by Round**

Grade	Round	Approaches	Meets	Exceeds	Total Items
Grade 5	Round 1	5	16	38	47
	Round 2	8	17	43	47
	Round 3	8	24	43	47
Grade 6	Round 1	10	26	38	47
	Round 2	10	22	38	47
	Round 3	10	22	38	47
Grade 7	Round 1	14	29	40	47
	Round 2	13	26	40	47
	Round 3	13	24	39	47
High School	Round 1	18	34	44	57
	Round 2	18	32	46	57
	Round 3	19	32	46	57

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Table 4 shows the raw score cuts by round for each grade as determined with the use of the page cuts shown in Table 3**.** As expected, this table shows similar patterns of round-by-round differences that were seen in Table 3**.**

Table 4: Raw Score Summary by Round

Grade	Round	Approaches	Meets	Exceeds	Total Points
Grade 5	Round 1	29	44	60	69
	Round 2	30	44	61	69
	Round 3	30	45	61	69
Grade 6	Round 1	32	45	59	69
	Round 2	32	44	59	69
	Round 3	32	44	59	69
Grade 7	Round 1	33	47	60	69
	Round 2	33	47	60	69
	Round 3	33	46	60	69
High School	Round 1	63	86	121	138
	Round 2	63	86	122	138
	Round 3	64	86	122	138

Table 5 shows the final raw score cuts after vertical articulation. The only change to the final cuts score from the Round 3 results was that the score for *Exceeds the Standard* at Grade 5 went from 61 to 60.

Table 5: Final Raw Score Cuts after Vertical Articulation

	Approaches		Meets		Exceeds		Total Points
Grade	RS	% of Pts.	RS	% of Pts.	RS	% of Pts.	
Grade 5	30	43%	45	65%	60	87%	69
Grade 6	32	46%	44	64%	59	86%	69
Grade 7	33	48%	46	67%	60	87%	69
High School	64	46%	86	62%	122	88%	138

Table 6 shows the final scale score ranges for the performance levels.

Table 6: Final Scale Score Ranges by Grade

Grade	Falls Far Below	Approaches	Meets	Exceeds
Grade 5	300 - 438	439 - 493	494 - 600	601 - 700
Grade 6	300 - 448	449 – 492	493 – 580	581 – 700
Grade 7	300 – 449	450 – 494	495 – 594	595 – 700
High School	300 – 432	433 – 479	480 – 586	587 - 700

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Figure 6 presents the impact data for Grades 5, 6, 7, and high school after the vertical articulation process. The percentage of students in *Exceeds the Standard* is approximately 5%-7% for all grades. The percentage of students in *Falls Far Below the Standard* is in the range of 8%-12%. The percentage of students in *Approaches the Standard* is approximately 31%-37% for Grades 5, 6 and 7, but is smaller (25%) for high school. The percentage of students at *Meets the Standard* is approximately 50% for students in Grades 5, 6 and 7. For high school, the percentage of students at *Meets the Standard* is approximately 63%.

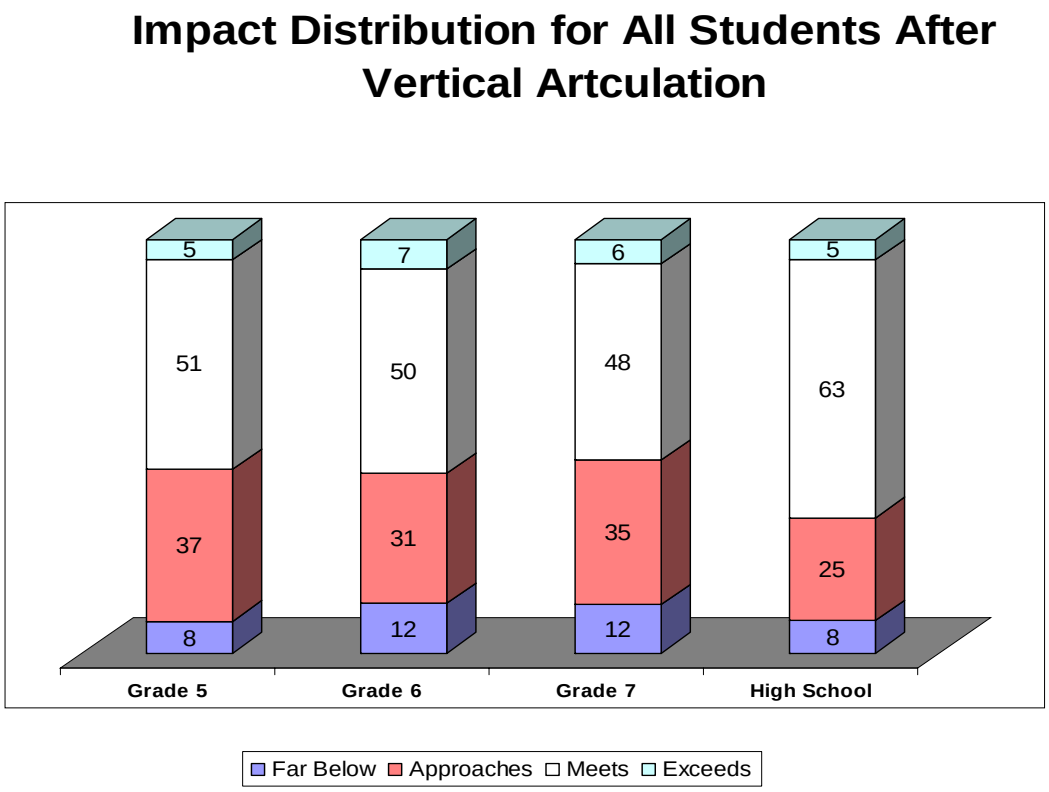

Figure 6: Final Percent of Students at Each Performance Level by Grade

APPENDICES

A. Performance Level Descriptors
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Q. Writing Test Blueprint
R. Standard Setting Participants
S. Standard Setting Evaluation Forms and Results

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Appendix A: Performance Level Descriptors

Appendix A.1: Preliminary Performance Level Descriptors

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Arizona Writing Standard Performance Level Descriptors
Grade 5

Exceeds the Standard – Students who score at this level show skillful performance in written communication beyond the Grade 5 Writing Standard. Students who perform at this level consistently demonstrate the ability to identify and apply superior written communications by exhibiting a strong command of language including: clear, controlled ideas and organization, wide sentence variety, and impressive control of voice, conventions, and word choice.

Meets the Standard – Students who score at this level show appropriate and acceptable performance at the Grade 5 Writing Standard. Students who perform at this level frequently demonstrate the ability to identify and apply adequate written communication by exhibiting a basic command of language including: clear ideas and organization, average sentence variety and functional control of voice, conventions, and word choice.

Approaches the Standard – Students who score at this level show a level of performance in written communication below the Grade 5 Writing Standard. Students who perform at this level ineffectively demonstrate the ability to identify and apply basic written communications by exhibiting a limited command of language including: broad or simplistic ideas and organization, weak sentence variety, and underdeveloped control of voice, conventions, and word choice.

Falls Far Below the Standard – Students who score at this level show less than adequate performance in written communication that falls significantly below the Grade 5 Writing Standard. Students who perform at this level unsatisfactorily demonstrate the ability to identify and apply basic written communications by exhibiting a weak command of language including: over simplistic or unclear ideas and organization, uncontrolled sentence variety, and highly limited control of voice, conventions, and word choice.

Students at the "Exceeds the Standard" level generally know the skills required at the "Meets" and "Approaches" levels and are able to:	Students at the "Meets the Standard" level generally know the skills required at the "Approaches" level and are able to:	Students at the "Approaches the Standard" level generally know and are able to:
• Express and explore main ideas using relevant supporting details. • Organize writing with a clear beginning that is strong and inviting and builds to a satisfying conclusion. • Use smooth, effective transitions throughout. • Uses a voice that shows commitment to the audience and purpose. • Use precise and varied words that convey meaning and/or evoke clear images. • Vary sentence structure to emphasize meaning. • Control the rhythm and flow of writing • Use natural dialogue when appropriate. • Use a wide range of conventions effectively and/or creatively.	• Express a clear main idea with adequate supporting details. • Organize with a beginning, middle, and end. • Sequence logically with appropriate transitions. • Adopt a voice/tone that is appropriate to audience and purpose. • Use words that are functional. • Use a variety of sentence patterns. • Create sentences that flow naturally. • Demonstrate control of writing conventions so errors do not impede readability.	• Express a main idea with limited and/or ineffective details. • Attempt organization with some sequencing. • Show a limited awareness of writing purpose. • Use language that is appropriate though words may be imprecise or repetitive. • Construct simple sentences. • Demonstrate a limited understanding of grammar and usage. • Use some conventions appropriately, but writing still contains significant errors.

These descriptors do not include all the skills and knowledge as contained in the Writing Standard.

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Arizona Writing Standard Performance Level Descriptors
Grade 6

Exceeds the Standard – Students who score at this level show skillful performance in written communication beyond the Grade 6 Writing Standard. Students who perform at this level consistently demonstrate the ability to identify and apply superior written communications by exhibiting a strong command of language including: clear, controlled ideas and organization, wide sentence variety, and impressive control of voice, conventions, and word choice.

Meets the Standard – Students who score at this level show appropriate and acceptable performance at the Grade 6 Writing Standard. Students who perform at this level frequently demonstrate the ability to identify and apply adequate written communication by exhibiting a basic command of language including: clear ideas and organization, average sentence variety and functional control of voice, conventions, and word choice.

Approaches the Standard – Students who score at this level show a level of performance in written communication below the Grade 6 Writing Standard. Students who perform at this level ineffectively demonstrate the ability to identify and apply basic written communications by exhibiting a limited command of language including: broad or simplistic ideas and organization, weak sentence variety, and underdeveloped control of voice, conventions, and word choice.

Falls Far Below the Standard – Students who score at this level show less than adequate performance in written communication that falls significantly below the Grade 6 Writing Standard. Students who perform at this level unsatisfactorily demonstrate the ability to identify and apply basic written communications by exhibiting a weak command of language including: over simplistic or unclear ideas and organization, uncontrolled sentence variety, and highly limited control of voice, conventions, and word choice.

Students at the "Exceeds the Standard" level generally know the skills required at the "Meets" and "Approaches" levels and are able to:	Students at the "Meets the Standard" level generally know the skills required at the "Approaches" level and are able to:	Students at the "Approaches the Standard" level generally know and are able to:
• Express and explore main ideas using relevant supporting details. • Create a strong, engaging beginning that builds to a satisfying resolution. • Use smooth, effective transitions throughout. • Select precise and varied words that convey meaning and evoke clear images. • Uses a voice that shows commitment to the audience and purpose. • Control the rhythm and flow of writing using varied sentence patterns. • Use natural dialogue and figurative language when appropriate. • Use a wide range of conventions effectively and/or creatively with minimal editing required.	• Express a clear main idea and provide adequate supporting details. • Organize with a beginning, middle, and end. • Sequence logically using appropriate and effective transitions. • Adopt a tone that is suited to audience and purpose. • Use words that are descriptive and appropriate to the type of writing. • Write using a variety of sentence patterns. • Create sentences that flow naturally. • Demonstrate control of writing conventions so errors do not impede readability.	• Express a main idea with limited supporting details. • Demonstrate a limited awareness of organization and sequencing. • Show a limited awareness of writing purpose. • Use language that is appropriate though words may be imprecise and/or repetitive. • Write with some variation in sentence length. • Demonstrate a limited understanding of grammar and usage. • Demonstrates limited control of conventions.

These descriptors do not include all the skills and knowledge as contained in the Writing Standard.

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Arizona Writing Standard Performance Level Descriptors
Grade 7

Exceeds the Standard – Students who score at this level show skillful performance in written communication beyond the Grade 7 Writing Standard. Students who perform at this level consistently demonstrate the ability to identify and apply superior written communications by exhibiting a strong command of language including: clear, controlled ideas and organization, wide sentence variety, and impressive control of voice, conventions, and word choice.

Meets the Standard – Students who score at this level show appropriate and acceptable performance at the Grade 7 Writing Standard. Students who perform at this level frequently demonstrate the ability to identify and apply adequate written communication by exhibiting a basic command of language including: clear ideas and organization, average sentence variety and functional control of voice, conventions, and word choice.

Approaches the Standard – Students who score at this level show a level of performance in written communication below the Grade 7 Writing Standard. Students who perform at this level ineffectively demonstrate the ability to identify and apply basic written communications by exhibiting a limited command of language including: broad or simplistic ideas and organization, weak sentence variety, and underdeveloped control of voice, conventions, and word choice.

Falls Far Below the Standard – Students who score at this level show less than adequate performance in written communication that falls significantly below the Grade 7 Writing Standard. Students who perform at this level unsatisfactorily demonstrate the ability to identify and apply basic written communications by exhibiting a weak command of language including: over simplistic or unclear ideas and organization, uncontrolled sentence variety, and highly limited control of voice, conventions, and word choice.

Students at the "Exceeds the Standard" level generally know the skills required at the "Meets" and "Approaches" levels and are able to:	Students at the "Meets the Standard" level generally know the skills required at the "Approaches" level and are able to:	Students at the "Approaches the Standard" level generally know and are able to:
• Express and explore main ideas using relevant supporting details. • Provide vivid and engaging development. • Include an inviting beginning, a strong middle, and a clear resolution. • Organize ideas within a clearly defined structure using effective transitions among all elements. • Uses a voice that shows commitment to the audience and purpose. • Use concrete and figurative language effectively to enhance meaning. • Construct fluid sentences of varying structure and length. • Use conventions effectively to communicate clearly and enhance readability; minimal editing required.	• Express a clear main idea or topic with adequate supporting details. • Develop a clear beginning, middle, and end; however, organization may be formulaic. • Sequence logically using appropriate transitions. • Create a tone that demonstrates audience awareness. • Use functional words accurately. • Use varied sentence patterns that allow fluid reading. • Demonstrate control of conventions; errors do not impede readability.	• Express a main idea or topic that may be broad or simplistic. • Include details that may be general and sometimes off-topic. • Attempt to organize; however, writing may have an undeveloped beginning, middle, or end, and transitions may be few, repetitive, and/or missing. • Demonstrate a limited awareness or engagement of the audience. • Write with general or vague words that demonstrates limited vocabulary. • Use sentences that may be awkward and may obscure meaning. • Use conventions with limited control.

These descriptors do not include all the skills and knowledge as contained in the Writing Standard.

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Arizona Writing Standard Performance Level Descriptors
High School

Exceeds the Standard – Students who score at this level show skillful performance in written communication beyond the Grade 10 Writing Standard. Students who perform at this level consistently demonstrate the ability to identify and apply superior written communications by exhibiting a strong command of language including: clear, controlled ideas and organization, wide sentence variety, and impressive control of voice, conventions, and word choice.

Meets the Standard – Students who score at this level show appropriate and acceptable performance at the Grade 10 Writing Standard. Students who perform at this level frequently demonstrate the ability to identify and apply adequate written communication by exhibiting a basic command of language including: clear ideas and organization, average sentence variety and functional control of voice, conventions, and word choice.

Approaches the Standard – Students who score at this level show a level of performance in written communication below the Grade 10 Writing Standard. Students who perform at this level ineffectively demonstrate the ability to identify and apply basic written communications by exhibiting a limited command of language including: broad or simplistic ideas and organization, weak sentence variety, and underdeveloped control of voice, conventions, and word choice.

Falls Far Below the Standard – Students who score at this level show less than adequate performance in written communication that falls significantly below the Grade 10 Writing Standard. Students who perform at this level unsatisfactorily demonstrate the ability to identify and apply basic written communications by exhibiting a weak command of language including: over simplistic or unclear ideas and organization, uncontrolled sentence variety, and highly limited control of voice, conventions, and word choice.

Students at the "Exceeds the Standard" level generally know the skills required at the "Meets" and "Approaches" levels and are able to:	Students at the "Meets the Standard" level generally know the skills required at the "Approaches" level and are able to:	Students at the "Approaches the Standard" level generally know and are able to:
• Express and explore ideas with thoroughness and balance using relevant details. • Organize appropriately by choosing a strong beginning, using effective transitions, and providing a satisfying conclusion. • Create and maintain a voice consistently appropriate to audience and purpose. • Demonstrate a strong command of language including precise word choice and figurative language. • Craft varied sentences that flow naturally and enhance meaning; use run-ons or fragments for effect. • Use conventions effectively and creatively to enhance meaning; minimal errors, if present, do not detract from the message.	• Express a clear main idea with adequate supporting details. • Organize appropriately for purpose with a clear beginning, middle, and end. • Sequence logically using appropriate transitions. • Demonstrate audience awareness and some commitment to the topic. • Use a voice appropriate to the audience and purpose. • Choose functional and effective words/phrases. • Use varied sentences to create a natural sound. • Use correct conventions with few errors.	• Address a given topic with broad or simplistic ideas. • Support a main idea with at least minimal examples and detail. • Demonstrate some awareness of the purpose and audience. • Attempt to organize ideas with basic transitions. • Use a generally appropriate vocabulary with some repetition and misuse. • Use generally correct simple sentences. • Use standard conventions with limited accuracy.

These descriptors do not include all the skills and knowledge as contained in the Writing Standard.

DRAFT

Appendix A.2: Instructions on the Refinement of Writing PLDs

Refinement of Writing PLDs

Revised January 24, 2011

Instructions to tables for refinement of the Writing PLDs:

Background

- The Writing PLDs were created after the Mathematics, Reading, and Writing Standard Setting in May 2005. A change in guidelines by the federal Peer Review required PLDs to be developed prior to the administration of the assessments and "tweaked" at the subsequent Standard Setting. The revised Writing PLDs were developed in August 2010, the first administration of operational MC Writing items will occur Spring 2011, and the Writing Standard Setting will be conducted in April and June 2011.

- The top part of the PLDs presents all four performance levels and is a generalized reflection of the bullets on the bottom. This narrative piece is used for student reports. There is a maximum character count for the narrative/student reports which must not be exceeded.

- The bullets at the bottom are designated as highlighted POs from the Writing Standard, and several POs may have been combined into single bullets. The bullet text and PO verbiage are usually not verbatim. In order to not replicate the entire academic standard, not all POs are represented in the PLDs, and the statement "**These descriptors do not include all the skills and knowledge as contained in the Writing Standard.**" is included below the bullets as a reminder of this fact.

Procedures

1. The Writing Standard must be available as a reference for this activity.
2. Begin with the bullets at the bottom. Determine if any bullets should move from one performance level to another. If a bullet (PO) is moved and the objective is noted in the narrative at the top of the PLD, the objective must also be moved to the new performance level in the narrative.
3. Since some bullets are a combination of POs, it may be necessary to break apart the bullet to place the separate parts in different performance levels. If needed, make the appropriate adjustments to the narrative.
4. Note the bullet's beginning action verb. The verb, along with the rest of the text, may be changed and kept at the original performance level or moved to another.
5. New bullets may be added if appropriate and necessary; however, removal of bullets is not recommended. All assessments must conform to the test blueprint, and although not all the bullets will be covered in the current assessment, over time, the future assessments will include all the performance objectives identified in the bullets.
6. **Adjust the narrative accordingly, but do not exceed the maximum amount of characters assigned to the space.**
7. Table Leaders will share their tables' recommendations, and Track Changes will be made to the existing document.

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Appendix A.3: Final Performance Level Descriptors after Refinement Process

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Arizona Writing Standard Performance Level Descriptors
Grade 5

The following performance level descriptors address written communication through both multiple-choice and extended response items. See Writing Blueprint (*http://www.ade.az.gov/standards/aims/blueprints/*) and Holistic Rubric (*http://www.ade.az.gov/standards/aims/aimswriting/*).

Exceeds the Standard – Students who score at this level show skillful performance in written communication as evidenced by performing beyond the achievement goal for all students. Students who perform at this level consistently demonstrate the ability to identify and apply superior written communications by exhibiting a strong command of language including: clear, controlled ideas and organization, wide sentence variety, and impressive control of voice, conventions, and word choice.

Meets the Standard – Students who score at this level show appropriate and acceptable performance at the Grade 5 Writing Standard. Students who perform at this level frequently demonstrate the ability to identify and apply adequate written communication by exhibiting a basic command of language including: clear ideas and organization, average sentence variety and functional control of voice, conventions, and word choice.

Approaches the Standard – Students who score at this level show a level of performance in written communication below the Grade 5 Writing Standard. Students who perform at this level ineffectively demonstrate the ability to identify and apply basic written communications by exhibiting a limited command of language including: broad or simplistic ideas and organization, weak sentence variety, and underdeveloped control of voice, conventions, and word choice.

Falls Far Below the Standard – Students who score at this level show less than adequate performance in written communication that falls significantly below the Grade 5 Writing Standard. Students who perform at this level unsatisfactorily demonstrate the ability to identify and apply basic written communications by exhibiting a weak command of language including: over simplistic or unclear ideas and organization, uncontrolled sentence variety, and minimal control of voice, conventions, and word choice.

Students at the "**Exceeds the Standard**" level generally know the skills required at the "Meets" and "Approaches" levels and are able to demonstrate, apply, and/or identify:	Students at the "**Meets the Standard**" level generally know the skills required at the "Approaches" level and are able to demonstrate, apply, and/or identify:	Students at the "**Approaches the Standard**" level generally know and are able to demonstrate, apply, and/or identify:
• Main ideas that explore the topic with relevant, insightful, and creative supporting details. • A strong, engaging beginning and middle that builds to a satisfying resolution. • Smooth, effective transitions throughout. • Consistent voice that is engaging, identifiable, and appropriate for audience and purpose. • Precise and varied word usage that conveys meaning and evokes clear images. • Effective concrete language, natural dialogue, and/or figurative language when appropriate. • Fluid rhythm and flow of writing using varied sentence patterns. • A wide range of accurate, effective, and creative conventions. • Skillful editing and revision.	• A clear main idea and provide adequate supporting details. • Organization with a clear beginning, middle, and end that may be formulaic. • Logical sequencing using appropriate transitions. • Voice/tone that is suited to audience and purpose. • Descriptive and/or functional words appropriate to the type of writing. • A variety of sentence patterns that flow naturally. • Control of writing conventions so errors do not impede readability. • Appropriate editing and revision.	• A main idea or topic that may be broad or simplistic. • Supporting details that may be general and sometimes off-topic. • Organization that is attempted; however, writing may have an undeveloped beginning, middle, or end. • A limited awareness of writing purpose and audience. • Generally appropriate language that may be imprecise or repetitive. • Some control of simple sentences. • Conventions with limited control. • Limited editing and revision.

These Performance Level Descriptors do not include all the skills and knowledge as contained in the Writing Standard.

Arizona Writing Standard Performance Level Descriptors
Grade 6

The following performance level descriptors address written communication through both multiple-choice and extended response items. See Writing Blueprint (http://www.ade.az.gov/standards/aims/blueprints/) and Holistic Rubric (http://www.ade.az.gov/standards/aims/aimswriting/).

Exceeds the Standard – Students who score at this level show skillful performance in written communication as evidenced by performing beyond the achievement goal for all students. Students who perform at this level consistently demonstrate the ability to identify and apply superior written communications by exhibiting a strong command of language including: clear, controlled ideas and organization, wide sentence variety, and impressive control of voice, conventions, and word choice.

Meets the Standard – Students who score at this level show appropriate and acceptable performance at the Grade 6 Writing Standard. Students who perform at this level frequently demonstrate the ability to identify and apply adequate written communication by exhibiting a basic command of language including: clear ideas and organization, average sentence variety and functional control of voice, conventions, and word choice.

Approaches the Standard – Students who score at this level show a level of performance in written communication below the Grade 6 Writing Standard. Students who perform at this level ineffectively demonstrate the ability to identify and apply basic written communications by exhibiting a limited command of language including: broad or simplistic ideas and organization, weak sentence variety, and underdeveloped control of voice, conventions, and word choice.

Falls Far Below the Standard – Students who score at this level show less than adequate performance in written communication that falls significantly below the Grade 6 Writing Standard. Students who perform at this level unsatisfactorily demonstrate the ability to identify and apply basic written communications by exhibiting a weak command of language including: over simplistic or unclear ideas and organization, uncontrolled sentence variety, and minimal control of voice, conventions, and word choice.

Students at the "**Exceeds the Standard**" level generally know the skills required at the "Meets" and "Approaches" levels and are able to demonstrate, apply, and/or identify:	Students at the "**Meets the Standard**" level generally know the skills required at the "Approaches" level and are able to demonstrate, apply, and/or identify:	Students at the "**Approaches the Standard**" level generally know and are able to demonstrate, apply, and/or identify:
• Main ideas that explore the topic with relevant, insightful, and creative supporting details. • A strong, engaging beginning and middle that builds to a satisfying resolution. • Smooth, effective transitions throughout. • Consistent voice that is engaging, identifiable, and appropriate for audience and purpose. • Precise and varied word usage that conveys meaning and evokes clear images. • Effective concrete language, natural dialogue, and/or figurative language when appropriate. • Fluid rhythm and flow of writing using varied sentence patterns. • A wide range of accurate, effective, and creative conventions. • Skillful editing and revision.	• A clear main idea and provide adequate supporting details. • Organization with a clear beginning, middle, and end that may be formulaic. • Logical sequencing using appropriate transitions. • Voice/tone that is suited to audience and purpose. • Descriptive and/or functional words appropriate to the type of writing. • A variety of sentence patterns that flow naturally. • Control of writing conventions so errors do not impede readability. • Appropriate editing and revision.	• A main idea or topic that may be broad or simplistic. • Supporting details that may be general and sometimes off-topic. • Organization that is attempted; however, writing may have an undeveloped beginning, middle, or end. • A limited awareness of writing purpose and audience. • Generally appropriate language that may be imprecise or repetitive. • Some control of simple sentences. • Conventions with limited control. • Limited editing and revision.

These Performance Level Descriptors do not include all the skills and knowledge as contained in the Writing Standard.

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Arizona Writing Standard Performance Level Descriptors
Grade 7

The following performance level descriptors address written communication through both multiple-choice and extended response items. See Writing Blueprint (*http://www.ade.az.gov/standards/aims/blueprints/*) and Holistic Rubric (*http://www.ade.az.gov/standards/aims/aimswriting/*).

Exceeds the Standard – Students who score at this level show skillful performance in written communication as evidenced by performing beyond the achievement goal for all students. Students who perform at this level consistently demonstrate the ability to identify and apply superior written communications by exhibiting a strong command of language including: clear, controlled ideas and organization, wide sentence variety, and impressive control of voice, conventions, and word choice.

Meets the Standard – Students who score at this level show appropriate and acceptable performance at the Grade 7 Writing Standard. Students who perform at this level frequently demonstrate the ability to identify and apply adequate written communication by exhibiting a basic command of language including: clear ideas and organization, average sentence variety and functional control of voice, conventions, and word choice.

Approaches the Standard – Students who score at this level show a level of performance in written communication below the Grade 7 Writing Standard. Students who perform at this level ineffectively demonstrate the ability to identify and apply basic written communications by exhibiting a limited command of language including: broad or simplistic ideas and organization, weak sentence variety, and underdeveloped control of voice, conventions, and word choice.

Falls Far Below the Standard – Students who score at this level show less than adequate performance in written communication that falls significantly below the Grade 7 Writing Standard. Students who perform at this level unsatisfactorily demonstrate the ability to identify and apply basic written communications by exhibiting a weak command of language including: over simplistic or unclear ideas and organization, uncontrolled sentence variety, and minimal control of voice, conventions, and word choice.

Students at the "**Exceeds the Standard**" level generally know the skills required at the "Meets" and "Approaches" levels and are able to demonstrate, apply, and/or identify:	Students at the "**Meets the Standard**" level generally know the skills required at the "Approaches" level and are able to demonstrate, apply, and/or identify:	Students at the "**Approaches the Standard**" level generally know and are able to demonstrate, apply, and/or identify:
• Main ideas that explore the topic with relevant, insightful, and creative supporting details. • A strong, engaging beginning and middle that builds to a satisfying resolution. • Smooth, effective transitions throughout. • Consistent voice that is engaging, identifiable, and appropriate for audience and purpose. • Precise and varied word usage that conveys meaning and evokes clear images. • Effective concrete language, natural dialogue, and/or figurative language when appropriate. • Fluid rhythm and flow of writing using varied sentence patterns. • A wide range of accurate, effective, and creative conventions. • Skillful editing and revision.	• A clear main idea and provide adequate supporting details. • Organization with a clear beginning, middle, and end that may be formulaic. • Logical sequencing using appropriate transitions. • Voice/tone that is suited to audience and purpose. • Descriptive and/or functional words appropriate to the type of writing. • A variety of sentence patterns that flow naturally. • Control of writing conventions so errors do not impede readability. • Appropriate editing and revision.	• A main idea or topic that may be broad or simplistic. • Supporting details that may be general and sometimes off-topic. • Organization that is attempted; however, writing may have an undeveloped beginning, middle, or end. • A limited awareness of writing purpose and audience. • Generally appropriate language that may be imprecise or repetitive. • Some control of simple sentences. • Conventions with limited control. • Limited editing and revision.

These Performance Level Descriptors do not include all the skills and knowledge as contained in the Writing Standard.

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Arizona Writing Standard Performance Level Descriptors
High School

The following performance level descriptors address written communication through both multiple-choice and extended response items. See Writing Blueprint (*http://www.ade.az.gov/standards/aims/blueprints/*) and Holistic Rubric (*http://www.ade.az.gov/standards/aims/aimswriting/*).

Exceeds the Standard – Students who score at this level show skillful performance in written communication as evidenced by performing substantially beyond the achievement goal for all students. Students who perform at this level consistently demonstrate the ability to identify and apply superior written communications by exhibiting a strong command of language including: clear, controlled ideas and organization, wide sentence variety, and impressive control of voice, conventions, and word choice.

Meets the Standard – Students who score at this level show appropriate and acceptable performance at the Grade 10 Writing Standard. Students who perform at this level frequently demonstrate the ability to identify and apply adequate written communication by exhibiting a basic command of language including: clear ideas and organization, average sentence variety and functional control of voice, conventions, and word choice.

Approaches the Standard – Students who score at this level show a level of performance in written communication below the Grade 10 Writing Standard. Students who perform at this level ineffectively demonstrate the ability to identify and apply basic written communications by exhibiting a limited command of language including: broad or simplistic ideas and organization, weak sentence variety, and underdeveloped control of voice, conventions, and word choice.

Falls Far Below the Standard – Students who score at this level show less than adequate performance in written communication that falls significantly below the Grade 10 Writing Standard. Students who perform at this level unsatisfactorily demonstrate the ability to identify and apply basic written communications by exhibiting a weak command of language including: over simplistic or unclear ideas and organization, uncontrolled sentence variety, and highly limited control of voice, conventions, and word choice.

Students at the "Exceeds the Standard" level generally know the skills required at the "Meets" and "Approaches" levels and are able to:	Students at the "Meets the Standard" level generally know the skills required at the "Approaches" level and are able to:	Students at the "Approaches the Standard" level generally know and are able to:
• Analyze/express ideas with thoroughness and balance using relevant details. • Organize intentionally by choosing a strong beginning, effective transitions, and a satisfying conclusion. • Demonstrate strong awareness of audience. • Analyze/express a voice consistently appropriate to audience and purpose. • Demonstrate a strong command of language including precise word choice and figurative language. • Analyze/craft varied sentences that flow naturally and enhance meaning; use run-ons or fragments for effect. • Analyze/apply conventions effectively and creatively to enhance meaning; minimal errors, if present, do not detract from the message.	• Identify/apply a clear main idea with adequate supporting details. • Organize appropriately for purpose with a clear beginning, middle, and end. • Sequence logically using/selecting appropriate transitions. • Demonstrate audience awareness and some commitment to the topic. • Identify/apply voice appropriate to the audience and purpose. • Choose functional and effective words/phrases. • Identify/apply varied sentences to create a natural sound. • Identify/apply correct conventions with few errors.	• Identify/address a given topic with a broad or simplistic idea. • Support a main idea with inappropriate/minimal examples and detail. • Attempt to organize/identify ideas with basic transitions. • Demonstrate some awareness of the purpose and audience. • Identify/use voice inconsistently for audience and purpose. • Identify/apply a generally appropriate vocabulary with some repetition and/or misuse. • Identify/apply generally correct simple sentences with limited variety. • Identify/apply standard conventions with limited accuracy.

These descriptors do not include all the skills and knowledge as contained in the Writing Standard.

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Appendix B: Table Leader Information Sheet

ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
TABLE LEADER INFORMATION SHEET
WRITING

BLACK CANYON CONFERENCE CENTER
PHOENIX, ARIZONA

Role Description

- Facilitate discussion
- Keep process on track
- Vote as one of the table members
- Monitor group discussion
- Watch the clock and monitor time
- Cut off discussion or diplomatically resolve differences between members

Specific Tasks:

1. Before all rounds
    a. Make sure participants put ID numbers on forms
    b. Check that participants complete readiness forms
    c. If someone puts a NO on readiness form, see if you can help explain. If participant is still unsure, inform Pearson facilitator
    d. Ensure that table members understand activity
    e. Notify group leaders of any problems
2. After Round 1
    a. Check that participants recorded page number correctly on Item Position Recording Sheets by comparing recorded page numbers to pages marked in booklets
    b. Collect all table members' recording sheets and give to facilitator
3. After Round 1 agreement data are shared
    a. Ensure that all members participate in discussion and encourage all points of view
    b. Check that participants understand agreement data
    c. Check that participants mark highest and lowest item positions after table data are shared
    d. Lead discussion on what those items are measuring and whether a student who meets the minimum requirements should be able to answer them
4. After Rounds 2 and 3
    a. Ensure that all members participate in discussion and encourage all points of view.
    b. Check that participants understand agreement data AND impact data
    c. Check that participants mark highest and lowest item positions after table data and group data are shared
    d. Lead a discussion on what those items are measuring and whether a target student who meets the minimum requirements should be able to answer them
5. Before breaks and at end of day
    a. Remind participants to leave all secure materials on the table
    b. Remind participants to initial checkout materials sheet
    c. Collect all materials and verify that all have been received
6. After collection at the end of the day
    a. Turn in all materials to Pearson
    b. Participate in debriefing session with ADE (except last day)

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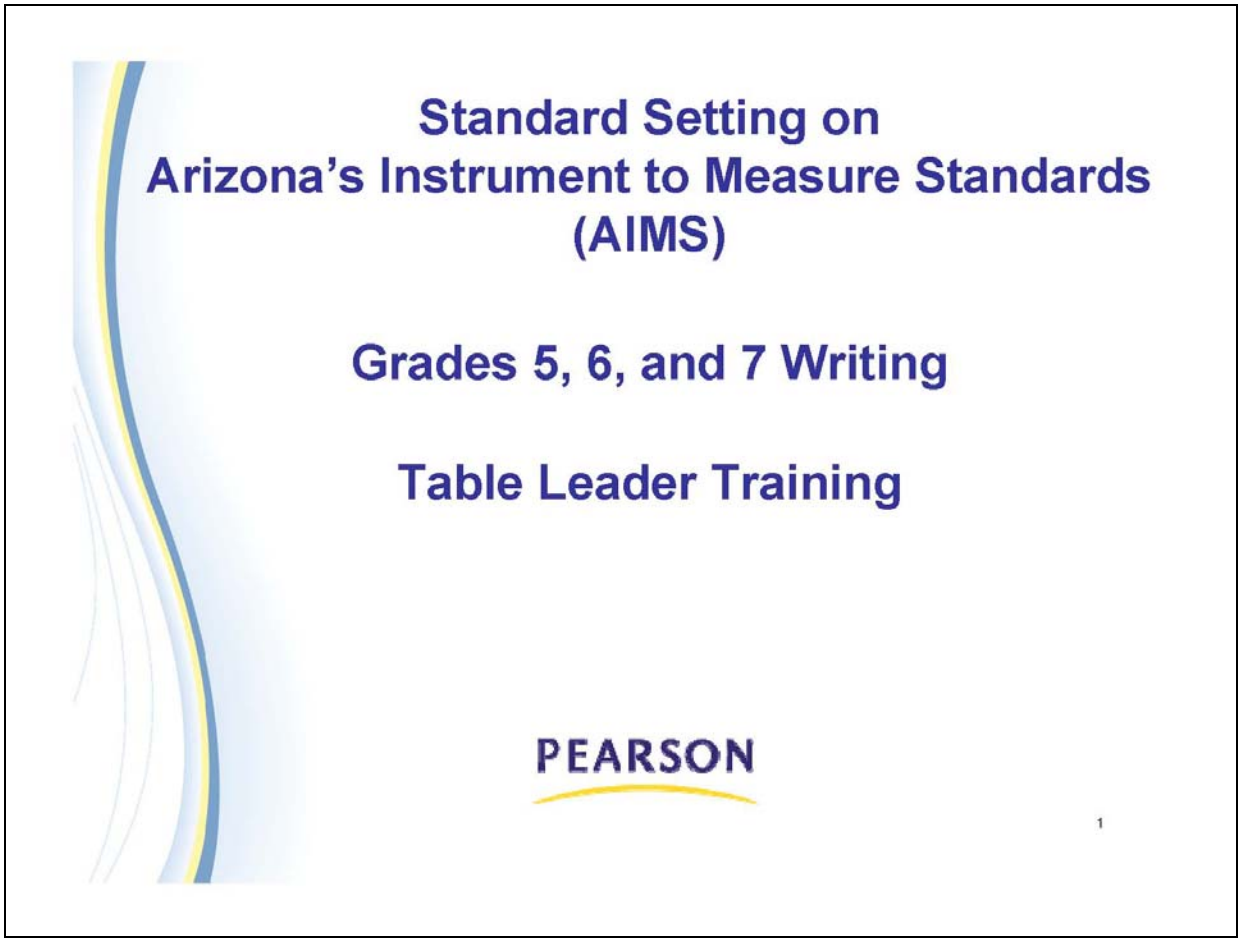
Appendix C: Table Leader Training

The training was the same for the HS committee and the Grades 5, 6, and 7 committees.



Standard Setting Roles

- Lead Research Scientist
- Standard Setting Facilitators
- Statistical Analyst
- Program Management
- ADE Staff
- Table Leader
- Participants

3

Purpose of Standard Setting

- The purpose of this standard setting is to establish recommended cut scores on the AIMS Writing assessments at Grades 5, 6, and 7.
- You were selected to serve on the committee for a variety of reasons:
  - Familiarity with the knowledge and skills required to "master" the content standards at various performance levels
  - Representation of various jurisdictions and demographic characteristics
- You were selected to be a table leader because of your experience, ability to lead, and strong communication skills.

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Table Leader Roles

- Facilitate discussion
- Keep process on track
- Vote as one of the table members
- Monitor group discussion
- Watch the clock and monitor time
- Might need to cut off discussion or diplomatically resolve differences between members

4

Table Leader Tasks

- Provide instructions
  - ID numbers
  - How to fill out rating form
  - How to collect and return materials
- Lead discussion at table and across tables
  - Ensure that all participants engage in discussion
- Verify understanding
  - Process
  - Feedback
- Verify completeness
  - Readiness forms
  - Rating forms
- Materials collection and audit
- Notify facilitator of problems

Standard Setting Overview

Panelists will:

- Take and discuss the test and supplemental items.
- Develop a shared understanding of each Performance Level (PLDs and writing exemplars).
- Develop "Borderline Student" Descriptors.
- Receive Standard Setting Training and Practice.
- Participate in three rounds of ratings –
  - Round 1: Independent
  - Round 2: Independent, but with table discussion
  - Round 3: Independent, but with table & full group discussion
- Review recommended cuts across grade levels.
- Finalize Performance Level Descriptors.

6

Table Leader Role in Gaining an Understanding of the Performance Levels

- Within each table group, ask, "What should students know and be able to do at each level?"
  - "Approaches", "Meets", "Exceeds"
- Appoint a recorder to write on the flip chart.
- Suggestions should be:
  - Concrete.
  - Clearly related to the PLDs and writing exemplars.
- Note: This concept will be presented by the facilitator, but the table leader will facilitate the conversation at his/her table.

7

Table Leader Role in Gaining an Understanding of the Performance Levels

- Ask Table Members to describe concretely students who are at "Meets the Standard."
  - What should they be able to *do*?
  - What *skills* should they possess?
  - What should they *know*?
  - What *academic behaviors* demonstrate that they are at "Meets the Standard"?
- Repeat the process for "Exceeds" and "Approaches."

8

Table Leader Role in Borderline Student Descriptors

- Ask table members to think about the borderline students at "Meets the Standard."
  - Identify three characteristics or behaviors that MOST distinguish a student who just barely "Meets the Standard."
  - Record the three responses on your flipchart.
- Repeat the process for "Exceeds" and "Approaches."

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Three Rounds of Ratings

- Round 1 Ratings
  - Independently
- Round 2 Ratings
  - Independently, but after discussion with your table group
- Round 3 Ratings
  - Independently, but after discussion with your table group and entire committee

10

Standard Setting Item Map and Rating Sheet

- Each panelist will be provided with an item map that provides information about each item.
- Each panelist will record his/her recommended page number on a page number recording sheet.
- The table leader will help panelists with questions about how to use these documents.

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Table Leader Role Before All Rounds

- Make sure participants put ID numbers on the forms.
- Check that participants complete the readiness forms.
- If someone puts a "NO" on the readiness form, see if you can help explain. If the participant is still unsure, inform the Pearson facilitator.
- Ensure that table members understand activity.
- Notify the facilitator of any problems.

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Table Leader Roles After Round 1

- Check that participants recorded page number correctly on Item Position Recording Sheets by comparing recorded page numbers to pages marked in booklets.
- Collect all table members' recording sheets and give to the facilitator.

13

Table Leader Roles After Round 1 Agreement Data

- Ensure that all members participate in the discussion and encourage all points of view.
- Check that participants understand agreement data.
- Check that participants mark highest and lowest item positions after the table data are shared.
- Lead discussion on what those items are measuring and whether a student who meets the minimum requirements should be able to answer them.

14

Table Leader Roles After Rounds 2 and 3

- Ensure that all members participate in the discussion and encourage all points of view.
- Check that participants understand the agreement data AND impact data.
- Check that participants mark highest and lowest item positions after the table data and group data are shared.
- Lead a discussion on what those items are measuring and whether a target student who meets the minimum requirements should be able to answer them.

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Table Leader Roles Before Breaks and at End of Day

- Remind participants to leave all secure materials on the table.
- Remind participants to initial the checkout materials sheet.
- Collect all materials and verify that all have been received.

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Recap of Table Leader Tasks

- Provide instructions
- Lead discussion at table and across tables
- Verify understanding
- Verify completeness of forms
- Materials collection and audit
- Notify facilitator of problems

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Appendix D: Standard Setting Agendas

Appendix D.1: High School Agenda

DAY 1	
TIME	**ACTIVITY**
7:30-8:30	Breakfast & Registration
8:30-9:00	Opening Remarks ▪ Welcome & Why you are here ▪ Review Agenda ▪ Security Forms ▪ Reimbursement
9:00-9:30	Overview of the Tests (ADE) ▪ History ▪ Purposes Overview of Standard Setting (Pearson) ▪ Purpose ▪ Item Mapping Methodology
9:30-9:45	BREAK
9:45-12:00	Committee Introductions Performance Level Descriptors and writing exemplars ▪ Discuss knowledge, skills, and abilities (KSAs) for each performance level ▪ Define the distinguishing KSA's of borderline student performance
12:00-12:45	Lunch
12:45-1:45	Take the Test ▪ Take test ▪ Score test
1:45-2:30	Discuss the Test and Additional Items
2:30-2:45	Further define distinguishing KSA's of borderline student performance
2:45-3:00	BREAK
3:00-3:30	Standard Setting Training ▪ Item Mapping Procedure ▪ Ordered Item Booklet ▪ Item Map ▪ Ratings Forms
3:30-3:45	BREAK
3:45-4:00	Practice Round
4:00-5:00	Round 1 Standard Setting ▪ Readiness Check ▪ Round 1 Ratings ▪ Materials Collection
5:00-5:15	Table leaders debrief
5:30-6:00	ADE-Pearson debrief

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Appendix D.1: High School Agenda (Continued)

DAY 2	
TIME	**ACTIVITY**
7:30-8:00	Breakfast
8:00-9:00	Round 1 feedback and discussion ▪ Table Discussion of table agreement data ▪ Handouts 1. Table Agreement Data 2. P-values (Item Performance Data)
9:00-9:30	Round 2 Standard Setting ▪ Readiness Check ▪ Round 2 Ratings
9:30-10:00	BREAK
10:00-11:00	Round 2 feedback and discussion ▪ Table discussion of table agreement data ▪ Group discussion of group agreement data ▪ Group discussion of impact data ▪ Handouts 1. Table Agreement Data 2. Group Agreement Data 3. Impact Data
11:00-11:30	Round 3 Standard Setting ▪ Readiness Check ▪ Round 3 Ratings
11:30-12:30	LUNCH
12:30-1:00	Present final results ▪ Group discussion of agreement data ▪ Group discussion of impact data
1:00-1:15	Complete Survey (Standard Setting Process)
1:15-1:30	BREAK
1:30-2:30	PLD Refinement Discussion (within Table Groups)
2:30-2:45	Dismissal of participants
2:45-4:30	PLD Modification (Table Leaders Only)
4:45-5:00	ADE-Pearson debrief

Appendix D.2: Grades 5, 6, & 7 Agenda

DAY 1	
TIME	**ACTIVITY**
7:30-8:30	Breakfast & Registration
8:30-9:00	Opening Remarks ▪ Welcome & Why you are here ▪ Review Agenda ▪ Security Forms ▪ Reimbursement
9:00-9:30	Overview of the Tests (ADE) ▪ History ▪ Purposes Overview of Standard Setting (Pearson) ▪ Purpose ▪ Item Mapping Methodology
9:30-9:45	BREAK (Move to Breakout Rooms)
9:45-10:00	Committee Introductions
10:00-11:15	Performance Level Descriptors and writing exemplars Take the Test and Additional Items ▪ Take test ▪ Score test
11:15-12:00	Discuss the Test and Additional Items
12:00-12:45	Lunch
12:45-2:45	Performance Level Descriptors and writing exemplars ▪ Discuss knowledge, skills, and abilities (KSAs) for each performance level ▪ Define the distinguishing KSA's of borderline student performance
2:45-3:00	BREAK (Move to General Session Room)
3:00-3:30	Standard Setting Training ▪ Item Mapping Procedure ▪ Ordered Item Booklet ▪ Item Map ▪ Ratings Forms
3:30-3:45	BREAK (Move to Breakout Room)
3:45-4:00	Practice Round
4:00-5:00	Round 1 Standard Setting ▪ Readiness Check ▪ Round 1 Ratings ▪ Materials Collection
5:00-5:15	Table leaders debrief
5:15-6:00	ADE-Pearson debrief

Appendix D.2: Grades 5, 6, &7 Agenda (Continued)

DAY 2	
TIME	**ACTIVITY**
7:30-8:00	Breakfast
8:00-9:00	Round 1 feedback and discussion ▪ Table discussion of table agreement data
9:00-9:30	Round 2 Standard Setting ▪ Readiness Check ▪ Round 2 Ratings
9:30-10:00	BREAK
10:00-10:45	Round 2 feedback and discussion ▪ Table discussion of table agreement data ▪ Group discussion of group agreement data ▪ Group discussion of impact data
10:45-11:00	Round 3 Standard Setting ▪ Readiness Check ▪ Round 3 Ratings
11:00-11:30	BREAK
11:30-11:45	Present final results ▪ Group discussion of agreement data ▪ Group discussion of impact data
11:45-12:00	Complete Survey (Standard Setting Process)
12:00-1:00	LUNCH
1:00-3:00	Vertical Articulation (Move to General Session Room) ▪ Present the results of each panel ▪ Group discussion of results for Grades 5, 6, and 7 ▪ Panelists make suggestions for revisions of cuts for Grades 5, 6, and 7
3:00-3:30	BREAK
3:30-4:30	Present impact data and discuss revisions made to cuts (all grades) Make final revision to cuts (all grades) Present final results

DAY 3	
7:30-8:30	Breakfast
8:30-9:30	PLD Refinement Discussion (within Table Groups)
9:30-10:00	Dismissal of participants
10:00-11:30	PLD Modification Across Grade All Levels (Table Leaders Only)
11:30-12:00	ADE-Pearson debrief

Appendix E: Standard Setting Script

ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING SCRIPT FOR FACILITATORS
GRADES 5, 6, 7 WRITING

JUNE 8-10, 2011
BLACK CANYON CONFERENCE CENTER
PHOENIX, ARIZONA

OVERVIEW OF STANDARD SETTING TASKS

The standard setting for Grades 3-8 Mathematics will take place from June 1-4 at the Black Canyon Conference Center[13]. The Standard Setting will consist of the following activities. Each of these will be described in detail in this standard setting script that is intended for the standard setting facilitators.

16. Table Leader Training
17. Opening Session
18. Review of Performance Level Descriptors, Writing Exemplars, and Essay Scoring Rubric
19. Take and discuss the test, review and discuss additional items
20. Borderline Student Descriptors Development
21. Item Mapping Training
22. Practice Round of Ratings
23. Round Readiness Check
24. Round 1 Ratings
25. Round 1 Feedback and Discussion (Table level)
    a. Table page ratings for each cut
    b. Item p-values
26. Round 2 Ratings
27. Round 2 Feedback and Discussion
    a. Table page ratings
    b. Total Group page ratings
    c. Impact data
28. Round 3 Ratings
29. Round 3 Feedback
30. Standard Setting Evaluation
31. Vertical Articulation (Grade 5, 6, 7 only)
32. Performance Level Descriptor Review and Revision

[13] A separate script exists for the standard setting for HS writing, which takes place on April 21-22, 2011.

JUNE 7, 2011

5:00pm – 7:00pm Ensure arrival of materials/supplies (Hotel)

- Take Inventory of Supply Box
- Take inventory of Facilitator Binder
- Take inventory of other materials
- Take inventory of participant folders (See Table 1).

JUNE 8, 2011

6:30am – 7:30am Room Set-Up (Steve, Greg, Norma)

- Verify Set-Up of Room against room diagram in Facilitator Binder.
- Place seating cards at chair locations (Table leaders are in positions 1, 6, and 11)
    - Table 1: Participants 1-5
    - Table 2: Participants 6-10
    - Table 3: Participants 11-15
- Set up laptop (with plug and mouse)
- Set up projector
- Set out Pencils at every place
- Set out post-its and highlighters in the middle of tables
- Remove all pads of paper
- Have room locked
- Go to breakfast area

7:30am – 8:00am Table Leader Training (Steve)

Materials:

- **Participant Folder**
- **Table Leader PowerPoint Presentation**
- **Table Leader Handout**

Nine table leaders (three per committee) will be assigned by ADE. Table leaders are experienced educators and may have had a previous role with the assessment. The primary role of the table leader is to monitor the group interaction, keep the group focused on the task at hand and keep time for the group. Prior to the actual standard setting meeting, Pearson will email three documents to the table leaders: 1) agenda, 2) Table Leader PowerPoint Presentation, and 3) Table Leader Handout. We will discuss their role and responsibilities during the standard setting meeting.

Pearson will explain to table leaders what their role will be in general and relative to each standard setting task. We will make sure they understand that they will be leading the discussions within their group. Therefore, they need to have a clear understanding of the process. Below is a bulleted list of information that we plan to share during the table leader training.

Role Description

- Facilitate discussion.
- Keep process on track.
- Vote as one of the table members.
- Monitor group discussion.
- Watch the clock and monitor time.
- Cut off discussion or diplomatically resolve differences between members when necessary.

Specific Tasks:

1. Before all rounds
    a. Make sure participants put ID numbers on forms.

b. Check that participants complete readiness forms.
c. If someone puts a NO on readiness form, see if you can help explain. If participant is still unsure, inform Pearson facilitator.
d. Ensure that table members understand activity.
e. Notify group leaders of any problems.

2. After Round 1
   a. Check that participants recorded page number correctly on Item Position Recording Sheets by comparing recorded page numbers to pages marked in booklets.
   b. Collect all table members' recording sheets and give to facilitator.
3. After Round 1 agreement data are shared
   a. Ensure that all members participate in discussion and encourage all points of view.
   b. Check that participants understand agreement data.
   c. Check that participants mark highest and lowest item positions after table data are shared.
   d. Lead discussion on what those items are measuring and whether a student who meets the minimum requirements should be able to answer them.
4. After Rounds 2 and 3
   a. Ensure that all members participate in discussion and encourage all points of view.
   b. Check that participants understand agreement data AND impact data.
   c. Check that participants mark highest and lowest item positions after table data and group data are shared.
   d. Lead a discussion on what those items are measuring and whether a borderline student who meets the minimum requirements should be able to answer them.
5. Before breaks and at end of day
   a. Remind participants to leave all secure materials on the table.
   b. Remind participants to initial checkout materials sheet.
   c. Collect all materials and verify that all have been received.
6. After collection at the end of the day
   a. Turn in all materials to Pearson.
   b. Participate in debriefing session with ADE (except last day).

7:30-8:00 Breakfast

8:00-8:30 Registration (Norma)

Participants should check in with Pearson staff. Upon arrival, each participant will be given a folder. Participants should write down their names on the cover of the folder. See Table 1 for items included in Participant Folder.

Table 1: Materials Included in Participant Folder

Item	Location
Agenda	Left pocket
Non-disclosure form	Left pocket
Reimbursement form	Left pocket
PowerPoint Training Presentation: General SS Session	Right pocket

As indicated on the sign-in sheets that are included in the facilitator binder, the master copies for ADE and Pearson staff are labeled as A-I as defined below in Table 2. The panelists receive numbered copies of materials from 1-15. Table 1 will receive materials 1-5; Table 2 receives materials 6-10; Table 3 receives materials 11-15.

Table 2: Master Copies of Secure Materials

A	Pearson: Facilitator

B	Pearson: Content Specialist
C	Pearson: Steve Fitzpatrick
D	ADE: Roberta Alley
E	ADE: Charlie Bruen
F	ADE: Frank Brashear
G	ADE: Lee Scott
H - I	ADE

8:30-9:00 Opening Remarks – ADE and Pearson RS (Roberta and Steve)

- **Welcome and Why You Are Here**
- **Review of Agenda**
- **Security Forms/Non-disclosure forms (Norma)**
- **Reimbursement forms (Norma)**

ADE formally welcomes participants and explains the purpose of the standard setting meeting.

Pearson RS introduces the Pearson staff involved and their role in the standard setting meeting. Go over the agenda and the security forms and administrative tasks. Emphasize that the secure materials are based on operational items and security is of paramount importance throughout the standard setting process.

9:00-9:15 Overview of the Tests (ADE: Roberta)

- **History**
- **Purposes**

ADE staff gives a brief overview of the Writing test; provide historical background of the test, purposes of the test, and implementation of the Writing test. Introduce key concepts of the test, the test blueprint, scoring rubric etc.

9:15-9:30 Overview of Standard Setting (Steve)

- **Purpose**
- **Item Mapping Methodology**

Pearson RS introduces participants to the Item Mapping Procedure via a PowerPoint presentation.

Pearson staff should collect the signed confidentiality agreement form before participants break.

9:30-9:45 BREAK to move to break-out rooms

9:45-10:00 Committee Introductions

- Introduce yourself and give some background.
- Make sure everyone is in the correct room.

Once everyone is settled in the room, the participants are asked to introduce themselves and provide some information about their professional experience. Participants may share the following:

- Name.
- Where are your from?
- How long you have been in your current position/field?
- What educational roles you have fulfilled?
- Have you participated in a standard setting before?
- Tell us something interesting about yourself.

Remind the participants to write their names on their folders if they have not done so already. A review of the agenda for the rest of the day is provided in order for participants to develop a perspective of what is to be accomplished and the pace at which the meetings should proceed. Note that we might deviate from the time allotments on the agenda if we feel a topic requires additional discussion.

10:00-10:15 Performance Level Descriptors and Scoring Rubric

Distribute the PLDs and the scoring rubric. Allow time for the panelists to review them but do not begin the in-depth discussion that leads to the development of the borderline student descriptors. Tell them that they are going to take the test and supplemental items first. Then they will review some samples of student writing and discuss the PLDs, scoring rubric, the test and the writing exemplars.

10:15-11:15 Take the Test

- **Take test and additional items**
- **Score test and additional items**

Important Notes

- Hand out Test Booklets and additional items booklets.
- Hand out the answer recording sheet (Grades 5, 6, 7 only)
- Verify that each panelist gets the correct security number
- This is an individual, independent activity (no discussion)
- When each panelist completes the test give them the scoring key

In order for participants to gain an appreciation of the assessment experience and the instrument's degree of difficulty, participants are asked to take the operational test and an additional set of items that will be used in the standard setting. The actual test includes an essay prompt but the panelists will review and respond to only the MC items. Participants will spend approximately one hour taking the test and additional items. Participants should work independently so that the testing experience is as similar to a live administration as possible.

Explain to the panelists why they have the test and additional items. The test contains 27 scored writing items and 5 field test writing items. The test booklet they have is Form A. We prefer to have more than 27 or even 32 items for standard setting so we are including the field test items from the other forms in the process. They take the test to see what the students experience and they take the additional items to familiarize themselves with them for use in setting the standards. **The tests for Grades 5, 6, and 7 also contain reading items. The panelists do not need to read and respond to these items.** The answer recording sheet indicates the reading items with the word 'Reading' in the answer space.

Ask the panelists to score their own responses using the scoring key provided after they complete the test and the additional items. The scoring key will be provided after the participants finish the assessment. If participants finish earlier

than the group, they may take a break, but remind them to stay close to the room because as soon as all participants have completed the test, a group discussion will take place. The group discussion should start no later than 11:15.

11:15-12:00 Discuss the Test and Additional Items

Spend some time discussing the overall test experience. Ask questions such as:

1. What are your general impressions about the test?
2. Did the test generally cover the depth and breadth of the content standards?
3. Does the test generally have a range of item difficulties (e.g., easier items, moderate items, difficult items)?

Although some discussion about individual test items is normal, focus participants away from prolonged debate about the quality or appropriateness of the items. Ask participants to record any comments about the test items on the index cards provided and they will be passed on to ADE.

12:00-12:45 LUNCH

- Inform location of lunch.
- Remind them when to return.
- Have them place all material in a pile at their seating location.
- Do not leave your room until it is locked.
- Get door unlocked at 12:40 and then remain in room.

12:45-2:45 Performance Level Descriptors and writing exemplars

- **Discuss knowledge, skills, and abilities (KSAs) for each performance level**
- **Review and discuss characteristics of writing exemplars at each performance level**
- **Define the distinguishing characteristics of borderline student performance**

Careful notes need to be taken during performance level descriptors discussions. The participants will be split into three groups/tables, with five people per table. One member per table should be appointed as note taker.

Next, panelists will be familiarized with the performance level descriptors. To familiarize panelists with the performance level descriptors and to help foster a shared understanding of them, Pearson facilitators will distribute a document listing the four performance level descriptors and then use this document to work with panelists to help summarize these descriptors. The goal will be to help all panelists develop and share a strong, common understanding of each proficiency level with specific emphasis on the way those proficiency level descriptions relate to the relevant content and grade level of the appropriate AIMS test.

To further assist the panelists in gaining an understanding of the distinguishing characteristics among the performance levels, they will review exemplars of writing at each performance level. These will be writing samples from the 2010 field test that were selected to be anchor papers during range finding.

Panelists will be asked to identify the main topics and skill sets addressed by the PLDs and demonstrated by the writing exemplars and to identify the three to four key characteristics that distinguish **performance at a given level** from that of adjacent performance levels for each topic or skill set. Panelists will conduct these tasks first in small group discussions at their table and then in a single large group.

After panelists have a good understanding of the distinguishing characteristics between the levels of performance based on the PLDs and writing exemplars, they will work on identifying three characteristics that most distinguish students that are at the **borderline of each performance level**. They will start with the borderline between "Meets the Standard" vs. "Approaches the Standard." Within each table group, panelists will be asked to identify three characteristics or behaviors that most distinguish students that are at the borderline of "Meets the Standard" from the

top of "Approaches the Standard." Each table group will record their responses on a flip chart. They will repeat the same activity to distinguish three characteristics that differentiate between "Meets the Standard" vs. "Exceeds the Standard" and for "Falls Far Below the Standard" vs. "Approaches the Standard." Once the table groups have completed this task, they will reconvene as a single large group. Each table will present their distinguishing characteristics and the facilitator will lead a discussion of the commonalities and differences across the table groups. The facilitator will capture the discussion on the group flip chart.

Have the panelists place all of their materials in a pile at their seating location before leaving for the General Training Session.

2:45-3:00 BREAK to move to General Session Room

- Facilitators type up borderline student descriptors and have the RA print them

3:00-3:30 Process of Standard Setting (Steve)

- **Item Mapping**
- **Ordered Item Booklet**
- **Practice Booklet and Quiz**
- **Item Map**
- **Ratings Forms**

Pearson RS introduces the Item Mapping process. Provide a review of the Item Mapping procedure for the participants. Instruct participants to use five tools when placing their bookmarks; the Arizona Writing content standards, the borderline student descriptors, the PLDs, the writing exemplars, and the KSAs they developed. A formal PowerPoint presentation will be provided.

3:30-3:45 BREAK to move to Breakout Room

3:45-4:00 Reiterate Key Slides and Practice Round

A practice ordered-item book will be distributed by the facilitator. This allows participants to practice the procedure without feeling the pressure of reviewing real items. Using these items, the group as a whole will practice setting the "Meets the Standard" page cut. Participants may discuss with their table group.

Important Notes

- Hand out Practice Item Map
- Hand out Practice OIB

4:00-5:00 Round 1 Standard Setting

- **Readiness Check**
- **Round 1 Ratings**
- **Materials Collection**

Important Notes

- Hand out Readiness Form
- Hand out Item Map
- Hand out Page Number Recording Sheet
- Hand out Ordered Item Booklet
- Verify security numbers match (sign-out)

The facilitator will provide a short summary of the procedure just discussed. When no more questions are asked, and after all participants complete the two readiness questions, Round 1 will begin. Once participants demonstrate that they understand how to place their bookmarks through the check set, ask participants to make their Round 1 cuts. Remind participants that this is an individual activity. Check with the table leaders that everyone is ready for Round 1. Each participant should place the "Meets the Standard" bookmark first followed by "Approaches" and "Exceeds." When finished, the table leader will collect and verify that all materials are received. Participants will be reminded that the meeting will resume the next morning at 8:00 (with breakfast starting at 7:30).

Important Notes

When a panelist completes Round 1

- Collect Page Number Recording Sheets (group them by table).
- Spot check Page Number Recording Sheet.
- Sign in Page Number Recording Sheet.
- Place recording sheet in designated folder and give to RA once all sheets are collected.

Collect (and Sign-In) All Other Secure Materials (Use Secure Material Sign-In Sheet)

- Ordered Item Booklets
- Item Map
- Test Booklet
- Additional Items Booklet
- Writing Exemplars
- Answer Key
- Answer Recording Sheet
- Any notes

Closing the room

- Prepare room for the next day
- Get security to lock the room.

5:00-5:15 Table Leaders Debrief

The table leaders will meet with Pearson and/or ADE staff to discuss the activities of the day.

END OF DAY 1

DAY 2 – JUNE 9, 2011

6:45 – 7:15 Room Set-Up

- Place **all** materials and supplies on the table where the panelists were sitting from the day before.
- Set up projector and computer.
- Load the excel workbooks onto your computer.

7:30-8:00 Breakfast

8:00-9:00 Round 1 feedback and discussion

- **Table Discussion of table agreement data**
- **Handouts**
  3. **Table Agreement Data**
  4. **P-values (Item Performance Data)**

Important Notes

- Go over agenda for the day.
- Hand out Page Number Recording Sheets.
- Hand out Item Maps.
- Hand out table stats and graphs to corresponding tables.
- Hand out p-values.
- Round 1 results
  - Review OIB page number cut graphs and tables.
  - Have the committee members find themselves on the graph.
- Discussions will occur within each table (the entire committee will have the opportunity to discuss Round 2 results before Round 3 ratings).
  - Discuss obvious distributions, grouping and/or overlapping.

Start on Round 1 feedback discussion. For each table, an OIB page number cut feedback document will be provided. This document will provide the OIB page number cuts for each participant based on the Round 1 ratings in addition to the median OIB page number cut at each level for that table. In reviewing the OIB page number cut report participants will be asked to think about the following:

- How similar are their OIB page number cuts to that of the group (i.e., is a given participant more lenient or stringent than the other participants)?
- If so, why is this the case?
- Do participants have different conceptualization of the borderline students?

Participants will be told the following: "The feedback we just handed out provides the OIB page number cuts for each level by each participant in your table. The maximum, minimum, and median of the OIB page number cuts are also provided."

- Median is the middle value of the OIB page number cuts from all participants at your table;
- Maximum is the highest value of the OIB page number cuts from all participants at your table;
- Minimum is the lowest value of the OIB page number cuts from all participants at your table;

Inform participants that we do not intend for them to come to consensus on their OIB page number cut judgments, but we do want them to discuss differences to get a feel for why differences exist. Let them know that we want them to try to better understand the reasons for the differences. Are there underlying differences in what the participants believe these borderline students can /can not do? Do they implement different procedures to assign ratings?

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Ask the participants to discuss their "Meets" ratings first, then move to "Exceeds," and finally the "Approaches" ratings. The table leader generally facilitates discussion within the table, but the facilitator will float among the tables to observe discussion and answer questions.

After discussion of table agreement data, present each table with **p-values**. Explain that the p-values are the percent of students who answered the item correctly. The p-values are based on all the students who took the test in spring 2011, not just the borderline students at "Approaches," "Meets," and "Exceeds." Explain that the participants should use the p-values to check their estimates of how difficult an item is. Participants are allowed a bit of time to discuss this, and then Round 2 will follow.

9:00-9:30 Round 2 Standard Setting

- **Readiness Check**
- **Round 2 Ratings**

Participants will be reminded that data are intended to inform, but not dictate their item ratings. When participants indicate that they understand the data they have been provided, have them fill out the readiness survey. When everyone answers "yes" to the Round 2 questions on the readiness survey, participants can start working on their Round 2 ratings.

Important Notes

When a panelist completes Round 2

- Collect Page Number Recording Sheets (group them by table).
- Spot check Page Number Recording Sheet.

When all have completed Round 2 ratings

- Place in designated folder and give to RA.

9:30-10:00 BREAK

Over break, Pearson staff members enter data for Round 2 and generate feedback reports.

10:00-10:45 Round 2 Feedback and Discussion

- **Table discussion of table agreement data**
- **Group discussion of group agreement data**
- **Group discussion of impact data**
- **Handouts**
    1. **Table Agreement Data**
    2. **Group Agreement Data**
    3. **Impact Data**

Feedback similar to the report provided after Round 1is handed out first. For each table, an OIB page number cut summary document will be provided. This document will provide the median, minimum, and maximum OIB page number cut at each level for that table.

In addition, participants will be provided the median, maximum, and minimum OIB page number cuts for the committee (across tables). The facilitator leads the discussion with all tables combined. Point out the differences and similarities across tables. Remind the participants that consensus is not required.

Finally, participants will be provided a graphical display of the impact data using the median OIB page number cut for all students.

The impact data graphic representation provides participants with information on what percentages of students are at each performance level for the populations of interest (all students, female/male, and ethnic groups: White, Hispanic, Black, Native American, Asian, Hawaiian/Pacific Islander, and Multiple Race).

Participants will be given time to discuss, within the Group, the appropriateness of the group level OIB page number cuts given the proportion of students that would fall in each level. Let participants know that they should make these decisions based on what they know about students in the state, the requirements of the test, and the standards. Recommendations:

- Do not change OIB page number cuts based solely on how you believe the impact data will be perceived. Think about whether the percentages represented by the impact data are an accurate reflection of how students currently should be distributed given the proficiency level descriptions and the content/skills measured by the test. Try to balance your concerns on what you believe to be appropriate given the content of the test and what others (in the state) will regard as acceptable.
- If you do not believe the proportion of students falling in each level is appropriate do not arbitrarily modify OIB page number cuts (e.g, add 5% to each proportion in a given level). You have already given the items and OIB page number cuts, as well as conceptualization of the borderline students, a lot of thought, so don't throw that all away.
- How does a participant modify OIB page number cuts to influence proportion of students in a given level?

After participants have completed their discussions and indicate that they understand the impact data and the other data associated with Round 2, they will respond to the readiness survey. When participants answer "yes" to all of these questions, they will make their Round 3 Ratings.

10:45-11:00 Round 3 Standard Setting

- **Readiness Check**
- **Round 3 Ratings**

Check with the table leaders that everyone is ready for Round 3. Each participant should place the "Meets the Standard" bookmark first followed by "Approaches" and "Exceeds". Remind participants that bookmark placement is always an independent activity. Collect the Page Number Recording Sheets as participants complete them.

Important Notes

When a panelist completes Round 3

- Collect Page Number Recording Sheets (group them by table)
- Spot check Page Number Recording Sheet

When all have completed Round 3 ratings

- Place in designated folder and give to RA

11:00-11:30 Break

RA will do analysis of Round 3 ratings

11:30-11:45 Present Round 3 Results

- **Group Agreement Data**
- **Impact Data**

No handouts. Present results on screen only.

11:45-12:00 Standard Setting Closure

- **Complete Survey on the Standard Setting Process**
- **Materials Collection**

Participants will be given evaluation forms to complete and return. The participants' ratings of the standard setting process and their comments will be solicited. Remind the participants that after they complete the forms, they need to leave all secured materials that have not already been collected (e.g., scratch paper etc.).

Important Notes

Collect Secure Materials (to be picked up**)-**

- Item Map
- Page Number Recording Sheet
- Ordered Item Booklet
- Test Booklet
- Supplemental Items Booklet
- Writing Exemplars
- Answer Key
- Answer Recording Sheet
- P-Values
- Borderline Student Descriptors
- Any feedback data (charts and graphs provided after Rounds 1-3)

12:00-1:00 LUNCH

Vertical Articulation will occur after lunch. Tell the panelists to meet back in the general session room after lunch at 1:00.

Vertical Articulation (General Session Room)

1:00-3:00	Vertical Articulation (Move to General Session Room) ▪ Present the results of each panel ▪ Group discussion of results for Grades 5, 6, and 7 ▪ Panelists make suggestions for revisions of cuts for Grades 5, 6, and 7
3:00-3:30	BREAK
3:30-4:30	Present impact data and discuss revisions made to cuts (all grades) Make final revision to cuts (all grades) Present final results
4:30-4:45	Vertical Articulation Closure (Materials Collection)
4:45-5:00	ADE-Pearson debrief

DAY 3	
7:30-8:30	Breakfast
8:30-9:30	PLD Refinement Discussion (within Table Groups)
9:30-10:00	Dismissal of participants
10:00-11:30	PLD Modification Across Grade All Levels (Table Leaders Only)
11:30-12:00	ADE-Pearson Debrief

The Facilitator presents instruction for refining PLDs. Panelists will be asked to discuss the definitions within each performance level, particularly with respect to the items immediately on either side of each bookmark and propose any final edits to the Borderline Student Descriptors that might be made to more clearly reflect the primary skill and knowledge attributes of students classified in each performance level. Discussion will take place within table groups and the table leader will take notes on the recommended changes. Once the table groups have completed their task, the table leaders will meet all together with ADE and Pearson to finalize the descriptors. Pearson RS will show the descriptors up on the screen and make the recommended changes as they are reported by the table leaders.

Distribute the handout on Refinement of Writing PLDs

Background

- The Writing PLDs were created after the Mathematics, Reading, and Writing Standard Setting in May 2005. A change in guidelines by the federal Peer Review required PLDs to be developed prior to the administration of the assessments and "tweaked" at the subsequent Standard Setting. The revised Writing PLDs were developed in August 2010, the first administration of operational MC Writing items will occur spring 2011, and the Writing Standard Setting will be conducted in April and June 2011.

- The top part of the PLDs presents all four performance levels and is a generalized reflection of the bullets on the bottom. This narrative piece is used for student reports. There is a maximum character count for the narrative/student reports which must not be exceeded.

- The bullets at the bottom are designated as highlighted POs from the Writing Standard, and several POs may have been combined into single bullets. The bullet text and PO verbiage are usually not verbatim. In order to not replicate the entire academic standard, not all POs are represented in the PLDs, and the statement "**These descriptors do not include all the skills and knowledge as contained in the Writing Standard.**" is included below the bullets as a reminder of this fact.

Procedures

8. The Writing Standard must be available as a reference for this activity.
9. Begin with the bullets at the bottom. Determine if any bullets should move from one performance level to another. If a bullet (PO) is moved and the objective is noted in the narrative at the top of the PLD, the objective must also be moved to the new performance level in the narrative.
10. Since some bullets are a combination of POs, it may be necessary to break apart the bullet to place the separate parts in different performance levels. If needed, make the appropriate adjustments to the narrative.
11. Note the bullet's beginning action verb. The verb, along with the rest of the text, may be changed and kept at the original performance level or moved to another.
12. New bullets may be added if appropriate and necessary; however, removal of bullets is not recommended. All assessments must conform to the test blueprint, and although not all the bullets will be covered in the current assessment, over time, the future assessments will include all the performance objectives identified in the bullets.

13. **Adjust the narrative accordingly, but do not exceed the maximum amount of characters assigned to the space.**
14. Table Leaders will share their tables' recommendations, and Track Changes will be made to the existing document.

12:00-12:30 Debrief with ADE over Lunch

ADE will debrief with full committee and providing closing remarks.

Appendix F: Standard Setting Opening Comments

Welcome and Introductions

- Arizona Department of Education
  - Roberta Alley: Interim Associate Superintendent
  - Charlie Bruen, Ed.D.: Dir. of Data Analysis, Budget, & Technology
  - Frank Brashear: Dir. of Test & Item Development
  - Marilee Beach: Coordinator of AIMS Support Materials
  - Lee Scott: Research Scientist
- Pearson
  - Steve Fitzpatrick, Ph.D.: Lead Research Scientist
  - Katie McClarty , Ph.D.: Senior Research Scientist
  - Dan Murphy , Ph.D.: Research Scientist
  - Sonya Powers , Ph.D.: Assoc. Research Scientist
  - Greg Ayres: Research Associate
  - Norma Brown: Project Manager
  - Traci Mitchell: Project Manager
  - Rich Young: Program Director
  - Lillian Moore: Content Specialist

2

Overview of Arizona's Instrument to Measure Standards (AIMS)

- History
- Purposes

3

Roles

- Lead Research Scientist
- Standard Setting Facilitators
- Statistical Analyst
- Program Management
- ADE Staff
- Table Leader
- Participants

4

Why You Are Here

- The purpose of this standard setting is to establish recommended cut scores on the AIMS Writing assessments in Grades 5, 6, and 7.
- You were selected to serve on this committee for a variety of reasons:
  - Familiarity with the knowledge and skills required to "master" the content standards at various performance levels
  - Representation of various jurisdictions and demographic characteristics

5

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Standard Setting Overview

Panelists will:

- Take and discuss the test and supplemental items.
- Develop a shared understanding of the Performance Levels (PLDs and writing exemplars).
- Develop "Borderline Student" Descriptors.
- Receive Standard Setting Training and Practice.
- Participate in three rounds of ratings –
  - Round 1: Independent
  - Round 2: Independent, but with table discussion
  - Round 3: Independent, but with table & full group discussion
- Review recommended cuts across grade levels.
- Finalize Performance Level Descriptors.

6

Logistics

- Location of Meals and Breaks
- Security Forms
- Reimbursement Forms

7

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Security

- DO NOT:
  - Remove any secure materials from the room on breaks or at end of day.
  - Discuss cut scores (yours or others) with anyone outside of the meeting.
  - Discuss secure materials with non-participants.
- Notes should be taken on our materials only.
- Write your Panelist ID number on all materials.

8

What is Standard Setting?

- Process used to determine recommended cut scores on an assessment that will classify student performance into different categories
  - Provides a frame of reference for the interpretation of test scores
  - A semi-quantitative, semi-standardized judgment process
  - A routine, daily activity for teachers

9

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What are Standards?

- Content Standards
  - Content standards specify the curriculum that all students are taught and expected to learn.
- Performance Standards
  - Performance standards specify the level of knowledge of that content that students must demonstrate to be categorized into a performance level.

10

Performance Levels used in Arizona

- Falls Far Below the Standard
- Approaches the Standard
- Meets the Standard
- Exceeds the Standard

11

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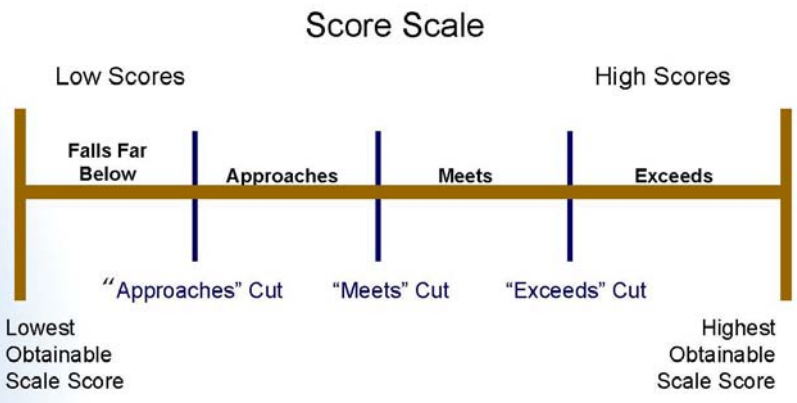
Borderline Student Descriptions

- The cut score is set at the beginning of the performance level.
  - Approaches the Standard
  - Meets the Standard
  - Exceeds the Standard
- Create Borderline Student Descriptions for each of those levels.

12

Four Performance Levels: Three Cuts

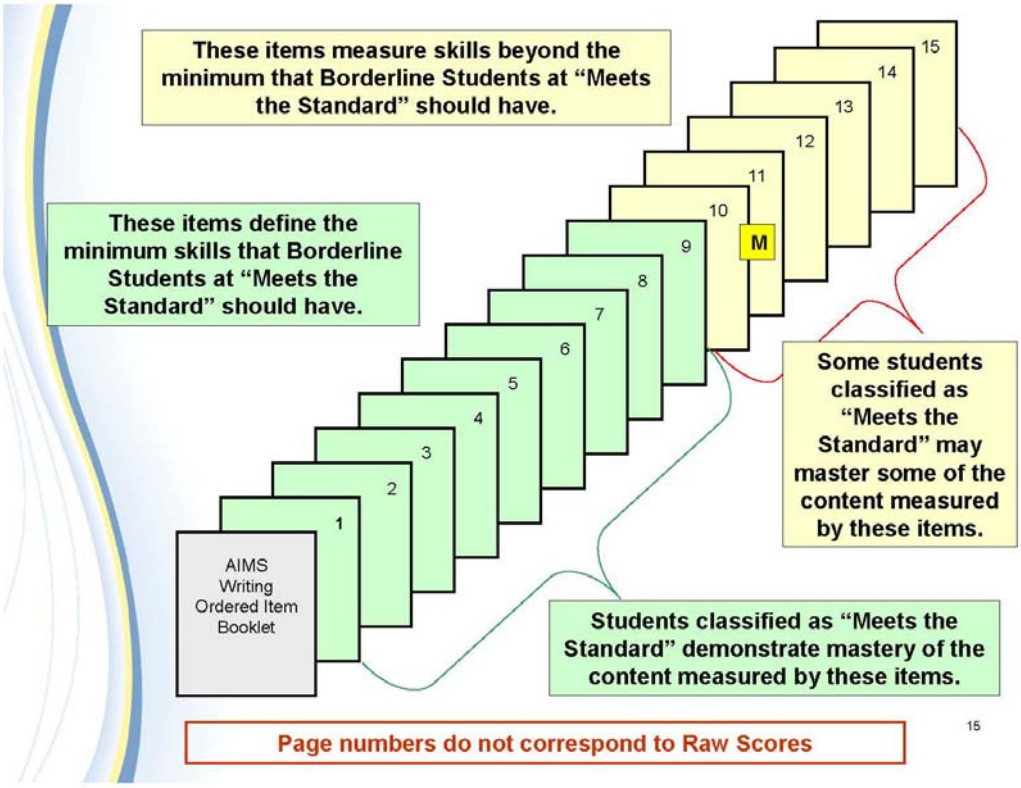


13

Standard Setting: Item Mapping Procedure

- Items appear as one item per page.
- Items are placed in order of difficulty in the ordered item booklet (OIB).
  - Easiest item is first.
  - Most difficult item is last.
  - Therefore, the likelihood of getting an item correct decreases as you move through the OIB.
- Example on next slide (illustrative purposes):
  - Assume 15-item writing practice test
  - Assume one cut score with two categories

14



15

Recap of Activities

Panelists will:

- Take and discuss the test and supplemental items.
- Develop a shared understanding of the Performance Levels.
- Develop "Borderline Student" Descriptors.
- Receive Standard Setting Training and Practice.
- Participate in three rounds of ratings –
  - Round 1: Independent
  - Round 2: Independent, but with table discussion
  - Round 3: Independent, but with table & full group discussion
- Perform Vertical Articulation.
- Finalize Performance Level Descriptors.
- Provide an evaluation of the Process.

16

Break

- Fill out non-disclosure agreements.
- Give non-disclosure agreements to the facilitator.
- Please take a 15-minute break.
- Reconvene in Breakout Rooms.

17

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Appendix G: Standard Setting Training

Purpose of Presentation

- The purpose of this session is to introduce you to the process that we will use to establish recommended cut-scores on Arizona's Instrument to Measure Standards (AIMS) for Grades 5, 6, and 7 Writing.

2

Standard Setting: Item Mapping Procedure

- Items appear as one item per page.
- Items are placed in order of difficulty in the ordered item booklet (OIB).
  - Easiest item is first.
  - Most difficult item is last.
  - Therefore, the likelihood of getting an item correct decreases as you move through the OIB.
- Example on next slide (illustrative purposes):
  - Assume 15-item writing practice test
  - Assume one cut score with two categories

3

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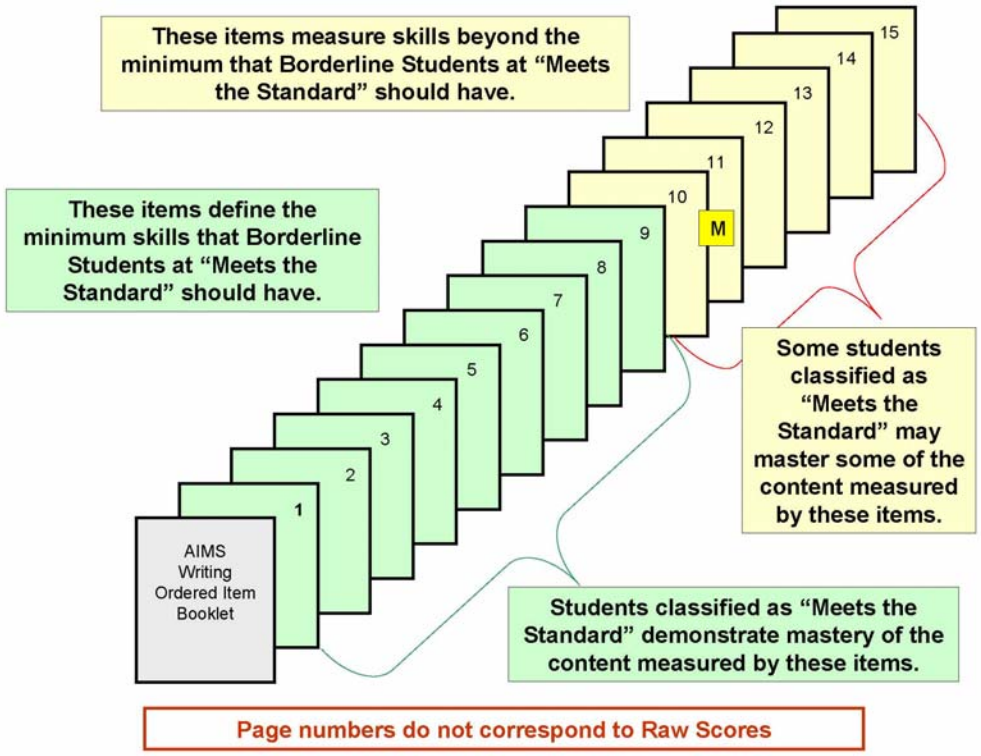


What is "Mastery"?

- Random House Dictionary Definition
  - "Command or grasp, as of a subject"
- As defined for AIMS standard setting
  - "A group of students demonstrate mastery of the skills represented by an item if at least 2/3 of the borderline students answer the item correctly."

5

Mastery Illustrative Example

- Group A (Low Performing)
  - Mastered items 1-7
- Group B (Middle Performing)
  - Mastered Items 1-11
- Group C (High Performing)
  - Mastered Items 1-14

Percentage of Students Obtaining the Correct Answer

Page	Group A	Group B	Group C
1	94	96	99
2	92	94	99
3	90	92	96
4	86	90	94
5	81	89	92
6	75	85	90
7	70	82	88
8	66	76	85
9	61	75	84
10	58	72	83
11	53	69	83
12	45	63	81
13	30	56	76
14	26	50	70
15	14	47	65

Moving Through the Ordered Item Booklet

- Questions to consider:
  - What does this item measure?
  - What makes this item more difficult than the items that precede it?
- Read each page and consider the knowledge, skills, and abilities required to successfully answer the item.

7

Page Cut: "Meets the Standard"

- The page cut for "Meets the Standard" is placed to distinguish the content that borderline students at "Meets the Standard" should answer correctly from the content that they may not answer correctly.
  - Should most (67%) borderline students at "Meets the Standard" be able to answer this item correctly?
    - If you answer "Yes," read on because you have likely not yet hit the beginning of "Meets the Standard."
    - If you answer "No," then you have likely entered into the content that borderline students at "Meets the Standard" may not answer correctly.

8

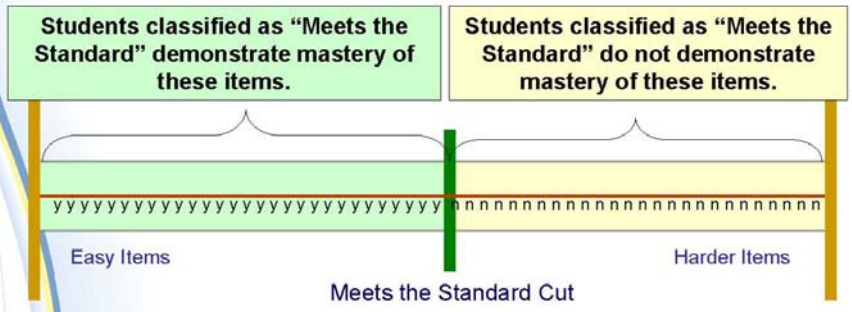
Page Cut: "Meets the Standard"

- Place your bookmark on the page AFTER the last item you expect the borderline students should be able to master.

9

Establishing the Page Cut for "Meets the Standard" (Theoretically)

Working Through the Ordered Item Booklet (OIB)

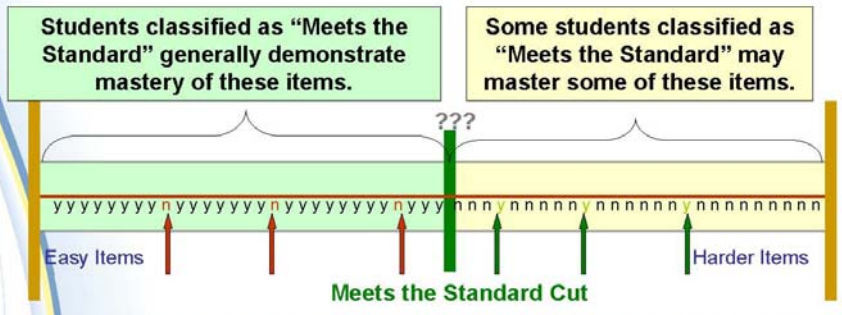


The "Meets the Standard" page cut is placed to separate the items that the borderline students at "Meets the Standard" should answer correctly from those that they may not answer correctly.

10

Establishing the Page Cut for "Meets the Standard" (In-Practice)

Working Through the Ordered Item Booklet (OIB)



The "Meets the Standard" page cut is placed to separate the items that the borderline students at "Meets the Standard" should answer correctly from those that they may not answer correctly.

11

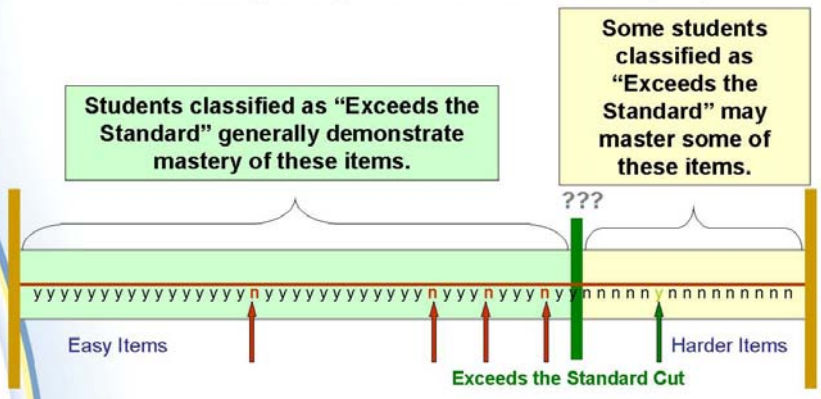
Page Cut Point Summary

- The page cut for **"Meets the Standard"** is placed to distinguish the content that borderline students at "Meets the Standard" should answer correctly from the content that they may not answer correctly.
- The page cut for **"Exceeds the Standard"** is placed to distinguish the content that borderline students at "Exceeds the Standard" should answer correctly from the content that they may not answer correctly.
- The page cut for **"Approaches the Standard"** is placed to distinguish the content that borderline students at "Approaches the Standard" should answer correctly from the content that they may not answer correctly.

12

Establishing the Page Cut for "Exceeds the Standard"

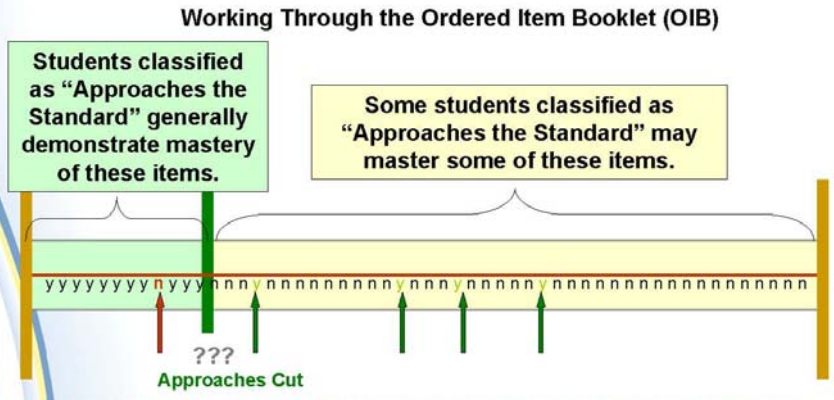
Working Through the Ordered Item Booklet (OIB)



The "Exceeds the Standard" page cut is placed to separate the items that the borderline students at "Exceeds the Standard" should answer correctly from those that they may not answer correctly.

13

Establishing the Page Cut for "Approaches the Standard"



The "Approaches the Standard" page cut is placed to separate the items that the borderline students at "Approaches the Standard" should answer correctly from those that they may not to answer correctly.

14

Advice in Placing Your Page Selections

- Items do not differ a great deal in difficulty from one item to the next in the ordered item booklet.
  - Items may seem misplaced sometimes.
  - As the item difficulty increases, the likelihood of answering the item correctly decreases.
- Find the "ballpark" first, then consider each item in that range to determine where to place your bookmark to indicate your selected page.

15

Advice in Placing Your Page Selections

- Place your bookmark on the page AFTER the last item you expect the borderline student for that proficiency level should be able to master.
  - First cut: "Meets the Standard"
  - Second cut: "Exceeds the Standard"
  - Third cut: "Approaches the Standard"

16

"How do I know if I'm right?"

- There is no "*right.*"
- Remember to keep in mind:
  - "*Should*"
  - The *borderline students*
    - Specifically, 67% of borderline students
  - *All* Arizona students taking the AIMS Writing Assessment
  - Group discussions

17

Three Rounds of Ratings

- Round 1 Ratings
  - Independently
- Round 2 Ratings
  - Independently, but after discussion with your table group
- Round 3 Ratings
  - Independently, but after discussion with your table group and entire committee

18

Standard Setting Item Map and Rating Sheet

- You will be provided with an item map that provides information about each item.
- You will record your recommended page number on a page number recording sheet.

19

Vertical Articulation Process

- Each group will go through the three rounds of standard setting.
- All three committees will convene on Thursday afternoon for vertical articulation.
  - Review the cut points across grades.
  - Review impact data across grades.

Break

- Please take a 10-minute break to move back to your break-out room.
- The next activity will be a practice round that you will work on in your table group.
- ANY QUESTIONS?

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Appendix H: Slides for Break-Out Room

Standard Setting on Arizona's Instrument to Measure Standards (AIMS) Grades 5, 6, and 7 Writing Breakout Room Process

June 8-10, 2011
Phoenix, Arizona

PEARSON

1

Committee Introductions

- Name
- Where are your from?
- How long you have been in your current position/field?
- What educational roles you have fulfilled?
- Have you participated in a standard setting before?
- Tell us something interesting about yourself.

2

Performance Level Descriptors (PLD)

- Performance Levels
  - Falls Far Below the Standard
  - Approaches the Standard
  - Meets the Standard
  - Exceeds the Standard
- Read through the PLDs to get an idea of the skills described at each level.

3

Scoring Rubric

- Six point holistic score
- Read through the scoring rubric to get an idea of the skills that are characteristic of each score point.

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Understanding the Performance Levels

- Later we will have discussions about what distinguishes the performance levels
  - Compare "Meets" to "Exceeds."
  - Compare "Approaches" to "Meets."
  - Compare "Falls Far Below" to "Approaches."
- And develop Borderline Descriptors
- But first….

Take the Test and Supplemental Items

- Gain an appreciation of the assessment
- Work independently
- Group discussion after everyone has completed and scored their test

6

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Score the Test and Supplemental Items

- When you are finished taking the test, please let the facilitator know.
- Use the scoring keys to score your test.
- You may take a break if you finish before the rest of the group.
  - If you take a break, please stay close by.
  - As soon as all participants have scored their test, we will have a group discussion.

7

Group Discussion About the Test

- What are your general impressions about the test?
- Did the test generally cover the depth and breadth of the content standards?
- Does the test generally have a range of item difficulties (e.g., easier items, moderate items, difficult items)?

8

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Lunch

- Please take 45-minute break for lunch.
- Reconvene in this room at 12:45.

9

Performance Level Descriptors (PLD)

- Performance Levels
  - Falls Far Below the Standard
  - Approaches the Standard
  - Meets the Standard
  - Exceeds the Standard
- Read the descriptors of the performance levels.
- What distinguishes each level?
  - Compare "Meets" to "Exceeds."
  - Compare "Approaches" to "Meets."
  - Compare "Falls Far Below" to "Approaches."

10

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Writing Exemplars

- These are samples of student writing at each performance level.
- Keep the PLDs in mind as you read through the writing samples.
- What characteristics of the writing distinguish each level?
  - Compare "Meets" to "Exceeds."
  - Compare "Approaches" to "Meets."
  - Compare "Falls Far Below" to "Approaches."

Gaining an Understanding of the Performance Levels

- Within each table group, ask, "What should students know and be able to do at each level?"
  - "Approaches," "Meets," and "Exceeds"
- Appoint a recorder to write on the flip chart.
- Suggestions should be:
  - Concrete.
  - Clearly related to the PLDs.
  - Descriptive of the different levels of writing demonstrated in the writing samples.

12

Understanding the Performance Level: "Meets the Standard"

- Describe concretely the students who are at "Meets the Standard."
  - What should they be able to *do*?
  - What *skills* should they possess?
  - What should they *know*?
  - What *academic behaviors* demonstrate that they are at the "Meets the Standard"?

13

Understanding the Performance Level: "Exceeds the Standard"

- Describe concretely the students who are at "Exceeds the Standard."
  - What should they be able to *do*?
  - What *skills* should they possess?
  - What should they *know*?
  - What *academic behaviors* demonstrate that they are at "Exceeds the Standard"?

14

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Understanding the Performance Level: "Approaches the Standard"

- Describe concretely the students who are at "Approaches the Standard."
  - What should they be able to *do*?
  - What *skills* should they possess?
  - What should they *know*?
  - What *academic behaviors* demonstrate that they "Approaches the Standard"?

15

Establishing Recommended Cut Scores

- The cut score is set at the beginning of the performance level:
  - Approaches the Standard
  - Meets the Standard
  - Exceeds the Standard
- When determining cut scores, we need to think about the "Borderline Student's" performance for that performance level:
  - The "borderline student" just barely makes it into the performance level.

16

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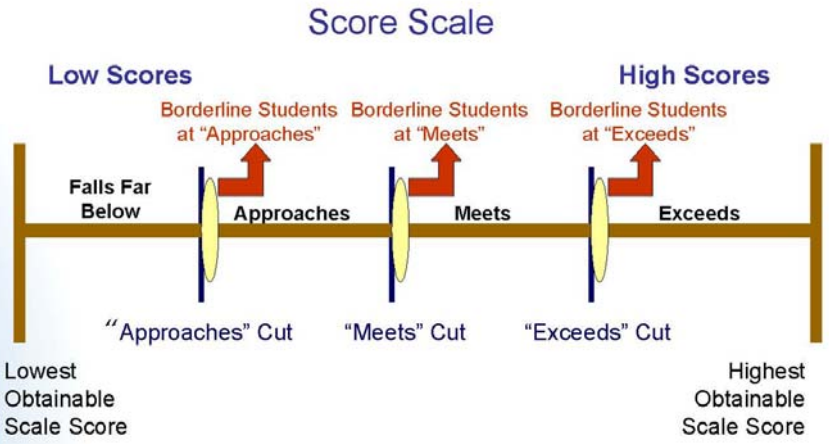
Establishing Recommended Cut Scores: Finding the Cut



17

Examples of "Real World" Performance Levels

- Total Blood Cholesterol Level
  - Less than 200 mg/dL: Desirable
  - 200–239 mg/dL: Borderline-High Risk
  - 240 mg/dL and over: High Risk
- Blood Sugar Level
  - Normal Levels: 70 - 150 mg
  - High: above 150 mg

18

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Distinguishing "Meets the Standard" from "Approaches the Standard"

- Think about the borderline students at "Meets the Standard."
  - Identify three characteristics or behaviors that MOST distinguish a student who just barely "Meets the Standard."
  - Record the three responses on your flipchart.

19

Distinguishing "Exceeds the Standard" from "Meets the Standard"

- Think about the borderline students at "Exceeds the Standard".
  - Identify three characteristics or behaviors that MOST distinguish a student who just barely "Exceeds the Standard."
  - Record the three responses on your flipchart.

20

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Distinguishing "Falls Far Below the Standard" from "Approaches the Standard"

- Think about the borderline students at "Approaches the Standard."
  - Identify three characteristics or behaviors that MOST distinguish a student who just barely "Approaches the Standard."
  - Record the three responses on your flipchart.

21

Borderline Student Descriptions

- Reconvene as whole committee.
- Each table presents their examples of, "What should students know and be able to do at each level?"
- Each table describes the three distinguishing characteristics.
- Look for differences and commonalities across tables.
- The facilitator will capture the discussion on the group flip chart.

22

Recap of Completed Activities

- Took the test and supplemental items
- Reviewed Performance Level Descriptors (PLD)
  - Falls Far Below the Standard
  - Approaches the Standard
  - Meets the Standard
  - Exceeds the Standard
- Reviewed Writing Exemplars and Scoring Rubric
- Developed the Borderline Student Descriptions
  - Approaches the Standard
  - Meets the Standard
  - Exceeds the Standard

23

Break

- Please take a 15-minute break.
- Reconvene in the General Session room at 3:00.

24

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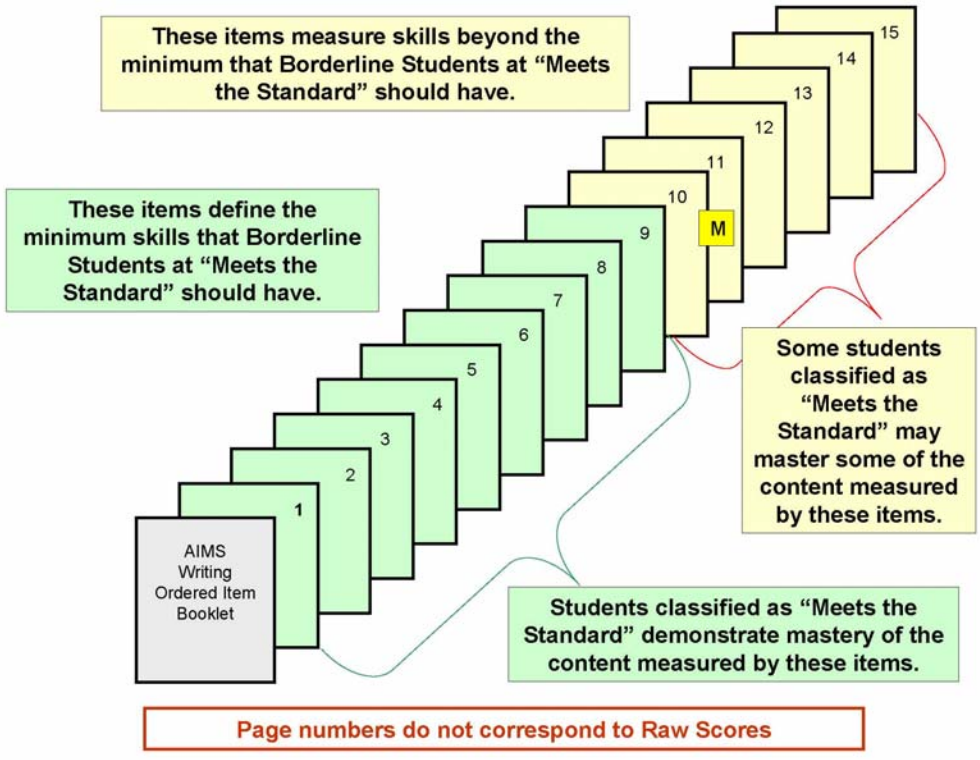
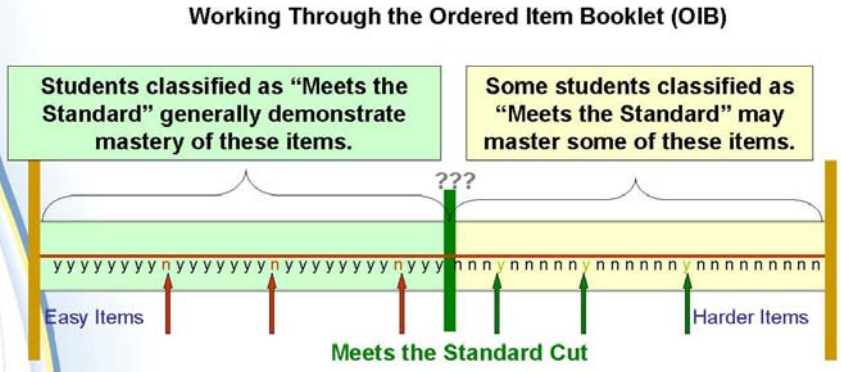
Standard Setting: Item Mapping Procedure Recap

- Items appear as one item per page.
- Items are placed in order of difficulty in the ordered item booklet (OIB).
  - Easiest item is first.
  - Most difficult item is last.
  - Therefore, the likelihood of getting an item correct decreases as you move through the OIB.
- Example on next slide (illustrative purposes):
  - Assume 15-item mathematics practice test
  - Assume one cut score with two categories

25



Establishing the Page Cut for "Meets the Standard" (In-Practice)



The "Meets the Standard" page cut is placed to separate the items that the borderline students at "Meets the Standard" should answer correctly from those that they may not answer correctly.

27

Page Cut Point Summary

- The page cut for **"Meets the Standard"** is placed to distinguish the content that borderline students at "Meets the Standard" should answer correctly from the content that they may not answer correctly.
- The page cut for **"Exceeds the Standard"** is placed to distinguish the content that borderline students at "Exceeds the Standard" should answer correctly from the content that they may not answer correctly.
- The page cut for **"Approaches the Standard"** is placed to distinguish the content that borderline students at "Approaches the Standard" should answer correctly from the content that they may not answer correctly.

28

Round 1 – What to Do?

- Start with "Meets the Standard."
- Read each page.
- Identify skills needed for a correct response.
- Review performance level labels and descriptors.
- Decide: Do borderline students who minimally are at "Meets the Standard" have ***a 67% chance or better*** of answering this question correctly?
- Mark the page number on your recording form.
- Move to the "Exceeds the Standard" borderline.
- Go back to the "Approaches the Standard" borderline.
- Mark "zones" first; then "revisit the neighborhoods" to set the cuts.

31

Complete Round 1 Ratings

- Complete independently.
- Once completed, your table leader and/or facilitator will collect and check in all of your materials.
- See you back tomorrow morning at 7:30 for breakfast.
- Meeting starts at 8:00.

32

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Day 2 Overview

- Round 1 Feedback
- Round 2 Standard Setting
- Round 2 Feedback
- Round 3 Standard Setting
- Round 3 Results
- Vertical Articulation
- Revisit Performance Level Descriptors.
- Complete Survey.

33

Feedback Data Provided

- Panelist Agreement Data (After Rounds 1-3)
  - How do your cut-points compare to those of other panelists?
    - Median, low, and high pages for entire standard setting panel and for your individual table group
    - Graph indicating page numbers for each panelist at each performance level
- Student Performance Data (After Rounds 1-3)
  - Provides the percentage of students that obtained the correct answer to each item
- Impact Data (After Rounds 2-3)
  - If the cut points represented by the page numbers were implemented, what is the percentage of students who would be classified in each performance level?

34

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Round 1 Panelist Agreement Data

- At your table:
  - Examine data showing min, max, and median for your table.
  - Mark min and max of the table in the book. Keep your neighborhood stickies in place.
  - Table Leader leads discussion of why placements were made.
  - Discuss in order lowest to highest.

35

Student Data

- These were data collected in the Spring 2011 operational test.
- All students who took the test are included (who received a valid score).
- Students that did not attempt the test are not included in the data.

36

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Student Achievement Data

- Item difficulty="*p*-values" (% correct)
- Data tell how students *DID* perform.
- Data CANNOT tell how students SHOULD perform *nor* how students at the borderline of "Approaches," "Meets," or "Exceeds the Standard" perform.

37

Why Round 2?

- You are now an improved advisor.
- Consider judgments & views of your peers.
- Consider student achievement data.
- Goal: NOT consensus, but *reflection*

YOU ARE NOW A *BETTER* ADVISOR,
because you are a better-informed advisor.

38

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Round 2 – What to Do?

1. Reflect on earlier ratings – yours & peers.
2. Reflect on the table discussion.
3. Think about the panelist agreement and student achievement data.
4. Consider changing the zones around your earlier cuts.
5. Reconsider each page in the zone.
6. Decide if you want to move your page numbers.
7. Choose the point that best defines the *borderline* of each category.

39

Reminder

- Remember to mark the pages that separate the items that borderline students should answer correctly from those items they may not answer correctly.

40

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Round 2-What to Do?

- Start with "Meets the Standard."
- Read each page.
- Identify skills needed for a correct response.
- Review performance level labels and descriptors.
- Decide: Do borderline students who minimally are at "Meets the Standard" have ***a 67% chance or better*** of answering this question correctly?
- Mark the page number on your recording form.
- Move to the "Exceeds the Standard" borderline.
- Go back to the "Approaches the Standard" borderline.
- Mark off "zones" first; then "revisit the neighborhoods" to set the cuts.

41

Readiness Survey

- Consider the task we ask of you.
- Answer the questions on the Readiness Survey for Round 2.
- Table leaders give the thumbs up when everyone at table is ready to go.

42

Round 2 Ratings

Please complete your Round 2 ratings now.

43

Break!

- Please take a 30-minute break.
- Reconvene back in this room.

44

Round 2
Panelist Agreement Data

Results will be posted here.

45

Round 2 Panelist Agreement Data

- At your table:
  - Examine data showing min, max, and median for your table.
  - Mark min and max of the table in the book. Keep your neighborhood stickies in place.
  - Table Leader leads discussion of why placements were made.
  - Discuss in order from lowest to highest.

46

Student Achievement Data

- Impact data:
  - The impact data show the percentage of students in each of the performance levels based on the current cut score recommendations.
  - The impact data are based on the Spring 2011 test administration - Same sample as the p-values.

47

Impact Data

Impact data will be presented now.

48

Group Discussion of Round 2 Ratings

- WHY????
- Hearing from your peers helps you to:
  - Become more **comfortable** with your judgments and recommendations.
  - **Reconsider** your earlier judgments and recommendations.

49

"How do I know if I'm right?"

- There is no "*right.*"
- Remember to keep in mind:
  - "*Should*"
  - The *borderline students*
    - Specifically, 67% of borderline students
  - *All* Arizona students taking the AIMS Writing Assessment
  - Our discussions

50

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Round 3 - What to Do ?

1. Reflect on earlier ratings – yours & peers.
2. Reflect on the table discussion.
3. Think about the panelist agreement and student achievement data.
4. Consider changing the zones around your earlier page placements.
5. Decide if you want to move your page number selections.
6. Choose the point that best defines the *borderline* of each category.

51

Round 3 Steps

- Start with "Meets the Standard."
- Read each page.
- Identify skills needed for a correct response.
- Review performance level labels and descriptors.
- Decide: Do borderline students who minimally are at "Meets the Standard" have ***a 67% chance or better*** of answering this question correctly?
- Mark the page number on your recording form.
- Move to the "Exceeds the Standard" borderline.
- Go back to the "Approaches the Standard" borderline.
- Mark off "zones" first; then "revisit the neighborhoods" to set the cuts.

52

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Readiness Survey

- Consider the task we ask of you.
- Answer the readiness questions for Round 3.
- Table leaders give thumbs up.

53

Break

- Please return at 11:30.
- Reconvene back in this room.

54

Final Recommended Cut Points and Results

Results will be presented here.

55

Lunch

- Please return at 1:00.
- Reconvene in the General Session room.
- Vertical Articulation

56

Day 3

- PLD Revision

Steps in PLD Review and Revision

1. Start with the page number between "Approaches the Standard" and "Meets the Standard."
2. Read items around that page (3 above and 3 below).
3. Identify skills needed for the correct response.
4. Evaluate why each item is more difficult than the preceding one.
5. Review performance level labels, descriptors, and borderline student descriptors.
6. List skills that differentiate the two levels.
7. Suggest revisions to the descriptors (if necessary).
8. Move to the page between "Meets the Standard" and "Exceeds the Standard" and repeat steps 2-7.
9. Move back to the page between "Falls Far Below the Standard" and "Approaches the Standard" and repeat steps 2-7.

58

Closing Remarks from ADE

59

Complete Evaluation Forms and Close Meeting

- Complete Evaluation Forms.
- Table Leader will help to coordinate the order of materials for easy check-in.
- Facilitator will pick up and check in materials.
- THANK-YOU!

60

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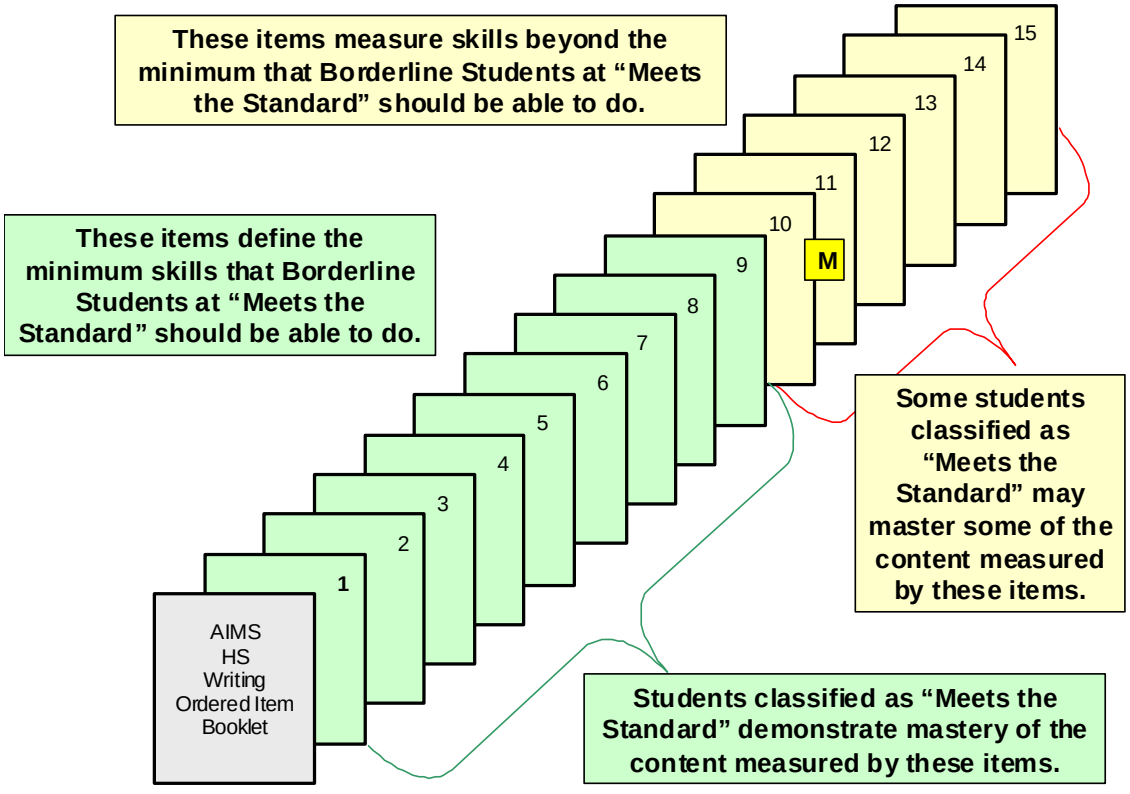
Appendix I: Standard Setting Steps

ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
ITEM MAPPING STEPS
WRITING

Please follow the following steps when working through the ordered item booklet (OIB).

1. Read item.
2. Identify skills needed for correct response.
3. Evaluate why each item is more difficult than preceding one.
4. Review performance level definitions, writing exemplars, and borderline student descriptors.
5. Ask yourself: "Should most (67%) borderline students at Meets the Standard be able to answer this item correctly?"
6. Mark the "zone" or "neighborhood" – the first "no" followed by a "yes" and the first "no" followed by only "no's."
7. Identify the last page at which a student just at the performance level should have at least a 67% probability of answering last item correctly (the last "yes" item).
8. Place your bookmark on the page AFTER the last item you expect the borderline students should be able to master.
9. Record the page number with your bookmark on the Item Position Recording Sheet.
10. Repeat for the next performance level.



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Page numbers do not correspond to Raw Scores

Appendix J: Standard Setting Item Map

ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
ITEM MAP
GRADE 7 WRITING

OIB Page Number	AZID Number	Test Item Number	Location	Key	Strand/ Concept/ PO	What does this item ask the student to know?	Why is this item more difficult than the last item(s)?
1	43090058	106	-1.439	D	02.03.04		
2	43090073	063	-1.234	D	02.03.01		
3	2111572	041	-0.939	C	02.05.01		
4	43090046	025	-0.931	A	02.02.06		
5	2111586	047	-0.807	A	02.04.01		
6	2111587	048	-0.801	C	02.05.01		
7	43090083	021	-0.758	A	02.06.06		
8	2111582	045	-0.623	D	02.01.02		
9	2111563	037	-0.583	C	02.06.01		
10	43090081	109	-0.541	A	02.06.02		
11	43090063	108	-0.523	B	02.01.01		
12	2111559	033	-0.481	B	02.06.12		

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Appendix K: Standard Setting Panelist Readiness Forms

ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
ROUND READINESS FORM
GRADE 7 WRITING

Panelist ID: _____

Instructions: Please circle your response to the following questions.

Round 1		
I understand my task for Round 1.	**No**	**Yes**
I am ready to begin Round 1.	**No**	**Yes**

Round 2		
I understand my task for Round 2.	**No**	**Yes**
I understand the data that was presented from Round 1.	**No**	**Yes**
I am ready to begin Round 2.	**No**	**Yes**

Round 3		
I understand my task for Round 3.	**No**	**Yes**
I understand the data that was presented from Round 2.	**No**	**Yes**
I am ready to begin Round 3.	**No**	**Yes**

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Appendix L: Standard Setting Page Number Recording Sheet

ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
ITEM POSITION RECORDING SHEET
GRADE 7 WRITING

Table Number _____

Panelist ID _____

Please enter the page number that corresponds to your bookmark for Approaches the Standard, Meets the Standard, and Exceeds the Standard. Please make sure that you enter your page numbers in the appropriate column for each round.

	Round 1	Round 2	Round 3
Approaches			
Meets			
Exceeds			

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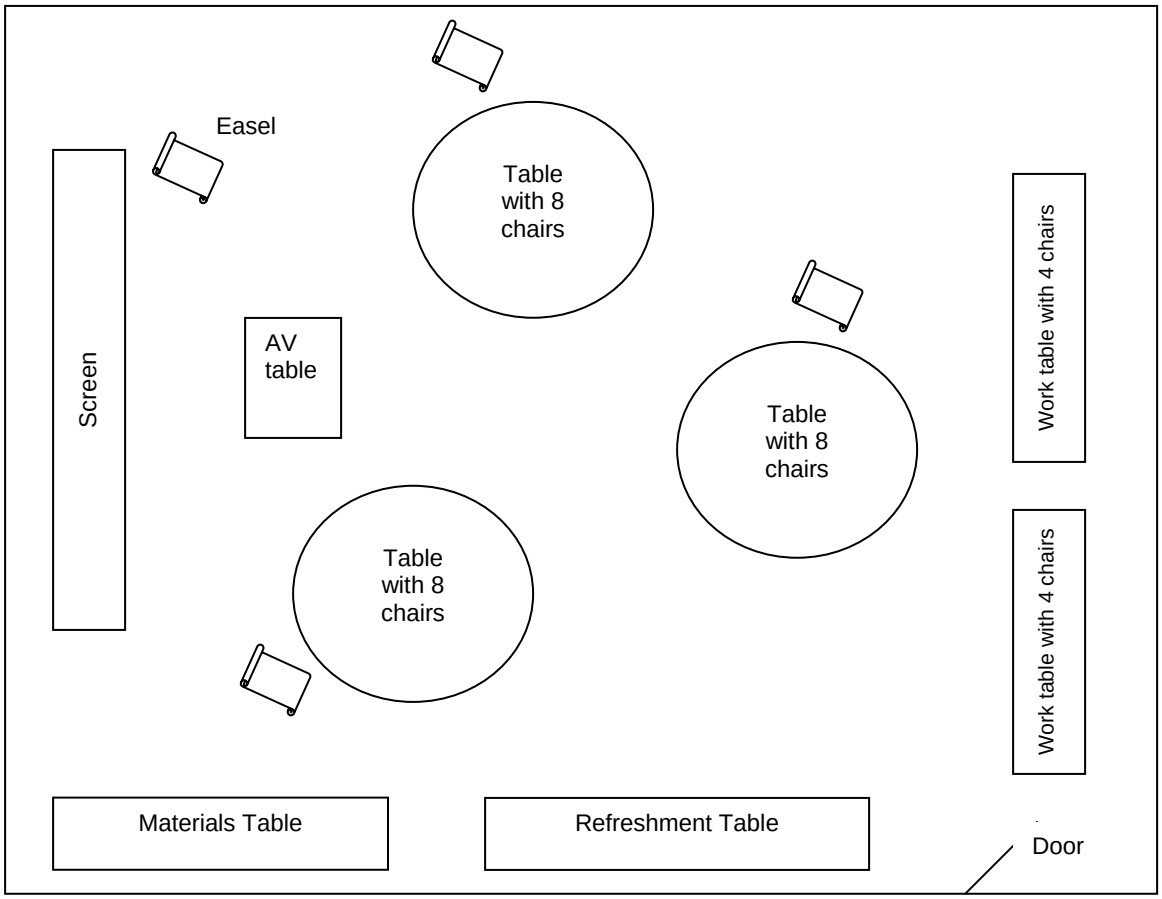
Appendix M: Standard Setting Room Layout

Room Layout for Standard Setting

If using side-by-side meeting rooms with a breakdown wall, the breakdown wall is here (and the other room would be next to here. (or in the case of this diagram above these words)



Check-In Table with 6 chairs (outside of meeting room)

Appendix N: Table of Contents for Facilitator Binder

ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
GRADES 5, 6, & 7 WRITING STANDARD SETTING

TABLE OF CONTENTS

1. Secure Materials Sign-Out Sheet Days 1-2 (Binder Pocket)
2. Agenda
3. Table Leader Information Sheet
4. Table Leader Training (PowerPoint)
5. Standard Setting Script
6. Opening Comments (PowerPoint)
7. Breakout Room (PowerPoint)
8. Blueprint
9. Arizona Writing Content Standards
10. Performance Level Descriptors
11. Scoring Rubric
12. Answer Recording Sheet
13. Facilitator Answer Sheet
14. Answer Key in Test Booklet and Supplemental Items Order
15. Methodology Training (PowerPoint)
16. Item Mapping Steps Handout
17. Practice Item Map
18. Round Readiness Form
19. Item Map
20. Page Number Recording Sheet
21. P-Values in OIB Order
22. Evaluation Form
23. Room Layout
24. Refinement of PLD Handout
25. Bloom's Taxonomy Wheel
26. Depth of Knowledge Wheel

Test Booklets

27. Test Booklet
28. Supplemental Items Booklet
29. Writing Exemplars Booklet
30. Practice Ordered Item Booklet
31. Ordered Item Booklet

Appendix O: Standard Setting Results

Appendix O.1: Round by Round Standard Setting Results

Writing: Grade 5, Round 3 Overall

	Approaches	Meets	Exceeds
Round 1 Median	5	16	38
Round 2 Median	8	17	43
Round 3 Median	8	24	43

	Approaches	Meets	Exceeds
Round 1 Theta	-0.99	0.90	4.70
Round 2 Theta	-0.86	0.90	5.08
Round 3 Theta	-0.86	1.04	5.08

	Far Below	Approaches	Meets	Exceeds
Round 1 Impact	6%	35%	54%	5%
Round 2 Impact	8%	33%	56%	3%
Round 3 Impact	8%	37%	52%	3%

Writing: Grade 6, Round 3 Overall

	Approaches	Meets	Exceeds
Round 1 Median	10	26	38
Round 2 Median	10	22	38
Round 3 Median	10	22	38

	Approaches	Meets	Exceeds
Round 1 Theta	-0.78	0.72	4.07
Round 2 Theta	-0.78	0.60	4.07
Round 3 Theta	-0.44	0.98	3.80

	Far Below	Approaches	Meets	Exceeds
Round 1 Impact	12%	34%	46%	7%
Round 2 Impact	12%	31%	49%	7%
Round 3 Impact	12%	31%	49%	7%

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Writing: Grade 7, Round 3 Overall

	Approaches	Meets	Exceeds
Round 1 Median	14	29	40
Round 2 Median	13	26	40
Round 3 Median	13	24	39

	Approaches	Meets	Exceeds
Round 1 Theta	-0.25	1.41	4.86
Round 2 Theta	-0.71	0.97	5.27
Round 3 Theta	-0.37	1.26	4.86

	Far Below	Approaches	Meets	Exceeds
Round 1 Impact	12%	38%	44%	6%
Round 2 Impact	12%	38%	44%	6%
Round 3 Impact	0%	0%	0%	0%

Writing: High School, Round 3 Overall

	Approaches	Meets	Exceeds
Round 1 Median	18	34	44
Round 2 Median	18	32	46
Round 3 Median	19	32	46

	Approaches	Meets	Exceeds
Round 1 Theta	-0.56	0.68	3.32
Round 2 Theta	-0.56	0.68	3.41
Round 3 Theta	-0.51	0.68	3.41

	Far Below	Approaches	Meets	Exceeds
Round 1 Impact	7%	25%	62%	5%
Round 2 Impact	7%	25%	63%	5%
Round 3 Impact	8%	25%	63%	5%

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Appendix O.2: Round by Round Page Number Summaries

Grade 5				
		Approaches	Meets	Exceeds
Round 1				
	Median	5	16	38
	Maximum	16	27	43
	Minimum	1	6	32
Round 2				
	Median	8	17	43
	Maximum	13	24	43
	Minimum	4	16	38
Round 3				
	Median	8	24	43
	Maximum	10	24	43
	Minimum	6	17	40

Grade 6				
		Approaches	Meets	Exceeds
Round 1				
	Median	10	26	38
	Maximum	18	35	46
	Minimum	7	11	31
Round 2				
	Median	10	22	38
	Maximum	14	23	44
	Minimum	7	16	35
Round 3				
	Median	10	22	38
	Maximum	14	23	42
	Minimum	8	20	38

Grade 7				
Round 1				
		Approaches	Meets	Exceeds
	Median	14	29	40
	Maximum	31	40	47
	Minimum	6	14	38
Round 2				
	Median	13	26	40
	Maximum	17	32	40
	Minimum	8	20	38
Round 3				
	Median	13	24	39
	Maximum	15	28	40
	Minimum	10	20	38

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High School				
Round 1				
		Approaches	Meets	Exceeds
	Median	18	34	44
	Maximum	23	37	50
	Minimum	6	11	36
Round 2				
	Median	18	32	46
	Maximum	20	36	52
	Minimum	9	23	39
Round 3				
	Median	19	32	46
	Maximum	22	36	48
	Minimum	17	27	45

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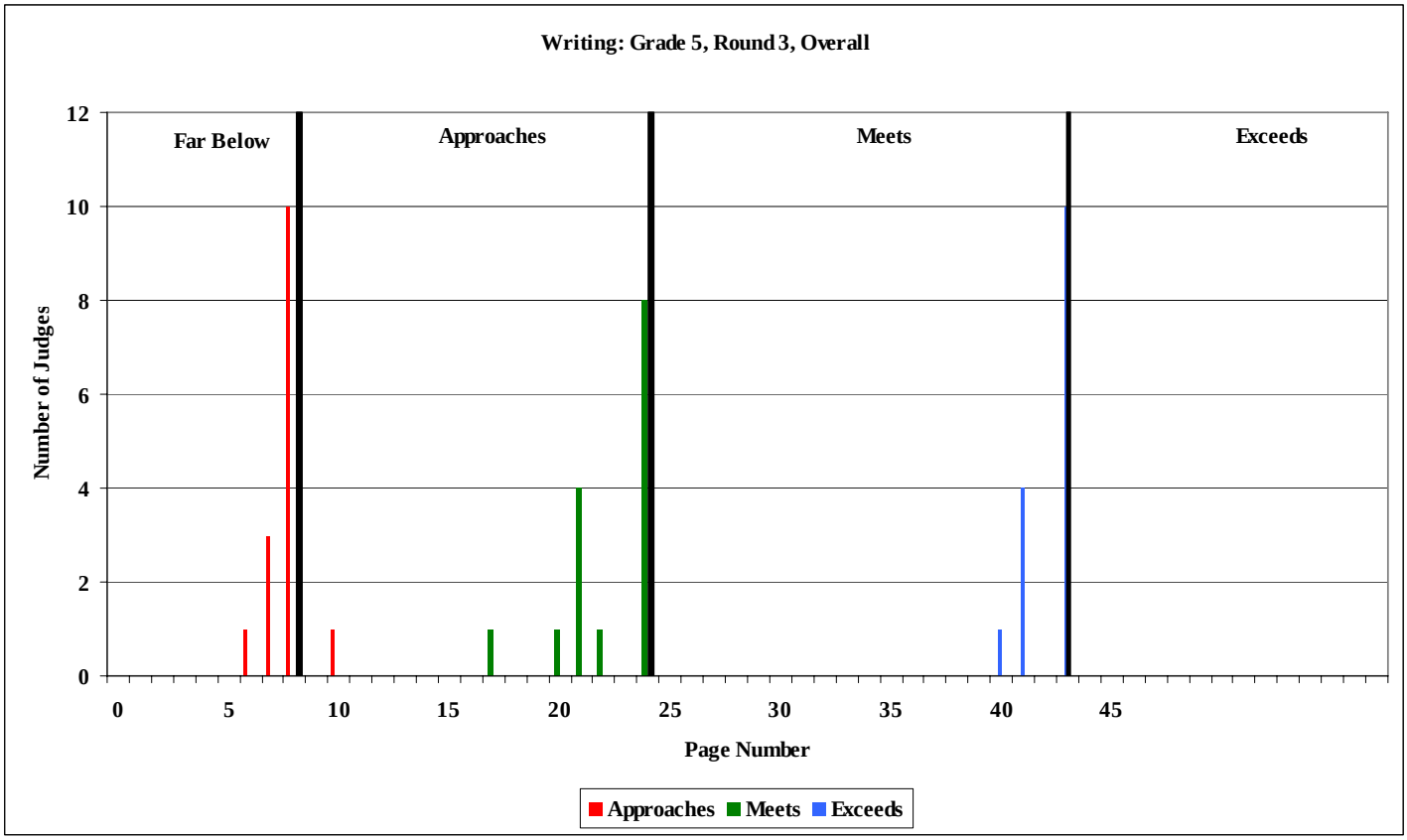
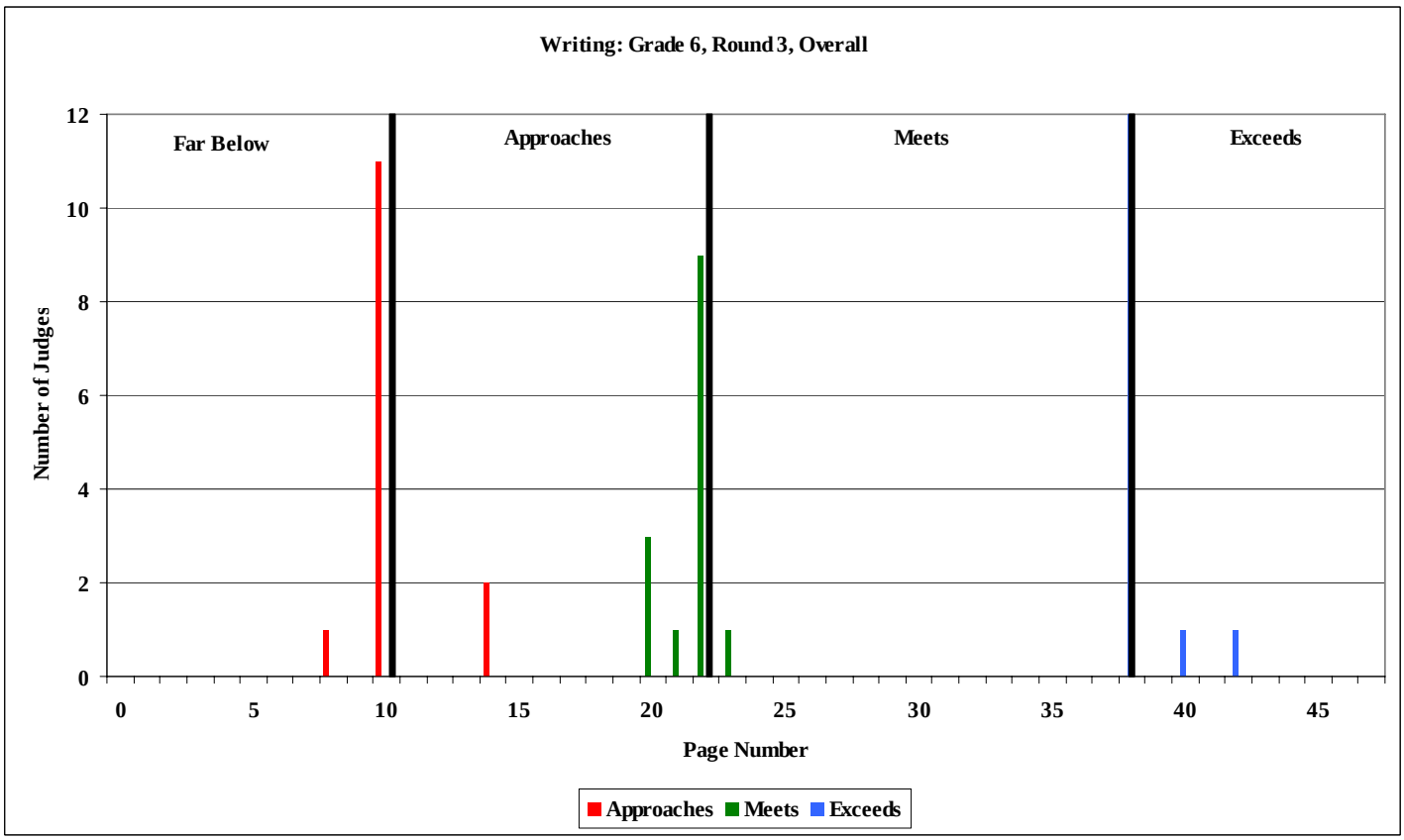
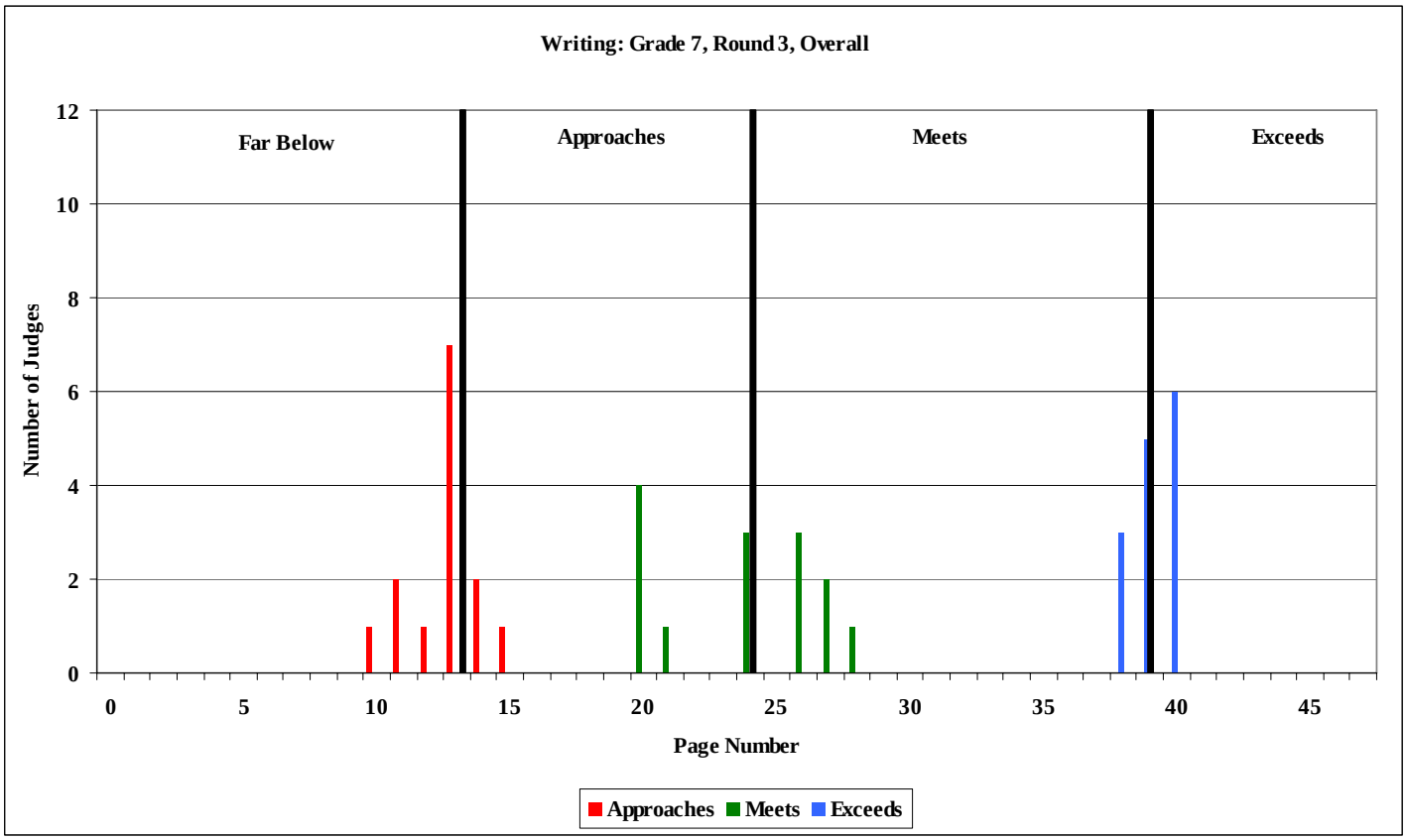
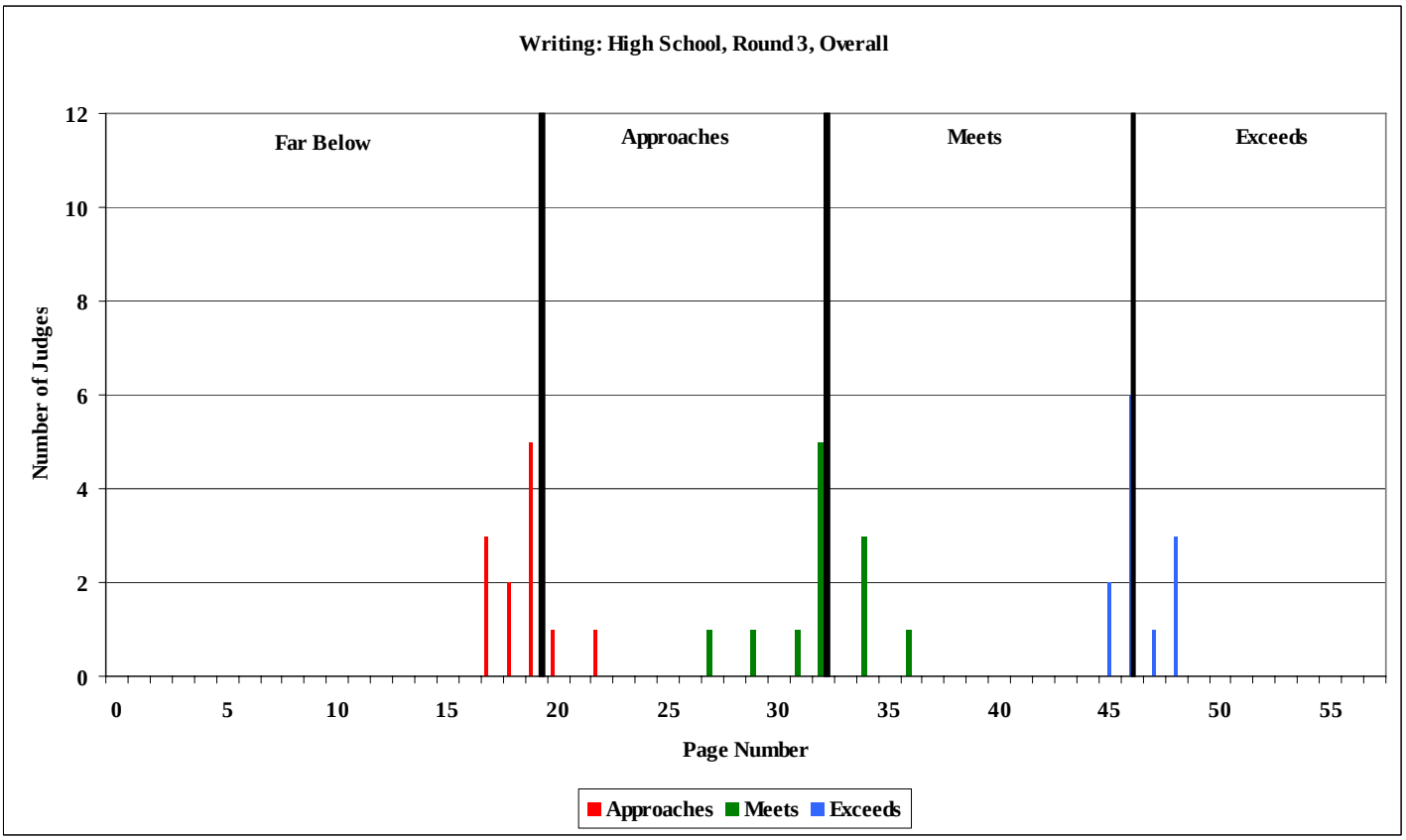
Appendix O.3: Final Round Page Number Summaries from Standard Setting



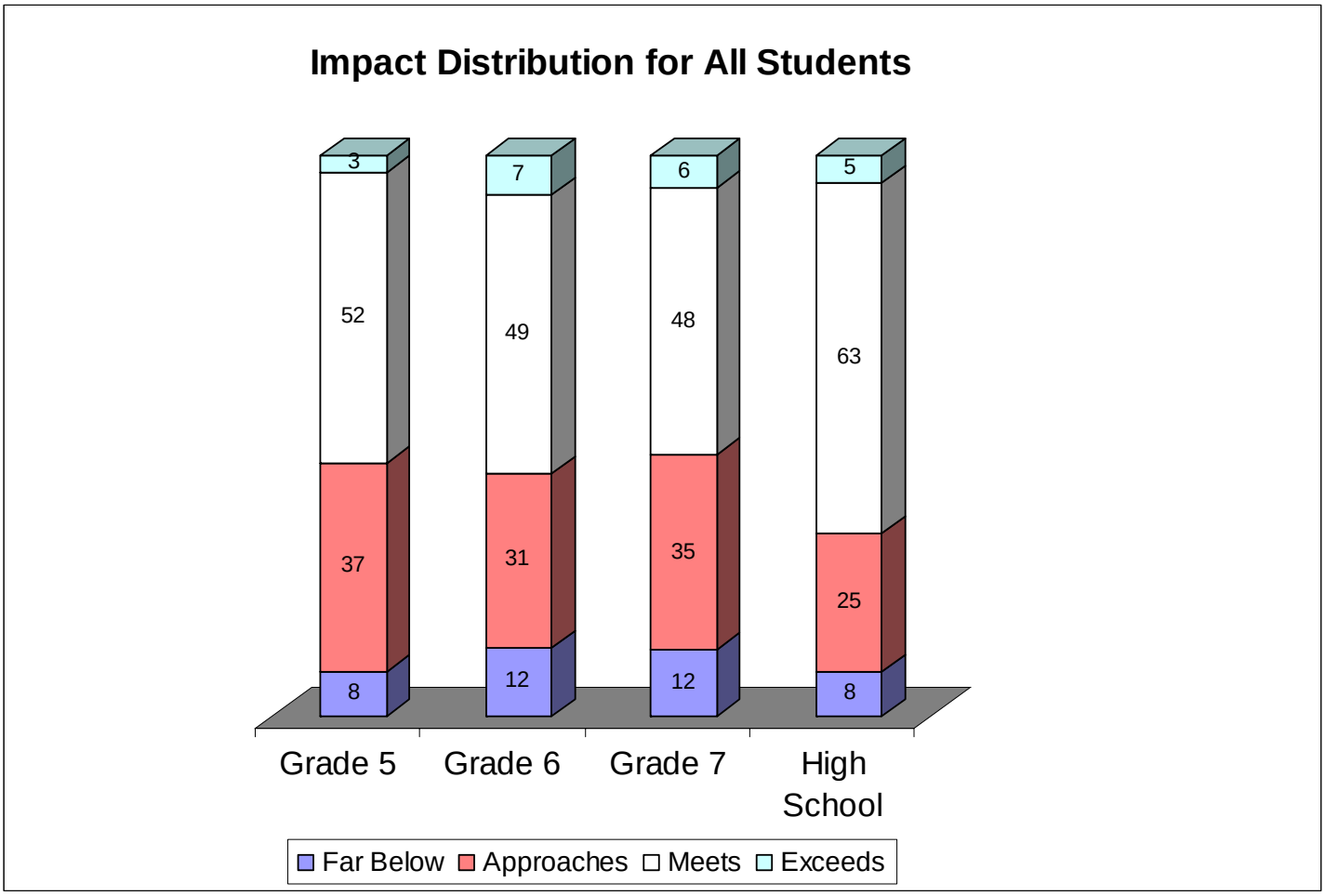



Writing: Grade 7, Round 3, Overall
Far Below
Approaches
Meets
Exceeds
Number of Judges
Page Number
Approaches
Meets
Exceeds

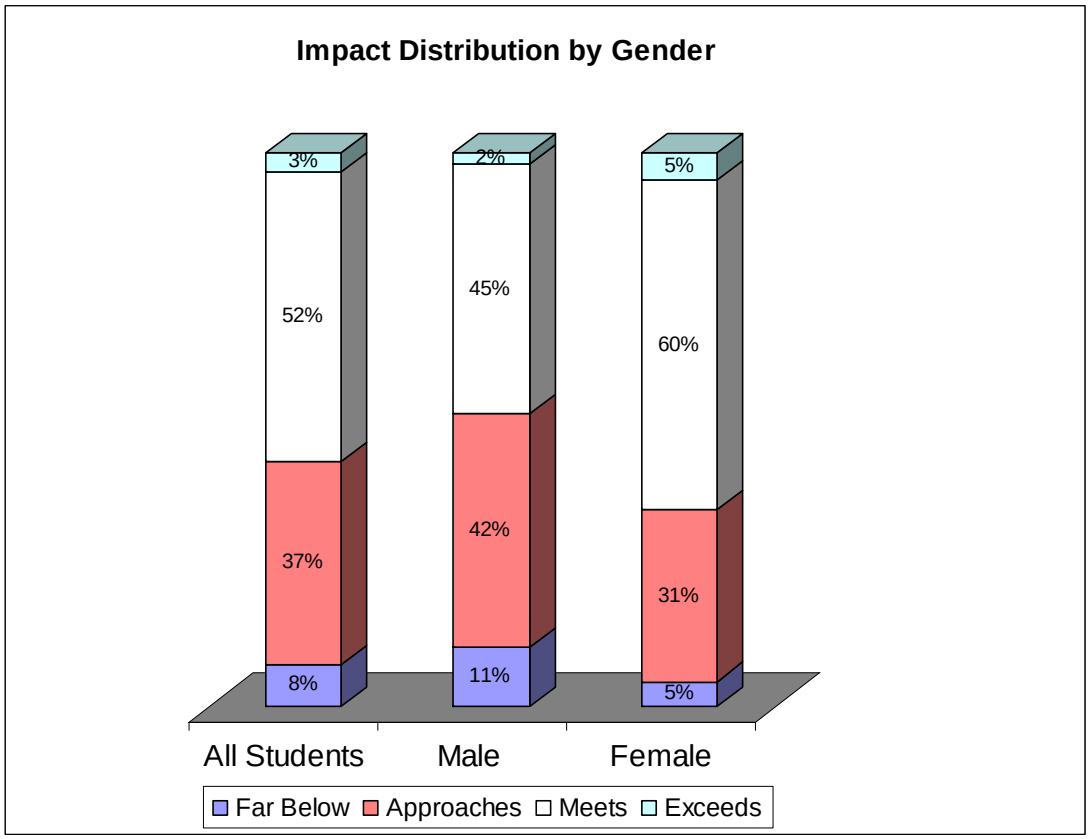

Writing: High School, Round 3, Overall
Far Below
Approaches
Meets
Exceeds
Number of Judges
Page Number
Approaches
Meets
Exceeds

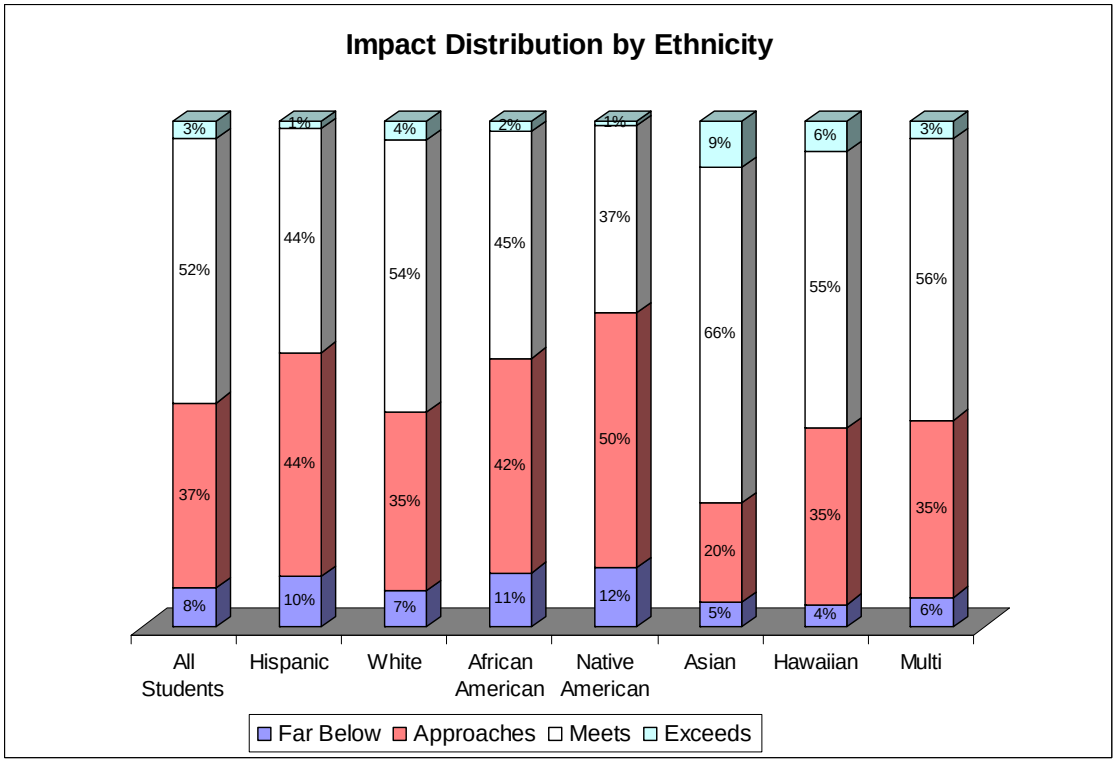
Appendix P: Proficiency Level Results after Final Round[14] of Standard Setting

Appendix P.1: Overall for All Grades

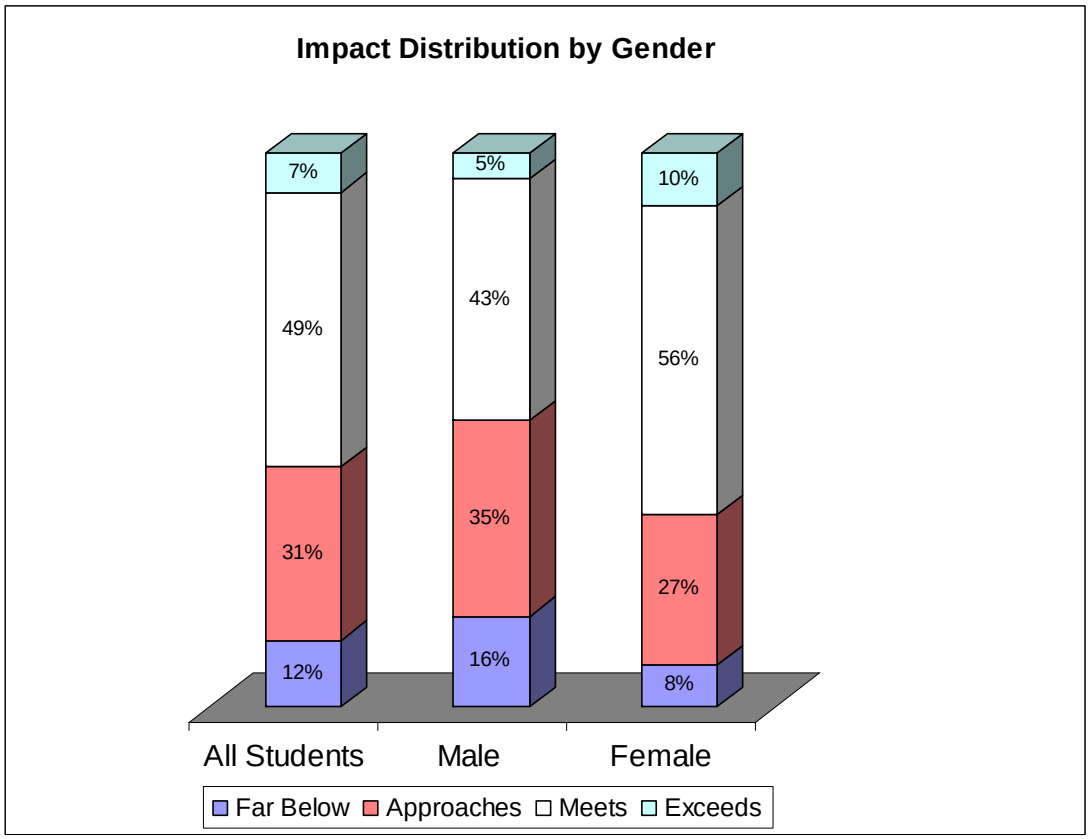


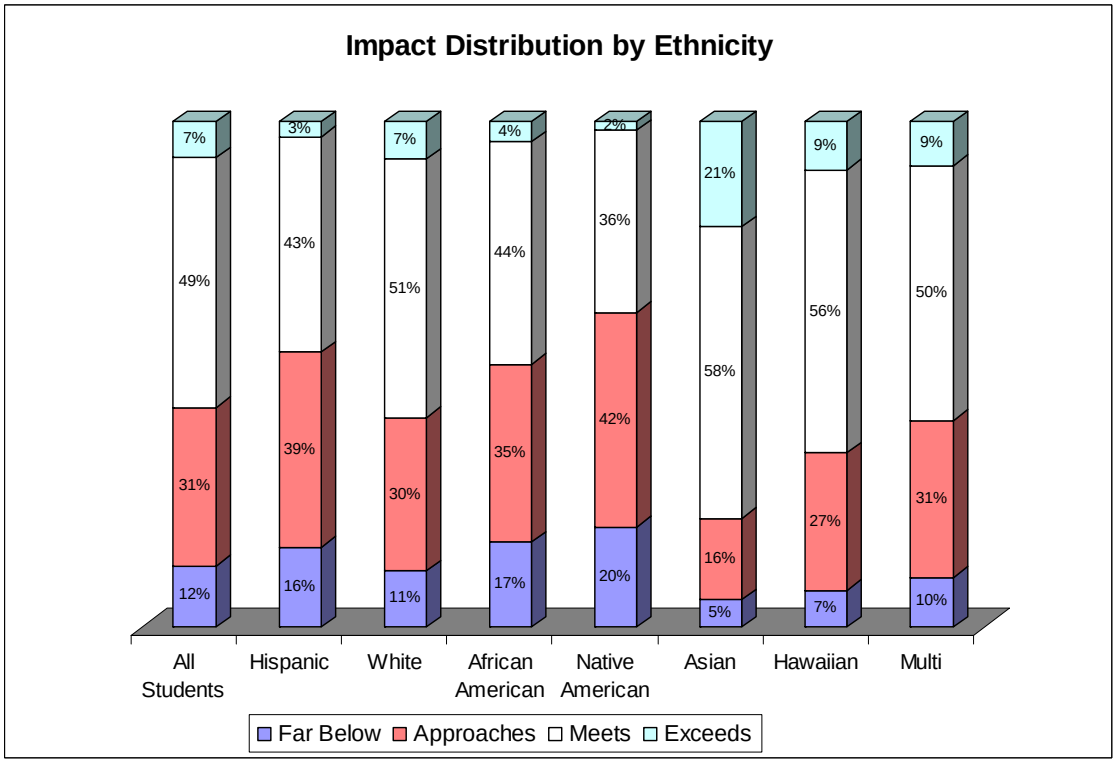
Appendix P.2: Grade 5 Impact Data after Round 3 of Standard Setting



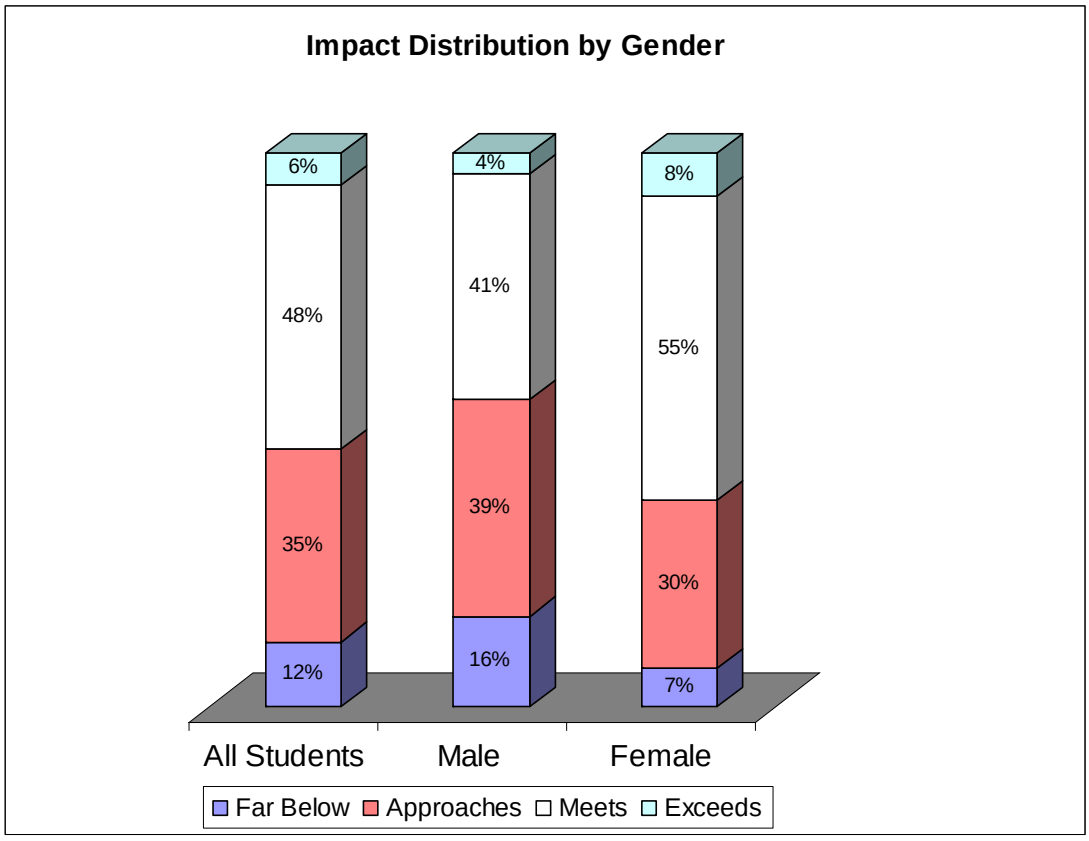


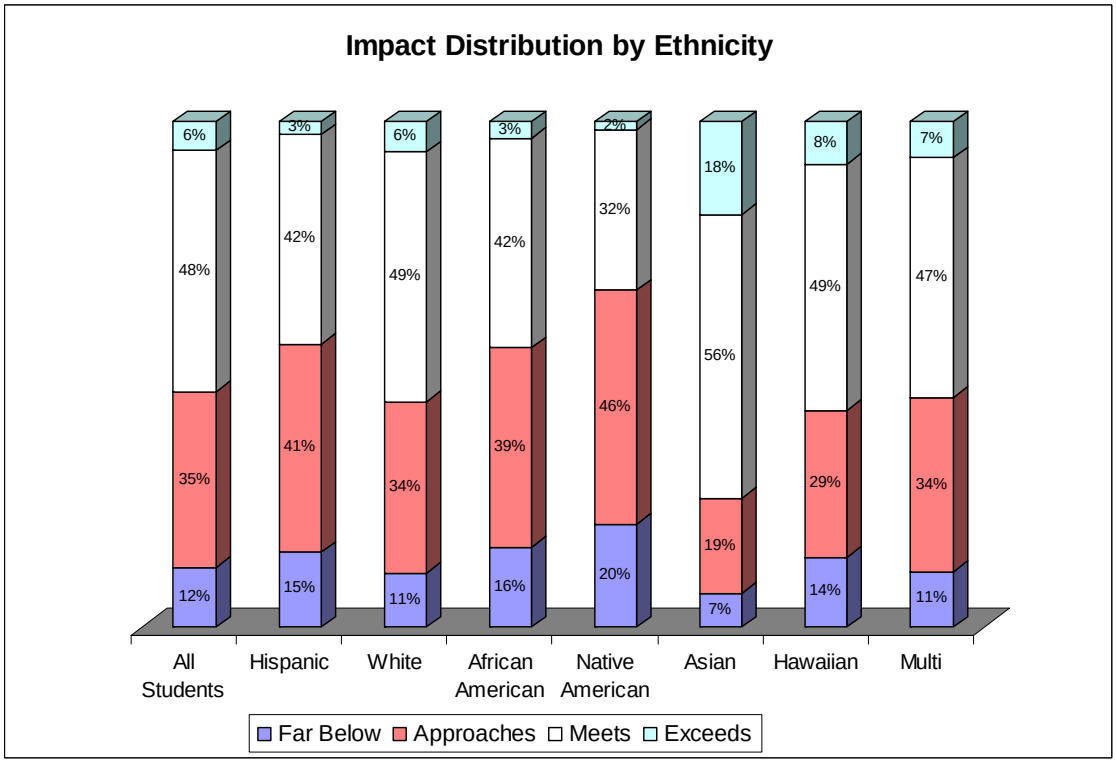
Appendix P.3: Grade 6 Impact Data Round 3 of Standard Setting



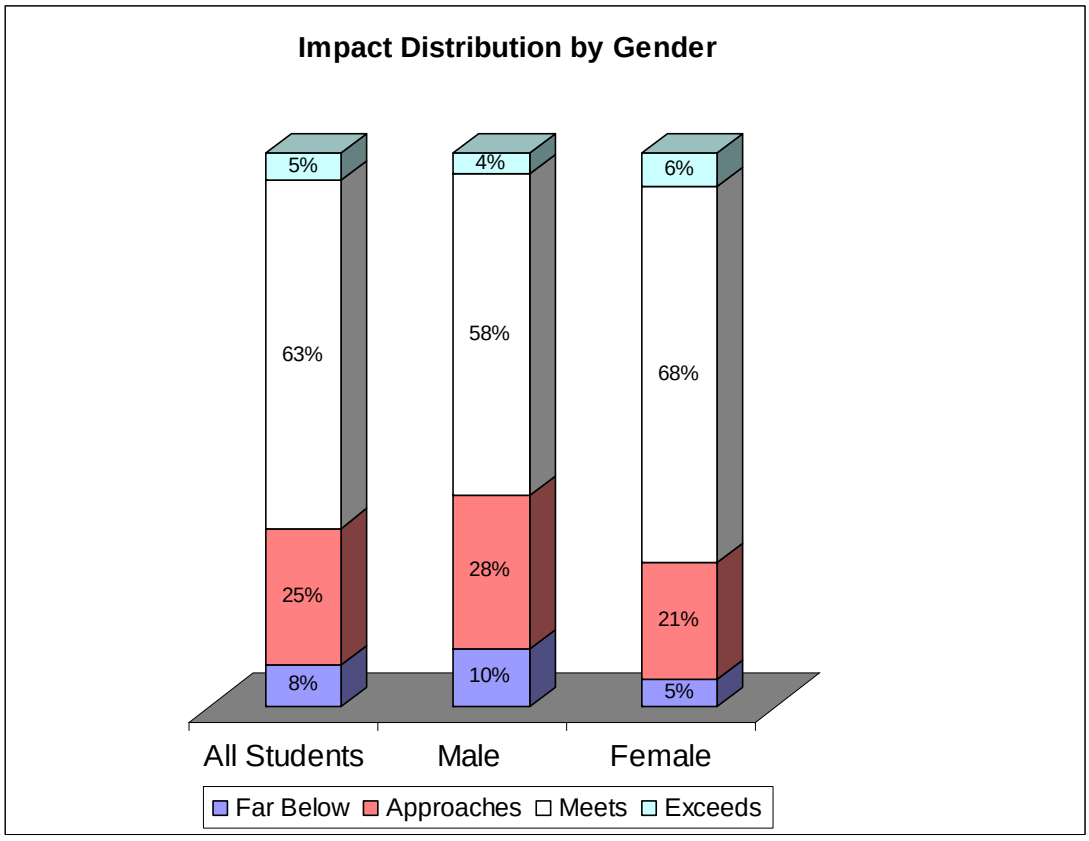


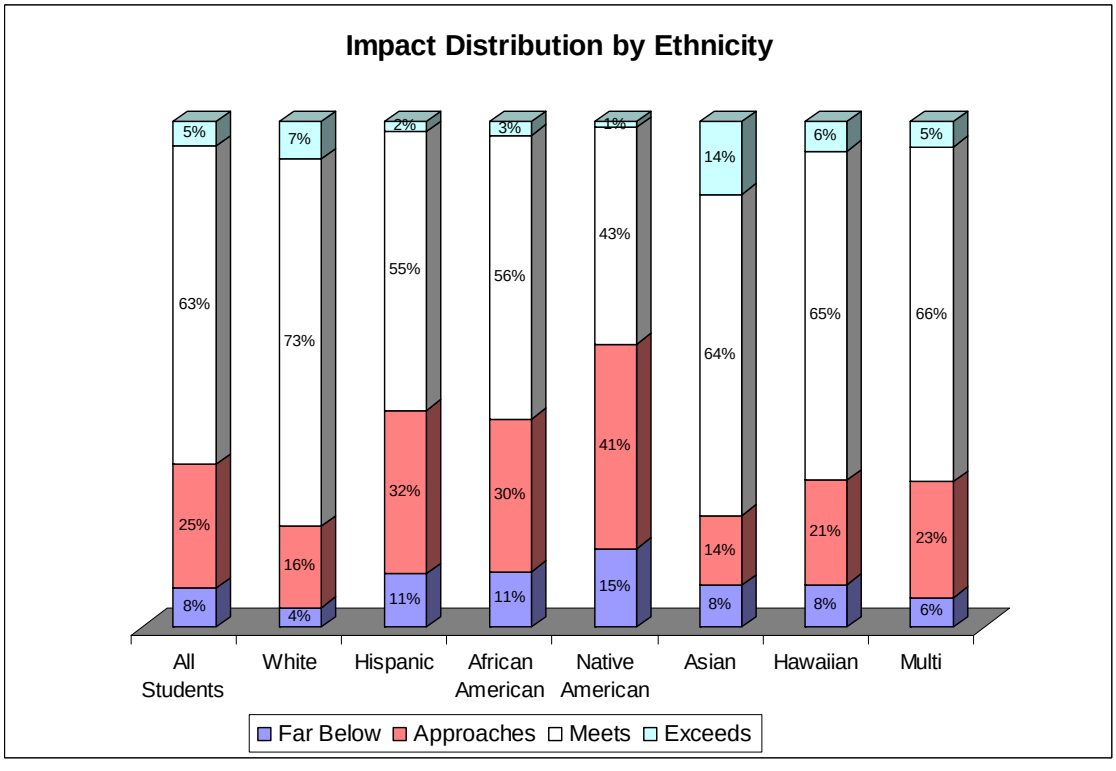
Appendix P.4: Grade 7 Impact Data after Round 3 of Standard Setting





Appendix P.5: High School Impact Data after Round 3 of Standard Setting





Appendix Q: Writing Test Blueprints

AIMS Writing Blueprint May 2010

Strand 2, Concepts 1-6

Grade	3		4		5		6		7		8		HS	
Concepts	% MC Items	% of Score	% MC Items	% of Score	% MC Items	% of Score	% MC Items	% of Score	% MC Items	% of Score	% MC Items	% of Score	% MC Items	% of Score
1. Ideas and Content 2. Organization	33%	13%	33%	13%	33%	13%	41%	16%	41%	16%	44%	18%	44%	18%
3. Voice 4. Word Choice 5. Sentence Fluency	22%	9%	22%	9%	22%	9%	26%	10%	26%	10%	33%	13%	33%	13%
6. Conventions	44%	18%	44%	18%	44%	18%	33%	13%	33%	13%	22%	9%	22%	9%
Multiple Choice		40%		40%		**40%**		**40%**		**40%**		40%		**40%**
Extended Response		60%		60%		**60%**		**60%**		**60%**		60%		**60%**
Totals		100%		100%		**100%**		**100%**		**100%**		100%		**100%**

AIMS Writing in Grades 3, 4, and 8 has been temporarily suspended.

The Blueprint was proposed on May 29, 2009 and revised on May 19, 2010.

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Appendix R: Standard Setting Participants

Panelist Info.

Standard Setting Gr 3-8 Mathematics

June 1-4, 2010

First	Last	Occupation	Title Current Position	Years Experience	Describe Experience (courses/grades taught)	Highest Educ- Bachelor/ Masters/ Doctorate	Certification	Endorsement	Ethnicity	Gender	School or Affiliation	District	Urb/Sub/Rur	Dist. Sz M/L	Taught SpEd or ESL? Y/N
Steve	Bauer	Teacher	7th and 8th math/ H.S. Algebra	14	Intel Teach to the future teacher training. 9 yrs 4-7th grade teaching Washington & AZ.	Masters	Math, Science, Technology, ESL, Spanish Bilingual Educ	Bilingual, Mathematics	w	m	Townsend Middle School	Tucson Unified School District	u	L	N
Rebecca	Beauregard	Teacher	Math Teacher, Grade 6	7	Teaching Math improvement class. Has served as an advocate for struggling students	Masters	Secondary	Mathematics, School Counseling	w	f	Safford Engineering & Technology Magnet Middle School	Tucson Unified School District	u	L	N
Bridget	Betterton	Teacher	6th Grade	6	5th-6th combo class of ELL. Instructional Coordinator.	Masters	Elementary Education	SEI	w	f	Walter Douglas School	Flowing Wells Unified District	u	M	N
Ryen	Borden	Administrator	Instructional Specialist	10	District facilitator to develop new benchmark assessments and curriculum maps aligned to the new math standards.	Masters	Principal certificate; Standard Elementary Education, K-8	SEI K-12. Reading Specialist K-12	o	f	William R. Sullivan School	Murphy Elementary District	u	L	N
Janelle	Chisholm	Teacher	Math Teacher – Pre-alg, Alg, Geometry	19	District curriculum committees. Presenter at WESD & around state.	Masters	Elementary and Secondary	Middle School Math, Gifted, SEI	w	f	Palo Verde Middle School	Washington Elementary District	u	L	N
Becky	Cuperus	Teacher	3-4-5 ELL, Gifted/Spec. Ed. Included	25	Rodel Exemplary Teacher finalist. AZ Teacher of the Year finalist. Achieved AZ Master Teacher status. Mentor Teacher.	Masters	NBCT, Basic Elementary (K-8), Early Childhood	Math Specialist, Reading Specialist, ESL, Gifted	w	f	Smith Elementary School	Glendale Elementary District	u	L	N
Mary	Dorn	Administrator	Math Coach/Interventionist for Connolly Middle School.	12	Data analysis aimed at improving mathematics instruction.	Masters	Secondary - Mathematics, Social Studies, Geography, Physical Science	Gifted Endorsement, SEI Endorsement	w	f	Connolly Middle School	Tempe Elementary District	u	L	N
Eileen	Estes	Teacher	Fifth Grade Teacher	19	District Math committee.	Masters	Principal K-8; Elementary Education	ESL	w	f	Booker T. Washington Elementary School	Mesa Unified District	u	L	N

Page #1 of 7

Panelist Info.

Standard Setting Gr 3-8 Mathematics

June 1-4, 2010

First	Last	Occupation	Title Current Posttion	Years Experience	Describe Experience (courses/grades taught)	Highest Educ- Bachelor/ Masters/ Doctorate	Certification	Endorsement	Ethnicity	Gender	School or Affiliation	District	Urb/Sub/Rur	Dist S/M/L	Taught SpEd or ESL? Y/N
Derek	***Etheridge***	Administrator	Mathematics Content Specialist	3	Teaching math 7th & 8th grades, and ELL classrooms. Experience curriculum mapping.	Masters	Secondary Education 7-12 - Mathematics	Full SEI endorsement	w	m	Cartwright School District	Cartwright School District	u	L	N
Shannon	***Ferguson***	Administrator	K-12 Mathematics Coordinator	15+	2nd thru 9th. Math resource teacher & middle school math. 5 yrs Math Spec. Member State Math Network.	Masters	Elementary; Middle School Math; Middle School Science, Administrative	ESL, Math Specialist	w	f	Peoria Unified School District	Peoria Unified School District	u	L	N
Michele	***Garlit***	Teacher	freshman Algebra Teacher, department chair	18	Middle school Math. NCTM Standards.	Masters	Secondary - Mathematics 7-12	Mathematics-Algebra	w	f	Yuma High School	Yuma Union High School District	r	M	N
Casey	***George***	Administrator	Principal	13	Taught math:13 yrs @ 7 & 8th grade and 3 at H.S. level. Created benchmark assessment for a school at Madison S.D.	Masters	Secondary 7-12, administrative	Mathematics endorsement	w	m	Madison Traditional Academy	Madison School District	s	L	N
Erin	***Gonzales***	Administrator	Elementary Math Curriculum Specialist	6	Taught 1 yr 4th & 5 yrs 3rd grade. Elem Math curriculum Specialist. Work on district's math committee.	Bachelor	Elementary	SEI Provisional, Music K-12	w	f	Peoria Unified District	Peoria Unified District	u	L	N
Wayne	***Gorry***	Teacher	5th Grade Math, Reading, Writing, Science, Social Studies	19	Career Ladder Facilitator. 2005 Payson Walmart Teacher of Year. Develped lessons for ELL students.	Masters	Elementary, Secondary	SEI	w	m	Julia Randall Elementary School	Payson Unified District	r	M	N
Roger	***Healy***	Administrator	7th & 8th/Algebra I, Algebra II, Science, Social St./Technology Coordinator	16		Bachelor	Elementary	Mathematics Specialist / SEI	w	m	Mesa Arts Academy	Mesa Arts Academy	u	S	N

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Panelist Info.

Standard Setting Gr 3-8 Mathematics

June 1-4, 2010

First	Last	Occupation	Title Current Position	Years Experience	Describe Experience (courses/grades taught)	Highest Educ- Bachelor/ Masters/ Doctorate	Certification	Endorsement	Ethnicity	Gender	School or Affiliation	District	Urb/Sub/Rur	Dist S/M/L	Taught SpEd or ESL? Y/N
Linda	***Heck***	Teacher	5th grade all subjects	17	Mentor teacher. Served as Test Coord. Taught 4th 5 yrs. & 5th grade for 11 yrs. Rodel Exemplary Teacher 2010.	Masters	Elementary	ESL	w	f	Dysart Elementary School	Dysart Unified District	r	L	N
Kristen	***Henninger***	Teacher	6th Grade Math Teacher	18	Taught @ 3 different states & different state assessments. Title 1	Bachelor	Math, Reading & Language		w	f	Apache Elementary School	Peoria Unified School District	u	L	N
Kimberly	***Hertzog***	Administrator	Director of General Studies	4.5	Math consultant. Math Coach (K-8). Director Mathematics.	Masters	K-8 Elementary. Principal	ESL	w	f	Phoenix Elementary District	Phoenix Elementary District	u	L	N
Becky	***Howell***	Administrator	Math and Behavior Coach, K-6	7	4th grade 2 yrs; 1 yr @ 3rd grade. Gifted program. Special Educ @ Maryland. Math/Behavior Coach. Math Staff Development.	Bachelor	Elementary	SEI	w	f	Pima Elementary	Pima Unified School District	r	S	N
Lisa	***Hunt***	Administrator	Instructional Specialist	8	2nd grade 2 yrs; 3 yr @ 3rd grade. Instructional Specialist. District assessment creation, and formative assessments.	Bachelor	Elementary	SEI	w	f	Arthur M. Hamilton School	Murphy Elementary District	u	L	N
Linda	***James***	Teacher	Gifted, Language Arts & Mathematics	32	School & district written assessments-15 yrs. Written Math assessment items for other States and AZ schools.	Bachelor	Gifted. K-8	EL, Gifted	w	f	Greenbrier Elementary School	Deer Valley Unified District	s	L	N
Noah	***Kaplan***	Teacher	4th Grade Teacher	3	4th grade Math,Sc,SS, for a Reading interv.strand class. District Math committee.	Masters	Elementary	None	w	m	Challenger School	Glendale Elementary District	u	L	N

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Panelist Info.

Standard Setting Gr 3-8 Mathematics

June 1-4, 2010

First	Last	Occupation	Title Current Position	Years Experience	Describe Experience (courses/grades taught)	Highest Educ- Bachelor/ Masters/ Doctorate	Certification	Endorsement	Ethnicity	Gender	School or Affiliation	District	Urb/Sub/Rur	Dist S/M/L	Taught SpEd or ESL? Y/N
Leyla	***Kayumova***	Teacher	Department Chair, Mathematics and Science, 5th Grade Teacher (Leader)	5	3rd, 4th grade teacher. Math Department Chair.	Masters	K-8		w	f	Sonoran Science Academy	Sonoran Science Academy	s	S	N
Victoria	***Lautsch***	Teacher	7th Grade Math Teacher, Advanced Algebra Teacher	3	6th grade math, pre-algebra. Professional Develop. Leader Teach for America. District's math committee.	Masters	Elementary, Middle School Mathematics	Middle Grades Mathematics, SEI, working on Gifted provisional endorsement	w	f	Mensendick School	Glendale Elementary District	s	L	N
Jacque	***LeSueur***	Teacher	Third/Fourth Grade Teacher	13	4th and 3rd grade for 13 yrs. Teaching educ @ Comm College. District's math committee.	Masters	Elementary	ESL, Early childhood, SEI State Trainer	w	f	Frontier Elementary School	Payson Unified District	r	M	N
Cimarron	***Ludwig***	Teacher	6th Grade Teacher	13	Grades 2,3,4,5, &6. District Committees: 6th-7th grade Math Transition; and Math Benchmark.	Masters	Elementary	ESL, National Board Certification	w	m	Hawthorne Elementary School	Mesa Unified District	u	L	N
Janelle	***Neumann***	Teacher	4th Grade Teacher	5	4th grade. Math Team Leader and Site Council.	Bachelor	Elementary Education	SEI	w	f	Maryland Elementary School	Washington Elementary District	u	L	N
Sabrina	***Pandher***	Administrator	District Math Coach	7	Grades 6, 7, and 8 Seven years. District Math Coach.	Masters	Elementary Educ., Principal	Math Specialist, Bilingual Endorsement	h	f	Roosevelt School District	Roosevelt Elementary District	u	L	N
JerriLee	***Pendleton***	Teacher	Third Grade Teacher (I teach all subjects)	30	Grades: primary and intermediate. Created a 5th grade Math hands-on Manipulative classroom/lab.	Masters	Standard Elementary Education K-8	Reading Spec. K-12, ESL, Early Childhood	w	f	O'Connor Elementary	Mesa Unified District	u	L	N

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Panelist Info.

Standard Setting Gr 3-8 Mathematics

June 1-4, 2010

First	Last	Occupation	Title Current Posttion	Years Experience	Describe Experience (courses/grades taught)	Highest Educ- Bachelor/ Masters/ Doctorate	Certification	Endorsement	Ethnicity	Gender	School or Affiliation	District	Urb/Sub/Rur	Dist S/M/L	Taught SpEd or ESL? Y/N
Dalma	***Rose***	Teacher	6th & 7th Grade Math Teacher	26	Math District Standards committee. Wrote district math CRT Test 6-8 grades. Math Dept. Head.	Masters	Elementary	Math Gifted	w	f	Granite Mountain Middle School	Prescott Unified District	u	L	N
Tracy	***Ryan***	Teacher	Math Teacher, Grades 6 and 7	8	Responsible aligning curriculum with State requirements.	Bachelor	Elementary	MS Math, SEI	w	f	Arizona School for the Arts	Arizona School for the Arts	u	S	N
Yolanda	***Siordia***	Teacher	8th Grade Math & Science Teacher	15	Even Start Program experience. Alternative High School experience. Bilingual Multicultural Education.	Masters	Secondary	ESL/Bilingual, Business, SEI, Mathematics	h	f	Desert Shadows Middle School	Nogales Unified District	r	S	N
Stefaney	***Sotomayor***	Administrator	Instructional Specialist for K-8	5	Teacher Collaboration. District committees developing benchmark assessments in math.	Bachelor	Elementary	SEI	w	f	Simis Elementary and Madison Meadows Middle	Madison School District	u	L	N
Philip	***Stephens***	Teacher	7th & 8th Math Teacher	11	Taught 2-8 grades. Elem education and middle school math.	Masters	Elementary	Middle School Math, SEI	w	m	Deer Valley Middle School	Deer Valley Unified District	u	L	N
Crystal	***Udall***	Administrator	Title 1 Math Specialist for grades 1st-6th	7	Grades: Kindergarten, 2, and 3. Title 1 Math Spec. Lead Teacher.	Bachelor	Standard Elementary K-8, Substitute certificate	Reading Spec K-12, SEI K-12, Middle grades (Math in progress)	w	f	Boulder Creek School	Gilbert Unified District	u	L	N
Dwight	***Valencia***	Teacher	5th Grade Teacher	11	Worked in bilingual settings 3rd & 5th grades. Grade level Coordinator for 2,3,4 & 5 grades. Bilingual & Multicultural education.	Masters	K-8 Certified. Bilingual endosement	ESL	h	m	Robert M. Bracker	Nogales Unified District	r	S	N

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Panelist Info.

Standard Setting H.S. Mathematics

May 13-14, 2010

First	*Last*	Occupation	Title Current Position	Years Experience	Describe Experience (courses/grades taught)	Highest Educ- Bachelor/ Masters/ Doctorate	Certification	Endorsement	Ethnicity	Gender	School or Affiliation	*District*	Urb/Sub/Rur	Dist S/M/L	Taught SpEd or ESL? Y/N
James	***Bender***	Teacher	H.S. Math Teacher	24	Department Chair. HS. Math. Taught Summer School 21 times for Math, Test Coordinator for school.	Bachelors	Secondary certification	Mathematics & History	w	m	Nogales High School	*Nogales Unified District*	r	S	N
Kelly	***Berg***	Teacher	Grades 10-12, Pre-Calculus and Geometry/Algebra Skill Builder	16	Department Chair. Teach dual enrol@ RioSalado CC/ Pre-Calculus courses	Masters	Secondary Math Education	Math Education and SEI. Community College	w	f	Dobson High School	*Mesa Unified District*	s	L	Y
Mirko	***Chokel***	Teacher	Math ITL, 9-11 Geometry; Alg I	42	Department Chair. Math Formative Assessment, AP Computer Science, Computer Programming, Adult Ed.	Masters	Mathematics Secondary	SEI	w	m	Cienega High School	*Vail School District*	s	L	N
Sharon	***Costantino***	Teacher	Math Teacher - Algebra 1 and Honors; Algebra 2; 9th and 10 grade	13	7th Gr Math, Honors Algebra, Pre-Calc & Honors Calc & Com. College Algebra, AIMS Math Tutorial.	Masters	Secondary Education	Mathematics (30+ Hours Upper Division) SEI (60 hrs)	w	f	Campo Verde	*Gilbert Unified District*	u	L	Y
Tim	***Evans***	Teacher	H.S. Math, Algebra 1, Geometry, College Algebra -grades 9-12	26	Local team leader in both the Algebra 1 and Geometry curriculum areas .		Secondary 7-12	Mathematics, SEI K-12	w	m	Greenway High School	*Glendale Union High School District*	u	L	N
Donald	***Guess***	Administrator	9-12, High School Math,	15	Department Chair..H.S. Math. AP Calculus BC. Adjunct staff at Chandler Gilbert Community College	Masters	Secondary	Gifted, SEI	w	m	Corona Del Sol	*Tempe Union High School District*	u	L	N
Jeremy	***Hendrix***	Teacher	H.S. Math Teacher	5	Presented own AIMS study @ NECC	Masters	Secondary Education	Mathematics, SEI	w	m	Moon Valley High School	*Glendale Union High School District*	u	M	N
Mary	***Hendrix***	Teacher	H.S. Math Teacher	20	All Stars Faculty Advisor. HS and College Mathematics	Masters	Mathematics		b	f	Desert Ridge High School	*Gilbert Unified District*	u	L	Y
Robert	***Hesselton***	Teacher	H.S. Math Teacher	31	11 years @ middle school level. 20 years @ H.S. level. Former Department Chair.		Secondary	Music, Mathematics	w	m	Alchesay High School	*Whiteriver Unified District*	r	S	N

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Panelist Info.

Standard Setting H.S. Mathematics

May 13-14, 2010

First	*Last*	Occupation	Title Current Position	Years Experience	Describe Experience (courses/grades taught)	Highest Educ- Bachelor/ Masters/ Doctorate	Certification	Endorsement	Ethnicity	Gender	School or Affiliation	*District*	Urb/Sub/Rur	Dist S/M/L	Taught SpEd or ESL? Y/N
Jane	***Martin***	Teacher	H.S. Teacher, Aims Math, Algebra I and II	22	7th, 8th and 9th grade math, H.S. Algebra I and II.	Masters	Elementary, and Secondary Math		w	f	Ray High School	*Ray Unified District*	r	S	N
Diane	***McCarthy***	Administrator	Teacher K-12	30	Department Chair. Teacher K-12. Member AZ Town Hall "Who Will Teach Our Children"	Masters	Secondary	Mathematics	w	f	Metro Tech High School	*Phoenix Union High School District*	u	L	N
Indika	***Morris***	Teacher	Gr 9-12 Algebra 1, Algrebra 2, Pre-Calc Dual enrolment courses @ CGCC	23	Department Chair. Teacher K-12	Masters	Secondary Mathematics	SEI	w	f	Queen Creek High School	*Queen Creek Unified District*	s	M	N
Judith	***Reihard***	Teacher	Mathematics Teacher - Geometry/Algebra	46	Mathematics teacher, Geometry. AP Math, Voc Ed math. Co-authored Barons AIMS Math, 2006.	Masters	Secondary	Gifted, SEI	w	f	Marcos De Niza High School	*Tempe Union High School District*	u	L	N
Martin	***Sade***	Teacher	H.S. Teacher Mathematics	5	Department Chair. Math [AP Calculus AB, AP Calculus BC, AP Statistics, Precalculus, Algebra, Geometry]	Ph.D.	Secondary	Mathematics	w	m	Sonoran Science Academy	*Sonoran Science Academy*	s	S	Y
Deborah	***Sather***	Administrator	School Improvement Director	15	NAU Instructor, Adjunct Professor, NPC and Ottawa University.	Ph.D.	Secondary	Curriculum Instruction, Gifted, SEI	na	f	Alchesay High School	*Whiteriver Unified School District*	r	M	Y
James	***Shinkle***	Administrator	Curriculum & Instruction Coordinator for Mathematics	12	HS Algebra and Geometry.	Masters	Secondary	SEI	w	m	Glendale Union High School District	*Glendale Union High School District*	u	M	N
Kimberley	***Thomas***	Teacher	H.S. Math Teacher	14	Taught all H.S. math classes,, all levels. Solutions Team member	Masters	Secondary	Mathematics, SEI	w	f	Valley Vista High School	*Dysart Unified District*	s	M	Y

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Appendix S: Standard Setting Evaluation Forms and Results

ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
FINAL STANDARD SETTING EVALUATION
GRADE 5 WRITING

Directions: Please respond to each statement by placing an "X" in the box corresponding to your opinion. If you have any additional comments, please write them in the space provided at the end of this form.

NOTE: SD=Strongly Disagree; D=Disagree; A=Agree; SA=Strongly Agree

	Statement	SD	D	A	SA
1	The workshop was well organized.	**0**	**0**	**9**	**6**
2	The training materials were helpful.	**0**	**0**	**5**	**10**
3	The method for providing the rating was conceptually clear.	**0**	**1**	**11**	**3**
4	I had a good understanding of what the test was intended to measure.	**0**	**0**	**6**	**9**
5	I could clearly distinguish between student performance levels.	**0**	**1**	**7**	**6**
6	After the first round of ratings, I felt comfortable with the standard setting procedure.	**1**	**3**	**6**	**5**
7	I found the feedback on p-values useful.	**1**	**1**	**6**	**6**
8	I found the feedback reports on the ratings of panelists useful.	**0**	**0**	**5**	**10**
9	I found the feedback on the percentage of the students tested that would be classified at each performance level useful.	**0**	**1**	**4**	**10**
10	Table discussion was open and honest.	**0**	**0**	**0**	**14**
11	I believe that my opinions were considered and valued by my group.	**0**	**0**	**0**	**15**
12	I am confident that my Round 3 ratings for "*Approaches the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**0**	**15**
13	I am confident that my Round 3 ratings for "*Meets the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**0**	**15**
14	I am confident that my Round 3 ratings for "*Exceeds the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**0**	**15**
15	I would defend the standards recommended by our committee.	**0**	**0**	**0**	**15**
16	Overall, I valued the workshop as a professional development experience.	**0**	**0**	**0**	**15**

Please feel free to add comments on any of your responses above, make suggestions to improve future standard settings, and/ or tell us what you liked and did not like about this workshop. Thank you.

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ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
DECISION MAKING FACTOR SURVEY
GRADE 5 WRITING

Directions: Please respond to each statement by placing an "X" in the box corresponding to your opinion.

How much did each of the following factors influence your decisions on the cut score recommendations for the Arizona's Instrument to Measure Standards for Writing?		Not at All	Somewhat	Moderately	Strongly	Very Strongly
1	Your experience in education	**0**	**0**	**0**	**4**	**11**
2	Prior to this item mapping standard setting, your perceptions about students in each of the three performance levels	**1**	**0**	**2**	**7**	**5**
3	Your prior knowledge about standard setting	**4**	**0**	**4**	**3**	**4**
4	The orientation on standard setting	**0**	**0**	**5**	**6**	**4**
5	Your perception of the high stakes versus low stakes context of the Arizona's Instrument to Measure Standards for Writing	**4**	**1**	**3**	**5**	**2**
6	Your thinking about students in each performance level with whom you have had experience	**2**	**1**	**1**	**8**	**3**
7	The consequences of your decisions for No Child Left Behind (NCLB)	**6**	**0**	**5**	**4**	**0**
8	Your concerns about district or state political or economic issues	**6**	**1**	**6**	**2**	**0**
9	Your understanding of the performance level descriptors	**0**	**0**	**2**	**6**	**7**
10	The item p-values that were presented after Round 1	**3**	**1**	**5**	**5**	**1**
11	The impact data presented after Rounds 2 and 3	**1**	**1**	**2**	**6**	**5**
12	The feedback report on the page number cut scores	**1**	**0**	**4**	**5**	**5**
13	Your interactions with your fellow panelists in your group before **Round 2**	**0**	**0**	**1**	**4**	**10**
14	Your interactions with your fellow panelists in your group before **Round 3**	**0**	**0**	**2**	**4**	**9**
15	Your interactions with your fellow panelists in the large group discussion	**0**	**0**	**2**	**3**	**10**

Directions: Please respond to each statement by placing an "X" next to the category that best describes your school.

1. In general, my school/educational institution **mostly** serves students in the following socioeconomic status (choose one):

   5___ Lower 1___ Lower/Middle 4___ Middle 5___ Upper Middle 0___ Upper

2. My educational institution is a charter school (choose one): 0___ Yes 14___No

ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
FINAL STANDARD SETTING EVALUATION
GRADE 6 WRITING

Directions: Please respond to each statement by placing an "X" in the box corresponding to your opinion. If you have any additional comments, please write them in the space provided at the end of this form.

NOTE: SD=Strongly Disagree; D=Disagree; A=Agree; SA=Strongly Agree

	Statement	SD	D	A	SA
1	The workshop was well organized.	**0**	**0**	**7**	**6**
2	The training materials were helpful.	**0**	**0**	**4**	**9**
3	The method for providing the rating was conceptually clear.	**0**	**1**	**8**	**4**
4	I had a good understanding of what the test was intended to measure.	**0**	**0**	**5**	**8**
5	I could clearly distinguish between student performance levels.	**0**	**0**	**8**	**5**
6	After the first round of ratings, I felt comfortable with the standard setting procedure.	**0**	**1**	**6**	**5**
7	I found the feedback on p-values useful.	**0**	**1**	**2**	**10**
8	I found the feedback reports on the ratings of panelists useful.	**0**	**0**	**3**	**10**
9	I found the feedback on the percentage of the students tested that would be classified at each performance level useful.	**0**	**0**	**4**	**9**
10	Table discussion was open and honest.	**0**	**0**	**0**	**13**
11	I believe that my opinions were considered and valued by my group.	**0**	**0**	**1**	**12**
12	I am confident that my Round 3 ratings for "*Approaches the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**3**	**10**
13	I am confident that my Round 3 ratings for "*Meets the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**3**	**10**
14	I am confident that my Round 3 ratings for "*Exceeds the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**4**	**9**
15	I would defend the standards recommended by our committee.	**0**	**0**	**2**	**11**
16	Overall, I valued the workshop as a professional development experience.	**0**	**0**	**1**	**12**

Please feel free to add comments on any of your responses above, make suggestions to improve future standard settings, and/ or tell us what you liked and did not like about this workshop. Thank you.

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ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
DECISION MAKING FACTOR SURVEY
GRADE 6 WRITING

Directions: Please respond to each statement by placing an "X" in the box corresponding to your opinion.

How much did each of the following factors influence your decisions on the cut score recommendations for the Arizona's Instrument to Measure Standards for Writing?		Not at All	Somewhat	Moderately	Strongly	Very Strongly
1	Your experience in education	**0**	**0**	**1**	**4**	**6**
2	Prior to this item mapping standard setting, your perceptions about students in each of the three performance levels	**0**	**1**	**2**	**4**	**4**
3	Your prior knowledge about standard setting	**4**	**0**	**2**	**3**	**2**
4	The orientation on standard setting	**1**	**0**	**3**	**5**	**3**
5	Your perception of the high stakes versus low stakes context of the Arizona's Instrument to Measure Standards for Writing	**2**	**0**	**3**	**5**	**2**
6	Your thinking about students in each performance level with whom you have had experience	**0**	**0**	**2**	**8**	**1**
7	The consequences of your decisions for No Child Left Behind (NCLB)	**5**	**1**	**4**	**2**	**0**
8	Your concerns about district or state political or economic issues	**4**	**1**	**1**	**4**	**1**
9	Your understanding of the performance level descriptors	**0**	**0**	**2**	**7**	**3**
10	The item p-values that were presented after Round 1	**1**	**2**	**1**	**7**	**1**
11	The impact data presented after Rounds 2 and 3	**0**	**2**	**1**	**7**	**2**
12	The feedback report on the page number cut scores	**0**	**2**	**2**	**6**	**2**
13	Your interactions with your fellow panelists in your group before **Round 2**	**0**	**1**	**1**	**8**	**2**
14	Your interactions with your fellow panelists in your group before **Round 3**	**0**	**0**	**3**	**7**	**2**
15	Your interactions with your fellow panelists in the large group discussion	**0**	**1**	**3**	**5**	**3**

Directions: Please respond to each statement by placing an "X" next to the category that best describes your school.

1. In general, my school/educational institution **mostly** serves students in the following socioeconomic status (choose one):

___ Lower 7___ Lower/Middle 4___ Middle ___ Upper Middle 1___ Upper

2. My educational institution is a charter school (choose one): 2___ Yes 10___No

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ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
FINAL STANDARD SETTING EVALUATION
GRADE 7 WRITING

Directions: Please respond to each statement by placing an "X" in the box corresponding to your opinion. If you have any additional comments, please write them in the space provided at the end of this form.

NOTE: SD=Strongly Disagree; D=Disagree; A=Agree; SA=Strongly Agree

	Statement	SD	D	A	SA
1	The workshop was well organized.	**0**	**0**	**8**	**6**
2	The training materials were helpful.	**0**	**1**	**6**	**7**
3	The method for providing the rating was conceptually clear.	**0**	**2**	**4**	**7**
4	I had a good understanding of what the test was intended to measure.	**0**	**1**	**5**	**8**
5	I could clearly distinguish between student performance levels.	**0**	**2**	**5**	**7**
6	After the first round of ratings, I felt comfortable with the standard setting procedure.	**0**	**1**	**11**	**2**
7	I found the feedback on p-values useful.	**0**	**1**	**6**	**6**
8	I found the feedback reports on the ratings of panelists useful.	**0**	**0**	**4**	**10**
9	I found the feedback on the percentage of the students tested that would be classified at each performance level useful.	**0**	**0**	**7**	**7**
10	Table discussion was open and honest.	**0**	**0**	**4**	**10**
11	I believe that my opinions were considered and valued by my group.	**0**	**2**	**3**	**9**
12	I am confident that my Round 3 ratings for "*Approaches the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**6**	**8**
13	I am confident that my Round 3 ratings for "*Meets the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**5**	**9**
14	I am confident that my Round 3 ratings for "*Exceeds the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**6**	**8**
15	I would defend the standards recommended by our committee.	**0**	**0**	**5**	**9**
16	Overall, I valued the workshop as a professional development experience.	**0**	**0**	**2**	**12**

Please feel free to add comments on any of your responses above, make suggestions to improve future standard settings, and/ or tell us what you liked and did not like about this workshop. Thank you.

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ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
DECISION MAKING FACTOR SURVEY
GRADE 7 WRITING

Directions: Please respond to each statement by placing an "X" in the box corresponding to your opinion.

	How much did each of the following factors influence your decisions on the cut score recommendations for the Arizona's Instrument to Measure Standards for Writing?	Not at All	Somewhat	Moderately	Strongly	Very Strongly
1	Your experience in education	**0**	**0**	**1**	**1**	**12**
2	Prior to this item mapping standard setting, your perceptions about students in each of the three performance levels	**0**	**1**	**0**	**9**	**3**
3	Your prior knowledge about standard setting	**2**	**2**	**2**	**5**	**3**
4	The orientation on standard setting	**3**	**0**	**0**	**8**	**3**
5	Your perception of the high stakes versus low stakes context of the Arizona's Instrument to Measure Standards for Writing	**1**	**1**	**5**	**4**	**3**
6	Your thinking about students in each performance level with whom you have had experience	**0**	**1**	**1**	**11**	**1**
7	The consequences of your decisions for No Child Left Behind (NCLB)	**3**	**3**	**7**	**1**	**0**
8	Your concerns about district or state political or economic issues	**8**	**3**	**3**	**0**	**0**
9	Your understanding of the performance level descriptors	**0**	**0**	**2**	**10**	**2**
10	The item p-values that were presented after Round 1	**0**	**3**	**6**	**4**	**1**
11	The impact data presented after Rounds 2 and 3	**0**	**0**	**6**	**6**	**3**
12	The feedback report on the page number cut scores	**0**	**0**	**6**	**8**	**1**
13	Your interactions with your fellow panelists in your group before **Round 2**	**0**	**0**	**3**	**7**	**5**
14	Your interactions with your fellow panelists in your group before **Round 3**	**0**	**0**	**3**	**4**	**8**
15	Your interactions with your fellow panelists in the large group discussion	**0**	**0**	**2**	**3**	**9**

Directions: Please respond to each statement by placing an "X" next to the category that best describes your school.

1. In general, my school/educational institution **mostly** serves students in the following socioeconomic status (choose one):

   4___ Lower 4___ Lower/Middle 5___ Middle ___ Upper Middle ___ Upper

2. My educational institution is a charter school (choose one): 1___ Yes 12 ___No

ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
FINAL STANDARD SETTING EVALUATION
HIGH SCHOOL WRITING

Directions: Please respond to each statement by placing an "X" in the box corresponding to your opinion. If you have any additional comments, please write them in the space provided at the end of this form.

NOTE: SD=Strongly Disagree; D=Disagree; A=Agree; SA=Strongly Agree

	Statement	SD	D	A	SA
1	The workshop was well organized.	**0**	**0**	**5**	**7**
2	The training materials were helpful.	**0**	**0**	**4**	**8**
3	The method for providing the rating was conceptually clear.	**0**	**0**	**8**	**4**
4	I had a good understanding of what the test was intended to measure.	**0**	**0**	**4**	**8**
5	I could clearly distinguish between student performance levels.	**0**	**0**	**8**	**3**
6	After the first round of ratings, I felt comfortable with the standard setting procedure.	**0**	**1**	**7**	**4**
7	I found the feedback on p-values useful.	**0**	**0**	**6**	**6**
8	I found the feedback reports on the ratings of panelists useful.	**0**	**0**	**7**	**4**
9	I found the feedback on the percentage of the students tested that would be classified at each performance level useful.	**0**	**0**	**5**	**7**
10	Table discussion was open and honest.	**0**	**0**	**1**	**11**
11	I believe that my opinions were considered and valued by my group.	**0**	**0**	**2**	**10**
12	I am confident that my Round 3 ratings for "*Approaches the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**2**	**10**
13	I am confident that my Round 3 ratings for "*Meets the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**3**	**9**
14	I am confident that my Round 3 ratings for "*Exceeds the Standard"* reflect the knowledge, skills, and abilities described in the performance level descriptors.	**0**	**0**	**3**	**9**
15	I would defend the standards recommended by our committee.	**0**	**0**	**2**	**10**
16	Overall, I valued the workshop as a professional development experience.	**0**	**0**	**1**	**11**

Please feel free to add comments on any of your responses above, make suggestions to improve future standard settings, and/ or tell us what you liked and did not like about this workshop. Thank you.

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ARIZONA'S INSTRUMENT TO MEASURE STANDARDS
STANDARD SETTING
DECISION MAKING FACTOR SURVEY
HIGH SCHOOL WRITING

Directions: Please respond to each statement by placing an "X" in the box corresponding to your opinion.

How much did each of the following factors influence your decisions on the cut score recommendations for the Arizona's Instrument to Measure Standards for Writing?		Not at All	Somewhat	Moderately	Strongly	Very Strongly
1	Your experience in education	**0**	**0**	**1**	**9**	**2**
2	Prior to this item mapping standard setting, your perceptions about students in each of the three performance levels	**0**	**1**	**4**	**6**	**1**
3	Your prior knowledge about standard setting	**4**	**1**	**2**	**5**	**0**
4	The orientation on standard setting	**0**	**2**	**3**	**7**	**0**
5	Your perception of the high stakes versus low stakes context of the Arizona's Instrument to Measure Standards for Writing	**3**	**2**	**1**	**4**	**2**
6	Your thinking about students in each performance level with whom you have had experience	**1**	**0**	**3**	**4**	**2**
7	The consequences of your decisions for No Child Left Behind (NCLB)	**7**	**1**	**2**	**1**	**1**
8	Your concerns about district or state political or economic issues	**6**	**2**	**2**	**1**	**1**
9	Your understanding of the performance level descriptors	**0**	**1**	**4**	**4**	**3**
10	The item p-values that were presented after Round 1	**1**	**4**	**5**	**2**	**0**
11	The impact data presented after Rounds 2 and 3	**0**	**1**	**3**	**6**	**2**
12	The feedback report on the page number cut scores	**0**	**0**	**6**	**4**	**2**
13	Your interactions with your fellow panelists in your group before **Round 2**	**0**	**0**	**3**	**5**	**4**
14	Your interactions with your fellow panelists in your group before **Round 3**	**0**	**0**	**3**	**5**	**4**
15	Your interactions with your fellow panelists in the large group discussion	**0**	**1**	**2**	**4**	**5**

Directions: Please respond to each statement by placing an "X" next to the category that best describes your school.

1. In general, my school/educational institution **mostly** serves students in the following socioeconomic status (choose one):

2___ Lower 4___ Lower/Middle 4___ Middle 2___ Upper Middle ___ Upper

2. My educational institution is a charter school (choose one): 1___ Yes 11___No

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AIMS Writing Standard Setting Evaluation Comments

Grade 5

A number line would be helpful as a tool to determine "bookmarks."
It would be nice to have a chart that shows the number line so that all members of the group can make sure to look at each item carefully.
I better understood how to set the standards for the "bubble" students when it was presented a second time using a number line.
At times, because of the pace in which our group functioned we were waiting on data to continue in the process.
We would have benefitted from discussion of the practice (or trial) item ratings. It would have been helpful to have paper with number lines available for ratings.
Fun Stuff!
Great discussions and feedback (technology).

Grade 6

Facilitator was great in that he gave clear direction as to what was needed and expected and was able to adjust to levels of understanding and performance of each group.
Dan – facilitator was well organized and provided good leadership.
It was a wonderful and valuable experience. I hope to be allowed to participate in many more assessment workshops.
I really enjoyed the opportunity to work with peers in a standards based setting. I learned a lot and I hope to work on future AIMS committees.
This is by far may favorite committee that I have served on thus far for ADE.
The table discussions and the table leaders added to the overall process in my decision making.
Thank you.

Grade 7

I feel this is an important process for the children of Arizona.
The process we went through was very logical and non-intimidating.
Pearson facilitator and table leader did an outstanding job helping participants through the process.
Facilitator needs to monitor the table leader; Day1 – table leader over talked all group members. Needed an intervention.
Have a set time each day to arrive and leave. There have been last minute changes in time that I was never made aware of. I enjoyed learning and participating in the process.
☺ (Panelist drew a smiley face.)
A revised schedule of time changes needed to be emailed to all participants. Many of us had itineraries with incorrect "times" on them. Several times on Thurs. we had "dead" time while waiting for reports to be printed. One tablemate tended to be too outspoken and interrupted others constantly. She was very knowledgeable, BUT…

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High School

I thoroughly enjoyed the work I did with my table – awesome professionals. I appreciated the quick response and explanations offered by ADE and Pearson to all questions.
It was interesting to note that one strongly opinionated non-teacher often tried to dominate group discussion. I realize the committee needs to have contributions from varied backgrounds, but the input from this individual was somewhat negative.
The committee was well organized and presentation was clear and informative. Suggestion – allow members to look at MC test before discussing PL recommendations.
I thought it would be better to take the test first.
I would recommend having the members take the test first, the word on the PLDs.
My group rocks! All participants were respectful, helpful, and professional! Well worth the time! Thank you for the opportunity! Take exam BEFORE starting.
This was the first time I served on a standards committee. I learned a lot and feel much more confident in my abilities now. My group members were helpful as were the ADE/Pearson facilitators and staff. We went through a process that required thorough examination of the questions and issues to arrive at out recommendations.
I greatly appreciated the opportunity to meet on a standard setting committee. The experience was invaluable; working with peers from other parts of the state, as well as the process itself.

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