

**Missouri**  
Assessment Program

**Final  
Bookmark Standard Setting  
Technical Report 2005**

for

**Grades 3, 4, 5, 6, 7, 8, and 11  
Communication Arts  
&  
Grades 3, 4, 5, 6, 7, 8, and 10  
Mathematics**

Submitted to  
Missouri Department of Elementary and Secondary Education  
May 2006

 **CTB  
McGraw-Hill**

Developed and published by CTB/McGraw-Hill LLC, a subsidiary of The McGraw-Hill Companies, Inc., 20 Ryan Ranch Road, Monterey, California 93940-5703. Copyright © 2005 by Missouri Department of Elementary and Secondary Education. All rights reserved. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of Missouri Department of Elementary and Secondary Education and the publisher. This work is based on the Bookmark Standard Setting Procedure, copyright © 2004 by CTB/McGraw-Hill LLC. Bookmark Standard Setting Procedure is a trademark of The McGraw-Hill Companies, Inc.

# Table of Contents

---

## Section A

Missouri Standard Setting Overview ..... A1 to A2

## Section B

Round-by-round Synopsis of the Standard Setting ..... B1 to B23

## Section C

Master Agendas for the Missouri Standard Setting..... C1 to C8

## Section D

Table Leader Training Overheads .....D1 to D8

## Section E

Detailed Results of the Standard Setting ..... E1 to E210

## Section F

Participants' Recommended Cut Scores Plus and Minus One, Two, and  
Three Standard Errors with Associated Impact Data ..... F1 to F42

## Section G

Graphical Representations of Participants' Judgments and Standard Errors  
..... G1 to G84

## Section H

Participant Training Materials ..... H1 to H26

## Section I

Participant Evaluation of the Missouri Standard Setting ..... I1 to I23

## Section J

Memo Sent to DESE November 2005 Regarding Response Probability and  
the Bookmark Procedure ..... J1 to J5

## Section A

### Missouri Standard Setting Overview

## Executive Summary

CTB/McGraw-Hill staff conducted the Missouri Standard Setting using a Modified Bookmark Standard Setting Procedure. The workshop was held in Osage Beach, Missouri, on December 6-9, 2005, to establish achievement level cut scores for Grades 3-8 and 11 Communication Arts and Grades 3-8 and 10 Mathematics. Participants in each grade/content area participated in three rounds of activities in which they determined three cut scores (*Basic*, *Proficient*, and *Advanced*), which define four achievement levels: *Below Basic*, *Basic*, *Proficient*, and *Advanced*.

Participants were recruited from across Missouri to establish the cut scores. Each grade/content area had approximately eight participants. The Missouri Department of Elementary and Secondary Education (DESE) balanced the standard setting committee in terms of relevant demographic characteristics (e.g., geographic location, school size).

Table 1 summarizes the cut scores and associated impact data recommended by participants in each grade/content area in the final round (Round 3) of discussion and voting.

**Table 1. Participant-recommended Cut Scores and Associated Impact Data Based on Final Round**

		Cut Score			Impact Data				
Content Area	Grade	<i>Basic</i>	<i>Prof.</i>	<i>Adv.</i>	<i>Below Basic</i>	<i>Basic</i>	<i>Prof.</i>	<i>Adv.</i>	<i>Prof &amp; Adv</i>
<b>Comm. Arts</b>	<b>3</b>	587	642	668	10.1	46	26.5	17.4	43.9
	<b>4</b>	605	654	687	12.5	42.7	29.4	15.4	44.8
	<b>5</b>	630	669	699	14.9	40.4	29	15.7	44.7
	<b>6</b>	623	671	703	11.6	44.7	31.7	12	43.7
	<b>7</b>	622	674	712	14.9	41	31.7	12.4	44.1
	<b>8</b>	627	691	714	9.6	47.7	22.3	20.4	42.7
	<b>11</b>	650	711	740	12.3	43.9	27.4	16.4	43.8
<b>Math</b>	<b>3</b>	559	620	667	11.1	45.1	35	8.8	43.8
	<b>4</b>	589	643	677	11.6	44.3	32.1	12	44.1
	<b>5</b>	599	658	699	12.7	42.9	33.4	11	44.4
	<b>6</b>	613	671	710	13.4	42.3	32.6	11.7	44.3
	<b>7</b>	631	676	710	21.4	34.6	29.5	14.5	44.0
	<b>8</b>	658	702	741	24.6	35.7	28.2	11.5	39.7
	<b>10</b>	683	723	777	27.2	28.4	34.2	10.2	44.4

The impact data in Table 1 reflect the data that were shown to participants at the time of the workshop. The impact data are based on Form A of the 2005 field-test administration.

## Smoothing

Table 2 shows the cut scores and associated impact data for each grade/content area after participant smoothing. Grade 7 Mathematics raised its *Advanced* cut score to adjust the percentage of students classified as *Advanced* in that grade to be more similar to those of other grades. Grades 5 and 6 Communication Arts lowered their *Basic* cut scores to create a smoother percentage classified as *Basic* in those grades. Grades 8 and 11 Communication Arts raised their *Advanced* cut scores to adjust the percentage of students classified as *Advanced* in those grades to be more similar to those of other grades.

**Table 2. Cut Scores and Associated Impact Data after Cross-grade Smoothing**

Content Area	Grade	Cut Score			Impact Data			
		<i>Basic</i>	<i>Prof.</i>	<i>Adv.</i>	<i>Below Basic</i>	<i>Basic</i>	<i>Prof.</i>	<i>Adv.</i>
Comm. Arts	3	587	642	668	10.1	46.0	26.5	17.4
	4	605	654	687	12.5	42.7	29.4	15.4
	5	620	669	699	10.1	45.2	29.0	15.7
	6	621	671	703	11.0	45.3	31.7	12.0
	7	622	674	712	14.9	41.0	31.7	12.4
	8	627	691	720	9.6	47.7	27.3	15.4
	11	650	711	745	12.3	43.9	30.5	13.3
Math	3	559	620	667	11.1	45.1	35.0	8.8
	4	589	643	677	11.6	44.3	32.1	12.0
	5	599	658	699	12.7	42.9	33.4	11.0
	6	613	671	710	13.4	42.3	32.6	11.7
	7	631	676	714	21.4	34.6	32.3	11.7
	8	658	702	741	24.6	35.7	28.2	11.5
	10	683	723	777	27.2	28.4	34.2	10.2

This report summarizes the results of the Missouri Standard Setting. A round-by-round synopsis is included in Section B. The Master Agenda is included in Section C. The overheads presented to Table Leaders during training and orientation are included in Section D. In Section E, detailed results are presented of the participants' judgments for each grade/content area. In Section F, estimates are given of the percent of students in each achievement level at plus/minus one, two, and three standard errors of the participants' recommended final round cut scores for each grade/content area. Section G contains graphical representations of participants' final round judgments and standard errors. All training materials given to participants are provided in Section H. The check set is also included in Section H. Section I contains the results of the participant evaluation of the Missouri Standard Setting. Section J contains a memo sent to DESE prior to the standard setting workshop summarizing the use of the response probability (RP) criterion in the Bookmark Procedure as well as the need to use a different RP criterion from the one typically used in the Bookmark Procedure.

## Section B

### Round-by-round Synopsis of the Standard Setting

## **Missouri Standard Setting**

Staff from CTB/McGraw-Hill conducted Missouri Standard Setting in Osage Beach, Missouri, on December 6–9, 2005. A Modified Bookmark Standard Setting Procedure (MBSSP) was used to set standards for 14 grade/content areas: Grades 3–8 and 11 Communication Arts and Grades 3–8 and 10 Mathematics. Participants in each grade/content area participated in three rounds of activities in which they recommended three cut scores (*Basic*, *Proficient*, and *Advanced*), which define four achievement levels: *Below Basic*, *Basic*, *Proficient*, and *Advanced*.

Participants were recruited from across the state of Missouri to recommend cut scores. Each grade/content area (e.g., Grade 3 Mathematics) had approximately eight participants. Within each content area, the Missouri Department of Elementary and Secondary Education (DESE) divided participants into 7 groups that were balanced in terms of relevant demographic characteristics (e.g., geographic location, school size).

The Missouri Standard Setting consisted of training, orientation, three rounds of judgments, cross-grade discussions, and description writing. The Missouri Standard Setting lasted three days, with the first half-day devoted to Table Leader training, and the remaining two-and-a-half days for standard setting and description writing.

### **Modified Bookmark Standard Setting Procedure**

A modification of the Bookmark Standard Setting Procedure (MBSSP; Lewis, Mitzel, and Green, 1996) was necessary because of the recently-passed Missouri Senate Bill 1080, which “amends certain policies with regard to MAP testing by stating that, no later than June 30, 2006, the State Board of Education shall:

- 1) Align the performance standards of the MAP so that such indicators meet, but do not exceed, the performance standards of the National Assessment of Educational Progress (NAEP) exam; and
- 2) Administer any other adjustments necessary in order to aid the state in conforming to federal standards, including the institution of yearly examination of students in the required subject areas where compelled by federal regulations.” (Missouri National Education Association, 2004).

This bill was passed so that “Missouri schools are judged according to an appropriate national standard when determining Adequate Yearly Progress” (Missouri National Education Association, 2004) under the federal NCLB Act.

This law has been interpreted such that the *Proficient* achievement level will meet, but not exceed, the NAEP performance standards. In other words, the percent of students who attain *Proficient* on MAP should be similar to or slightly higher than the percent attaining *Proficient* on NAEP. The percentage of students in the other three achievement levels may be allowed to vary between NAEP and MAP.

The Missouri “TAC recommends that proficient be set to yield percent proficient or better at levels comparable to the national sample for NAEP” (Memorandum from Andrew Porter, July 7, 2004). Moreover, “these performance standards should be set such that the percent in each labeled [performance] group is fairly ‘smooth’ across grade levels” (Memorandum from Andrew Porter, July 7, 2004).

## **Bookmark Roles**

### **CTB Staff**

The CTB Standard Setting Team worked with staff from DESE to design, organize and conduct the Missouri Standard Setting. The CTB Standard Setting Team is comprised of Karla Egan, Ph.D., Michaela Gelin, Ph.D., Ricardo Mercado, Dorothy Tele’a, and Adele Brandstrom. Dr. Egan is CTB’s Research Project Manager for all standard setting activities and workshops. Dr. Gelin is a Research Scientist, Mr. Mercado and Ms. Brandstrom are Standard Setting Specialists, and Ms. Tele'a is a Research Associate for the CTB Standard Setting Team.

Prior to the Missouri Standard Setting, this team prepared all materials for the workshop. During the workshop, this team was responsible for facilitating the workshop, training participants, entering participant results into a database, and tracking secure materials. Following the workshop, this team prepared the Standard Setting Technical Report.

Shu-Jing Yen, Ph.D., is the CTB Research Project Manager for the Missouri contract. CTB Research Associate Matthew Gordon assisted with data entry and materials collection during the standard setting workshop.

Paige Fordice, CTB’s Program Manager for Missouri, attended the standard setting. Christy Montejo, CTB’s Program Office Coordinator for Missouri, did not attend the standard setting. Ms. Fordice and Ms. Montejo arranged the logistics associated with the standard setting.

Jamin Huggins, Suzanne Romero, Mark Rathjen and Dan Dube from CTB Content Development led the Description Writing activities.

### **Group Leaders**

Group Leaders administrated the standard setting for those major portions in which participants were working. In each content area, the Group Leader served as a facilitator and was in charge of time management, focusing the participants on the task at hand, and interacting with the participants. The Group Leader also facilitated large-group discussions in Rounds 2 and 3 following the presentation of impact data. The Group Leaders were also in charge of security and data management. They collected the rating forms from participants and communicated with CTB Research and DESE staff. The Group Leaders did not vote in any grade/content area. The Group Leaders for each content area were provided by CTB and are summarized in Table 1.

**Table 1. Group Leaders for Each Content Area**

<b>Content Area</b>	<b>Group Leader</b>
<b>Communication Arts</b>	Ricardo Mercado
<b>Mathematics</b>	Michaela Gelin

**Table Leaders**

Each grade/content area had one Table Leader. Table Leaders were non-voting participants because they work as Regional Facilitators for DESE. Their primary role was to monitor the group discourse, which included keeping their groups focused on the tasks, facilitating discussions, and helping maintain the schedule.

**Participants**

DESE invited approximately eight participants per grade/content area from across Missouri to recommend cut scores for the Missouri Assessment Program. Participants drew upon their expertise and insight to help set performance standards and were full, voting members of their standard setting committees. Table 2 shows the number of participants in each content area.

**Table 2. Number of Participants in Each Content Area**

<b>Content Area</b>	<b>Number of Participants</b>
<b>Communication Arts</b>	55
<b>Mathematics</b>	55

Within each content area DESE divided participants into seven grade-level groups that were balanced in terms of relevant demographic characteristics (e.g., geographic location, school size). Hence, there were 14 grade/content areas for the standard setting. Each grade/content area had a Table Leader. Following the standard setting, participants completed evaluations from which demographic information about the participants was summarized. Table 3 and Table 4 show the educational background and work experience, respectively, of the participants in each grade/content area, as self-reported on participant evaluations.

**Table 3. Educational Background of Participants in Each Grade/content Area**

<b>Content Area</b>	<b>Grade</b>	<b>N</b>	<b>Bachelor's</b>	<b>Master's</b>	<b>Doctorate</b>
<b>Overall</b>		96	18.8%	72.9%	8.3%
<b>Communication Arts</b>	3	7	0.0%	100.0%	0.0%
	4	4	25.0%	75.0%	0.0%
	5	8	25.0%	75.0%	0.0%
	6	7	14.3%	85.7%	0.0%
	7	5	0.0%	60.0%	40.0%
	8	6	16.7%	66.7%	16.7%
	11	7	14.3%	57.1%	28.6%
<b>Mathematics</b>	3	7	0.0%	85.7%	14.3%
	4	8	50.0%	50.0%	0.0%
	5	7	14.3%	85.7%	0.0%
	6	8	25.0%	75.0%	0.0%
	7	5	0.0%	100.0%	0.0%
	8	9	11.1%	77.8%	11.1%
	10	8	50.0%	37.5%	12.5%

**Table 4. Work Experience of Participants in Each Grade/content Area**

<b>Content Area</b>	<b>Grade</b>	<b>N</b>	<b>Teacher</b>	<b>Administrator</b>	<b>Other</b>
<b>Overall</b>		100	53.0%	24.0%	23.0%
<b>Communication Arts</b>	3	7	42.9%	28.6%	28.6%
	4	6	66.7%	16.7%	16.7%
	5	8	62.5%	0.0%	37.5%
	6	7	57.1%	14.3%	28.6%
	7	6	33.3%	50.0%	16.7%
	8	7	57.1%	28.6%	14.3%
	11	7	42.9%	28.6%	28.6%
<b>Mathematics</b>	3	7	42.9%	42.9%	14.3%
	4	8	50.0%	37.5%	12.5%
	5	7	57.1%	14.3%	28.6%
	6	8	50.0%	12.5%	37.5%
	7	5	60.0%	20.0%	20.0%
	8	9	55.6%	22.2%	22.2%
	10	8	62.5%	25.0%	12.5%

## Bookmark Materials

### Ordered Item Booklets

The Ordered Item Booklets (OIBs) were comprised of items from the 2005 field-test administration as well as items from the 2005 operational form. The items were ordered according to their scale location using response probability of 0.55 (RP55). Table 5 lists the number of score points in each OIB by grade/content area.

The majority of items comprising the OIBs were items selected for the 2006 or 2007 operational test form. A handful of items were selected from the unused 2005 field-test items as well as the 2005 operational form. Table 5a summarizes the number of items pulled from the unused field-test pool and/or the 2005 operational form. These items were only used to augment sections of the OIB where there were few items covering a portion of the scale.

The choice of RP55 represents a deviation from the traditional implementation of the Bookmark procedure where RP67 is used. The choice of the RP value may be thought of as a methodological one. The choice of RP value affects the distribution of items in the OIB across the scale continuum. In the Bookmark Procedure, it is important that items are well-distributed across the scale continuum. For the MAP tests, the use of RP55 best distributed items across the continuum for the majority of grades in both content areas. The use of the traditional RP67 resulted in no or few items distributed towards the low end of the scale in almost all grades in both content areas. The memo originally sent to DESE alerting them to the issue and recommending the use of RP55 may be found in Section J.

**Table 5. Number of Score Points in Ordered Item Booklets by Grade/content Area**

Content Area	Grade	Number of Score Points in OIB
<b>Communication Arts</b>	3	90
	4	84
	5	82
	6	77
	7	89
	8	79
	11	92
<b>Mathematics</b>	3	94
	4	96
	5	102
	6	100
	7	92
	8	95
	10	95

**Table 5a. Number of Items used to Augment the Ordered Item Booklets and the Original Source(s) of the Item(s)**

<b>Grade</b>	<b>Communication Arts</b>	<b>Test Administration</b>	<b>Mathematics</b>	<b>Test Administration</b>
<b>3</b>	5	2005 Operational	5	Unused Field Test
<b>4</b>	3	Unused Field Test	None	-
<b>5</b>	3	Unused Field Test	None	-
<b>6</b>	None	-	None	-
<b>7</b>	None	-	7	Unused Field Test
<b>8</b>	None	-	7	Unused Field Test
<b>11/10</b>	1	2005 Operational	5	2005 Operational; Unused Field Test

The content coverage of the Ordered Item Booklets (OIBs) versus that of the test Blueprints is shown in Tables 5b and 5c for Communication Arts and Mathematics, respectively. These tables show the number and percent of points assigned to each content standard for the test and for the OIB. When items are selected for augmentation purposes, efforts are made to balance the content coverage of the OIB so that it is similar to the test Blueprint. In general, Tables 5b and 5c show that for almost all content standards the difference in the content coverage is 10% or less. There are four tests for which the content coverage varies between 11 and 15%. In all cases, it was necessary to use the augmented items to provide adequate coverage of the test scale by the items.

**Table 5b. Content Coverage in Test Blueprint vs. Ordered Item Booklets, Communication Arts**

Comm. Arts Test Blueprint			OIB Coverage		Difference
<b>Grade 3</b>			<b>Grade 3</b>		
Comm. Arts Knowledge Standard	# of Points	% of Points	# of Points	% of Points	
1 Speaking/writing standard English	21	28.5%	20	22.2%	-6%
2 & 3 Reading (2-fiction; 3-non-fiction)	47	63.5%	58	64.4%	1%
4 Writing formally	6	8%	12	13.3%	5%
Total	74	100%	90	100%	
<b>Grade 4</b>			<b>Grade 4</b>		
Comm. Arts Knowledge Standard	# of Points	% of Points	# of Points	% of Points	
1 Speaking/writing standard English	18	26.5%	10	11.9%	-15%
2 & 3 Reading (2-fiction; 3-non-fiction)	50	73.5%	70	83.3%	10%
4 Writing formally			4	4.8%	5%
Total	68	100%	84	100%	
<b>Grade 5</b>			<b>Grade 5</b>		
Comm. Arts Knowledge Standard	# of Points	% of Points	# of Points	% of Points	
1 Speaking/writing standard English	21	29.5%	12	14.6%	-15%
2 & 3 Reading (2-fiction; 3-non-fiction)	50	70.5%	66	80.5%	10%
4 Writing formally			4	4.9%	5%
Total	71	100%	82	100%	
<b>Grade 6</b>			<b>Grade 6</b>		
Comm. Arts Knowledge Standard	# of Points	% of Points	# of Points	% of Points	
1 Speaking/writing standard English	18	26.5%	13	16.9%	-10%
2 & 3 Reading (2-fiction; 3-non-fiction)	50	73.5%	61	79.2%	6%
4 Writing formally			3	3.9%	4%
Total	68	100%	77	100%	

**Grade 7**

<b>Comm. Arts Knowledge Standard</b>	<b># of Points</b>	<b>% of Points</b>
1 Speaking/writing standard English	22	27.50%
2 & 3 Reading (2-fiction; 3-non-fiction)	50	62.50%
4 Writing formally	8	10%
Total	80	100%

**Grade 7**

<b># of Points</b>	<b>% of Points</b>
16	18.0%
60	67.4%
13	14.6%
89	100%

**Difference**

-10%

5%

5%

**Grade 8**

<b>Comm. Arts Knowledge Standard</b>	<b># of Points</b>	<b>% of Points</b>
1 Speaking/writing standard English	24	33%
2 & 3 Reading (2-fiction; 3-non-fiction)	48	67%
4 Writing formally		
Total	72	100%

**Grade 8**

<b># of Points</b>	<b>% of Points</b>
15	19.0%
62	78.5%
2	2.5%
79	100%

-14%

11%

3%

**Grade 11**

<b>Comm. Arts Knowledge Standard</b>	<b># of Points</b>	<b>% of Points</b>
1 Speaking/writing standard English	20	26%
2 & 3 Reading (2-fiction; 3-non-fiction)	50	66%
4 Writing formally	6	8%
Total	76	100%

**Grade 11**

<b># of Points</b>	<b>% of Points</b>
15	16.3%
64	69.6%
13	14.1%
92	100%

-10%

4%

6%

**Table 5c. Content Coverage in Test Blueprint vs. Ordered Item Booklets, Mathematics**

Mathematics Test Blueprint				OIB Coverage		Difference
<b>Grade 3 Math</b>				<b>Grade 3</b>		
Grade Level Expectations	Emphasis	Points	# of Items	Emphasis	Points	
Number and Operations	35%	25	22	22%	21	-13%
Geometric and Spatial	20%	14	13	17%	16	-3%
Measurement	15%	10	9	19%	18	4%
Data and Probability	10%	7	6	19%	18	9%
Algebraic Relationships	20%	14	13	22%	21	2%
Total	100%	70	63	100%	94	
<b>Grade 4 Math</b>				<b>Grade 4</b>		
Grade Level Expectations	Emphasis	Points	# of Items	Emphasis	Points	
Number and Operations	25%	19	14	21%	20	-4%
Geometric and Spatial	20%	16	12	22%	21	2%
Measurement	20%	16	12	22%	21	2%
Data and Probability	15%	11	8	13%	12	-3%
Algebraic Relationships	20%	16	12	23%	22	3%
Total	100%	78	58	100%	96	
<b>Grades 5 Math</b>				<b>Grade 5</b>		
Grade Level Expectations	Emphasis	Points	# of Items	Emphasis	Points	
Number and Operations	20%	14	12	15%	15	-5%
Geometric and Spatial	20%	14	13	23%	23	3%
Measurement	20%	14	12	22%	22	2%
Data and Probability	20%	14	13	18%	18	-2%
Algebraic Relationships	20%	14	13	24%	24	4%
Total	100%	70	63	100%	102	

**Grades 6 Math**

Grade Level Expectations	Emphasis	Points	# of Items
Number and Operations	20%	14	12
Geometric and Spatial	20%	14	13
Measurement	20%	14	12
Data and Probability	20%	14	13
Algebraic Relationships	20%	14	13
Total	100%	70	63

**Grade 6**

Emphasis	Points
18%	18
23%	23
16%	16
20%	20
23%	23
100%	100

**Difference**

-2%  
3%  
-4%  
0%  
3%

**Grades 7 Math**

Grade Level Expectations	Emphasis	Points	# of Items
Number and Operations	20%	14	12
Geometric and Spatial	20%	14	13
Measurement	20%	14	12
Data and Probability	20%	14	13
Algebraic Relationships	20%	14	13
Total	100%	70	63

**Grade 7**

Emphasis	Points
21%	19
18%	17
21%	19
23%	21
17%	16
100%	92

1%  
-2%  
1%  
3%  
-3%

**Grade 8 Math**

Grade Level Expectations	Emphasis	Points	# of Items
Number and Operations	15%	12	10
Geometric and Spatial	20%	15	13
Measurement	15%	12	10
Data and Probability	20%	15	13
Algebraic Relationships	30%	23	19
Total	100%	77	65

**Grade 8**

Emphasis	Points
18%	17
19%	18
16%	15
22%	21
25%	24
100%	95

3%  
-1%  
1%  
2%  
-5%

**Grade 10 Math**

Grade Level Expectations	Emphasis	Points	# of Items
Number and Operations	15%	11	9
Geometric and Spatial	20%	15	13
Measurement	15%	11	9
Data and Probability	20%	15	12
Algebraic Relationships	30%	23	19
Total	100%	75	62

**Grade 10**

Emphasis	Points
13%	12
18%	17
17%	16
18%	17
33%	31
	93
2%	2 with no GLE
100%	95

-2%  
-2%  
2%  
-2%  
3%

## Item Maps

The item maps summarize the material in the OIB. The item maps consisted of 10 columns: the first column indicated the item's order of difficulty, the second column indicated the location, the third column indicated the session and form, the fourth column indicated the item number on the test, the fifth column reported the item part (if applicable), the sixth column showed the score key (correct response for a multiple-choice item and score points for a constructed-response item), the seventh column specified the item type (MC for a multiple-choice item and CR for a constructed-response item), and the eighth column reported the grade-level expectation that the item measures. Participants filled in the final two columns as they studied the items in the OIB. The first of these columns asks, "What does this item measure? That is, what do you know about a student who can respond successfully to this item/score point?" The second of these columns asks "Why is this item more difficult than the preceding items?"

To comply with Missouri law, the MAP performance standards must mirror the performance standards of the NAEP, specifically *Proficient*. Thus, DESE established a range of possible *Proficient* cut points for each grade/content area. These preliminary *Proficient* cut points were printed directly on the item maps in order to provide guidance to the standard setting participants. Participants were allowed to place their *Proficient* bookmark anywhere within this range.

The range of cut points was based on the percentage of students classified as *Proficient* or above on the NAEP and MAP tests. These percentages were then translated to cut points by CTB. The same range of percentages were used for all grade/content areas. The criteria defining the ends of this range are described here.

- The high end of the range (in terms of scale score points) was based on the NAEP results. This uppermost cut score was set for each grade/content area such that approximately 26% of students were at or above the cut score. This was the lowest percentage of students classified as *Proficient* or *Advanced* on the NAEP test for Grades 4 and 8 Reading and Mathematics using both national and state data.
- The low end of the range (in terms of scale score points) was based on current MAP results. This lowermost cut score was set for each grade/content area such that approximately 44%<sup>1</sup> of students were at or above the cut score. This percentage was found for Grade 4 Mathematics. This is the highest percentage of students classified as *Proficient* or *Advanced* on Grades 4 and 8 Reading and Mathematics MAP tests. By using this as one end of the range, it allowed educators in Grade 4 Mathematics to maintain their current rate of achievement if they desired to do so during the standard setting.

This range allowed participants to use some discretion in placing the cut scores, yet restricts the cut scores so that they are in compliance with the Missouri law. Cut point ranges were not set for the *Basic* or *Advanced* cut score.

---

<sup>1</sup> <http://www.dese.mo.gov/divimprove/assess/stateresults.html.pdf>

The *Proficient* cut point bars were printed on the item maps and were set to capture as many items as possible. Because items on the item map do not occur at every possible scale score location, this meant that the cut score necessary for the appropriate impact data sometimes fell between the bar and the next item on the item map. When this occurred, the cut point bars were placed to capture the maximum number of possible bookmark placements on the item map. If the cut score necessary for the appropriate impact fell between the bar and the next item on the map, this cut score was used instead of the location associated with the next item on the map. This occurred in Grade 4 Mathematics and Grade 6 Communication Arts.

## *Standard Setting: Afternoon of Day 1*

### **Training**

Table Leaders were trained on the afternoon of the first day of the Missouri Standard Setting. During this training session, which lasted about four hours, Table Leaders were given an overview of the reasons for standard setting and were trained specifically on the Modified Bookmark Standard Setting Procedure (MBSSP). They were given a synopsis of each day's activities as well as their responsibilities on each day. The Master Agenda is included in Section C and the training overheads presented to the Table Leaders are included in Section D.

The Table Leaders then participated in a mock standard setting using a sample OIB. This sample OIB is included in Section H. During the mock standard setting, the Table Leaders practiced all activities that would occur in each round of the MBSSP. The Group Leaders acted as Table Leaders during the mock standard setting to demonstrate the type of behavior expected of Table Leaders. All training materials are included in Section H.

## *Standard Setting: Day 2*

### **Orientation**

Staff from the DESE and CTB welcomed the participants to the Missouri Standard Setting. Kent King, Commissioner of Education, welcomed participants and gave a brief introduction to the week. Walt Brown, Director of Curriculum and Assessment, provided a brief overview of the history of the testing program and described the review procedures that would follow the standard setting. Karla Egan, Ph.D., CTB Research Manager, provided an overview of standard setting. Ricardo Mercado, CTB Standard Setting Specialist, introduced the MBSSP to all participants.

The participants were trained on the use of their OIBs and item maps. The item map training included an explanation of the *Proficient* cut point ranges, the rationale for this range including Senate Bill 1080. The training overheads are included in Section D.

Participants then moved into the breakout rooms. Each content area was in a separate room.

### **Breakout Rooms: Take the Test**

In their breakout rooms, participants spent approximately one hour taking the test for their respective grade/content areas.

### **Study Constructed response Items in the Ordered Item Booklet**

The Table Leader led an examination of the constructed-response items, their scoring rubrics, and anchor papers, focusing on the knowledge, skills, and abilities required to achieve each score point.

### **Discuss Target Student Definitions**

Table Leaders in each grade/content area then lead their groups in discussions of the knowledge, skills, and abilities expected of the Target Students for *Basic*, *Proficient*, and *Advanced* achievement levels. A Target Student is a student whose performance is equivalent to the minimum score required for entry into a particular achievement level. Table Leaders were directed to use the Missouri Grade-Level Expectations to develop the Target Student definitions.

Because of Senate Bill 1080, the Missouri law that requires Missouri achievement levels to be similar to NAEP, participants were also given NAEP descriptors of *Basic*, *Proficient*, and *Advanced* in Grades 4, 8, and 12. These Target Student definitions served as a basis for establishing a common understanding of the types of students who should be considered *Basic*, *Proficient*, and *Advanced* on the Missouri Assessment Program for Grades 3-8 and 11 in Communication Arts and Grades 3-8 and 10 in Mathematics.

### **Study of Items in the Ordered Item Booklet**

Participants at each table studied the items in the OIB in terms of what each item measures and why it is more difficult than the items preceding it.

### *Standard Setting: Day 3*

### **Complete Study of Items in the Ordered Item Booklet**

Participants at each table completed the examination of the items in the OIB in terms of what each item measures and why it is more difficult than the items preceding it.

### **Bookmark Training**

Dr. Michaela Gelin led Bookmark training for the Mathematics participants. Ricardo Mercado led Bookmark training for the Communication Arts participants. Participants were given training materials and three explanations of bookmark placement. The training materials titled “Bookmark Placement” and “Frequently Asked Questions about Bookmark Placement” were read aloud. The first explanation of bookmark placement demonstrated the mechanics; participants were instructed that all items preceding the bookmark define the knowledge, skills, and abilities that a *Proficient* student, for example, is expected to know. The second explanation of bookmark placement was more conceptual in that participants were instructed to examine each item in terms of its content and to make a judgment about the type of content that a student would need to know in order to be considered *just Proficient*. The final explanation discussed the relationship between the placement of the bookmark and the scale score. The bookmark training materials are included in Section H.

Participants were reminded about the *Proficient* cut score ranges selected by DESE. Staff members from DESE were present to recapitulate the rationale for this range as well as Senate Bill 1080.

The participants were then tested on their understanding of bookmark placement with a short check set. The check set questions and the results are presented in Table 6 and Table 7<sup>2</sup>, respectively. Participants were then given the correct answers for the check set, as well as explanations of those answers. The check set (and the graphic that appears with it) is included in Section H.

**Table 6. Questions in the Check Set that Followed Bookmark Training**

	Question
1.	Which items does a student need to master to just make it into the <i>Basic</i> achievement level?
2.	If a student mastered only items 1 through 5, in which achievement level would this student be?
3.	Suppose a student mastered items 1 through 6. Which achievement level is this student in?
4.	For students who are classified as <i>Proficient</i> , with at least what likelihood will they be able to answer item 6?
5.	Will the items BEFORE the <i>Basic</i> bookmark be more or less difficult to answer than the items AFTER the bookmark or about the same?

**Table 7. Results of the Check Set**

Question	Mathematics (N = 62)		Communication Arts (N = 61)	
	Count Correct	Percent Correct	Count Correct	Percent Correct
1	51	82%	39	64%
2	54	87%	56	92%
3	53	85%	36	59%
4	44	71%	46	75%
5	57	92%	55	90%

### Round 1

Once participants demonstrated that they understood bookmark placement, they placed their Round 1 bookmarks for *Basic*, *Proficient*, and *Advanced*, while keeping in mind their Target Student definitions and the Missouri Grade-Level Expectations. Participants were instructed that bookmark placement is always an individual activity.

Although the preliminary *Proficient* cut point ranges were printed directly on the item maps, some participants in the Mathematics group decided to place their bookmarks outside of the *Proficient* cut point range. For those participants who placed their bookmarks outside the range, CTB and DESE staff instructed them to select bookmarks within the range.

<sup>2</sup> The total number of check sets completed is higher than the number of participants because some observers completed and turned in check sets. We could not discern the observer check sets from the participant check sets.

DESE reminded participants the rationale for this range as well as Senate Bill 1080. DESE explained the need for a system of cut scores and impact data that makes sense across grades.

## **Round 2**

At the beginning of Round 2, a member of the CTB Standard Setting Team, working with a DESE representative, presented participants with cross-grade cut scores and impact data based on their Round 1 bookmark placements. CTB staff answered process-related questions, and DESE staff answered all policy-related questions concerning the impact data, including all questions related to Missouri Senate Bill 1080. It was emphasized to the participants that the impact data were being presented as a “reality check.”

During the presentation of data, the Group Leader facilitated a discussion of the cross-grade results. Next, Table Leaders facilitated participant discussions of their bookmark placements in small groups at their tables (i.e., among their grade-level participants). Participants were instructed to discuss those items for which there was disagreement within the small group; thus, they discussed the range of items between the lowest and highest bookmarks for each achievement level. After the small group discussion, Group Leaders and Table Leaders facilitated a cross-grade discussion among the various grade-level tables. After this discussion, participants again placed their bookmarks. Participants were reminded that bookmark placement is always an individual activity.

## **Round 3 – Communication Arts**

At the beginning of Round 3, a member of the CTB Standard Setting Team, working with a DESE representative, presented participants with cross-grade cut scores and aggregated impact data based on their Round 2 bookmark placements, similar to the presentations of Round 2.

### *Standard Setting: Day 4*

## **Round 3 – Mathematics**

A member of the CTB Standard Setting Team, working with a DESE representative, presented participants with cross-grade cut scores and aggregated impact data based on their Round 2 bookmark placements, similar to the presentations of Round 2. CTB and DESE discussed the need for well-articulated impact data.

For each content area, the Group Leader facilitated a large group discussion among the participants on their bookmark placements. In Mathematics, participants continued this discussion among their adjacent grade-level tables. After discussion, participants again placed bookmarks. Participants were reminded that bookmark placement is always an individual activity.

## **Round 3 Results**

Participants were shown their final median bookmarks, associated cross-grade cut scores and impact data.

### **Cross-grade Smoothing**

Following the presentation of final results to participants in Mathematics, the Grade 7 Table Leader and participants were convened to discuss their cut scores and impact data associated with their recommendations. Likewise, in Communication Arts, the Table Leaders and participants from each grade convened to examine the impact data associated with their recommendations. The purpose of this smoothing discussion was to establish a system of cut scores that was well-articulated and, at the same time, considerate of the participants' original recommendations.

Representatives from CTB and DESE facilitated the smoothing discussion for Mathematics and representatives from CTB and DESE facilitated the cross-grade smoothing discussions for Communication Arts. Participants discussed their Round 3 recommendations and the percentage of students they expected in each achievement level.

In Mathematics, the Grade 7 group recommended raising its *Advanced* cut score from 710 to 714. By making this change, the percentage of students classified as *Advanced* in Grade 7 changed from 14.5% to 11.7%, which is more in line with the surrounding grades.

In Communication Arts, participants in Grades 5 and 6 recommended lowering their *Basic* cut scores to 620 and 621, respectively. By making this change, the percentage classified as *Basic* steadily rises from grade to grade. In addition, Communication Arts groups in Grades 8 and 11 recommended raising their *Advanced* cut scores to 720 and 745, respectively. These changes resulted in the impact data for *Advanced* falling in line with other grades—all grades classified between 12 and 17 percent of their students as *Advanced* in Communication Arts.

Table 8 shows the cut scores developed during the smoothing discussions, as well as the associated impact data.

**Table 8. Cut Scores and Associated Impact Data after Cross-grade Smoothing**

Content Area	Grade	Cut Score			Impact Data			
		<i>Basic</i>	<i>Prof.</i>	<i>Adv.</i>	<i>Below Basic</i>	<i>Basic</i>	<i>Prof.</i>	<i>Adv.</i>
<b>Comm. Arts</b>	<b>3</b>	587	642	668	10.1	46.0	26.5	17.4
	<b>4</b>	605	654	687	12.5	42.7	29.4	15.4
	<b>5</b>	620	669	699	10.1	45.2	29.0	15.7
	<b>6</b>	621	671	703	11.0	45.3	31.7	12.0
	<b>7</b>	622	674	712	14.9	41.0	31.7	12.4
	<b>8</b>	627	691	720	9.6	47.7	27.3	15.4
	<b>11</b>	650	711	745	12.3	43.9	30.5	13.3
<b>Math</b>	<b>3</b>	559	620	667	11.1	45.1	35.0	8.8
	<b>4</b>	589	643	677	11.6	44.3	32.1	12.0
	<b>5</b>	599	658	699	12.7	42.9	33.4	11.0
	<b>6</b>	613	671	710	13.4	42.3	32.6	11.7
	<b>7</b>	631	676	714	21.4	34.6	32.3	11.7
	<b>8</b>	658	702	741	24.6	35.7	28.2	11.5
	<b>10</b>	683	723	777	27.2	28.4	34.2	10.2

### **Orientation to Descriptor Writing**

Members of CTB Content Development lead each content group through an orientation to descriptor writing. The standard setting committee members wrote achievement-level descriptors that detail the knowledge, skills, and abilities needed to be classified in each achievement level for Grades 3–8 and 11 in Communication Arts and Grades 3–8 and 10 in Mathematics.

### **Evaluations**

Following the presentation of final results, participants were asked to complete an evaluation of the Missouri Standard Setting. The results of the evaluation are included in Section I of this report.

### **Effectiveness of Training**

An indication of the effectiveness of training may be found in the participants' answers to statements and questions on the evaluations. Table 9 shows the percentage of participants who agreed or disagreed that they understood how to place a bookmark. Most participants agreed or strongly agreed that they understood how to place their bookmarks. Table 10 summarizes the percentage of participants who agreed or disagreed that bookmark training made the task of bookmark placement clear. Most participants agreed or strongly agreed that the task of bookmark placement was clear. Table 11 summarizes the percentage of participants in each grade who agreed or disagreed that the training materials were helpful. Most participants agreed or strongly agreed that the training materials were helpful. Table 12 shows the percentage of participants who agreed or disagreed that the Bookmark Procedure was described well. Most participants agreed or strongly agreed that the Bookmark Procedure was well described. The percentage of participants who agreed or disagreed that the goals of the procedure were clear to them is summarized in Table 13. Most participants agreed or strongly agreed that the goals of the process were clear.

**Table 9. Participants' Agreement/Disagreement with the Statement, “I understood how to place my bookmark.”**

Content Area	Grade	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Overall</b>		102	0.0%	3.9%	2.0%	42.2%	52.0%
<b>Communication Arts</b>	3	7	0.0%	0.0%	0.0%	57.1%	42.9%
	4	6	0.0%	0.0%	0.0%	33.3%	66.7%
	5	8	0.0%	0.0%	12.5%	37.5%	50.0%
	6	7	0.0%	14.3%	0.0%	57.1%	28.6%
	7	6	0.0%	16.7%	0.0%	33.3%	50.0%
	8	7	0.0%	0.0%	0.0%	42.9%	57.1%
	11	8	0.0%	0.0%	0.0%	25.0%	75.0%
<b>Mathematics</b>	3	8	0.0%	0.0%	0.0%	75.0%	25.0%
	4	8	0.0%	12.5%	0.0%	50.0%	37.5%
	5	7	0.0%	14.3%	0.0%	42.9%	42.9%
	6	8	0.0%	0.0%	12.5%	62.5%	25.0%
	7	5	0.0%	0.0%	0.0%	20.0%	80.0%
	8	9	0.0%	0.0%	0.0%	22.2%	77.8%
	10	8	0.0%	0.0%	0.0%	25.0%	75.0%

**Table 10. Participants' Agreement/Disagreement with the Statement, “The training on Bookmark placement made the task clear to me.”**

Content Area	Grade	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Overall</b>		102	2.0%	4.9%	6.9%	53.9%	32.4%
<b>Communication Arts</b>	3	7	0.0%	14.3%	0.0%	71.4%	14.3%
	4	6	0.0%	0.0%	0.0%	66.7%	33.3%
	5	8	0.0%	12.5%	0.0%	62.5%	25.0%
	6	7	0.0%	14.3%	0.0%	71.4%	14.3%
	7	6	16.7%	0.0%	16.7%	50.0%	16.7%
	8	7	0.0%	0.0%	0.0%	71.4%	28.6%
	11	8	0.0%	0.0%	25.0%	37.5%	37.5%
<b>Mathematics</b>	3	8	0.0%	0.0%	0.0%	75.0%	25.0%
	4	8	0.0%	12.5%	0.0%	62.5%	25.0%
	5	7	0.0%	0.0%	0.0%	42.9%	57.1%
	6	8	0.0%	12.5%	12.5%	50.0%	25.0%
	7	5	0.0%	0.0%	20.0%	20.0%	60.0%
	8	9	11.1%	0.0%	11.1%	44.4%	33.3%
	10	8	0.0%	0.0%	12.5%	25.0%	62.5%

**Table 11. Participants' Agreement/Disagreement with the Statement, “The training materials were helpful.”**

Content Area	Grade	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Overall</b>		102	1.0%	3.9%	7.8%	55.9%	31.4%
<b>Communication Arts</b>	3	7	0.0%	0.0%	0.0%	85.7%	14.3%
	4	6	0.0%	0.0%	0.0%	66.7%	33.3%
	5	8	0.0%	12.5%	0.0%	75.0%	12.5%
	6	7	0.0%	14.3%	14.3%	57.1%	14.3%
	7	6	0.0%	16.7%	16.7%	50.0%	16.7%
	8	7	0.0%	14.3%	0.0%	28.6%	57.1%
	11	8	0.0%	0.0%	0.0%	50.0%	50.0%
<b>Mathematics</b>	3	8	12.5%	0.0%	0.0%	62.5%	25.0%
	4	8	0.0%	0.0%	25.0%	50.0%	25.0%
	5	7	0.0%	0.0%	0.0%	57.1%	42.9%
	6	8	0.0%	0.0%	37.5%	25.0%	37.5%
	7	5	0.0%	0.0%	0.0%	80.0%	20.0%
	8	9	0.0%	0.0%	0.0%	44.4%	55.6%
	10	8	0.0%	0.0%	12.5%	62.5%	25.0%

**Table 12. Participants' Agreement/Disagreement with the Statement, “The Bookmark Standard Setting Procedure was well described.”**

Content Area	Grade	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Overall</b>		102	0.0%	7.8%	6.9%	48.0%	37.3%
<b>Communication Arts</b>	3	7	0.0%	0.0%	0.0%	85.7%	14.3%
	4	6	0.0%	0.0%	16.7%	0.0%	83.3%
	5	8	0.0%	12.5%	0.0%	87.5%	0.0%
	6	7	0.0%	42.9%	0.0%	42.9%	14.3%
	7	6	0.0%	16.7%	0.0%	66.7%	16.7%
	8	7	0.0%	0.0%	0.0%	42.9%	57.1%
	11	8	0.0%	0.0%	12.5%	25.0%	62.5%
<b>Mathematics</b>	3	8	0.0%	12.5%	12.5%	50.0%	25.0%
	4	8	0.0%	12.5%	12.5%	50.0%	25.0%
	5	7	0.0%	0.0%	0.0%	71.4%	28.6%
	6	8	0.0%	12.5%	12.5%	37.5%	37.5%
	7	5	0.0%	0.0%	20.0%	40.0%	40.0%
	8	9	0.0%	0.0%	0.0%	44.4%	55.6%
	10	8	0.0%	0.0%	12.5%	25.0%	62.5%

**Table 13. Participants' Agreement/Disagreement with the Statement, "The goals of this procedure were clear."**

Content Area	Grade	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
<b>Overall</b>		102	2.0%	5.9%	6.9%	51.0%	34.3%
<b>Communication Arts</b>	3	7	14.3%	0.0%	0.0%	71.4%	14.3%
	4	6	0.0%	16.7%	0.0%	33.3%	50.0%
	5	8	0.0%	0.0%	0.0%	75.0%	25.0%
	6	7	0.0%	42.9%	0.0%	42.9%	14.3%
	7	6	0.0%	16.7%	16.7%	33.3%	33.3%
	8	7	0.0%	0.0%	14.3%	42.9%	42.9%
	11	8	0.0%	0.0%	0.0%	50.0%	50.0%
<b>Mathematics</b>	3	8	0.0%	12.5%	12.5%	37.5%	37.5%
	4	8	12.5%	0.0%	25.0%	37.5%	25.0%
	5	7	0.0%	0.0%	0.0%	57.1%	42.9%
	6	8	0.0%	0.0%	0.0%	75.0%	25.0%
	7	5	0.0%	0.0%	0.0%	60.0%	40.0%
	8	9	0.0%	0.0%	0.0%	55.6%	44.4%
	10	8	0.0%	0.0%	25.0%	37.5%	37.5%

### Perceived Validity

Another indication of the successfulness of the standard setting may be found in the participants' perceived validity of the BSSP itself. Table 14 shows the percentage of participants who agreed/disagreed that the BSSP produced valid cut scores. Overall, the majority of participants agreed that the Bookmark Procedure produced valid standards. This was true for all grades in both content areas except Grade 3 Mathematics, for which the majority of participants indicated that they did not believe the Bookmark Procedure produced valid standards, and Grade 7 Mathematics, for which the participants indicated neutrality. Of these two grades (3 and 7), the result in Grade 3 Mathematics is the most potentially disturbing; however, this result must be viewed in light of Senate Bill 1080. Of all of the grade/content areas, the Grade 3 Mathematics participants were the most vocal about their discontent with Senate Bill 1080. The standard setting evaluations did not offer participants the opportunity to react to Senate Bill 1080. The results of Grade 3 Mathematics most likely indicate the displeasure of participants with Senate Bill 1080 as opposed to the Bookmark Procedure itself.

Table 15 shows participants satisfaction with their group's final bookmarks. In all grade/content areas, the majority of participants indicated that they were satisfied with their final bookmarks. This includes Grades 3 and 7 Mathematics.

**Table 14. Participants' Agreement/Disagreement with the Statement, "I am confident that the Bookmark Procedure produced valid standards."**

Content Area	Grade	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	5.9%	8.8%	15.7%	49.0%	20.6%
Communication Arts	3	7	0.0%	14.3%	0.0%	57.1%	28.6%
	4	6	0.0%	0.0%	0.0%	66.7%	33.3%
	5	8	12.5%	0.0%	25.0%	62.5%	0.0%
	6	7	0.0%	14.3%	28.6%	42.9%	14.3%
	7	6	0.0%	0.0%	16.7%	50.0%	33.3%
	8	7	0.0%	0.0%	14.3%	71.4%	14.3%
	11	8	0.0%	12.5%	12.5%	50.0%	25.0%
Mathematics	3	8	62.5%	25.0%	12.5%	0.0%	0.0%
	4	8	0.0%	12.5%	0.0%	62.5%	25.0%
	5	7	0.0%	14.3%	0.0%	57.1%	28.6%
	6	8	0.0%	0.0%	12.5%	62.5%	25.0%
	7	5	0.0%	0.0%	60.0%	40.0%	0.0%
	8	9	0.0%	0.0%	22.2%	44.4%	33.3%
	10	8	0.0%	25.0%	25.0%	25.0%	25.0%

**Table 15. Participants' Agreement/Disagreement with the Statement, "Overall, I was satisfied with my group's final bookmarks."**

Content Area	Grade	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		101	2.0%	6.9%	8.9%	36.6%	45.5%
Communication Arts	3	7	0.0%	0.0%	0.0%	71.4%	28.6%
	4	6	0.0%	0.0%	0.0%	16.7%	83.3%
	5	8	0.0%	12.5%	25.0%	25.0%	37.5%
	6	7	0.0%	14.3%	0.0%	42.9%	42.9%
	7	5	0.0%	0.0%	20.0%	60.0%	20.0%
	8	7	0.0%	0.0%	0.0%	71.4%	28.6%
	11	8	0.0%	37.5%	25.0%	25.0%	12.5%
Mathematics	3	8	25.0%	12.5%	0.0%	25.0%	37.5%
	4	8	0.0%	0.0%	0.0%	25.0%	75.0%
	5	7	0.0%	14.3%	0.0%	57.1%	28.6%
	6	8	0.0%	0.0%	12.5%	12.5%	75.0%
	7	5	0.0%	0.0%	20.0%	20.0%	60.0%
	8	9	0.0%	0.0%	11.1%	33.3%	55.6%
	10	8	0.0%	0.0%	12.5%	37.5%	50.0%

## Quality Control Procedures

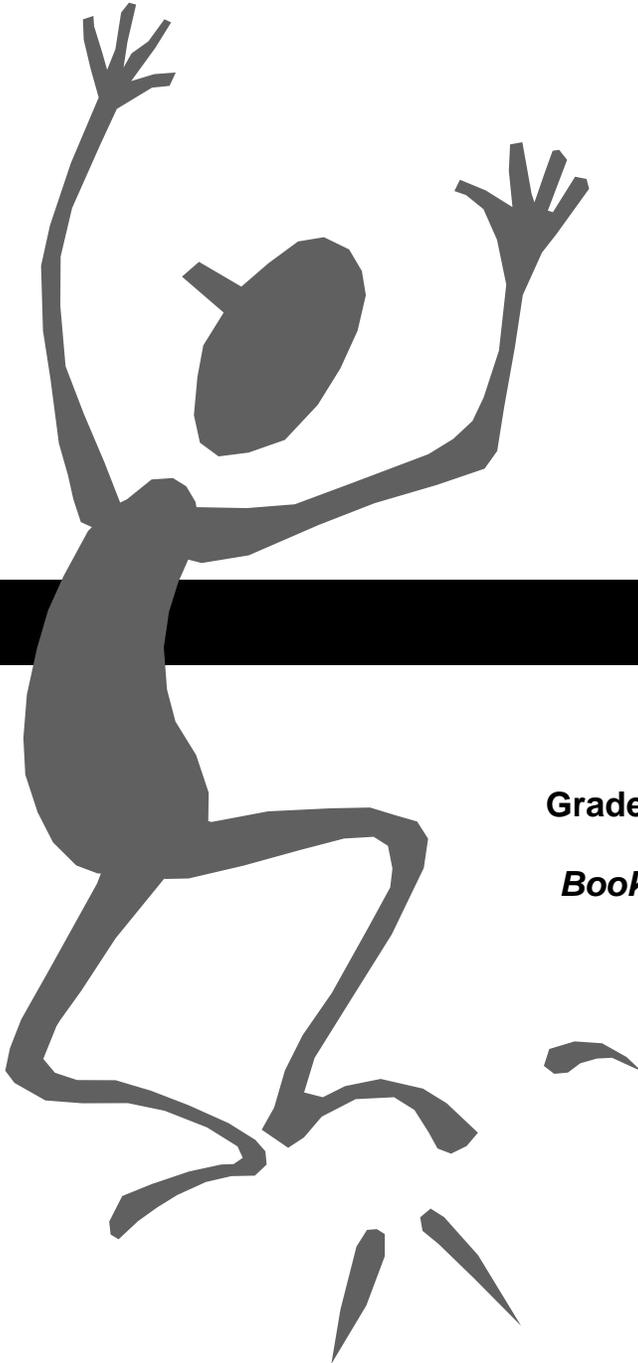
The CTB Standard Setting Team adheres to many quality control procedures to foster the accuracy of the materials used and the results presented during the standard setting. Prior to the workshop, the Standard Setting Team cross-checks the ordering of items in the Ordered Item Booklets, the accuracy of the information in the Item Maps, and the accuracy of the Microsoft Excel macros and Bookmark Pro software used to generate results and impact data. During the workshop, all data is scanned. Any results that appear to be questionable are further investigated. Any results that appear to be questionable are further investigated by the Standard Setting Project Manager, in consultation with the Standard Setting Team and CTB Research staff.

## References

- Missouri National Education Association. (2004, April). *Legislative Update 2004*. Retrieved July 18, 2005, from <http://www.mnea.org/publications/legislative/lu04-Apr23.htm>
- Missouri National Education Association. (2004). *2004 MNEA Bills of Interest*. Retrieved July 18, 2005, from <http://www.mnea.org/capitol/BillSummSenate.htm>
- Porter, A. (July 7, 2004). *Memorandum: Advice to DESE based on meeting of June 18, 2004*.

## Section C

### Master Agenda for the Missouri Standard Setting

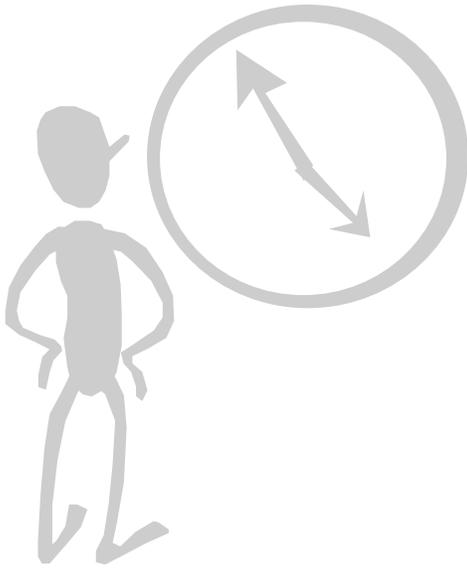


# Master Agenda

**Missouri Assessment Program  
Grades 3-8 and 10 Mathematics  
Grades 3-8 and 11 Communication Arts**

*Bookmark Standard Setting Workshop*

**December 6 - 9, 2005  
Missouri**



**Welcome to the Bookmark Standard Setting Workshop for the Missouri Assessment Program for Grades 3-8 and 11 Communication Arts and Grades 3-8 and 10 Mathematics.**

**The Missouri Department of Elementary and Secondary Education and CTB/McGraw-Hill would like to thank you for your time and expertise during this important process.**

**Please use this agenda to orient yourself during the workshop. If you have any questions or concerns, please do not hesitate to contact a member of the CTB Standard Setting Team.**

**Tuesday, December 6**

**Welcome!**

- 12:00 PM**     **Table Leader registration<sup>1</sup>**  
Please check in at the reception area to sign a non-disclosure agreement, collect your nametag, and other information.
- 1:00 PM**     **Table Leader training**  
You will receive an overview of the standard setting workshop, learn how the Bookmark Standard Setting Procedure works, and discuss your role and responsibilities during the workshop.
- 3:30 PM**     **Target Student discussion**  
Table Leaders will discuss the performance-level descriptors associated with the NAEP cut scores in Grades 4 and 8. Following this, they will engage in structured discussions about the knowledge, skills, and abilities they expect to be demonstrated by students in each performance level.
- 5:00 PM**     **Dismissal**

---

<sup>1</sup> A 15-minute break will be held at 10:30 am and 2:30 pm each day.

- 7:30 AM**     **Registration and continental breakfast<sup>2</sup>**  
Participants check-in at the reception table; Table Leaders need not register again. Continental breakfast is served.
- 8:30 AM**     **Opening Session**  
All participants are formally welcomed and receive an overview of how the Standard Setting workshop will work.
- 9:00 AM**     **Bookmark Overview**  
Participants will be introduced to the Bookmark Standard Setting Procedure.
- 10:00 AM**    **Dismissal into Pre-assigned Breakout Rooms**  
The Group Leader welcomes participants to the group and distributes secure materials.
- Ensure that all participants at your table write their name on each of their secure materials. All secure materials, except for the test book, are printed on colored paper.
- 10:30 AM**    **Take the operational test**  
Participants take the test under conditions similar to those experienced by students.
- Although some discussion about individual test items is normal, focus your participants away from prolonged debate and toward taking the test.
  - Participants use provided index cards to record comments about test items.
- 12:00 PM**    **Lunch**  
The group stops work for a one-hour lunch.
- 1:00 PM**     **Study constructed-response items**
- The Table Leader leads an examination of each constructed-response item, its scoring rubric, and anchor papers, focusing on the knowledge, skills, and abilities required to achieve each score point.
- 2:30 PM**     **Target Student discussion**
- Participants will study the NAEP performance-level descriptors and the Target Student descriptors created by the Table Leaders.
- 3:30 PM**     **Begin discussion of each item in the Ordered Item Booklet (OIB)**  
The Group Leader introduces this exercise by instructing participants to find the Item Map in their secure materials, then reviewing the purpose of each column.
- Facilitate a discussion amongst everyone at your table about each of the items in the OIB. Start with the first item, and discuss each item in turn, focusing on what each item measures and what makes it harder than the previous items. All participants record these details on their Item Maps.
  - Assign a scribe to take a master set of notes for your table.
  - Remember to use the index cards, as necessary.
  - Ensure that each participant at your table has a chance to speak.

---

<sup>2</sup> A 15-minute break will be held at 10:30 am and 2:30 pm each day.

**4:45 PM      Secure materials collection**

The Group Leader facilitates collection of the secure materials from all participants. A listing of secure materials to be collected is displayed in the room.

- Supervise the collection of secure materials at your tables. See the “Secure Materials” page in this agenda for more information.

**5:00 PM      Participant dismissal**

**5:00 PM      Secure materials audit**

The Group Leader asks the Table Leaders to audit the secure materials at one other table.

- Order materials numerically by packet number within each table.
- Verify that all signed-out packets are present.
- Stack materials at each table neatly into one pile with the table tent on top, under the top packet’s rubber band.
- Place the separate stacks on one table. Do not combine tables’ stacks.

**5:15 PM      Table Leader debriefing**

Table Leaders discuss the events of the day and plans for the next day.

**5:30 PM      Table Leader dismissal**

**7:30 AM**      **Continental breakfast**

**8:30 AM**      **Continue discussion of each item in the Ordered Item Booklet (OIB)**

Groups continue the discussion of each of the items in the OIB.

- Remember to use the index cards, as necessary.
- Ensure that each participant at your table has a chance to speak.

**10:00 AM**      **Orientation to bookmark placement and Round 1 ratings**

A member of the CTB Standard Setting Team introduces bookmark placement, explaining how bookmarks are placed and what bookmarks mean. After this brief presentation, a short check set is given, followed immediately by Round 1 bookmark placement.

- See “Bookmark Placement” for more info.
- Remind participants that bookmark placement is always an individual activity.
- Collect your participants’ Rating Forms as they complete them, ensuring that each participant has made a single, unambiguous rating for each bookmark.
- Give your participants’ Rating Forms to the Group Leader.

**11:00 AM**      **Round 2 discussion**

Cross-grade Round 1 results will be presented within each content area. The Group Leader will facilitate a discussion of the cross-grade results. After results are presented, lead a discussion surrounding the ratings made at your table.

**12:00 PM**      **Lunch**

**1:00 PM**      **Round 2 ratings**

After discussion, begin Round 2 bookmark placement.

- Remind participants that bookmark placement is always an individual activity.
- Collect your participants’ Rating Forms as they complete them.
- Give your participants’ Rating Forms to the Group Leader.

**2:00 PM**      **Round 3 discussion**

Cross-grade Round 2 results will be presented within each content area. The Group Leader will facilitate a discussion of the cross-grade results.

**3:45 PM**      **Round 3 ratings**

The Group Leader directs all participants to place their Round 3 bookmarks.

- Remind participants that bookmark placement is always an individual activity.
- Collect your participants’ Rating Forms as they complete them.
- Give your participants’ Rating Forms to the Group Leader.

**4:15 PM**      **Presentation of final recommendations**

A member of the CTB Standard Setting Team presents the group with a summary of Round 3 voting.

**4:30 PM**      **Evaluations**

Each participant completes an evaluation of the standard setting.

**4:45 PM Secure materials collection**

The Group Leader facilitates collection of the secure materials from all participants. A listing of secure materials to be collected is displayed in the room.

- Supervise the collection of secure materials at your tables. See the “Secure Materials” page in this agenda for more information.

**5:00 PM Participant dismissal**

**5:00 PM Secure materials audit**

The Group Leader asks the Table Leaders to audit the secure materials at one other table.

- Order materials numerically by packet number within each table.
- Verify that all signed-out packets are present.
- Stack materials at each table neatly into one pile with the table tent on top, under the top packet’s rubber band.
- Place the separate stacks on one table. Do not combine tables’ stacks.

**5:15 PM Table Leader debriefing**

Table Leaders discuss the events of the day and plans for the next day.

**5:30 PM Table Leader dismissal**

**7:30 AM Continental breakfast**

---

**TABLE LEADERS ONLY**

**8:30 AM Cross-grade discussion for Table Leaders**

After seeing the presentation of final recommendations and completing an evaluation, Table Leaders from all grade levels will gather together to discuss their groups' bookmarks and impact data. During these discussions, Table Leaders will discuss the knowledge, skills, and abilities they expect of students in each performance level.

- As a group, the Table Leaders will examine the bookmarks and impact data as a multi-grade system of performance standards. If needed, the group will make recommendations to adjust some bookmarks or keep them the same.
  - When the cross-grade discussion is complete, Table Leaders return to their groups and join the descriptor writing.
- 

**8:30 AM Orientation to Description Writing**

A member of CTB Content Development will lead the group through an orientation of how to write descriptors.

**9:00 AM Performance-level descriptors, first draft**

The Group Leader presents instructions for writing a first draft of the long performance-level descriptors.

- Your group's descriptors should synthesize the knowledge, skills, and abilities necessary to respond successfully to each of the items assigned to each performance level.
- You will receive a listing of the items in the performance levels.

**11:00 AM Cross-grade presentation of performance-level descriptors**

**12:00 PM Lunch**

**1:00 PM Performance-level descriptors, second draft**

**2:45 PM Secure materials collection**

**2:50 PM Secure materials audit**

**3:00 PM Dismissal**

### Why do we do Secure Materials Collection?

A thorough collection of secure test materials protects both the reliability of the testing program and the substantial monetary investment in the assessment. A structured method of collection has been established to gather effectively all of the secure material at the workshop. Each day as you facilitate secure materials collection at your table, refer to this guide for instructions and suggestions.

During the collection, participants should place each secure item, one at a time, in a pile on the table in front of them. After the process, each participant will have a single stack of materials, each stacked in the same way as everyone else in the room. Please follow these steps to facilitate the process.

### How do I do Secure Materials Collection?

1. Get the attention of all the participants at your table. Discourage any side conversations or inattention.
2. Using the list provided, call out each item, one at a time, and watch participants place that item on their stack. Discourage participants from moving ahead. Ensure that participants have placed the item in their stack before moving on.
3. Proceed through the list until each piece of secure material has been collected. Direct participants to place a rubber band around their stack when completed.
4. If any participants wish to leave additional items with their materials overnight, encourage them to place it beneath their stack, inside the rubber band.
5. Table Leaders will audit the secure materials at one other table.
6. Once you have supervised the collection of secure materials and are satisfied that all items have been collected, inform the Group Leader.
7. The collected materials are stored overnight and will be available in the morning.

### What should I expect from Secure Materials Collection?

Generally, secure materials collection goes smoothly. If you have any questions about the collection process, or if you have a concern about test security at the standard setting workshop, please contact your Group Leader or a member of the CTB Standard Setting Team.

## Section D

### Table Leader Training Overheads



## Setting the Standard

### Missouri Assessment Program

#### Communication Arts & Mathematics

#### Table Leader Training

CTB/McGraw-Hill | QUALITY ASSESSMENT SINCE 1924

## CTB Standard Setting Team

- Karla Egan
- Michaela Gelin
- Rick Mercado
- Adele Brandstrom
- Dorothy Tele'a
- Matt Gordon
- Paige Fordice
- Jamin Huggins
- Dan Dube
- Suzanne Romero
- Mark Rathjen

CTB McGraw-Hill

## What is standard setting?

- A process that lets experts make judgements about the content that the *Proficient* student should know.
  - Also, *Advanced*, *Basic*, and *Below Basic* students.

CTB McGraw-Hill

## Why standard setting?

- The Missouri Grade-Level Expectations define what students are tested on.
  - These are things students *should* be able to do.

CTB McGraw-Hill

## Why standard setting?

- Achievement standards define what students *can do* in each achievement level.
  - You will actively discuss your expectations of the Target Student in each achievement level.

CTB McGraw-Hill

## Achievement Levels

- Specify the knowledge, skills and abilities a student needs to know in order to be classified as *Below Basic*, *Basic*, *Proficient* and *Advanced*.

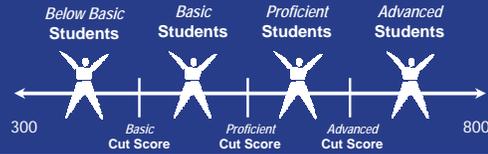
CTB McGraw-Hill

## How do we set our standards?

- ~~Percentages~~
  - Arbitrary
  - Test-specific
  - Do not consider content
- Content
  - Uses pre-established Grade-Level Expectations
  - Considers educational objectives
- Bookmark Standard Setting Procedure

## Purpose of the Standard Setting

- Allows cut scores to be set on the test scale
- The test scale represents the ability of students



## Purpose of the Standard Setting

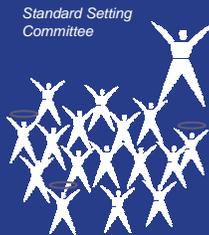
- You will set a cut score on the test scale.
- Students who meet or exceed the cut score will have enough knowledge, skills and abilities to be classified in a given achievement level on the MAP tests.
- Decisions will be based on the Missouri Grade-Level Expectations.

## Bookmark Standard Setting

- Item-centered method
- Content-based decisions

## Committee Roles

- Group Leaders
- Table Leaders
- Participants
- DESE
- CTB



## Committee Roles

- Group Leader
  - Facilitator
    - Participants stay focused on task
    - Participants interact with their own group
    - Participants finish in a timely manner
    - Leads discussion
  - Materials collection
    - Secure materials



## Committee Roles

- Table Leaders
  - Lead discussion at the table
- Participants
  - Standard setters



## Workshop Overview

- Round 1
  - Study test items
  - Make ratings without discussion
- Round 2
  - View results for large group
  - Discuss ratings
- Round 3
  - View results for large group
  - Discuss ratings

## Ordered Item Booklets

- One item per page
- Easiest item first, hardest item last
- Items ascend by difficulty

## Item Map

Print Name:		Group Number:							
Order of difficulty	Item No.	Item Type	Score Key	Content	Space?	What does this item measure? That is, what do you know about a student who can respond successfully to this item/area point?	Why is this item more difficult than the preceding item?		
1	220	12	1	MC	B	1			N/A
2	225	9	4	MC	C	4			
3	229	9	3	MC	B	5			
4	240	12	2	MC	D	1			
5	244	12	1	MC	B	4			
Proficient Bookmark Range begins on Page 6									
6	256	12	7	CR	1/2	1			
7	262	9	5	MC	A	1			
8	262	12	7	CR	2/2	1			
Proficient Bookmark Range ends on Page 9									
9	303	9	6	MC	B	2			
10	321	9	8	MC	B	2			
11	401	9	9	MC	C	4			

\* 1 = Number Sense, Properties, & Operations; 2 = Measurement; 3 = Geometry; 4 = Data Analysis, Statistics, & Probability; 5 = Algebra & Functions

## Proficiency Range

- Demarcates range where Proficient Bookmark may be placed
  - The Proficient Bookmark encompasses *all* of the items that precede it.
  - Missouri Senate Bill 1080

## Ordered Item 1

1

1. Kitty is taking a trip on which she plans to drive 300 miles each day. Her trip is 1,723 miles long. She has already driven 849 miles. How much farther must she drive?
  - A. 574 miles
  - B. 874 miles
  - C. 1,423 miles
  - D. 2,872 miles

**Item** *Subtraction, operations, eliminate extra info*

Print Name: \_\_\_\_\_

Order of difficulty (easy to hard)	Location	Item Form	Item Type	Item Key	Content Key	What does this item measure? That is, what do you know about a student who can respond successfully to this item/scene point?	Why is this item more difficult than the preceding item?
1	220	12	1	MC	B	1	N/A
2	225	9	4	MC	C	4	
3	229	9	3	MC	B	5	
4	240	12	2	MC	D	1	
5	241	12	4	MC	B	4	
Proficient Bookmark range begins on Page 6							
6	256	12	7	CR	12	1	
7	262	9	5	MC	A	1	
8	263	12	7	CR	22	1	
Proficient Bookmark range ends on Page 9							
9	303	9	6	MC	B	2	
10	321	9	8	MC	B	2	
11	401	9	9	MC	C	4	

1 = Number Sense, Properties, & Operations; 2 = Measurement; 3 = Geometry; 4 = Data Analysis, Statistics, & Probability; 5 = Algebra & Functions

CTB McGraw-Hill

**Ordered Item 2**

2

CARTONS OF EGGS SOLD LAST MONTH

Farm A ○ ○ ○ ○ ○  
 Farm B ○ ○ ○ ○ ○ ○ ○  
 Farm C ○ ○ ○

Each ○ = 100 Cartons

4. According to the graph how many cartons of eggs were sold altogether by farms A, B, and C last month?

A. 13  
 B. 130  
 C. 1,300  
 D. 13,000

CTB McGraw-Hill

**6**  
Score Point  
1 of 2

7. Sam can purchase his lunch at school. Each day he wants to have juice that costs 50¢, a sandwich that costs 90¢, and fruit that costs 35¢. His mother has only \$1.00 bills. What is the least number of \$1.00 bills that his mother should give him so he will have enough money to buy lunch for 5 days?

CTB McGraw-Hill

**6 scoring guide**

**SOLUTION:**

For one day, the sum is \$1.75. For 5 days, the sum is \$8.75. Therefore, he should ask his mother for nine one-dollar bills (or 1 \$5 bill and 4 \$1 bills).

Answer may be given pictorially.

Note: No explanation is asked for, so paper could have small error, such as copying a number incorrectly and still get a score of 2, provided method and answer are correct.

**SCORING GUIDE:**

0 Incorrect response -- includes \$1.75 or \$2; also \$975 or \$875.00

1 \$8.75 or 875  
 OR  
 One day is \$1.75 so he needs \$2 each day, so \$10 for a week (picture of \$10 bill is acceptable)  
 OR  
 correct method but rounded down to \$8 (this requires work to be shown)  
 OR  
 correct method but small error and incorrect response of \$7 to \$11, inclusive

2 Correct response

CTB McGraw-Hill

**6 anchor**

7. Sam can purchase his lunch at school. Each day he wants to have juice that costs 50¢, a sandwich that costs 90¢, and fruit that costs 35¢. His mother has only \$1.00 bills. What is the least number of \$1.00 bills that his mother should give him so he will have enough money to buy lunch for 5 days? **\$8.75**

CTB McGraw-Hill

**8**  
Score Point  
2 of 2

7. Sam can purchase his lunch at school. Each day he wants to have juice that costs 50¢, a sandwich that costs 90¢, and fruit that costs 35¢. His mother has only \$1.00 bills. What is the least number of \$1.00 bills that his mother should give him so he will have enough money to buy lunch for 5 days?

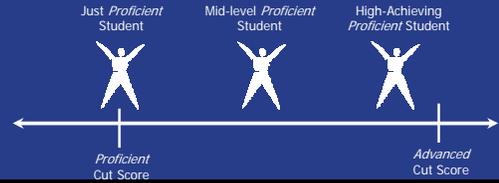
CTB McGraw-Hill

## Mock Standard Setting

- 2 Achievement Levels
  - Proficient
  - Not Proficient
- 11 item test
  - Grade 4 Mathematics test

## Target Student

- We want to describe the skills held in *common* by *all* these students
  - These are the skills of the Just *Proficient* student

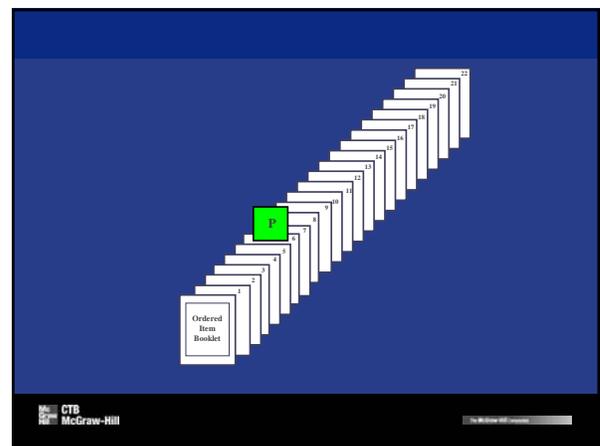
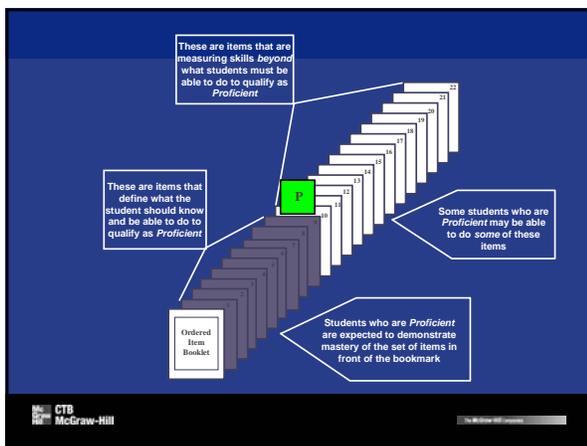


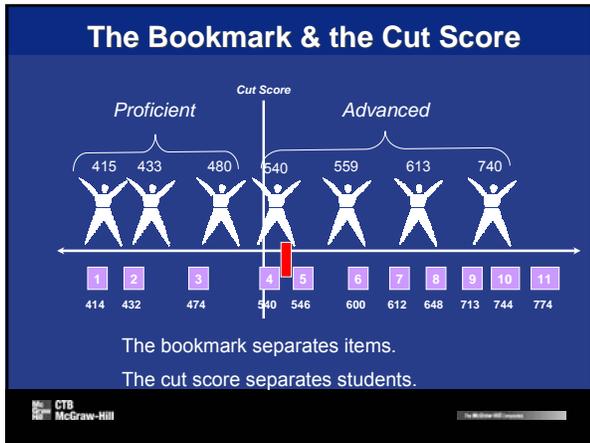
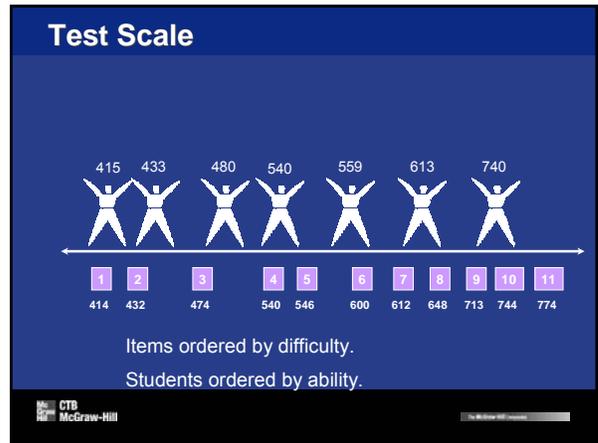
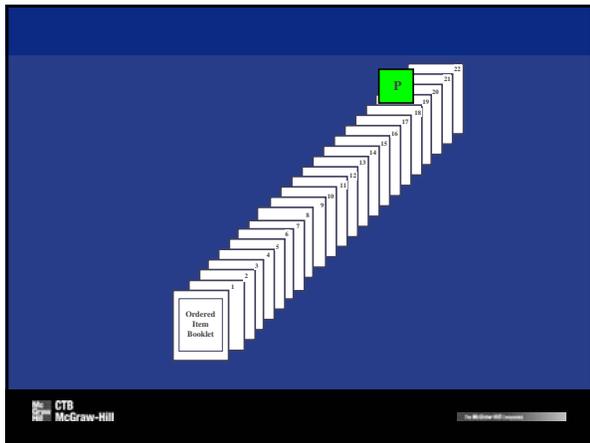
## Bookmark Placement

- Items preceding the Bookmark reflect content that all *Proficient* students should have mastery of
  - for MC items this means that the *Proficient* students should most likely know the correct responses
  - for CR items this means that the *Proficient* students should most likely obtain that score point

## Bookmark Placement cont...

- Place the bookmark at the first point...
- ...where you feel that a student who has mastery of the content in the items before the bookmark...
- ...has demonstrated sufficient skills...
- ...to infer that the student should be classified as *Proficient*.

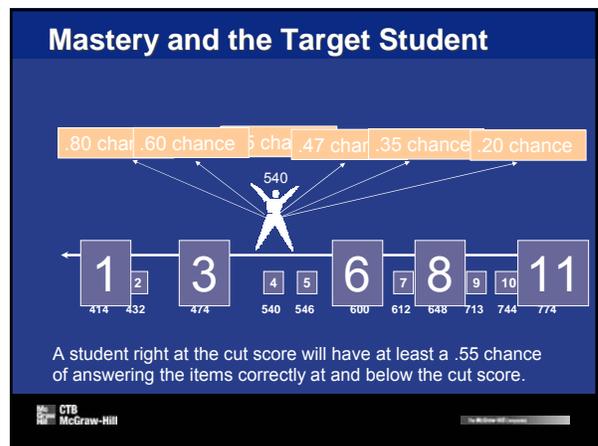
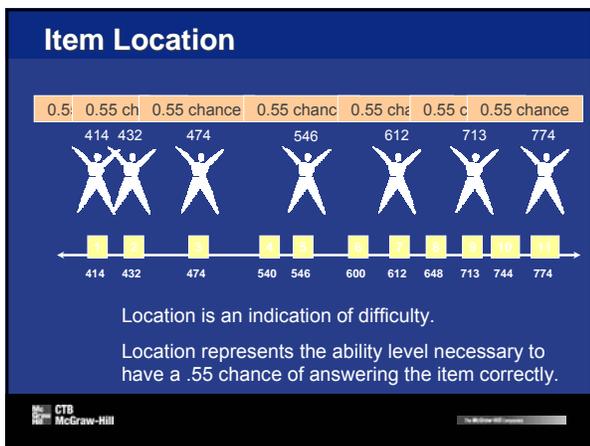




### Mastery

- Students show mastery when they have at least a .55 probability of answering an item correctly.

CTB McGraw-Hill



## Rating Form

Name: \_\_\_\_\_ 2005 Missouri Standard Setting CA

Grade:  3  4  5  6  7  8  9  10  11

Content Area:  Communication Arts  Mathematics

Table Number: \_\_\_\_\_ Packer Number: \_\_\_\_\_

	Basic	Proficient	Advanced
Round 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proficient	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Advanced	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

CTB McGraw-Hill

## Make you mark heavy and dark...

10  11

	Basic	Proficient	Advanced
Round 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Proficient	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Advanced	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

11  
47  
73

CTB McGraw-Hill

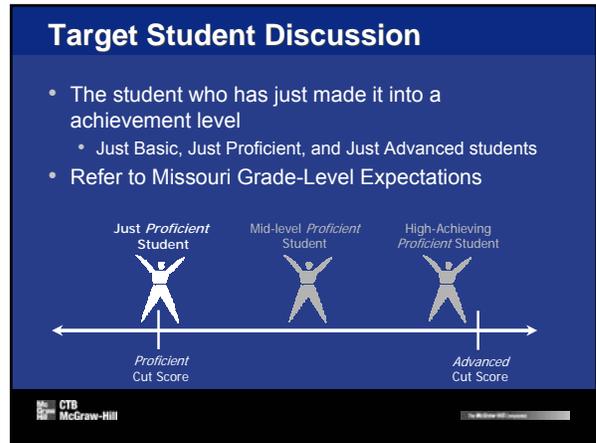
## Sample Results

	Basic Bookmark	Proficient Bookmark	Advanced Bookmark
Table 1	3	11	34
Table 2	5	17	37
Table 3	3	14	34
Table 4	7	13	36
Median	4	14	34

Impact Data: estimated percent of students in each achievement level based on the current Large Group median

	Below Basic	Basic	Proficient	Advanced
	0.0%	0.0%	0.0%	0.0%

CTB McGraw-Hill



- ## Agenda: Day 1
- Opening Session
  - Take the test
    - Individual Activity
  - Study the constructed-response items
    - Group Activity
  - Discuss the Target Student
    - Group Activity
  - Study the Ordered Item Booklet
    - Table Activity
- CTB McGraw-Hill

- ## Agenda: Day 2
- Finish studying the Ordered Item Booklet
  - Make Round 1 bookmark placements
    - Individual Activity
  - Round 2
    - Review Round 1 results in tables
    - Discuss in tables
    - Make new judgments individually
  - Round 3
    - Review Round 2 results as a large group
    - Discuss as a large group
    - Make new judgments individually
  - Review final recommendations
  - Evaluate the Standard Setting
- CTB McGraw-Hill

## Agenda: Day 3

- Draft achievement-level descriptors
- Cross-grade presentation
- Revise achievement-level descriptors

## Questions?

- Thank you for your participation!

## Section E

### Detailed Results of the Standard Setting

Missouri Assessment Program Grade 3 Communication Arts  
Round 1 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	23	65	80
1	3	33	65	74
1	4	51	72	80
1	5	58	75	90
1	6	33	66	82
1	7	13	65	78
1	8	14	65	74
1	9	31	65	74

Overall	Median	32	65	79
	Minimum	13	65	74
	Maximum	58	75	90
	SD	16.06	3.96	5.45

Missouri Assessment Program Grade 3 Communication Arts  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	578	642	668
1	3	589	642	657
1	4	609	655	668
1	5	630	662	751
1	6	589	646	669
1	7	557	642	664
1	8	564	642	657
1	9	587	642	657

Overall	Median	588	642	665
	Minimum	557	642	657
	Maximum	630	662	751
	SD	23.44	7.69	31.61

Missouri Assessment Program Grade 3 Communication Arts  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	32	65	79
Median	Overall	32	65	79
Minimum	1	13	65	74
Minimum	Overall	13	65	74
Maximum	1	58	75	90
Maximum	Overall	58	75	90
SD	1	16.06	3.96	5.45
SD	Overall	16.06	3.96	5.45

Overall	Median	32	65	79
	Minimum	13	65	74
	Maximum	58	75	90
	SD	16.06	3.96	5.45

Missouri Assessment Program Grade 3 Communication Arts  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	588	642	665
Median	Overall	588	642	665
Minimum	1	557	642	657
Minimum	Overall	557	642	657
Maximum	1	630	662	751
Maximum	Overall	630	662	751
SD	1	23.44	7.69	31.61
SD	Overall	23.44	7.69	31.61

Overall	Median	588	642	665
	Minimum	557	642	657
	Maximum	630	662	751
	SD	23.44	7.69	31.61

Missouri Assessment Program Grade 3 Communication Arts  
Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	32	65	79
Overall	32	65	79

Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	10.6	45.5	24.4	19.5

Missouri Assessment Program Grade 3 Communication Arts  
Round 2 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	31	65	79
1	3	33	65	78
1	4	32	66	89
1	5	48	70	90
1	6	31	65	79
1	7	16	65	82
1	8	17	65	77
1	9	21	66	82

Overall	Median	31	65	80.5
	Minimum	16	65	77
	Maximum	48	70	90
	SD	10.49	1.73	4.96

Missouri Assessment Program Grade 3 Communication Arts  
Round 2 Cut Scores

Table	Participant	Basic	Proficient	Advanced
1	2	587	642	665
1	3	589	642	664
1	4	588	646	720
1	5	607	649	751
1	6	587	642	665
1	7	570	642	669
1	8	570	642	662
1	9	576	646	669

Overall	Median	587	642	668
	Minimum	570	642	662
	Maximum	607	649	751
	SD	12.21	2.75	33.46

Missouri Assessment Program Grade 3 Communication Arts  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	31	65	80.5
Median	Overall	31	65	80.5
Minimum	1	16	65	77
Minimum	Overall	16	65	77
Maximum	1	48	70	90
Maximum	Overall	48	70	90
SD	1	10.49	1.73	4.96
SD	Overall	10.49	1.73	4.96

Overall	Median	31	65	80.5
	Minimum	16	65	77
	Maximum	48	70	90
	SD	10.49	1.73	4.96

Missouri Assessment Program Grade 3 Communication Arts  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	587	642	668
Median	Overall	587	642	668
Minimum	1	570	642	662
Minimum	Overall	570	642	662
Maximum	1	607	649	751
Maximum	Overall	607	649	751
SD	1	12.21	2.75	33.46
SD	Overall	12.21	2.75	33.46

Overall	Median	587	642	668
	Minimum	570	642	662
	Maximum	607	649	751
	SD	12.21	2.75	33.46

## Missouri Assessment Program Grade 3 Communication Arts Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	31	65	80.5
Overall	31	65	80.5

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	10.1	46.0	26.5	17.4

Missouri Assessment Program Grade 3 Communication Arts  
Round 3 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	33	65	80
1	3	33	65	78
1	4	31	66	80
1	5	31	70	88
1	6	31	65	79
1	7	31	65	80
1	8	17	65	77
1	9	21	66	82

Overall	Median	31	65	80
	Minimum	17	65	77
	Maximum	33	70	88
	SD	6.02	1.73	3.38

Missouri Assessment Program Grade 3 Communication Arts  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	589	642	668
1	3	589	642	664
1	4	587	646	668
1	5	587	649	720
1	6	587	642	665
1	7	587	642	668
1	8	570	642	662
1	9	576	646	669

Overall	Median	587	642	668
	Minimum	570	642	662
	Maximum	589	649	720
	SD	7.03	2.75	19.15

Missouri Assessment Program Grade 3 Communication Arts  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	31	65	80
Median	Overall	31	65	80
Minimum	1	17	65	77
Minimum	Overall	17	65	77
Maximum	1	33	70	88
Maximum	Overall	33	70	88
SD	1	6.02	1.73	3.38
SD	Overall	6.02	1.73	3.38

Overall	Median	31	65	80
	Minimum	17	65	77
	Maximum	33	70	88
	SD	6.02	1.73	3.38

Missouri Assessment Program Grade 3 Communication Arts  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	587	642	668
Median	Overall	587	642	668
Minimum	1	570	642	662
Minimum	Overall	570	642	662
Maximum	1	589	649	720
Maximum	Overall	589	649	720
SD	1	7.03	2.75	19.15
SD	Overall	7.03	2.75	19.15

Overall	Median	587	642	668
	Minimum	570	642	662
	Maximum	589	649	720
	SD	7.03	2.75	19.15

# Missouri Assessment Program Grade 3 Communication Arts Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	31	65	80
Overall	31	65	80

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	10.1	46.0	26.5	17.4

Missouri Assessment Program Grade 4 Communication Arts  
Round 1 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	3	24	56	58
1	4	31	56	65
1	5	24	58	69
1	6	31	56	74
1	7	24	58	69
1	8	24	58	60
1	9	20	56	60
1	10	21	56	66

Overall	Median	24	56	65.5
	Minimum	20	56	58
	Maximum	31	58	74
	SD	4.09	1.04	5.51

Missouri Assessment Program Grade 4 Communication Arts  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	3	608	654	660
1	4	615	654	671
1	5	608	660	687
1	6	615	654	700
1	7	608	660	687
1	8	608	660	665
1	9	605	654	665
1	10	606	654	676

Overall	Median	608	654	671
	Minimum	605	654	660
	Maximum	615	660	700
	SD	3.80	3.11	13.84

Missouri Assessment Program Grade 4 Communication Arts  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	24	56	65.5
Median	Overall	24	56	65.5
Minimum	1	20	56	58
Minimum	Overall	20	56	58
Maximum	1	31	58	74
Maximum	Overall	31	58	74
SD	1	4.09	1.04	5.51
SD	Overall	4.09	1.04	5.51

Overall	Median	24	56	65.5
	Minimum	20	56	58
	Maximum	31	58	74
	SD	4.09	1.04	5.51

Missouri Assessment Program Grade 4 Communication Arts  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	608	654	671
Median	Overall	608	654	671
Minimum	1	605	654	660
Minimum	Overall	605	654	660
Maximum	1	615	660	700
Maximum	Overall	615	660	700
SD	1	3.80	3.11	13.84
SD	Overall	3.80	3.11	13.84

Overall	Median	608	654	671
	Minimum	605	654	660
	Maximum	615	660	700
	SD	3.80	3.11	13.84

# Missouri Assessment Program Grade 4 Communication Arts Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	24	56	65.5
Overall	24	56	65.5

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	14.1	41.1	16.8	28.0

Missouri Assessment Program Grade 4 Communication Arts  
Round 2 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	3	24	56	58
1	4	24	56	60
1	5	24	56	60
1	6	24	56	68
1	7	24	56	60
1	8	24	56	60
1	9	24	56	60
1	10	24	56	60

Overall	Median	24	56	60
	Minimum	24	56	58
	Maximum	24	56	68
	SD	0.00	0.00	3.01

Missouri Assessment Program Grade 4 Communication Arts  
Round 2 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	3	608	654	660
1	4	608	654	665
1	5	608	654	665
1	6	608	654	682
1	7	608	654	665
1	8	608	654	665
1	9	608	654	665
1	10	608	654	665

Overall	Median	608	654	665
	Minimum	608	654	660
	Maximum	608	654	682
	SD	0.00	0.00	6.50

Missouri Assessment Program Grade 4 Communication Arts  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	24	56	60
Median	Overall	24	56	60
Minimum	1	24	56	58
Minimum	Overall	24	56	58
Maximum	1	24	56	68
Maximum	Overall	24	56	68
SD	1	0.00	0.00	3.01
SD	Overall	0.00	0.00	3.01

Overall	Median	24	56	60
	Minimum	24	56	58
	Maximum	24	56	68
	SD	0.00	0.00	3.01

Missouri Assessment Program Grade 4 Communication Arts  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	608	654	665
Median	Overall	608	654	665
Minimum	1	608	654	660
Minimum	Overall	608	654	660
Maximum	1	608	654	682
Maximum	Overall	608	654	682
SD	1	0.00	0.00	6.50
SD	Overall	0.00	0.00	6.50

Overall	Median	608	654	665
	Minimum	608	654	660
	Maximum	608	654	682
	SD	0.00	0.00	6.50

# Missouri Assessment Program Grade 4 Communication Arts Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	24	56	60
Overall	24	56	60

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	14.1	41.1	11.1	33.7

Missouri Assessment Program Grade 4 Communication Arts  
Round 3 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	4	20	56	69
1	5	20	56	69
1	6	20	56	69
1	7	20	56	69
1	8	20	56	69
1	9	20	56	69
1	10	20	56	69

Overall	Median	20	56	69
	Minimum	20	56	69
	Maximum	20	56	69
	SD	0.00	0.00	0.00

Missouri Assessment Program Grade 4 Communication Arts  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	4	605	654	687
1	5	605	654	687
1	6	605	654	687
1	7	605	654	687
1	8	605	654	687
1	9	605	654	687
1	10	605	654	687

Overall	Median	605	654	687
	Minimum	605	654	687
	Maximum	605	654	687
	SD	0.00	0.00	0.00

Missouri Assessment Program Grade 4 Communication Arts  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	20	56	69
Median	Overall	20	56	69
Minimum	1	20	56	69
Minimum	Overall	20	56	69
Maximum	1	20	56	69
Maximum	Overall	20	56	69
SD	1	0.00	0.00	0.00
SD	Overall	0.00	0.00	0.00

Overall	Median	20	56	69
	Minimum	20	56	69
	Maximum	20	56	69
	SD	0.00	0.00	0.00

Missouri Assessment Program Grade 4 Communication Arts  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	605	654	687
Median	Overall	605	654	687
Minimum	1	605	654	687
Minimum	Overall	605	654	687
Maximum	1	605	654	687
Maximum	Overall	605	654	687
SD	1	0.00	0.00	0.00
SD	Overall	0.00	0.00	0.00

Overall	Median	605	654	687
	Minimum	605	654	687
	Maximum	605	654	687
	SD	0.00	0.00	0.00

## Missouri Assessment Program Grade 4 Communication Arts Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	20	56	69
Overall	20	56	69

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	12.5	42.7	29.4	15.4

Missouri Assessment Program Grade 5 Communication Arts  
Round 1 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	18	53	64
1	3	1	53	63
1	4	11	53	63
1	5	7	53	67
1	6	15	55	63
1	7	24	53	68
1	8	24	53	60
1	9	36	54	69

Overall	Median	16.5	53	63.5
	Minimum	2	53	60
	Maximum	36	55	69
	SD	10.86	0.74	3.07

Missouri Assessment Program Grade 5 Communication Arts  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	625	669	691
1	3	570	669	683
1	4	610	669	683
1	5	600	669	696
1	6	621	672	683
1	7	638	669	699
1	8	638	669	681
1	9	649	670	702

Overall	Median	623	669	683
	Minimum	570	669	681
	Maximum	649	672	702
	SD	25.37	1.07	8.36

Missouri Assessment Program Grade 5 Communication Arts  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	16.5	53	63.5
Median	Overall	16.5	53	63.5
Minimum	1	2	53	60
Minimum	Overall	2	53	60
Maximum	1	36	55	69
Maximum	Overall	36	55	69
SD	1	10.86	0.74	3.07
SD	Overall	10.86	0.74	3.07

Overall	Median	16.5	53	63.5
	Minimum	2	53	60
	Maximum	36	55	69
	SD	10.86	0.74	3.07

Missouri Assessment Program Grade 5 Communication Arts  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	623	669	683
Median	Overall	623	669	683
Minimum	1	570	669	681
Minimum	Overall	570	669	681
Maximum	1	649	672	702
Maximum	Overall	649	672	702
SD	1	25.37	1.07	8.36
SD	Overall	25.37	1.07	8.36

Overall	Median	623	669	683
	Minimum	570	669	681
	Maximum	649	672	702
	SD	25.37	1.07	8.36

# Missouri Assessment Program Grade 5 Communication Arts Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	16.5	53	63.5
Overall	16.5	53	63.5

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	11.4	43.9	15.4	29.3

Missouri Assessment Program Grade 5 Communication Arts  
Round 2 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	18	53	70
1	3	10	53	63
1	4	11	53	63
1	5	14	53	67
1	6	14	53	69
1	7	14	53	68
1	8	17	53	68
1	9	14	54	73

Overall	Median	14	53	68
	Minimum	10	53	63
	Maximum	18	54	73
	SD	2.67	0.35	3.38

Missouri Assessment Program Grade 5 Communication Arts  
Round 2 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	625	669	704
1	3	610	669	683
1	4	610	669	683
1	5	620	669	696
1	6	620	669	702
1	7	620	669	699
1	8	625	669	699
1	9	620	670	720

Overall	Median	620	669	699
	Minimum	610	669	683
	Maximum	625	670	720
	SD	5.82	0.35	11.90

Missouri Assessment Program Grade 5 Communication Arts  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	14	53	68
Median	Overall	14	53	68
Minimum	1	10	53	63
Minimum	Overall	10	53	63
Maximum	1	18	54	73
Maximum	Overall	18	54	73
SD	1	2.67	0.35	3.38
SD	Overall	2.67	0.35	3.38

Overall	Median	14	53	68
	Minimum	10	53	63
	Maximum	18	54	73
	SD	2.67	0.35	3.38

Missouri Assessment Program Grade 5 Communication Arts  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	620	669	699
Median	Overall	620	669	699
Minimum	1	610	669	683
Minimum	Overall	610	669	683
Maximum	1	625	670	720
Maximum	Overall	625	670	720
SD	1	5.82	0.35	11.90
SD	Overall	5.82	0.35	11.90

Overall	Median	620	669	699
	Minimum	610	669	683
	Maximum	625	670	720
	SD	5.82	0.35	11.90

## Missouri Assessment Program Grade 5 Communication Arts Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	14	53	68
Overall	14	53	68

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	10.1	45.2	29.0	15.7

Missouri Assessment Program Grade 5 Communication Arts  
Round 3 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	21	53	69
1	3	21	53	68
1	4	12	53	63
1	5	21	53	68
1	6	21	53	69
1	7	21	53	68
1	8	21	53	68
1	9	21	54	69

Overall	Median	21	53	68
	Minimum	12	53	63
	Maximum	21	54	69
	SD	3.18	0.35	1.98

Missouri Assessment Program Grade 5 Communication Arts  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	630	669	702
1	3	630	669	699
1	4	619	669	683
1	5	630	669	699
1	6	630	669	702
1	7	630	669	699
1	8	630	669	699
1	9	630	670	702

Overall	Median	630	669	699
	Minimum	619	669	683
	Maximum	630	670	702
	SD	3.89	0.35	6.29

Missouri Assessment Program Grade 5 Communication Arts  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	21	53	68
Median	Overall	21	53	68
Minimum	1	12	53	63
Minimum	Overall	12	53	63
Maximum	1	21	54	69
Maximum	Overall	21	54	69
SD	1	3.18	0.35	1.98
SD	Overall	3.18	0.35	1.98

Overall	Median	21	53	68
	Minimum	12	53	63
	Maximum	21	54	69
	SD	3.18	0.35	1.98

Missouri Assessment Program Grade 5 Communication Arts  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	630	669	699
Median	Overall	630	669	699
Minimum	1	619	669	683
Minimum	Overall	619	669	683
Maximum	1	630	670	702
Maximum	Overall	630	670	702
SD	1	3.89	0.35	6.29
SD	Overall	3.89	0.35	6.29

Overall	Median	630	669	699
	Minimum	619	669	683
	Maximum	630	670	702
	SD	3.89	0.35	6.29

# Missouri Assessment Program Grade 5 Communication Arts Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	21	53	68
Overall	21	53	68

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	14.9	40.4	29.0	15.7

Missouri Assessment Program Grade 6 Communication Arts  
Round 1 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	17	47	57
1	3	21	50	65
1	4	20	47	58
1	5	9	47	58
1	6	18	47	58
1	7	15	47	60
1	8	24	47	57
1	9	12	47	58

Overall	Median	17.5	47	58
	Minimum	9	47	57
	Maximum	24	50	65
	SD	4.90	1.06	2.64

Missouri Assessment Program Grade 6 Communication Arts  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	636	671	685
1	3	641	673	703
1	4	640	671	688
1	5	616	671	688
1	6	638	671	688
1	7	632	671	691
1	8	644	671	685
1	9	620	671	688

Overall	Median	636	671	688
	Minimum	616	671	685
	Maximum	644	673	703
	SD	10.18	0.71	5.78

Missouri Assessment Program Grade 6 Communication Arts  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	17.5	47	58
Median	Overall	17.5	47	58
Minimum	1	9	47	57
Minimum	Overall	9	47	57
Maximum	1	24	50	65
Maximum	Overall	24	50	65
SD	1	4.90	1.06	2.64
SD	Overall	4.90	1.06	2.64

Overall	Median	17.5	47	58
	Minimum	9	47	57
	Maximum	24	50	65
	SD	4.90	1.06	2.64

Missouri Assessment Program Grade 6 Communication Arts  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	636	671	688
Median	Overall	636	671	688
Minimum	1	616	671	685
Minimum	Overall	616	671	685
Maximum	1	644	673	703
Maximum	Overall	644	673	703
SD	1	10.18	0.71	5.78
SD	Overall	10.18	0.71	5.78

Overall	Median	636	671	688
	Minimum	616	671	685
	Maximum	644	673	703
	SD	10.18	0.71	5.78

# Missouri Assessment Program Grade 6 Communication Arts Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	17.5	47	58
Overall	17.5	47	58

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	19.5	36.8	19.9	23.7

Missouri Assessment Program Grade 6 Communication Arts  
Round 2 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	13	47	65
1	3	15	47	65
1	4	13	47	65
1	5	13	47	65
1	6	13	47	65
1	7	43	47	65
1	8	13	47	65
1	9	13	47	65

Overall	Median	13	47	65
	Minimum	13	47	65
	Maximum	43	47	65
	SD	10.53	0.00	0.00

Missouri Assessment Program Grade 6 Communication Arts  
Round 2 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	623	671	703
1	3	632	671	703
1	4	623	671	703
1	5	623	671	703
1	6	623	671	703
1	7	667	671	703
1	8	623	671	703
1	9	623	671	703

Overall	Median	623	671	703
	Minimum	623	671	703
	Maximum	667	671	703
	SD	15.43	0.00	0.00

Missouri Assessment Program Grade 6 Communication Arts  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	13	47	65
Median	Overall	13	47	65
Minimum	1	13	47	65
Minimum	Overall	13	47	65
Maximum	1	43	47	65
Maximum	Overall	43	47	65
SD	1	10.53	0.00	0.00
SD	Overall	10.53	0.00	0.00

Overall	Median	13	47	65
	Minimum	13	47	65
	Maximum	43	47	65
	SD	10.53	0.00	0.00

Missouri Assessment Program Grade 6 Communication Arts  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	623	671	703
Median	Overall	623	671	703
Minimum	1	623	671	703
Minimum	Overall	623	671	703
Maximum	1	667	671	703
Maximum	Overall	667	671	703
SD	1	15.43	0.00	0.00
SD	Overall	15.43	0.00	0.00

Overall	Median	623	671	703
	Minimum	623	671	703
	Maximum	667	671	703
	SD	15.43	0.00	0.00

## Missouri Assessment Program Grade 6 Communication Arts Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	13	47	65
Overall	13	47	65

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	11.6	44.7	31.7	12.0

Missouri Assessment Program Grade 6 Communication Arts  
Round 3 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	13	47	65
1	3	13	47	65
1	4	13	47	65
1	5	13	47	65
1	6	13	47	65
1	7	13	47	65
1	8	13	47	65
1	9	13	47	65

Overall	Median	13	47	65
	Minimum	13	47	65
	Maximum	13	47	65
	SD	0.00	0.00	0.00

Missouri Assessment Program Grade 6 Communication Arts  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	623	671	703
1	3	623	671	703
1	4	623	671	703
1	5	623	671	703
1	6	623	671	703
1	7	623	671	703
1	8	623	671	703
1	9	623	671	703

Overall	Median	623	671	703
	Minimum	623	671	703
	Maximum	623	671	703
	SD	0.00	0.00	0.00

Missouri Assessment Program Grade 6 Communication Arts  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	13	47	65
Median	Overall	13	47	65
Minimum	1	13	47	65
Minimum	Overall	13	47	65
Maximum	1	13	47	65
Maximum	Overall	13	47	65
SD	1	0.00	0.00	0.00
SD	Overall	0.00	0.00	0.00

Overall	Median	13	47	65
	Minimum	13	47	65
	Maximum	13	47	65
	SD	0.00	0.00	0.00

Missouri Assessment Program Grade 6 Communication Arts  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	623	671	703
Median	Overall	623	671	703
Minimum	1	623	671	703
Minimum	Overall	623	671	703
Maximum	1	623	671	703
Maximum	Overall	623	671	703
SD	1	0.00	0.00	0.00
SD	Overall	0.00	0.00	0.00

Overall	Median	623	671	703
	Minimum	623	671	703
	Maximum	623	671	703
	SD	0.00	0.00	0.00

# Missouri Assessment Program Grade 6 Communication Arts Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	13	47	65
Overall	13	47	65

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	11.6	44.7	31.7	12.0

Missouri Assessment Program Grade 7 Communication Arts  
Round 1 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	3	14	50	59
1	4	17	50	60
1	5	20	50	59
1	6	35	50	59
1	7	23	50	60
1	8	12	50	56
1	9	12	50	61

Overall	Median	17	50	59
	Minimum	12	50	56
	Maximum	35	50	61
	SD	8.16	0.00	1.57

Missouri Assessment Program Grade 7 Communication Arts  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	3	622	674	691
1	4	631	674	691
1	5	640	674	691
1	6	653	674	691
1	7	642	674	691
1	8	618	674	686
1	9	618	674	698

Overall	Median	631	674	691
	Minimum	618	674	686
	Maximum	653	674	698
	SD	13.53	0.00	3.50

Missouri Assessment Program Grade 7 Communication Arts  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	17	50	59
Median	Overall	17	50	59
Minimum	1	12	50	56
Minimum	Overall	12	50	56
Maximum	1	35	50	61
Maximum	Overall	35	50	61
SD	1	8.16	0.00	1.57
SD	Overall	8.16	0.00	1.57

Overall	Median	17	50	59
	Minimum	12	50	56
	Maximum	35	50	61
	SD	8.16	0.00	1.57

Missouri Assessment Program Grade 7 Communication Arts  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	631	674	691
Median	Overall	631	674	691
Minimum	1	618	674	686
Minimum	Overall	618	674	686
Maximum	1	653	674	698
Maximum	Overall	653	674	698
SD	1	13.53	0.00	3.50
SD	Overall	13.53	0.00	3.50

Overall	Median	631	674	691
	Minimum	618	674	686
	Maximum	653	674	698
	SD	13.53	0.00	3.50

# Missouri Assessment Program Grade 7 Communication Arts Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	17	50	59
Overall	17	50	59

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	18.9	37.0	17.1	27.0

Missouri Assessment Program Grade 7 Communication Arts  
Round 2 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	3	4	50	70
1	4	20	50	60
1	5	20	50	59
1	6	35	50	59
1	7	14	50	63
1	8	12	50	63
1	9	12	50	63

Overall	Median	14	50	63
	Minimum	4	50	59
	Maximum	35	50	70
	SD	9.74	0.00	3.82

Missouri Assessment Program Grade 7 Communication Arts  
Round 2 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	3	581	674	712
1	4	640	674	691
1	5	640	674	691
1	6	653	674	691
1	7	622	674	700
1	8	618	674	700
1	9	618	674	700

Overall	Median	622	674	700
	Minimum	581	674	691
	Maximum	653	674	712
	SD	23.37	0.00	7.69

Missouri Assessment Program Grade 7 Communication Arts  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	14	50	63
Median	Overall	14	50	63
Minimum	1	4	50	59
Minimum	Overall	4	50	59
Maximum	1	35	50	70
Maximum	Overall	35	50	70
SD	1	9.74	0.00	3.82
SD	Overall	9.74	0.00	3.82

Overall	Median	14	50	63
	Minimum	4	50	59
	Maximum	35	50	70
	SD	9.74	0.00	3.82

Missouri Assessment Program Grade 7 Communication Arts  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	622	674	700
Median	Overall	622	674	700
Minimum	1	581	674	691
Minimum	Overall	581	674	691
Maximum	1	653	674	712
Maximum	Overall	653	674	712
SD	1	23.37	0.00	7.69
SD	Overall	23.37	0.00	7.69

Overall	Median	622	674	700
	Minimum	581	674	691
	Maximum	653	674	712
	SD	23.37	0.00	7.69

# Missouri Assessment Program Grade 7 Communication Arts Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	14	50	63
Overall	14	50	63

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	14.9	41.0	24.3	19.8

Missouri Assessment Program Grade 7 Communication Arts  
Round 3 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	3	14	50	69
1	4	20	50	69
1	5	20	50	69
1	6	35	59	59
1	7	9	50	69
1	8	12	50	69
1	9	12	50	69

Overall	Median	14	50	69
	Minimum	9	50	59
	Maximum	35	59	69
	SD	8.79	3.40	3.78

Missouri Assessment Program Grade 7 Communication Arts  
Round 3 Cut Scores

Table	Participant	Basic	Proficient	Advanced
1	3	622	674	712
1	4	640	674	712
1	5	640	674	712
1	6	653	691	691
1	7	607	674	712
1	8	618	674	712
1	9	618	674	712

Overall	Median	622	674	712
	Minimum	607	674	691
	Maximum	653	691	712
	SD	16.28	6.43	7.94

Missouri Assessment Program Grade 7 Communication Arts  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	14	50	69
Median	Overall	14	50	69
Minimum	1	9	50	59
Minimum	Overall	9	50	59
Maximum	1	35	59	69
Maximum	Overall	35	59	69
SD	1	8.79	3.40	3.78
SD	Overall	8.79	3.40	3.78

Overall	Median	14	50	69
	Minimum	9	50	59
	Maximum	35	59	69
	SD	8.79	3.40	3.78

Missouri Assessment Program Grade 7 Communication Arts  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	622	674	712
Median	Overall	622	674	712
Minimum	1	607	674	691
Minimum	Overall	607	674	691
Maximum	1	653	691	712
Maximum	Overall	653	691	712
SD	1	16.28	6.43	7.94
SD	Overall	16.28	6.43	7.94

Overall	Median	622	674	712
	Minimum	607	674	691
	Maximum	653	691	712
	SD	16.28	6.43	7.94

# Missouri Assessment Program Grade 7 Communication Arts Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	14	50	69
Overall	14	50	69

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	14.9	41.0	31.7	12.4

Missouri Assessment Program Grade 8 Communication Arts  
Round 1 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	12	54	64
1	3	48	54	67
1	4	38	54	55
1	5	27	54	61
1	6	5	59	60
1	7	13	54	64
1	8	10	54	58
1	9	19	54	62

Overall	Median	16	54	61.5
	Minimum	5	54	55
	Maximum	48	59	67
	SD	15.01	1.77	3.78

Missouri Assessment Program Grade 8 Communication Arts  
Round 1 Cut Scores

Table	Participant	Basic	Proficient	Advanced
1	2	639	691	708
1	3	684	691	721
1	4	671	691	692
1	5	658	691	705
1	6	627	702	702
1	7	640	691	708
1	8	638	691	701
1	9	650	691	707

Overall	Median	647	691	705
	Minimum	627	691	692
	Maximum	684	702	721
	SD	19.08	3.89	8.19

Missouri Assessment Program Grade 8 Communication Arts  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	16	54	61.5
Median	Overall	16	54	61.5
Minimum	1	5	54	55
Minimum	Overall	5	54	55
Maximum	1	48	59	67
Maximum	Overall	48	59	67
SD	1	15.01	1.77	3.78
SD	Overall	15.01	1.77	3.78

Overall	Median	16	54	61.5
	Minimum	5	54	55
	Maximum	48	59	67
	SD	15.01	1.77	3.78

Missouri Assessment Program Grade 8 Communication Arts  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	647	691	705
Median	Overall	647	691	705
Minimum	1	627	691	692
Minimum	Overall	627	691	692
Maximum	1	684	702	721
Maximum	Overall	684	702	721
SD	1	19.08	3.89	8.19
SD	Overall	19.08	3.89	8.19

Overall	Median	647	691	705
	Minimum	627	691	692
	Maximum	684	702	721
	SD	19.08	3.89	8.19

## Missouri Assessment Program Grade 8 Communication Arts Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	16	54	61.5
Overall	16	54	61.5

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	17.9	39.4	14.5	28.2

Missouri Assessment Program Grade 8 Communication Arts  
Round 2 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	15	54	67
1	3	28	55	67
1	4	19	54	65
1	5	18	54	65
1	6	10	54	61
1	7	12	54	63
1	8	5	54	57
1	9	17	54	64

Overall	Median	16	54	64.5
	Minimum	5	54	57
	Maximum	28	55	67
	SD	6.87	0.35	3.34

Missouri Assessment Program Grade 8 Communication Arts  
Round 2 Cut Scores

Table	Participant	Basic	Proficient	Advanced
1	2	642	691	721
1	3	658	692	721
1	4	650	691	709
1	5	649	691	709
1	6	638	691	705
1	7	639	691	708
1	8	627	691	700
1	9	647	691	708

Overall	Median	647	691	708
	Minimum	627	691	700
	Maximum	658	692	721
	SD	9.41	0.35	7.34

Missouri Assessment Program Grade 8 Communication Arts  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	16	54	64.5
Median	Overall	16	54	64.5
Minimum	1	5	54	57
Minimum	Overall	5	54	57
Maximum	1	28	55	67
Maximum	Overall	28	55	67
SD	1	6.87	0.35	3.34
SD	Overall	6.87	0.35	3.34

Overall	Median	16	54	64.5
	Minimum	5	54	57
	Maximum	28	55	67
	SD	6.87	0.35	3.34

Missouri Assessment Program Grade 8 Communication Arts  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	647	691	708
Median	Overall	647	691	708
Minimum	1	627	691	700
Minimum	Overall	627	691	700
Maximum	1	658	692	721
Maximum	Overall	658	692	721
SD	1	9.41	0.35	7.34
SD	Overall	9.41	0.35	7.34

Overall	Median	647	691	708
	Minimum	627	691	700
	Maximum	658	692	721
	SD	9.41	0.35	7.34

## Missouri Assessment Program Grade 8 Communication Arts Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	16	54	64.5
Overall	16	54	64.5

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	17.9	39.4	17.7	25.0

Missouri Assessment Program Grade 8 Communication Arts  
Round 3 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	6	54	67
1	3	38	58	66
1	4	4	54	67
1	5	5	54	68
1	6	5	54	67
1	7	5	54	66
1	8	5	54	66
1	9	6	54	65

Overall	Median	5	54	66.5
	Minimum	4	54	65
	Maximum	38	58	68
	SD	11.63	1.41	0.93

Missouri Assessment Program Grade 8 Communication Arts  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	628	691	721
1	3	671	701	714
1	4	625	691	721
1	5	627	691	722
1	6	627	691	721
1	7	627	691	714
1	8	627	691	714
1	9	628	691	709

Overall	Median	627	691	714
	Minimum	625	691	709
	Maximum	671	701	722
	SD	15.58	3.54	4.84

Missouri Assessment Program Grade 8 Communication Arts  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	5	54	66.5
Median	Overall	5	54	66.5
Minimum	1	4	54	65
Minimum	Overall	4	54	65
Maximum	1	38	58	68
Maximum	Overall	38	58	68
SD	1	11.63	1.41	0.93
SD	Overall	11.63	1.41	0.93

Overall	Median	5	54	66.5
	Minimum	4	54	65
	Maximum	38	58	68
	SD	11.63	1.41	0.93

Missouri Assessment Program Grade 8 Communication Arts  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	627	691	714
Median	Overall	627	691	714
Minimum	1	625	691	709
Minimum	Overall	625	691	709
Maximum	1	671	701	722
Maximum	Overall	671	701	722
SD	1	15.58	3.54	4.84
SD	Overall	15.58	3.54	4.84

Overall	Median	627	691	714
	Minimum	625	691	709
	Maximum	671	701	722
	SD	15.58	3.54	4.84

## Missouri Assessment Program Grade 8 Communication Arts Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	5	54	66.5
Overall	5	54	66.5

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	9.6	47.7	22.3	20.4

Missouri Assessment Program Grade 11 Communication Arts  
Round 1 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	12	53	77
1	3	40	53	56
1	4	19	53	71
1	5	27	60	79
1	6	19	54	70
1	7	28	53	73
1	8	17	53	70
1	9	12	53	77
1	10	33	62	92

Overall	Median	19	53	73
	Minimum	12	53	56
	Maximum	40	62	92
	SD	9.62	3.52	9.57

Missouri Assessment Program Grade 11 Communication Arts  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	657	711	771
1	3	702	711	720
1	4	674	711	750
1	5	689	725	779
1	6	674	717	750
1	7	691	711	759
1	8	671	711	750
1	9	657	711	771
1	10	696	734	840

Overall	Median	674	711	759
	Minimum	657	711	720
	Maximum	702	734	840
	SD	16.37	8.33	32.84

Missouri Assessment Program Grade 11 Communication Arts  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	19	53	73
Median	Overall	19	53	73
Minimum	1	12	53	56
Minimum	Overall	12	53	56
Maximum	1	40	62	92
Maximum	Overall	40	62	92
SD	1	9.62	3.52	9.57
SD	Overall	9.62	3.52	9.57

Overall	Median	19	53	73
	Minimum	12	53	56
	Maximum	40	62	92
	SD	9.62	3.52	9.57

Missouri Assessment Program Grade 11 Communication Arts  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	674	711	759
Median	Overall	674	711	759
Minimum	1	657	711	720
Minimum	Overall	657	711	720
Maximum	1	702	734	840
Maximum	Overall	702	734	840
SD	1	16.37	8.33	32.84
SD	Overall	16.37	8.33	32.84

Overall	Median	674	711	759
	Minimum	657	711	720
	Maximum	702	734	840
	SD	16.37	8.33	32.84

Missouri Assessment Program Grade 11 Communication  
Arts  
Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	19	53	73
Overall	19	53	73

Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	23.1	33.1	37.4	6.4

Missouri Assessment Program Grade 11 Communication Arts  
Round 2 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	11	53	69
1	3	12	53	70
1	4	12	53	68
1	5	12	54	79
1	6	11	54	70
1	7	12	53	68
1	8	11	53	69
1	9	11	53	69
1	10	12	53	68

Overall	Median	12	53	69
	Minimum	11	53	68
	Maximum	12	54	79
	SD	0.53	0.44	3.46

Missouri Assessment Program Grade 11 Communication Arts  
Round 2 Cut Scores

Table	Participant	Basic	Proficient	Advanced
1	2	650	711	746
1	3	657	711	750
1	4	657	711	740
1	5	657	717	779
1	6	650	717	750
1	7	657	711	740
1	8	650	711	746
1	9	650	711	746
1	10	657	711	740

Overall	Median	657	711	746
	Minimum	650	711	740
	Maximum	657	717	779
	SD	3.69	2.65	12.09

Missouri Assessment Program Grade 11 Communication Arts  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	12	53	69
Median	Overall	12	53	69
Minimum	1	11	53	68
Minimum	Overall	11	53	68
Maximum	1	12	54	79
Maximum	Overall	12	54	79
SD	1	0.53	0.44	3.46
SD	Overall	0.53	0.44	3.46

Overall	Median	12	53	69
	Minimum	11	53	68
	Maximum	12	54	79
	SD	0.53	0.44	3.46

Missouri Assessment Program Grade 11 Communication Arts  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	657	711	746
Median	Overall	657	711	746
Minimum	1	650	711	740
Minimum	Overall	650	711	740
Maximum	1	657	717	779
Maximum	Overall	657	717	779
SD	1	3.69	2.65	12.09
SD	Overall	3.69	2.65	12.09

Overall	Median	657	711	746
	Minimum	650	711	740
	Maximum	657	717	779
	SD	3.69	2.65	12.09

Missouri Assessment Program Grade 11 Communication  
Arts  
Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	12	53	69
Overall	12	53	69

Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	14.9	41.3	31.2	12.6

Missouri Assessment Program Grade 11 Communication Arts  
Round 3 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	10	53	66
1	3	6	53	73
1	4	11	53	68
1	5	11	54	70
1	6	11	53	70
1	7	11	53	68
1	8	11	53	68
1	9	11	53	68
1	10	11	53	68

Overall	Median	11	53	68
	Minimum	6	53	66
	Maximum	11	54	73
	SD	1.66	0.33	1.99

Missouri Assessment Program Grade 11 Communication Arts  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	649	711	739
1	3	622	711	759
1	4	650	711	740
1	5	650	717	750
1	6	650	711	750
1	7	650	711	740
1	8	650	711	740
1	9	650	711	740
1	10	650	711	740

Overall	Median	650	711	740
	Minimum	622	711	739
	Maximum	650	717	759
	SD	9.30	2.00	7.08

Missouri Assessment Program Grade 11 Communication Arts  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	11	53	68
Median	Overall	11	53	68
Minimum	1	6	53	66
Minimum	Overall	6	53	66
Maximum	1	11	54	73
Maximum	Overall	11	54	73
SD	1	1.66	0.33	1.99
SD	Overall	1.66	0.33	1.99

Overall	Median	11	53	68
	Minimum	6	53	66
	Maximum	11	54	73
	SD	1.66	0.33	1.99

Missouri Assessment Program Grade 11 Communication Arts  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	650	711	740
Median	Overall	650	711	740
Minimum	1	622	711	739
Minimum	Overall	622	711	739
Maximum	1	650	717	759
Maximum	Overall	650	717	759
SD	1	9.30	2.00	7.08
SD	Overall	9.30	2.00	7.08

Overall	Median	650	711	740
	Minimum	622	711	739
	Maximum	650	717	759
	SD	9.30	2.00	7.08

Missouri Assessment Program Grade 11 Communication  
Arts  
Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	11	53	68
Overall	11	53	68

Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	12.3	43.9	27.4	16.4

Missouri Assessment Program Grade 3 Mathematics  
Round 1 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	25	65	88
1	3	25	65	70
1	4	26	65	77
1	5	21	65	66
1	6	15	65	66
1	7	24	65	66
1	8	22	65	66
1	9	18	65	66

Overall	Median	23	65	66
	Minimum	15	65	66
	Maximum	26	65	88
	SD	3.85	0.00	8.02

Missouri Assessment Program Grade 3 Mathematics  
Round 1 Cut Scores

Table	Participant	Basic	Proficient	Advanced
1	2	565	620	656
1	3	565	620	625
1	4	568	620	633
1	5	556	620	623
1	6	553	620	623
1	7	559	620	623
1	8	558	620	623
1	9	554	620	623

Overall	Median	559	620	623
	Minimum	553	620	623
	Maximum	568	620	656
	SD	5.60	0.00	11.59

Missouri Assessment Program Grade 3 Mathematics  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	23	65	66
Median	Overall	23	65	66
Minimum	1	15	65	66
Minimum	Overall	15	65	66
Maximum	1	26	65	88
Maximum	Overall	26	65	88
SD	1	3.85	0.00	8.02
SD	Overall	3.85	0.00	8.02

Overall	Median	23	65	66
	Minimum	15	65	66
	Maximum	26	65	88
	SD	3.85	0.00	8.02

Missouri Assessment Program Grade 3 Mathematics  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	559	620	623
Median	Overall	559	620	623
Minimum	1	553	620	623
Minimum	Overall	553	620	623
Maximum	1	568	620	656
Maximum	Overall	568	620	656
SD	1	5.60	0.00	11.59
SD	Overall	5.60	0.00	11.59

Overall	Median	559	620	623
	Minimum	553	620	623
	Maximum	568	620	656
	SD	5.60	0.00	11.59

## Missouri Assessment Program Grade 3 Mathematics Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	23	65	66
Overall	23	65	66

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	11.1	45.1	2.8	41.0

Missouri Assessment Program Grade 3 Mathematics  
Round 2 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	24	65	87
1	3	24	65	87
1	4	24	65	87
1	5	24	65	87
1	6	25	65	87
1	7	24	65	87
1	8	24	65	87
1	9	24	65	87

Overall	Median	24	65	87
	Minimum	24	65	87
	Maximum	25	65	87
	SD	0.35	0.00	0.00

Missouri Assessment Program Grade 3 Mathematics  
Round 2 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	559	620	645
1	3	559	620	645
1	4	559	620	645
1	5	559	620	645
1	6	565	620	645
1	7	559	620	645
1	8	559	620	645
1	9	559	620	645

Overall	Median	559	620	645
	Minimum	559	620	645
	Maximum	565	620	645
	SD	2.12	0.00	0.00

Missouri Assessment Program Grade 3 Mathematics  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	24	65	87
Median	Overall	24	65	87
Minimum	1	24	65	87
Minimum	Overall	24	65	87
Maximum	1	25	65	87
Maximum	Overall	25	65	87
SD	1	0.35	0.00	0.00
SD	Overall	0.35	0.00	0.00

Overall	Median	24	65	87
	Minimum	24	65	87
	Maximum	25	65	87
	SD	0.35	0.00	0.00

Missouri Assessment Program Grade 3 Mathematics  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	559	620	645
Median	Overall	559	620	645
Minimum	1	559	620	645
Minimum	Overall	559	620	645
Maximum	1	565	620	645
Maximum	Overall	565	620	645
SD	1	2.12	0.00	0.00
SD	Overall	2.12	0.00	0.00

Overall	Median	559	620	645
	Minimum	559	620	645
	Maximum	565	620	645
	SD	2.12	0.00	0.00

## Missouri Assessment Program Grade 3 Mathematics Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	24	65	87
Overall	24	65	87

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	11.1	45.1	21.9	21.9

Missouri Assessment Program Grade 3 Mathematics  
Round 3 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	24	65	90
1	3	24	65	90
1	4	24	65	90
1	5	24	65	90
1	6	25	65	86
1	7	24	65	90
1	8	24	65	86
1	9	24	65	88

Overall	Median	24	65	90
	Minimum	24	65	86
	Maximum	25	65	90
	SD	0.35	0.00	1.83

Missouri Assessment Program Grade 3 Mathematics  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	559	620	667
1	3	559	620	667
1	4	559	620	667
1	5	559	620	667
1	6	565	620	645
1	7	559	620	667
1	8	559	620	645
1	9	559	620	656

Overall	Median	559	620	667
	Minimum	559	620	645
	Maximum	565	620	667
	SD	2.12	0.00	10.08

Missouri Assessment Program Grade 3 Mathematics  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	24	65	90
Median	Overall	24	65	90
Minimum	1	24	65	86
Minimum	Overall	24	65	86
Maximum	1	25	65	90
Maximum	Overall	25	65	90
SD	1	0.35	0.00	1.83
SD	Overall	0.35	0.00	1.83

Overall	Median	24	65	90
	Minimum	24	65	86
	Maximum	25	65	90
	SD	0.35	0.00	1.83

Missouri Assessment Program Grade 3 Mathematics  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	559	620	667
Median	Overall	559	620	667
Minimum	1	559	620	645
Minimum	Overall	559	620	645
Maximum	1	565	620	667
Maximum	Overall	565	620	667
SD	1	2.12	0.00	10.08
SD	Overall	2.12	0.00	10.08

Overall	Median	559	620	667
	Minimum	559	620	645
	Maximum	565	620	667
	SD	2.12	0.00	10.08

Missouri Assessment Program Grade 3 Mathematics  
Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	24	65	90
Overall	24	65	90

Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	11.1	45.1	35.0	8.8

Missouri Assessment Program Grade 4 Mathematics  
Round 1 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	30	60	86
1	3	33	60	92
1	4	12	66	86
1	5	14	63	83
1	6	12	67	89
1	7	16	63	82
1	8	12	68	90
1	9	16	60	93

Overall	Median	15	63	87.5
	Minimum	12	60	82
	Maximum	33	68	93
	SD	8.46	3.29	4.03

Missouri Assessment Program Grade 4 Mathematics  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	607	641	665
1	3	611	641	678
1	4	589	650	665
1	5	590	646	661
1	6	589	651	673
1	7	592	646	660
1	8	589	651	677
1	9	592	641	688

Overall	Median	591	646	668
	Minimum	589	641	660
	Maximum	611	651	688
	SD	8.87	4.49	9.79

Missouri Assessment Program Grade 4 Mathematics  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	15	63	87.5
Median	Overall	15	63	87.5
Minimum	1	12	60	82
Minimum	Overall	12	60	82
Maximum	1	33	68	93
Maximum	Overall	33	68	93
SD	1	8.46	3.29	4.03
SD	Overall	8.46	3.29	4.03

Overall	Median	15	63	87.5
	Minimum	12	60	82
	Maximum	33	68	93
	SD	8.46	3.29	4.03

Missouri Assessment Program Grade 4 Mathematics  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	591	646	668
Median	Overall	591	646	668
Minimum	1	589	641	660
Minimum	Overall	589	641	660
Maximum	1	611	651	688
Maximum	Overall	611	651	688
SD	1	8.87	4.49	9.79
SD	Overall	8.87	4.49	9.79

Overall	Median	591	646	668
	Minimum	589	641	660
	Maximum	611	651	688
	SD	8.87	4.49	9.79

## Missouri Assessment Program Grade 4 Mathematics Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	15	63	87.5
Overall	15	63	87.5

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	12.1	47.0	21.6	19.3

Missouri Assessment Program Grade 4 Mathematics  
Round 2 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	21	60	90
1	3	21	60	90
1	4	15	61	90
1	5	12	60	86
1	6	12	60	90
1	7	12	60	90
1	8	12	66	90
1	9	12	60	85

Overall	Median	12	60	90
	Minimum	12	60	85
	Maximum	21	66	90
	SD	4.07	2.10	2.10

Missouri Assessment Program Grade 4 Mathematics  
Round 2 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	597	643	677
1	3	597	643	677
1	4	591	644	677
1	5	589	643	665
1	6	589	643	677
1	7	589	643	677
1	8	589	650	677
1	9	589	643	663

Overall	Median	589	643	677
	Minimum	589	643	663
	Maximum	597	650	677
	SD	3.62	2.45	6.04

Missouri Assessment Program Grade 4 Mathematics  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	12	60	90
Median	Overall	12	60	90
Minimum	1	12	60	85
Minimum	Overall	12	60	85
Maximum	1	21	66	90
Maximum	Overall	21	66	90
SD	1	4.07	2.10	2.10
SD	Overall	4.07	2.10	2.10

Overall	Median	12	60	90
	Minimum	12	60	85
	Maximum	21	66	90
	SD	4.07	2.10	2.10

Missouri Assessment Program Grade 4 Mathematics  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	589	643	677
Median	Overall	589	643	677
Minimum	1	589	643	663
Minimum	Overall	589	643	663
Maximum	1	597	650	677
Maximum	Overall	597	650	677
SD	1	3.62	2.45	6.04
SD	Overall	3.62	2.45	6.04

Overall	Median	589	643	677
	Minimum	589	643	663
	Maximum	597	650	677
	SD	3.62	2.45	6.04

## Missouri Assessment Program Grade 4 Mathematics Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	12	60	90
Overall	12	60	90

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	11.6	44.3	32.1	12.0

Missouri Assessment Program Grade 4 Mathematics  
Round 3 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	12	60	90
1	3	12	60	90
1	4	12	60	90
1	5	12	60	90
1	6	12	60	90
1	7	12	60	90
1	8	12	60	90
1	9	12	60	90

Overall	Median	12	60	90
	Minimum	12	60	90
	Maximum	12	60	90
	SD	0.00	0.00	0.00

Missouri Assessment Program Grade 4 Mathematics  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	589	643	677
1	3	589	643	677
1	4	589	643	677
1	5	589	643	677
1	6	589	643	677
1	7	589	643	677
1	8	589	643	677
1	9	589	643	677

Overall	Median	589	643	677
	Minimum	589	643	677
	Maximum	589	643	677
	SD	0.00	0.00	0.00

Missouri Assessment Program Grade 4 Mathematics  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	12	60	90
Median	Overall	12	60	90
Minimum	1	12	60	90
Minimum	Overall	12	60	90
Maximum	1	12	60	90
Maximum	Overall	12	60	90
SD	1	0.00	0.00	0.00
SD	Overall	0.00	0.00	0.00

Overall	Median	12	60	90
	Minimum	12	60	90
	Maximum	12	60	90
	SD	0.00	0.00	0.00

Missouri Assessment Program Grade 4 Mathematics  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	589	643	677
Median	Overall	589	643	677
Minimum	1	589	643	677
Minimum	Overall	589	643	677
Maximum	1	589	643	677
Maximum	Overall	589	643	677
SD	1	0.00	0.00	0.00
SD	Overall	0.00	0.00	0.00

Overall	Median	589	643	677
	Minimum	589	643	677
	Maximum	589	643	677
	SD	0.00	0.00	0.00

# Missouri Assessment Program Grade 4 Mathematics Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	12	60	90
Overall	12	60	90

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	11.6	44.3	32.1	12.0

Missouri Assessment Program Grade 5 Mathematics  
Round 1 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	3	35	65	73
1	4	18	65	81
1	5	16	65	82
1	6	19	65	75
1	7	15	69	83
1	8	36	68	86
1	9	34	68	90

Overall	Median	19	65	82
	Minimum	15	65	73
	Maximum	36	69	90
	SD	9.72	1.81	5.91

Missouri Assessment Program Grade 5 Mathematics  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	3	629	658	665
1	4	606	658	677
1	5	599	658	678
1	6	607	658	670
1	7	589	663	680
1	8	631	662	683
1	9	629	662	694

Overall	Median	607	658	678
	Minimum	589	658	665
	Maximum	631	663	694
	SD	16.80	2.34	9.30

Missouri Assessment Program Grade 5 Mathematics  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	19	65	82
Median	Overall	19	65	82
Minimum	1	15	65	73
Minimum	Overall	15	65	73
Maximum	1	36	69	90
Maximum	Overall	36	69	90
SD	1	9.72	1.81	5.91
SD	Overall	9.72	1.81	5.91

Overall	Median	19	65	82
	Minimum	15	65	73
	Maximum	36	69	90
	SD	9.72	1.81	5.91

Missouri Assessment Program Grade 5 Mathematics  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	607	658	678
Median	Overall	607	658	678
Minimum	1	589	658	665
Minimum	Overall	589	658	665
Maximum	1	631	663	694
Maximum	Overall	631	663	694
SD	1	16.80	2.34	9.30
SD	Overall	16.80	2.34	9.30

Overall	Median	607	658	678
	Minimum	589	658	665
	Maximum	631	663	694
	SD	16.80	2.34	9.30

# Missouri Assessment Program Grade 5 Mathematics Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	19	65	82
Overall	19	65	82

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	16.2	39.5	19.2	25.1

Missouri Assessment Program Grade 5 Mathematics  
Round 2 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	3	18	65	86
1	4	18	65	88
1	5	19	65	88
1	6	19	65	88
1	7	19	69	88
1	8	19	65	86
1	9	19	68	90

Overall	Median	19	65	88
	Minimum	18	65	86
	Maximum	19	69	90
	SD	0.49	1.73	1.38

Missouri Assessment Program Grade 5 Mathematics  
Round 2 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	3	606	658	683
1	4	606	658	691
1	5	607	658	691
1	6	607	658	691
1	7	607	663	691
1	8	607	658	683
1	9	607	662	694

Overall	Median	607	658	691
	Minimum	606	658	683
	Maximum	607	663	694
	SD	0.49	2.21	4.34

Missouri Assessment Program Grade 5 Mathematics  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	19	65	88
Median	Overall	19	65	88
Minimum	1	18	65	86
Minimum	Overall	18	65	86
Maximum	1	19	69	90
Maximum	Overall	19	69	90
SD	1	0.49	1.73	1.38
SD	Overall	0.49	1.73	1.38

Overall	Median	19	65	88
	Minimum	18	65	86
	Maximum	19	69	90
	SD	0.49	1.73	1.38

Missouri Assessment Program Grade 5 Mathematics  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	607	658	691
Median	Overall	607	658	691
Minimum	1	606	658	683
Minimum	Overall	606	658	683
Maximum	1	607	663	694
Maximum	Overall	607	663	694
SD	1	0.49	2.21	4.34
SD	Overall	0.49	2.21	4.34

Overall	Median	607	658	691
	Minimum	606	658	683
	Maximum	607	663	694
	SD	0.49	2.21	4.34

# Missouri Assessment Program Grade 5 Mathematics Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	19	65	88
Overall	19	65	88

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	16.2	39.5	28.8	15.5

Missouri Assessment Program Grade 5 Mathematics  
Round 3 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	3	16	65	93
1	4	16	65	89
1	5	16	65	89
1	6	15	65	93
1	7	16	69	93
1	8	16	65	93
1	9	16	68	93

Overall	Median	16	65	93
	Minimum	15	65	89
	Maximum	16	69	93
	SD	0.38	1.73	1.95

Missouri Assessment Program Grade 5 Mathematics  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	3	599	658	699
1	4	599	658	694
1	5	599	658	694
1	6	589	658	699
1	7	599	663	699
1	8	599	658	699
1	9	599	662	699

Overall	Median	599	658	699
	Minimum	589	658	694
	Maximum	599	663	699
	SD	3.78	2.21	2.44

Missouri Assessment Program Grade 5 Mathematics  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	16	65	93
Median	Overall	16	65	93
Minimum	1	15	65	89
Minimum	Overall	15	65	89
Maximum	1	16	69	93
Maximum	Overall	16	69	93
SD	1	0.38	1.73	1.95
SD	Overall	0.38	1.73	1.95

Overall	Median	16	65	93
	Minimum	15	65	89
	Maximum	16	69	93
	SD	0.38	1.73	1.95

Missouri Assessment Program Grade 5 Mathematics  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	599	658	699
Median	Overall	599	658	699
Minimum	1	589	658	694
Minimum	Overall	589	658	694
Maximum	1	599	663	699
Maximum	Overall	599	663	699
SD	1	3.78	2.21	2.44
SD	Overall	3.78	2.21	2.44

Overall	Median	599	658	699
	Minimum	589	658	694
	Maximum	599	663	699
	SD	3.78	2.21	2.44

Missouri Assessment Program Grade 5 Mathematics  
Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	16	65	93
Overall	16	65	93

Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	12.7	42.9	33.4	11.0

Missouri Assessment Program Grade 6 Mathematics  
Round 1 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	22	53	72
1	3	35	57	73
1	4	28	57	86
1	5	27	57	90
1	6	16	48	72
1	7	30	53	73
1	8	26	51	76
1	9	48	57	73

Overall	Median	27.5	55	73
	Minimum	16	48	72
	Maximum	48	57	90
	SD	9.49	3.44	7.06

Missouri Assessment Program Grade 6 Mathematics  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	636	676	692
1	3	656	682	692
1	4	641	682	713
1	5	641	682	720
1	6	624	671	692
1	7	649	676	692
1	8	640	675	697
1	9	671	682	692

Overall	Median	641	678	692
	Minimum	624	671	692
	Maximum	671	682	720
	SD	14.10	4.30	11.25

Missouri Assessment Program Grade 6 Mathematics  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	27.5	55	73
Median	Overall	27.5	55	73
Minimum	1	16	48	72
Minimum	Overall	16	48	72
Maximum	1	48	57	90
Maximum	Overall	48	57	90
SD	1	9.49	3.44	7.06
SD	Overall	9.49	3.44	7.06

Overall	Median	27.5	55	73
	Minimum	16	48	72
	Maximum	48	57	90
	SD	9.49	3.44	7.06

Missouri Assessment Program Grade 6 Mathematics  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	641	678	692
Median	Overall	641	678	692
Minimum	1	624	671	692
Minimum	Overall	624	671	692
Maximum	1	671	682	720
Maximum	Overall	671	682	720
SD	1	14.10	4.30	11.25
SD	Overall	14.10	4.30	11.25

Overall	Median	641	678	692
	Minimum	624	671	692
	Maximum	671	682	720
	SD	14.10	4.30	11.25

Missouri Assessment Program Grade 6 Mathematics  
Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	27.5	55	73
Overall	27.5	55	73

Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	28.8	33.9	12.9	24.4

Missouri Assessment Program Grade 6 Mathematics  
Round 2 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	18	48	75
1	3	18	51	85
1	4	18	50	83
1	5	18	48	78
1	6	18	48	76
1	7	18	51	76
1	8	18	51	76

Overall	Median	18	50	76
	Minimum	18	48	75
	Maximum	18	51	85
	SD	0.00	1.51	3.95

Missouri Assessment Program Grade 6 Mathematics  
Round 2 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	631	671	694
1	3	631	675	710
1	4	631	673	709
1	5	631	671	702
1	6	631	671	697
1	7	631	675	697
1	8	631	675	697

Overall	Median	631	673	697
	Minimum	631	671	694
	Maximum	631	675	710
	SD	0.00	2.00	6.36

Missouri Assessment Program Grade 6 Mathematics  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	18	50	76
Median	Overall	18	50	76
Minimum	1	18	48	75
Minimum	Overall	18	48	75
Maximum	1	18	51	85
Maximum	Overall	18	51	85
SD	1	0.00	1.51	3.95
SD	Overall	0.00	1.51	3.95

Overall	Median	18	50	76
	Minimum	18	48	75
	Maximum	18	51	85
	SD	0.00	1.51	3.95

Missouri Assessment Program Grade 6 Mathematics  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	631	673	697
Median	Overall	631	673	697
Minimum	1	631	671	694
Minimum	Overall	631	671	694
Maximum	1	631	675	710
Maximum	Overall	631	675	710
SD	1	0.00	2.00	6.36
SD	Overall	0.00	2.00	6.36

Overall	Median	631	673	697
	Minimum	631	671	694
	Maximum	631	675	710
	SD	0.00	2.00	6.36

## Missouri Assessment Program Grade 6 Mathematics Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	18	50	76
Overall	18	50	76

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	22.0	36.1	21.7	20.2

Missouri Assessment Program Grade 6 Mathematics  
Round 3 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	11	48	85
1	3	11	48	85
1	4	11	48	85
1	5	14	48	85
1	6	14	48	85
1	7	12	48	86
1	8	12	48	85
1	9	11	48	86

Overall	Median	11.5	48	85
	Minimum	11	48	85
	Maximum	14	48	86
	SD	1.31	0.00	0.46

Missouri Assessment Program Grade 6 Mathematics  
Round 3 Cut Scores

Table	Participant	Basic	Proficient	Advanced
1	2	613	671	710
1	3	613	671	710
1	4	613	671	710
1	5	622	671	710
1	6	622	671	710
1	7	616	671	713
1	8	616	671	710
1	9	613	671	713

Overall	Median	613	671	710
	Minimum	613	671	710
	Maximum	622	671	713
	SD	3.93	0.00	1.39

Missouri Assessment Program Grade 6 Mathematics  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	11.5	48	85
Median	Overall	11.5	48	85
Minimum	1	11	48	85
Minimum	Overall	11	48	85
Maximum	1	14	48	86
Maximum	Overall	14	48	86
SD	1	1.31	0.00	0.46
SD	Overall	1.31	0.00	0.46

Overall	Median	11.5	48	85
	Minimum	11	48	85
	Maximum	14	48	86
	SD	1.31	0.00	0.46

Missouri Assessment Program Grade 6 Mathematics  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	613	671	710
Median	Overall	613	671	710
Minimum	1	613	671	710
Minimum	Overall	613	671	710
Maximum	1	622	671	713
Maximum	Overall	622	671	713
SD	1	3.93	0.00	1.39
SD	Overall	3.93	0.00	1.39

Overall	Median	613	671	710
	Minimum	613	671	710
	Maximum	622	671	713
	SD	3.93	0.00	1.39

## Missouri Assessment Program Grade 6 Mathematics Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	11.5	48	85
Overall	11.5	48	85

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	13.4	42.3	32.6	11.7

Missouri Assessment Program Grade 7 Mathematics  
Round 1 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	29	48	61
1	3	29	45	70
1	4	12	43	65
1	5	36	57	77
1	6	42	56	88
1	7	14	43	58

Overall	Median	29	46.5	67.5
	Minimum	12	43	58
	Maximum	42	57	88
	SD	11.90	6.35	11.16

Missouri Assessment Program Grade 7 Mathematics  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	657	681	698
1	3	657	679	705
1	4	630	676	703
1	5	669	694	719
1	6	674	693	741
1	7	636	676	694

Overall	Median	657	680	703
	Minimum	630	676	694
	Maximum	674	694	741
	SD	17.57	8.23	17.41

Missouri Assessment Program Grade 7 Mathematics  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	29	46.5	67.5
Median	Overall	29	46.5	67.5
Minimum	1	12	43	58
Minimum	Overall	12	43	58
Maximum	1	42	57	88
Maximum	Overall	42	57	88
SD	1	11.90	6.35	11.16
SD	Overall	11.90	6.35	11.16

Overall	Median	29	46.5	67.5
	Minimum	12	43	58
	Maximum	42	57	88
	SD	11.90	6.35	11.16

Missouri Assessment Program Grade 7 Mathematics  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	657	680	703
Median	Overall	657	680	703
Minimum	1	630	676	694
Minimum	Overall	630	676	694
Maximum	1	674	694	741
Maximum	Overall	674	694	741
SD	1	17.57	8.23	17.41
SD	Overall	17.57	8.23	17.41

Overall	Median	657	680	703
	Minimum	630	676	694
	Maximum	674	694	741
	SD	17.57	8.23	17.41

# Missouri Assessment Program Grade 7 Mathematics Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	29	46.5	67.5
Overall	29	46.5	67.5

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	39.0	21.3	19.8	19.9

Missouri Assessment Program Grade 7 Mathematics  
Round 2 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	19	43	70
1	3	19	43	70
1	4	19	43	70
1	5	19	43	70
1	6	28	45	71
1	7	14	43	70

Overall	Median	19	43	70
	Minimum	14	43	70
	Maximum	28	45	71
	SD	4.55	0.82	0.41

Missouri Assessment Program Grade 7 Mathematics  
Round 2 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	642	676	705
1	3	642	676	705
1	4	642	676	705
1	5	642	676	705
1	6	655	679	706
1	7	636	676	705

Overall	Median	642	676	705
	Minimum	636	676	705
	Maximum	655	679	706
	SD	6.27	1.22	0.41

Missouri Assessment Program Grade 7 Mathematics  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	19	43	70
Median	Overall	19	43	70
Minimum	1	14	43	70
Minimum	Overall	14	43	70
Maximum	1	28	45	71
Maximum	Overall	28	45	71
SD	1	4.55	0.82	0.41
SD	Overall	4.55	0.82	0.41

Overall	Median	19	43	70
	Minimum	14	43	70
	Maximum	28	45	71
	SD	4.55	0.82	0.41

Missouri Assessment Program Grade 7 Mathematics  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	642	676	705
Median	Overall	642	676	705
Minimum	1	636	676	705
Minimum	Overall	636	676	705
Maximum	1	655	679	706
Maximum	Overall	655	679	706
SD	1	6.27	1.22	0.41
SD	Overall	6.27	1.22	0.41

Overall	Median	642	676	705
	Minimum	636	676	705
	Maximum	655	679	706
	SD	6.27	1.22	0.41

## Missouri Assessment Program Grade 7 Mathematics Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	19	43	70
Overall	19	43	70

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	28.0	28.0	25.8	18.2

Missouri Assessment Program Grade 7 Mathematics  
Round 3 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	13	43	74
1	3	13	43	74
1	4	13	43	73
1	5	13	43	75
1	6	13	43	75
1	7	13	43	73

Overall	Median	13	43	74
	Minimum	13	43	73
	Maximum	13	43	75
	SD	0.00	0.00	0.89

Missouri Assessment Program Grade 7 Mathematics  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	631	676	710
1	3	631	676	710
1	4	631	676	708
1	5	631	676	714
1	6	631	676	714
1	7	631	676	708

Overall	Median	631	676	710
	Minimum	631	676	708
	Maximum	631	676	714
	SD	0.00	0.00	2.73

Missouri Assessment Program Grade 7 Mathematics  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	13	43	74
Median	Overall	13	43	74
Minimum	1	13	43	73
Minimum	Overall	13	43	73
Maximum	1	13	43	75
Maximum	Overall	13	43	75
SD	1	0.00	0.00	0.89
SD	Overall	0.00	0.00	0.89

Overall	Median	13	43	74
	Minimum	13	43	73
	Maximum	13	43	75
	SD	0.00	0.00	0.89

Missouri Assessment Program Grade 7 Mathematics  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	631	676	710
Median	Overall	631	676	710
Minimum	1	631	676	708
Minimum	Overall	631	676	708
Maximum	1	631	676	714
Maximum	Overall	631	676	714
SD	1	0.00	0.00	2.73
SD	Overall	0.00	0.00	2.73

Overall	Median	631	676	710
	Minimum	631	676	708
	Maximum	631	676	714
	SD	0.00	0.00	2.73

Missouri Assessment Program Grade 7 Mathematics  
Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	13	43	74
Overall	13	43	74

Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	21.4	34.6	29.5	14.5

Missouri Assessment Program Grade 8 Mathematics  
Round 1 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	19	48	80
1	3	31	46	74
1	4	13	47	74
1	5	15	43	63
1	6	18	44	80
1	7	15	44	74
1	8	20	50	80
1	9	20	40	60
1	10	19	40	69

Overall	Median	19	44	74
	Minimum	13	40	60
	Maximum	31	50	80
	SD	5.18	3.43	7.37

Missouri Assessment Program Grade 8 Mathematics  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	666	707	748
1	3	686	706	741
1	4	655	707	741
1	5	656	699	721
1	6	665	702	748
1	7	656	702	741
1	8	667	709	748
1	9	667	697	718
1	10	666	697	734

Overall	Median	666	702	741
	Minimum	655	697	718
	Maximum	686	709	748
	SD	9.44	4.57	11.36

Missouri Assessment Program Grade 8 Mathematics  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	19	44	74
Median	Overall	19	44	74
Minimum	1	13	40	60
Minimum	Overall	13	40	60
Maximum	1	31	50	80
Maximum	Overall	31	50	80
SD	1	5.18	3.43	7.37
SD	Overall	5.18	3.43	7.37

Overall	Median	19	44	74
	Minimum	13	40	60
	Maximum	31	50	80
	SD	5.18	3.43	7.37

Missouri Assessment Program Grade 8 Mathematics  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	666	702	741
Median	Overall	666	702	741
Minimum	1	655	697	718
Minimum	Overall	655	697	718
Maximum	1	686	709	748
Maximum	Overall	686	709	748
SD	1	9.44	4.57	11.36
SD	Overall	9.44	4.57	11.36

Overall	Median	666	702	741
	Minimum	655	697	718
	Maximum	686	709	748
	SD	9.44	4.57	11.36

# Missouri Assessment Program Grade 8 Mathematics Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	19	44	74
Overall	19	44	74

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	29.5	30.9	28.2	11.4

Missouri Assessment Program Grade 8 Mathematics  
Round 2 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	17	44	80
1	3	15	40	74
1	4	15	47	74
1	5	15	43	74
1	6	17	44	80
1	7	16	44	76
1	8	17	47	80
1	10	15	40	67

Overall	Median	15.5	44	75
	Minimum	15	40	67
	Maximum	17	47	80
	SD	0.99	2.67	4.47

Missouri Assessment Program Grade 8 Mathematics  
Round 2 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	661	702	748
1	3	656	697	741
1	4	656	707	741
1	5	656	699	741
1	6	661	702	748
1	7	658	702	743
1	8	661	707	748
1	10	656	697	725

Overall	Median	656	702	742
	Minimum	656	697	725
	Maximum	661	707	748
	SD	2.47	3.93	7.57

Missouri Assessment Program Grade 8 Mathematics  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	15.5	44	75
Median	Overall	15.5	44	75
Minimum	1	15	40	67
Minimum	Overall	15	40	67
Maximum	1	17	47	80
Maximum	Overall	17	47	80
SD	1	0.99	2.67	4.47
SD	Overall	0.99	2.67	4.47

Overall	Median	15.5	44	75
	Minimum	15	40	67
	Maximum	17	47	80
	SD	0.99	2.67	4.47

Missouri Assessment Program Grade 8 Mathematics  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	656	702	742
Median	Overall	656	702	742
Minimum	1	656	697	725
Minimum	Overall	656	697	725
Maximum	1	661	707	748
Maximum	Overall	661	707	748
SD	1	2.47	3.93	7.57
SD	Overall	2.47	3.93	7.57

Overall	Median	656	702	742
	Minimum	656	697	725
	Maximum	661	707	748
	SD	2.47	3.93	7.57

## Missouri Assessment Program Grade 8 Mathematics Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	15.5	44	75
Overall	15.5	44	75

### Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	23.6	36.7	28.6	11.1

Missouri Assessment Program Grade 8 Mathematics  
Round 3 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	17	44	75
1	3	15	43	74
1	4	14	44	74
1	5	15	44	74
1	6	17	44	89
1	7	16	44	76
1	8	16	44	74
1	9	17	44	79
1	10	15	40	67

Overall	Median	16	44	74
	Minimum	14	40	67
	Maximum	17	44	89
	SD	1.09	1.33	5.87

Missouri Assessment Program Grade 8 Mathematics  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	661	702	742
1	3	656	699	741
1	4	656	702	741
1	5	656	702	741
1	6	661	702	774
1	7	658	702	743
1	8	658	702	741
1	9	661	702	747
1	10	656	697	725

Overall	Median	658	702	741
	Minimum	656	697	725
	Maximum	661	702	774
	SD	2.32	1.83	12.80

Missouri Assessment Program Grade 8 Mathematics  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	16	44	74
Median	Overall	16	44	74
Minimum	1	14	40	67
Minimum	Overall	14	40	67
Maximum	1	17	44	89
Maximum	Overall	17	44	89
SD	1	1.09	1.33	5.87
SD	Overall	1.09	1.33	5.87

Overall	Median	16	44	74
	Minimum	14	40	67
	Maximum	17	44	89
	SD	1.09	1.33	5.87

Missouri Assessment Program Grade 8 Mathematics  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	658	702	741
Median	Overall	658	702	741
Minimum	1	656	697	725
Minimum	Overall	656	697	725
Maximum	1	661	702	774
Maximum	Overall	661	702	774
SD	1	2.32	1.83	12.80
SD	Overall	2.32	1.83	12.80

Overall	Median	658	702	741
	Minimum	656	697	725
	Maximum	661	702	774
	SD	2.32	1.83	12.80

# Missouri Assessment Program Grade 8 Mathematics Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	16	44	74
Overall	16	44	74

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	24.6	35.7	28.2	11.5

Missouri Assessment Program Grade 10 Mathematics  
Round 1 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	16	52	85
1	3	33	60	75
1	4	7	40	70
1	5	21	45	70
1	6	16	49	84
1	7	28	46	75
1	8	21	43	72
1	9	21	44	76
1	10	18	40	62

Overall	Median	21	45	75
	Minimum	7	40	62
	Maximum	33	60	85
	SD	7.42	6.37	7.12

Missouri Assessment Program Grade 10 Mathematics  
Round 1 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	688	734	784
1	3	714	743	757
1	4	658	723	752
1	5	699	727	752
1	6	688	730	777
1	7	707	728	757
1	8	699	726	753
1	9	699	726	760
1	10	692	723	743

Overall	Median	699	727	757
	Minimum	658	723	743
	Maximum	714	743	784
	SD	15.87	6.29	12.97

Missouri Assessment Program Grade 10 Mathematics  
Round 1 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	21	45	75
Median	Overall	21	45	75
Minimum	1	7	40	62
Minimum	Overall	7	40	62
Maximum	1	33	60	85
Maximum	Overall	33	60	85
SD	1	7.42	6.37	7.12
SD	Overall	7.42	6.37	7.12

Overall	Median	21	45	75
	Minimum	7	40	62
	Maximum	33	60	85
	SD	7.42	6.37	7.12

Missouri Assessment Program Grade 10 Mathematics  
Round 1 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	699	727	757
Median	Overall	699	727	757
Minimum	1	658	723	743
Minimum	Overall	658	723	743
Maximum	1	714	743	784
Maximum	Overall	714	743	784
SD	1	15.87	6.29	12.97
SD	Overall	15.87	6.29	12.97

Overall	Median	699	727	757
	Minimum	658	723	743
	Maximum	714	743	784
	SD	15.87	6.29	12.97

# Missouri Assessment Program Grade 10 Mathematics Round 1 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	21	45	75
Overall	21	45	75

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	38.2	21.0	21.5	19.3

Missouri Assessment Program Grade 10 Mathematics  
Round 2 Bookmark Placements

Table	Participant	Basic	Proficient	Advanced
1	2	5	43	74
1	3	19	48	76
1	4	9	40	75
1	5	15	43	74
1	6	11	42	74
1	7	13	40	75
1	8	14	40	83
1	9	17	40	75
1	10	10	40	79

Overall	Median	13	40	75
	Minimum	5	40	74
	Maximum	19	48	83
	SD	4.30	2.68	3.02

Missouri Assessment Program Grade 10 Mathematics  
Round 2 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	648	726	754
1	3	694	729	760
1	4	668	723	757
1	5	685	726	754
1	6	679	724	754
1	7	683	723	757
1	8	683	723	776
1	9	691	723	757
1	10	672	723	765

Overall	Median	683	723	757
	Minimum	648	723	754
	Maximum	694	729	776
	SD	13.97	2.13	7.18

Missouri Assessment Program Grade 10 Mathematics  
Round 2 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	13	40	75
Median	Overall	13	40	75
Minimum	1	5	40	74
Minimum	Overall	5	40	74
Maximum	1	19	48	83
Maximum	Overall	19	48	83
SD	1	4.30	2.68	3.02
SD	Overall	4.30	2.68	3.02

Overall	Median	13	40	75
	Minimum	5	40	74
	Maximum	19	48	83
	SD	4.30	2.68	3.02

Missouri Assessment Program Grade 10 Mathematics  
Round 2 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	683	723	757
Median	Overall	683	723	757
Minimum	1	648	723	754
Minimum	Overall	648	723	754
Maximum	1	694	729	776
Maximum	Overall	694	729	776
SD	1	13.97	2.13	7.18
SD	Overall	13.97	2.13	7.18

Overall	Median	683	723	757
	Minimum	648	723	754
	Maximum	694	729	776
	SD	13.97	2.13	7.18

# Missouri Assessment Program Grade 10 Mathematics Round 2 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	13	40	75
Overall	13	40	75

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	27.2	28.4	25.1	19.3

Missouri Assessment Program Grade 10 Mathematics  
Round 3 Bookmark Placements

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	11	45	84
1	3	13	41	81
1	4	11	40	81
1	5	15	45	84
1	6	13	42	84
1	7	13	40	84
1	8	14	40	84
1	9	15	40	86
1	10	14	40	84

Overall	Median	13	40	84
	Minimum	11	40	81
	Maximum	15	45	86
	SD	1.48	2.13	1.59

Missouri Assessment Program Grade 10 Mathematics  
Round 3 Cut Scores

<b>Table</b>	<b>Participant</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	2	679	727	777
1	3	683	724	772
1	4	679	723	772
1	5	685	727	777
1	6	683	724	777
1	7	683	723	777
1	8	683	723	777
1	9	685	723	787
1	10	683	723	777

Overall	Median	683	723	777
	Minimum	679	723	772
	Maximum	685	727	787
	SD	2.19	1.69	4.33

Missouri Assessment Program Grade 10 Mathematics  
Round 3 Summary of Bookmark Placements

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	13	40	84
Median	Overall	13	40	84
Minimum	1	11	40	81
Minimum	Overall	11	40	81
Maximum	1	15	45	86
Maximum	Overall	15	45	86
SD	1	1.48	2.13	1.59
SD	Overall	1.48	2.13	1.59

Overall	Median	13	40	84
	Minimum	11	40	81
	Maximum	15	45	86
	SD	1.48	2.13	1.59

Missouri Assessment Program Grade 10 Mathematics  
Round 3 Summary of Cut Scores

<b>Statistic</b>	<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Median	1	683	723	777
Median	Overall	683	723	777
Minimum	1	679	723	772
Minimum	Overall	679	723	772
Maximum	1	685	727	787
Maximum	Overall	685	727	787
SD	1	2.19	1.69	4.33
SD	Overall	2.19	1.69	4.33

Overall	Median	683	723	777
	Minimum	679	723	772
	Maximum	685	727	787
	SD	2.19	1.69	4.33

# Missouri Assessment Program Grade 10 Mathematics Round 3 Median Bookmark Summary

<b>Table</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
1	13	40	84
Overall	13	40	84

## Impact Data

	<b>Below Basic</b>	<b>Basic</b>	<b>Proficient</b>	<b>Advanced</b>
Overall	27.2	28.4	34.2	10.2

## Section F

Participants' Recommended Cut Scores Plus and Minus One, Two, and Three Standard Errors with Associated Impact Data

**Missouri Assessment Program Grade 3 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		5.47	1.26	14.83	
Recommended Cut Point* + 3 SE		604	646	712	+ 3 SE
Percent of Students in Each Level	18.6	42.8	36.8	1.8	
Recommended Cut Point* + 2 SE		598	644	698	+ 2 SE
Percent of Students in Each Level	15.0	43.9	37.0	4.1	
Recommended Cut Point* + 1 SE		593	643	683	+ 1 SE
Percent of Students in Each Level	12.9	44.7	33.7	8.7	
Recommended Cut Point*		587	642	668	Recommended Cut Points*
Percent of Students in Each Level	10.1	46.0	26.5	17.4	
Recommended Cut Point* -1 SE		582	641	653	-1 SE
Percent of Students in Each Level	8.3	46.7	14.0	31.0	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 3 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		18.10	8.20	8.40	
Recommended Cut Point* + 3 SE		642	666	693	+ 3 SE
Percent of Students in Each Level	56.2	25.1	13.2	5.5	
Recommended Cut Point* + 2 SE		623	658	685	+ 2 SE
Percent of Students in Each Level	35.5	38.9	17.7	7.9	
Recommended Cut Point* + 1 SE		605	650	676	+ 1 SE
Percent of Students in Each Level	19.5	46.3	21.7	12.5	
Recommended Cut Point*		587	642	668	Recommended Cut Points*
Percent of Students in Each Level	10.1	46.0	26.5	17.4	
Recommended Cut Point* -1 SE		569	634	660	-1 SE
Percent of Students in Each Level	5.7	41.8	28.8	23.7	
Recommended Cut Point* -2 SE		551	625	651	-2 SE
Percent of Students in Each Level	3.7	33.7	29.6	33.0	
Recommended Cut Point* -3 SE		533	617	643	-3 SE
Percent of Students in Each Level	3.1	25.7	28.8	42.4	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 3 Communication Arts

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		18.90	8.29	17.04	
Recommended Cut Point* + 3 SE		644	667	719	+ 3 SE
Percent of Students in Each Level	58.9	23.0	16.9	1.2	
Recommended Cut Point* + 2 SE		625	658	702	+ 2 SE
Percent of Students in Each Level	37.5	36.9	22.6	3.0	
Recommended Cut Point* + 1 SE		606	650	685	+ 1 SE
Percent of Students in Each Level	20.1	45.7	26.3	7.9	
Recommended Cut Point*		587	642	668	Recommended Cut Points*
Percent of Students in Each Level	10.1	46.0	26.5	17.4	
Recommended Cut Point* -1 SE		568	634	651	-1 SE
Percent of Students in Each Level	5.6	41.9	19.5	33.0	
Recommended Cut Point* -2 SE		549	625	634	-2 SE
Percent of Students in Each Level	3.7	33.8	10.0	52.5	
Recommended Cut Point* -3 SE		531	617	617	-3 SE
Percent of Students in Each Level	3.1	25.8	0.0	71.1	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 4 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		0.00	0.00	2.95	
Recommended Cut Point* + 3 SE		605	654	696	+ 3 SE
Percent of Students in Each Level	12.5	42.7	34.0	10.8	
Recommended Cut Point* + 2 SE		605	654	693	+ 2 SE
Percent of Students in Each Level	12.5	42.7	32.8	12.0	
Recommended Cut Point* + 1 SE		605	654	690	+ 1 SE
Percent of Students in Each Level	12.5	42.7	31.2	13.6	
Recommended Cut Point*		605	654	687	Recommended Cut Points*
Percent of Students in Each Level	12.5	42.7	29.4	15.4	
Recommended Cut Point* -1 SE		605	654	684	-1 SE
Percent of Students in Each Level	12.5	42.7	27.2	17.6	
Recommended Cut Point* -2 SE		605	654	681	-2 SE
Percent of Students in Each Level	12.5	42.7	25.3	19.5	
Recommended Cut Point* -3 SE		605	654	678	-3 SE
Percent of Students in Each Level	12.5	42.7	22.8	22.0	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 4 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		8.50	10.70	13.50	
Recommended Cut Point* + 3 SE		631	686	727	+ 3 SE
Percent of Students in Each Level	30.4	53.2	14.2	2.2	
Recommended Cut Point* + 2 SE		622	676	714	+ 2 SE
Percent of Students in Each Level	22.7	53.7	19.2	4.4	
Recommended Cut Point* + 1 SE		614	665	700	+ 1 SE
Percent of Students in Each Level	17.4	48.9	24.7	9.0	
Recommended Cut Point*		605	654	687	Recommended Cut Points*
Percent of Students in Each Level	12.5	42.7	29.4	15.4	
Recommended Cut Point* -1 SE		597	644	673	-1 SE
Percent of Students in Each Level	9.4	34.5	29.8	26.3	
Recommended Cut Point* -2 SE		588	633	660	-2 SE
Percent of Students in Each Level	7.0	25.6	28.4	39.0	
Recommended Cut Point* -3 SE		580	622	646	-3 SE
Percent of Students in Each Level	5.6	17.0	23.4	54.0	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 4 Communication Arts

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		8.50	10.69	13.81	
Recommended Cut Point* + 3 SE		631	686	728	+ 3 SE
Percent of Students in Each Level	30.4	53.2	14.3	2.1	
Recommended Cut Point* + 2 SE		622	676	714	+ 2 SE
Percent of Students in Each Level	22.7	53.7	19.2	4.4	
Recommended Cut Point* + 1 SE		614	665	701	+ 1 SE
Percent of Students in Each Level	17.4	48.9	25.1	8.6	
Recommended Cut Point*		605	654	687	Recommended Cut Points*
Percent of Students in Each Level	12.5	42.7	29.4	15.4	
Recommended Cut Point* -1 SE		597	644	673	-1 SE
Percent of Students in Each Level	9.4	34.5	29.8	26.3	
Recommended Cut Point* -2 SE		588	633	659	-2 SE
Percent of Students in Each Level	7.0	25.6	27.6	39.8	
Recommended Cut Point* -3 SE		580	622	645	-3 SE
Percent of Students in Each Level	5.6	17.0	22.4	55.0	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 5 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		2.58	0.17	5.23	
Recommended Cut Point* + 3 SE		638	669	715	+ 3 SE
Percent of Students in Each Level	20.6	34.7	38.4	6.3	
Recommended Cut Point* + 2 SE		635	669	709	+ 2 SE
Percent of Students in Each Level	18.3	37.0	35.1	9.6	
Recommended Cut Point* + 1 SE		633	669	704	+ 1 SE
Percent of Students in Each Level	16.9	38.4	32.5	12.2	
Recommended Cut Point*		630	669	699	Recommended Cut Points*
Percent of Students in Each Level	14.9	40.4	29.0	15.7	
Recommended Cut Point* -1 SE		628	668	694	-1 SE
Percent of Students in Each Level	13.8	40.1	26.4	19.7	
Recommended Cut Point* -2 SE		625	668	688	-2 SE
Percent of Students in Each Level	12.3	41.7	21.2	24.8	
Recommended Cut Point* -3 SE		623	668	683	-3 SE
Percent of Students in Each Level	11.4	42.5	16.7	29.4	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 5 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		8.90	8.50	11.20	
Recommended Cut Point* + 3 SE		657	694	732	+ 3 SE
Percent of Students in Each Level	40.7	39.7	17.5	2.1	
Recommended Cut Point* + 2 SE		648	686	721	+ 2 SE
Percent of Students in Each Level	30.9	42.5	22.2	4.4	
Recommended Cut Point* + 1 SE		639	677	710	+ 1 SE
Percent of Students in Each Level	21.7	42.5	26.9	8.9	
Recommended Cut Point*		630	669	699	Recommended Cut Points*
Percent of Students in Each Level	14.9	40.4	29.0	15.7	
Recommended Cut Point* -1 SE		621	660	688	-1 SE
Percent of Students in Each Level	10.6	34.0	30.6	24.8	
Recommended Cut Point* -2 SE		612	652	676	-2 SE
Percent of Students in Each Level	7.8	27.1	28.3	36.8	
Recommended Cut Point* -3 SE		604	643	665	-3 SE
Percent of Students in Each Level	6.1	19.1	25.2	49.6	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 5 Communication Arts

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		9.26	8.50	12.36	
Recommended Cut Point* + 3 SE		658	694	736	+ 3 SE
Percent of Students in Each Level	42.0	38.4	18.1	1.5	
Recommended Cut Point* + 2 SE		649	686	724	+ 2 SE
Percent of Students in Each Level	31.8	41.6	23.0	3.6	
Recommended Cut Point* + 1 SE		640	677	711	+ 1 SE
Percent of Students in Each Level	22.6	41.6	27.4	8.4	
Recommended Cut Point*		630	669	699	Recommended Cut Points*
Percent of Students in Each Level	14.9	40.4	29.0	15.7	
Recommended Cut Point* -1 SE		621	660	686	-1 SE
Percent of Students in Each Level	10.6	34.0	28.8	26.6	
Recommended Cut Point* -2 SE		612	652	674	-2 SE
Percent of Students in Each Level	7.8	27.1	26.2	38.9	
Recommended Cut Point* -3 SE		602	643	662	-3 SE
Percent of Students in Each Level	5.8	19.4	22.0	52.8	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 6 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		6.84	0.00	0.00	
Recommended Cut Point* + 3 SE		644	671	703	+ 3 SE
Percent of Students in Each Level	26.1	30.3	31.7	11.9	
Recommended Cut Point* + 2 SE		637	671	703	+ 2 SE
Percent of Students in Each Level	20.3	36.0	31.7	12.0	
Recommended Cut Point* + 1 SE		630	671	703	+ 1 SE
Percent of Students in Each Level	15.1	41.3	31.7	11.9	
Recommended Cut Point*		623	671	703	Recommended Cut Points*
Percent of Students in Each Level	11.6	44.7	31.7	12.0	
Recommended Cut Point* -1 SE		616	671	703	-1 SE
Percent of Students in Each Level	9.1	47.2	31.7	12.0	
Recommended Cut Point* -2 SE		609	671	703	-2 SE
Percent of Students in Each Level	7.4	49.0	31.7	11.9	
Recommended Cut Point* -3 SE		602	671	703	-3 SE
Percent of Students in Each Level	5.9	50.4	31.7	12.0	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 6 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		9.00	8.80	11.60	
Recommended Cut Point* + 3 SE		650	697	738	+ 3 SE
Percent of Students in Each Level	31.7	51.8	15.2	1.3	
Recommended Cut Point* + 2 SE		641	689	726	+ 2 SE
Percent of Students in Each Level	23.6	54.0	19.7	2.7	
Recommended Cut Point* + 1 SE		632	680	715	+ 1 SE
Percent of Students in Each Level	16.4	51.9	26.1	5.6	
Recommended Cut Point*		623	671	703	Recommended Cut Points*
Percent of Students in Each Level	11.6	44.7	31.7	12.0	
Recommended Cut Point* -1 SE		614	662	691	-1 SE
Percent of Students in Each Level	8.4	37.3	33.5	20.8	
Recommended Cut Point* -2 SE		605	653	680	-2 SE
Percent of Students in Each Level	6.7	28.5	33.2	31.6	
Recommended Cut Point* -3 SE		596	645	668	-3 SE
Percent of Students in Each Level	5.2	21.7	25.5	47.6	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 6 Communication Arts

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		11.30	8.80	11.59	
Recommended Cut Point* + 3 SE		657	697	738	+ 3 SE
Percent of Students in Each Level	39.5	44.0	15.2	1.3	
Recommended Cut Point* + 2 SE		646	689	726	+ 2 SE
Percent of Students in Each Level	27.8	49.8	19.7	2.7	
Recommended Cut Point* + 1 SE		634	680	715	+ 1 SE
Percent of Students in Each Level	17.9	50.4	26.1	5.6	
Recommended Cut Point*		623	671	703	Recommended Cut Points*
Percent of Students in Each Level	11.6	44.7	31.7	12.0	
Recommended Cut Point* -1 SE		612	662	691	-1 SE
Percent of Students in Each Level	7.9	37.7	33.5	20.9	
Recommended Cut Point* -2 SE		600	653	680	-2 SE
Percent of Students in Each Level	5.7	29.4	33.2	31.7	
Recommended Cut Point* -3 SE		589	645	668	-3 SE
Percent of Students in Each Level	4.6	22.3	25.5	47.6	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 7 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		11.11	0.00	3.71	
Recommended Cut Point* + 3 SE		656	674	723	+ 3 SE
Percent of Students in Each Level	37.8	18.1	36.8	7.3	
Recommended Cut Point* + 2 SE		644	674	719	+ 2 SE
Percent of Students in Each Level	27.7	28.1	35.5	8.7	
Recommended Cut Point* + 1 SE		633	674	716	+ 1 SE
Percent of Students in Each Level	20.0	35.9	34.1	10.0	
Recommended Cut Point*		622	674	712	Recommended Cut Points*
Percent of Students in Each Level	14.9	41.0	31.7	12.4	
Recommended Cut Point* -1 SE		611	674	708	-1 SE
Percent of Students in Each Level	10.7	45.1	30.0	14.2	
Recommended Cut Point* -2 SE		600	674	705	-2 SE
Percent of Students in Each Level	8.6	47.2	28.1	16.1	
Recommended Cut Point* -3 SE		589	674	701	-3 SE
Percent of Students in Each Level	6.9	49.0	25.4	18.7	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 7 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		9.80	9.30	11.60	
Recommended Cut Point* + 3 SE		652	702	747	+ 3 SE
Percent of Students in Each Level	34.7	47.2	16.1	2.0	
Recommended Cut Point* + 2 SE		642	692	735	+ 2 SE
Percent of Students in Each Level	26.0	47.7	22.4	3.9	
Recommended Cut Point* + 1 SE		632	683	724	+ 1 SE
Percent of Students in Each Level	19.4	46.3	27.3	7.0	
Recommended Cut Point*		622	674	712	Recommended Cut Points*
Percent of Students in Each Level	14.9	41.0	31.7	12.4	
Recommended Cut Point* -1 SE		612	664	700	-1 SE
Percent of Students in Each Level	11.1	34.2	34.9	19.8	
Recommended Cut Point* -2 SE		603	655	689	-2 SE
Percent of Students in Each Level	9.2	27.9	34.0	28.9	
Recommended Cut Point* -3 SE		593	646	677	-3 SE
Percent of Students in Each Level	7.2	22.3	29.6	40.9	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 7 Communication Arts

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		14.81	9.30	12.17	
Recommended Cut Point* + 3 SE		667	702	748	+ 3 SE
Percent of Students in Each Level	48.0	33.9	16.2	1.9	
Recommended Cut Point* + 2 SE		652	692	736	+ 2 SE
Percent of Students in Each Level	34.7	39.0	22.4	3.9	
Recommended Cut Point* + 1 SE		637	683	724	+ 1 SE
Percent of Students in Each Level	22.3	43.4	27.3	7.0	
Recommended Cut Point*		622	674	712	Recommended Cut Points*
Percent of Students in Each Level	14.9	41.0	31.7	12.4	
Recommended Cut Point* -1 SE		607	664	700	-1 SE
Percent of Students in Each Level	9.9	35.3	34.9	19.9	
Recommended Cut Point* -2 SE		593	655	688	-2 SE
Percent of Students in Each Level	7.2	29.9	33.1	29.8	
Recommended Cut Point* -3 SE		578	646	675	-3 SE
Percent of Students in Each Level	6.0	23.5	27.3	43.2	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 8 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		4.10	0.14	3.27	
Recommended Cut Point* + 3 SE		640	692	724	+ 3 SE
Percent of Students in Each Level	14.0	44.4	29.0	12.6	
Recommended Cut Point* + 2 SE		636	692	721	+ 2 SE
Percent of Students in Each Level	12.6	45.8	27.0	14.6	
Recommended Cut Point* + 1 SE		632	692	718	+ 1 SE
Percent of Students in Each Level	10.8	47.6	24.7	16.9	
Recommended Cut Point*		627	691	714	Recommended Cut Points*
Percent of Students in Each Level	9.6	47.7	22.3	20.4	
Recommended Cut Point* -1 SE		623	691	711	-1 SE
Percent of Students in Each Level	8.7	48.6	20.0	22.7	
Recommended Cut Point* -2 SE		619	691	708	-2 SE
Percent of Students in Each Level	7.8	49.5	17.7	25.0	
Recommended Cut Point* -3 SE		615	691	705	-3 SE
Percent of Students in Each Level	6.9	50.4	14.5	28.2	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 8 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		10.50	9.00	10.50	
Recommended Cut Point* + 3 SE		659	718	746	+ 3 SE
Percent of Students in Each Level	25.9	57.2	13.0	3.9	
Recommended Cut Point* + 2 SE		648	709	735	+ 2 SE
Percent of Students in Each Level	18.5	57.3	17.0	7.2	
Recommended Cut Point* + 1 SE		638	700	725	+ 1 SE
Percent of Students in Each Level	13.4	54.1	20.5	12.0	
Recommended Cut Point*		627	691	714	Recommended Cut Points*
Percent of Students in Each Level	9.6	47.7	22.3	20.4	
Recommended Cut Point* -1 SE		617	682	704	-1 SE
Percent of Students in Each Level	7.3	40.6	22.8	29.3	
Recommended Cut Point* -2 SE		606	673	693	-2 SE
Percent of Students in Each Level	5.6	32.2	22.1	40.1	
Recommended Cut Point* -3 SE		596	664	683	-3 SE
Percent of Students in Each Level	4.3	25.5	19.4	50.8	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 8 Communication Arts

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		11.27	9.00	10.99	
Recommended Cut Point* + 3 SE		661	718	747	+ 3 SE
Percent of Students in Each Level	27.3	55.8	13.2	3.7	
Recommended Cut Point* + 2 SE		650	709	736	+ 2 SE
Percent of Students in Each Level	19.9	55.9	17.5	6.7	
Recommended Cut Point* + 1 SE		639	700	725	+ 1 SE
Percent of Students in Each Level	13.7	53.7	20.5	12.1	
Recommended Cut Point*		627	691	714	Recommended Cut Points*
Percent of Students in Each Level	9.6	47.7	22.3	20.4	
Recommended Cut Point* -1 SE		616	682	703	-1 SE
Percent of Students in Each Level	7.2	40.7	22.2	29.9	
Recommended Cut Point* -2 SE		605	673	692	-2 SE
Percent of Students in Each Level	5.6	32.2	20.7	41.5	
Recommended Cut Point* -3 SE		594	664	681	-3 SE
Percent of Students in Each Level	4.2	25.6	17.1	53.1	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 11 Communication Arts

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		1.48	1.18	5.06	
Recommended Cut Point* + 3 SE		654	714	755	+ 3 SE
Percent of Students in Each Level	13.7	45.5	32.7	8.1	
Recommended Cut Point* + 2 SE		653	713	750	+ 2 SE
Percent of Students in Each Level	13.5	44.5	31.7	10.3	
Recommended Cut Point* + 1 SE		651	712	745	+ 1 SE
Percent of Students in Each Level	12.7	44.5	29.5	13.3	
Recommended Cut Point*		650	711	740	Recommended Cut Points*
Percent of Students in Each Level	12.3	43.9	27.4	16.4	
Recommended Cut Point* -1 SE		648	709	735	-1 SE
Percent of Students in Each Level	11.6	42.3	25.8	20.3	
Recommended Cut Point* -2 SE		647	708	730	-2 SE
Percent of Students in Each Level	11.5	41.4	23.0	24.1	
Recommended Cut Point* -3 SE		645	707	725	-3 SE
Percent of Students in Each Level	11.0	40.8	19.0	29.2	

\* Participants' Large Group Medians

**Missouri Assessment Program Grade 11 Communication Arts**  
 Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		11.50	8.80	10.40	
Recommended Cut Point* + 3 SE		684	737	771	+ 3 SE
Percent of Students in Each Level	30.7	50.5	15.4	3.4	
Recommended Cut Point* + 2 SE		673	728	761	+ 2 SE
Percent of Students in Each Level	22.5	51.9	19.7	5.9	
Recommended Cut Point* + 1 SE		661	719	750	+ 1 SE
Percent of Students in Each Level	16.6	47.8	25.3	10.3	
Recommended Cut Point*		650	711	740	Recommended Cut Points*
Percent of Students in Each Level	12.3	43.9	27.4	16.4	
Recommended Cut Point* -1 SE		638	702	729	-1 SE
Percent of Students in Each Level	9.6	36.9	28.7	24.8	
Recommended Cut Point* -2 SE		627	693	719	-2 SE
Percent of Students in Each Level	8.3	30.0	26.2	35.5	
Recommended Cut Point* -3 SE		615	684	709	-3 SE
Percent of Students in Each Level	6.5	24.2	23.3	46.0	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 11 Communication Arts

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		11.59	8.87	11.56	
Recommended Cut Point* + 3 SE		685	737	775	+ 3 SE
Percent of Students in Each Level	31.8	49.3	16.1	2.8	
Recommended Cut Point* + 2 SE		673	728	763	+ 2 SE
Percent of Students in Each Level	22.5	51.9	20.3	5.3	
Recommended Cut Point* + 1 SE		661	720	751	+ 1 SE
Percent of Students in Each Level	16.6	48.8	24.7	9.9	
Recommended Cut Point*		650	711	740	Recommended Cut Points*
Percent of Students in Each Level	12.3	43.9	27.4	16.4	
Recommended Cut Point* -1 SE		638	702	728	-1 SE
Percent of Students in Each Level	9.6	36.9	27.9	25.6	
Recommended Cut Point* -2 SE		627	693	717	-2 SE
Percent of Students in Each Level	8.3	30.0	24.2	37.5	
Recommended Cut Point* -3 SE		615	684	705	-3 SE
Percent of Students in Each Level	6.5	24.2	18.8	50.5	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 3 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		0.92	0.00	0.00	
Recommended Cut Point* + 3 SE		562	620	667	+ 3 SE
Percent of Students in Each Level	12.2	43.9	35.0	8.9	
Recommended Cut Point* + 2 SE		561	620	667	+ 2 SE
Percent of Students in Each Level	11.7	44.4	35.0	8.9	
Recommended Cut Point* + 1 SE		560	620	667	+ 1 SE
Percent of Students in Each Level	11.3	44.9	35.0	8.8	
Recommended Cut Point*		559	620	667	Recommended Cut Points*
Percent of Students in Each Level	11.1	45.1	35.0	8.8	
Recommended Cut Point* -1 SE		558	620	667	-1 SE
Percent of Students in Each Level	10.7	45.5	35.0	8.8	
Recommended Cut Point* -2 SE		557	620	667	-2 SE
Percent of Students in Each Level	10.3	45.9	35.0	8.8	
Recommended Cut Point* -3 SE		557	620	667	-3 SE
Percent of Students in Each Level	10.3	45.9	35.0	8.8	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 3 Mathematics

### Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		17.90	11.00	9.80	
Recommended Cut Point* + 3 SE		613	653	696	+ 3 SE
Percent of Students in Each Level	48.8	34.7	14.5	2.0	
Recommended Cut Point* + 2 SE		595	642	686	+ 2 SE
Percent of Students in Each Level	32.0	43.3	21.2	3.5	
Recommended Cut Point* + 1 SE		577	631	677	+ 1 SE
Percent of Students in Each Level	19.6	46.0	29.0	5.4	
Recommended Cut Point*		559	620	667	Recommended Cut Points*
Percent of Students in Each Level	11.1	45.1	35.0	8.8	
Recommended Cut Point* -1 SE		541	609	657	-1 SE
Percent of Students in Each Level	6.2	39.0	41.5	13.3	
Recommended Cut Point* -2 SE		523	598	647	-2 SE
Percent of Students in Each Level	3.7	31.0	44.7	20.6	
Recommended Cut Point* -3 SE		506	587	637	-3 SE
Percent of Students in Each Level	2.4	23.7	45.1	28.8	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 3 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		17.92	11.00	9.80	
Recommended Cut Point* + 3 SE		613	653	696	+ 3 SE
Percent of Students in Each Level	48.8	34.7	14.5	2.0	
Recommended Cut Point* + 2 SE		595	642	686	+ 2 SE
Percent of Students in Each Level	32.0	43.3	21.2	3.5	
Recommended Cut Point* + 1 SE		577	631	677	+ 1 SE
Percent of Students in Each Level	19.6	46.0	29.0	5.4	
Recommended Cut Point*		559	620	667	Recommended Cut Points*
Percent of Students in Each Level	11.1	45.1	35.0	8.8	
Recommended Cut Point* -1 SE		541	609	657	-1 SE
Percent of Students in Each Level	6.2	39.0	41.5	13.3	
Recommended Cut Point* -2 SE		523	598	647	-2 SE
Percent of Students in Each Level	3.7	31.0	44.7	20.6	
Recommended Cut Point* -3 SE		506	587	637	-3 SE
Percent of Students in Each Level	2.4	23.7	45.1	28.8	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 4 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		1.60	1.09	2.68	
Recommended Cut Point* + 3 SE		594	646	685	+ 3 SE
Percent of Students in Each Level	14.3	44.8	33.0	7.9	
Recommended Cut Point* + 2 SE		592	645	682	+ 2 SE
Percent of Students in Each Level	12.8	45.2	32.7	9.3	
Recommended Cut Point* + 1 SE		591	644	680	+ 1 SE
Percent of Students in Each Level	12.1	45.0	32.5	10.4	
Recommended Cut Point*		589	643	677	Recommended Cut Points*
Percent of Students in Each Level	11.6	44.3	32.1	12.0	
Recommended Cut Point* -1 SE		587	642	674	-1 SE
Percent of Students in Each Level	11.0	44.1	30.6	14.3	
Recommended Cut Point* -2 SE		586	641	672	-2 SE
Percent of Students in Each Level	10.7	43.0	30.3	16.0	
Recommended Cut Point* -3 SE		584	640	669	-3 SE
Percent of Students in Each Level	10.1	42.6	28.8	18.5	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 4 Mathematics

### Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		9.40	8.90	11.00	
Recommended Cut Point* + 3 SE		617	670	710	+ 3 SE
Percent of Students in Each Level	29.5	53.2	15.1	2.2	
Recommended Cut Point* + 2 SE		608	661	699	+ 2 SE
Percent of Students in Each Level	22.4	51.6	21.9	4.1	
Recommended Cut Point* + 1 SE		598	652	688	+ 1 SE
Percent of Students in Each Level	16.2	48.6	28.3	6.9	
Recommended Cut Point*		589	643	677	Recommended Cut Points*
Percent of Students in Each Level	11.6	44.3	32.1	12.0	
Recommended Cut Point* -1 SE		580	634	666	-1 SE
Percent of Students in Each Level	8.6	37.1	33.1	21.2	
Recommended Cut Point* -2 SE		570	625	655	-2 SE
Percent of Students in Each Level	5.8	31.0	31.5	31.7	
Recommended Cut Point* -3 SE		561	616	644	-3 SE
Percent of Students in Each Level	4.3	24.4	28.4	42.9	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 4 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		9.53	8.96	11.32	
Recommended Cut Point* + 3 SE		618	670	711	+ 3 SE
Percent of Students in Each Level	30.4	52.2	15.2	2.2	
Recommended Cut Point* + 2 SE		608	661	700	+ 2 SE
Percent of Students in Each Level	22.4	51.6	22.2	3.8	
Recommended Cut Point* + 1 SE		599	652	688	+ 1 SE
Percent of Students in Each Level	16.7	48.2	28.3	6.8	
Recommended Cut Point*		589	643	677	Recommended Cut Points*
Percent of Students in Each Level	11.6	44.3	32.1	12.0	
Recommended Cut Point* -1 SE		579	634	666	-1 SE
Percent of Students in Each Level	8.2	37.5	33.1	21.2	
Recommended Cut Point* -2 SE		570	625	654	-2 SE
Percent of Students in Each Level	5.8	31.0	30.4	32.8	
Recommended Cut Point* -3 SE		560	616	643	-3 SE
Percent of Students in Each Level	4.1	24.5	27.3	44.1	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 5 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		0.31	1.07	2.04	
Recommended Cut Point* + 3 SE		600	661	705	+ 3 SE
Percent of Students in Each Level	13.0	45.7	33.2	8.1	
Recommended Cut Point* + 2 SE		600	660	703	+ 2 SE
Percent of Students in Each Level	13.0	44.6	33.4	9.0	
Recommended Cut Point* + 1 SE		600	659	701	+ 1 SE
Percent of Students in Each Level	13.0	43.8	33.2	10.0	
Recommended Cut Point*		599	658	699	Recommended Cut Points*
Percent of Students in Each Level	12.7	42.9	33.4	11.0	
Recommended Cut Point* -1 SE		599	657	697	-1 SE
Percent of Students in Each Level	12.7	41.9	33.7	11.7	
Recommended Cut Point* -2 SE		599	656	695	-2 SE
Percent of Students in Each Level	12.7	40.7	33.9	12.7	
Recommended Cut Point* -3 SE		598	655	693	-3 SE
Percent of Students in Each Level	12.4	40.0	33.7	13.9	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 5 Mathematics

### Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		13.10	9.60	11.90	
Recommended Cut Point* + 3 SE		639	687	734	+ 3 SE
Percent of Students in Each Level	36.0	45.5	17.2	1.3	
Recommended Cut Point* + 2 SE		626	677	723	+ 2 SE
Percent of Students in Each Level	26.3	47.4	23.4	2.9	
Recommended Cut Point* + 1 SE		612	667	711	+ 1 SE
Percent of Students in Each Level	18.6	46.0	29.7	5.7	
Recommended Cut Point*		599	658	699	Recommended Cut Points*
Percent of Students in Each Level	12.7	42.9	33.4	11.0	
Recommended Cut Point* -1 SE		586	648	687	-1 SE
Percent of Students in Each Level	8.8	36.6	36.1	18.5	
Recommended Cut Point* -2 SE		573	639	675	-2 SE
Percent of Students in Each Level	5.3	30.6	35.8	28.3	
Recommended Cut Point* -3 SE		560	629	663	-3 SE
Percent of Students in Each Level	3.7	24.7	32.3	39.3	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 5 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		13.10	9.65	12.07	
Recommended Cut Point* + 3 SE		639	687	735	+ 3 SE
Percent of Students in Each Level	36.0	45.5	17.2	1.3	
Recommended Cut Point* + 2 SE		626	677	723	+ 2 SE
Percent of Students in Each Level	26.3	47.4	23.4	2.9	
Recommended Cut Point* + 1 SE		612	668	711	+ 1 SE
Percent of Students in Each Level	18.6	47.1	28.6	5.7	
Recommended Cut Point*		599	658	699	Recommended Cut Points*
Percent of Students in Each Level	12.7	42.9	33.4	11.0	
Recommended Cut Point* -1 SE		586	648	687	-1 SE
Percent of Students in Each Level	8.8	36.6	36.1	18.5	
Recommended Cut Point* -2 SE		573	639	675	-2 SE
Percent of Students in Each Level	5.3	30.6	35.8	28.3	
Recommended Cut Point* -3 SE		560	629	663	-3 SE
Percent of Students in Each Level	3.7	24.7	32.3	39.3	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 6 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		0.00	0.82	3.06	
Recommended Cut Point* + 3 SE		613	674	720	+ 3 SE
Percent of Students in Each Level	13.4	45.5	33.8	7.3	
Recommended Cut Point* + 2 SE		613	673	717	+ 2 SE
Percent of Students in Each Level	13.4	44.7	33.4	8.5	
Recommended Cut Point* + 1 SE		613	672	713	+ 1 SE
Percent of Students in Each Level	13.4	43.6	32.9	10.1	
Recommended Cut Point*		613	671	710	Recommended Cut Points*
Percent of Students in Each Level	13.4	42.3	32.6	11.7	
Recommended Cut Point* -1 SE		613	671	707	-1 SE
Percent of Students in Each Level	13.4	42.3	30.6	13.7	
Recommended Cut Point* -2 SE		613	670	704	-2 SE
Percent of Students in Each Level	13.4	41.6	29.8	15.2	
Recommended Cut Point* -3 SE		613	669	701	-3 SE
Percent of Students in Each Level	13.4	40.4	28.8	17.4	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 6 Mathematics

### Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		12.50	9.20	10.60	
Recommended Cut Point* + 3 SE		651	699	742	+ 3 SE
Percent of Students in Each Level	36.3	44.8	17.0	1.9	
Recommended Cut Point* + 2 SE		638	690	732	+ 2 SE
Percent of Students in Each Level	26.5	47.2	22.4	3.9	
Recommended Cut Point* + 1 SE		626	681	721	+ 1 SE
Percent of Students in Each Level	19.1	46.2	27.6	7.1	
Recommended Cut Point*		613	671	710	Recommended Cut Points*
Percent of Students in Each Level	13.4	42.3	32.6	11.7	
Recommended Cut Point* -1 SE		601	662	700	-1 SE
Percent of Students in Each Level	9.8	36.8	35.3	18.1	
Recommended Cut Point* -2 SE		588	653	689	-2 SE
Percent of Students in Each Level	6.7	31.2	34.8	27.3	
Recommended Cut Point* -3 SE		576	644	679	-3 SE
Percent of Students in Each Level	4.8	26.0	32.6	36.6	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 6 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		12.50	9.23	11.03	
Recommended Cut Point* + 3 SE		651	699	743	+ 3 SE
Percent of Students in Each Level	36.3	44.8	17.1	1.8	
Recommended Cut Point* + 2 SE		638	690	732	+ 2 SE
Percent of Students in Each Level	26.5	47.2	22.4	3.9	
Recommended Cut Point* + 1 SE		626	681	721	+ 1 SE
Percent of Students in Each Level	19.1	46.2	27.6	7.1	
Recommended Cut Point*		613	671	710	Recommended Cut Points*
Percent of Students in Each Level	13.4	42.3	32.6	11.7	
Recommended Cut Point* -1 SE		601	662	699	-1 SE
Percent of Students in Each Level	9.8	36.8	34.4	19.0	
Recommended Cut Point* -2 SE		588	653	688	-2 SE
Percent of Students in Each Level	6.7	31.2	33.9	28.2	
Recommended Cut Point* -3 SE		576	644	677	-3 SE
Percent of Students in Each Level	4.8	26.0	31.1	38.1	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 7 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		3.25	0.79	0.20	
Recommended Cut Point* + 3 SE		640	678	710	+ 3 SE
Percent of Students in Each Level	26.8	31.2	27.5	14.5	
Recommended Cut Point* + 2 SE		637	677	710	+ 2 SE
Percent of Students in Each Level	24.9	32.3	28.4	14.4	
Recommended Cut Point* + 1 SE		634	677	710	+ 1 SE
Percent of Students in Each Level	23.3	33.9	28.4	14.4	
Recommended Cut Point*		631	676	710	Recommended Cut Points*
Percent of Students in Each Level	21.4	34.6	29.5	14.5	
Recommended Cut Point* -1 SE		627	675	709	-1 SE
Percent of Students in Each Level	19.1	36.0	29.7	15.2	
Recommended Cut Point* -2 SE		624	674	709	-2 SE
Percent of Students in Each Level	17.9	36.3	30.7	15.1	
Recommended Cut Point* -3 SE		621	673	709	-3 SE
Percent of Students in Each Level	16.8	36.7	31.4	15.1	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 7 Mathematics

### Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		11.60	9.20	10.40	
Recommended Cut Point* + 3 SE		665	703	741	+ 3 SE
Percent of Students in Each Level	45.8	34.3	16.7	3.2	
Recommended Cut Point* + 2 SE		654	694	730	+ 2 SE
Percent of Students in Each Level	37.2	35.6	21.7	5.5	
Recommended Cut Point* + 1 SE		642	685	720	+ 1 SE
Percent of Students in Each Level	28.0	36.3	26.7	9.0	
Recommended Cut Point*		631	676	710	Recommended Cut Points*
Percent of Students in Each Level	21.4	34.6	29.5	14.5	
Recommended Cut Point* -1 SE		619	667	699	-1 SE
Percent of Students in Each Level	15.9	31.5	30.2	22.4	
Recommended Cut Point* -2 SE		607	657	689	-2 SE
Percent of Students in Each Level	11.9	27.1	28.9	32.1	
Recommended Cut Point* -3 SE		596	648	678	-3 SE
Percent of Students in Each Level	8.7	23.6	25.8	41.9	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 7 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		12.04	9.23	10.40	
Recommended Cut Point* + 3 SE		667	703	741	+ 3 SE
Percent of Students in Each Level	47.4	32.7	16.7	3.2	
Recommended Cut Point* + 2 SE		655	694	730	+ 2 SE
Percent of Students in Each Level	37.7	35.1	21.7	5.5	
Recommended Cut Point* + 1 SE		643	685	720	+ 1 SE
Percent of Students in Each Level	28.7	35.6	26.7	9.0	
Recommended Cut Point*		631	676	710	Recommended Cut Points*
Percent of Students in Each Level	21.4	34.6	29.5	14.5	
Recommended Cut Point* -1 SE		619	666	699	-1 SE
Percent of Students in Each Level	15.9	30.9	30.8	22.4	
Recommended Cut Point* -2 SE		607	657	689	-2 SE
Percent of Students in Each Level	11.9	27.1	28.9	32.1	
Recommended Cut Point* -3 SE		594	648	678	-3 SE
Percent of Students in Each Level	8.2	24.0	25.8	42.0	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 8 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		1.12	1.65	3.44	
Recommended Cut Point* + 3 SE		662	707	751	+ 3 SE
Percent of Students in Each Level	27.0	37.6	27.2	8.2	
Recommended Cut Point* + 2 SE		661	705	748	+ 2 SE
Percent of Students in Each Level	26.4	36.2	28.5	8.9	
Recommended Cut Point* + 1 SE		659	703	744	+ 1 SE
Percent of Students in Each Level	25.1	35.8	28.8	10.3	
Recommended Cut Point*		658	702	741	Recommended Cut Points*
Percent of Students in Each Level	24.6	35.7	28.2	11.5	
Recommended Cut Point* -1 SE		657	700	737	-1 SE
Percent of Students in Each Level	24.2	34.4	28.0	13.4	
Recommended Cut Point* -2 SE		656	698	734	-2 SE
Percent of Students in Each Level	23.6	32.8	28.4	15.2	
Recommended Cut Point* -3 SE		655	697	731	-3 SE
Percent of Students in Each Level	23.1	32.8	27.3	16.8	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 8 Mathematics

### Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		13.00	10.60	9.90	
Recommended Cut Point* + 3 SE		697	734	771	+ 3 SE
Percent of Students in Each Level	55.8	29.0	12.3	2.9	
Recommended Cut Point* + 2 SE		684	723	761	+ 2 SE
Percent of Students in Each Level	44.2	33.2	17.6	5.0	
Recommended Cut Point* + 1 SE		671	712	751	+ 1 SE
Percent of Students in Each Level	33.2	36.1	22.5	8.2	
Recommended Cut Point*		658	702	741	Recommended Cut Points*
Percent of Students in Each Level	24.6	35.7	28.2	11.5	
Recommended Cut Point* -1 SE		645	691	731	-1 SE
Percent of Students in Each Level	17.8	32.3	33.0	16.9	
Recommended Cut Point* -2 SE		632	681	721	-2 SE
Percent of Students in Each Level	12.6	29.0	34.4	24.0	
Recommended Cut Point* -3 SE		619	670	711	-3 SE
Percent of Students in Each Level	9.2	23.4	35.8	31.6	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 8 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		13.04	10.72	10.48	
Recommended Cut Point* + 3 SE		697	734	772	+ 3 SE
Percent of Students in Each Level	55.8	29.0	12.4	2.8	
Recommended Cut Point* + 2 SE		684	723	762	+ 2 SE
Percent of Students in Each Level	44.2	33.2	17.8	4.8	
Recommended Cut Point* + 1 SE		671	712	751	+ 1 SE
Percent of Students in Each Level	33.2	36.1	22.5	8.2	
Recommended Cut Point*		658	702	741	Recommended Cut Points*
Percent of Students in Each Level	24.6	35.7	28.2	11.5	
Recommended Cut Point* -1 SE		645	691	730	-1 SE
Percent of Students in Each Level	17.8	32.3	32.5	17.4	
Recommended Cut Point* -2 SE		632	680	720	-2 SE
Percent of Students in Each Level	12.6	28.1	34.6	24.7	
Recommended Cut Point* -3 SE		619	670	709	-3 SE
Percent of Students in Each Level	9.2	23.4	34.1	33.3	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 10 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of the Cut Score

Performance Level	Below Basic	Basic	Proficient	Advanced	
SE (cut score)		5.79	0.80	2.97	
Recommended Cut Point* + 3 SE		700	726	786	+ 3 SE
Percent of Students in Each Level	38.9	19.7	34.1	7.3	
Recommended Cut Point* + 2 SE		694	725	783	+ 2 SE
Percent of Students in Each Level	34.5	23.1	34.4	8.0	
Recommended Cut Point* + 1 SE		688	724	780	+ 1 SE
Percent of Students in Each Level	30.8	25.9	34.1	9.2	
Recommended Cut Point*		683	723	777	Recommended Cut Points*
Percent of Students in Each Level	27.2	28.4	34.2	10.2	
Recommended Cut Point* -1 SE		677	723	774	-1 SE
Percent of Students in Each Level	24.4	31.2	33.2	11.2	
Recommended Cut Point* -2 SE		671	722	771	-2 SE
Percent of Students in Each Level	20.9	34.0	32.9	12.2	
Recommended Cut Point* -3 SE		665	721	768	-3 SE
Percent of Students in Each Level	17.9	36.5	32.2	13.4	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 10 Mathematics

### Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement

Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement		12.00	9.60	11.10	
Recommended Cut Point* + 3 SE		719	752	810	+ 3 SE
Percent of Students in Each Level	52.7	24.8	20.0	2.5	
Recommended Cut Point* + 2 SE		707	743	799	+ 2 SE
Percent of Students in Each Level	43.3	27.6	25.0	4.1	
Recommended Cut Point* + 1 SE		695	733	788	+ 1 SE
Percent of Students in Each Level	35.3	28.0	29.9	6.8	
Recommended Cut Point*		683	723	777	Recommended Cut Points*
Percent of Students in Each Level	27.2	28.4	34.2	10.2	
Recommended Cut Point* -1 SE		671	714	766	-1 SE
Percent of Students in Each Level	20.9	27.9	36.9	14.3	
Recommended Cut Point* -2 SE		659	704	755	-2 SE
Percent of Students in Each Level	15.5	26.0	37.9	20.6	
Recommended Cut Point* -3 SE		647	695	744	-3 SE
Percent of Students in Each Level	11.1	24.2	36.4	28.3	

\* Participants' Large Group Medians

## Missouri Assessment Program Grade 10 Mathematics

Recommended Cut Points\* Plus/Minus Selected Standard Errors (SEs) of Measurement and the Cut Score

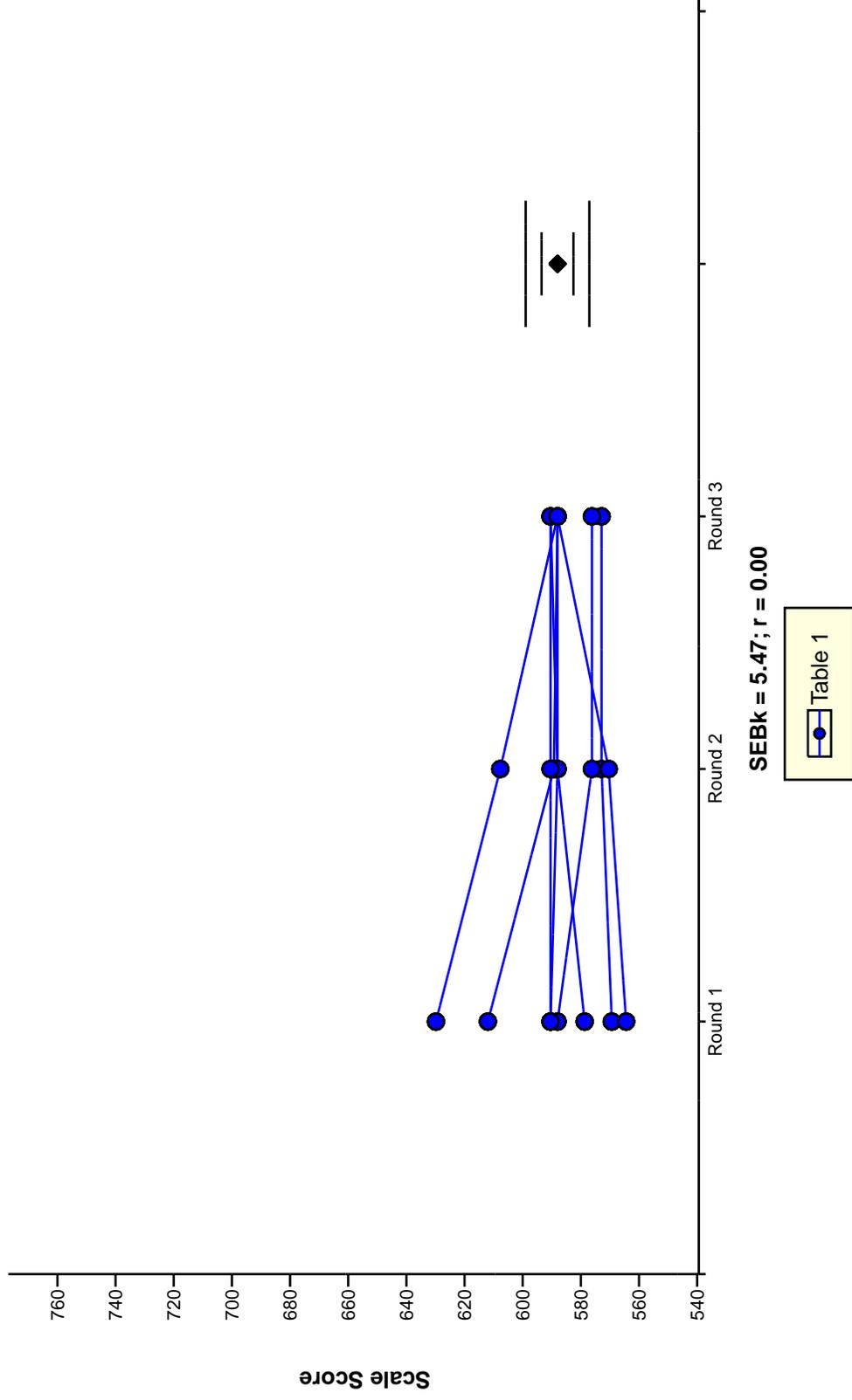
Performance Level	Below Basic	Basic	Proficient	Advanced	
Standard Error (SE) measurement + cutscore		13.32	9.63	11.49	
Recommended Cut Point* + 3 SE		722	752	812	+ 3 SE
Percent of Students in Each Level	54.9	22.7	20.2	2.2	
Recommended Cut Point* + 2 SE		709	743	800	+ 2 SE
Percent of Students in Each Level	44.7	26.2	25.2	3.9	
Recommended Cut Point* + 1 SE		696	733	789	+ 1 SE
Percent of Students in Each Level	36.2	27.1	30.2	6.5	
Recommended Cut Point*		683	723	777	Recommended Cut Points*
Percent of Students in Each Level	27.2	28.4	34.2	10.2	
Recommended Cut Point* -1 SE		669	714	766	-1 SE
Percent of Students in Each Level	19.9	28.9	36.9	14.3	
Recommended Cut Point* -2 SE		656	704	754	-2 SE
Percent of Students in Each Level	14.2	27.3	37.4	21.1	
Recommended Cut Point* -3 SE		643	695	743	-3 SE
Percent of Students in Each Level	9.9	25.4	35.7	29.0	

\* Participants' Large Group Medians

## Section G

### Graphical Representations of Participants' Judgments and Standard Errors

# Missouri Assessment Program Grade 3 Communication Arts Basic Cut Point



# Missouri Assessment Program Grade 3 Communication Arts Basic Cut Point

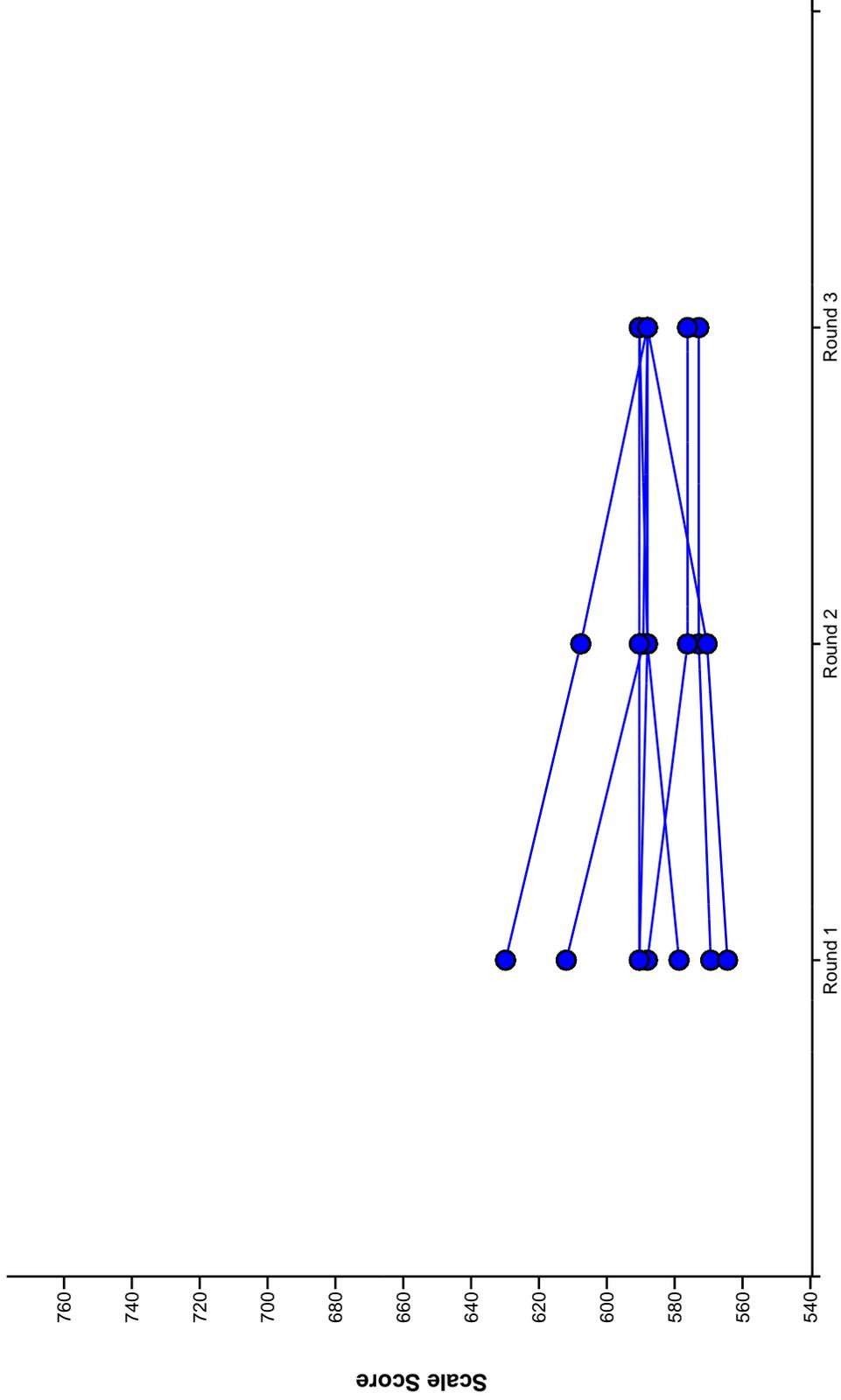
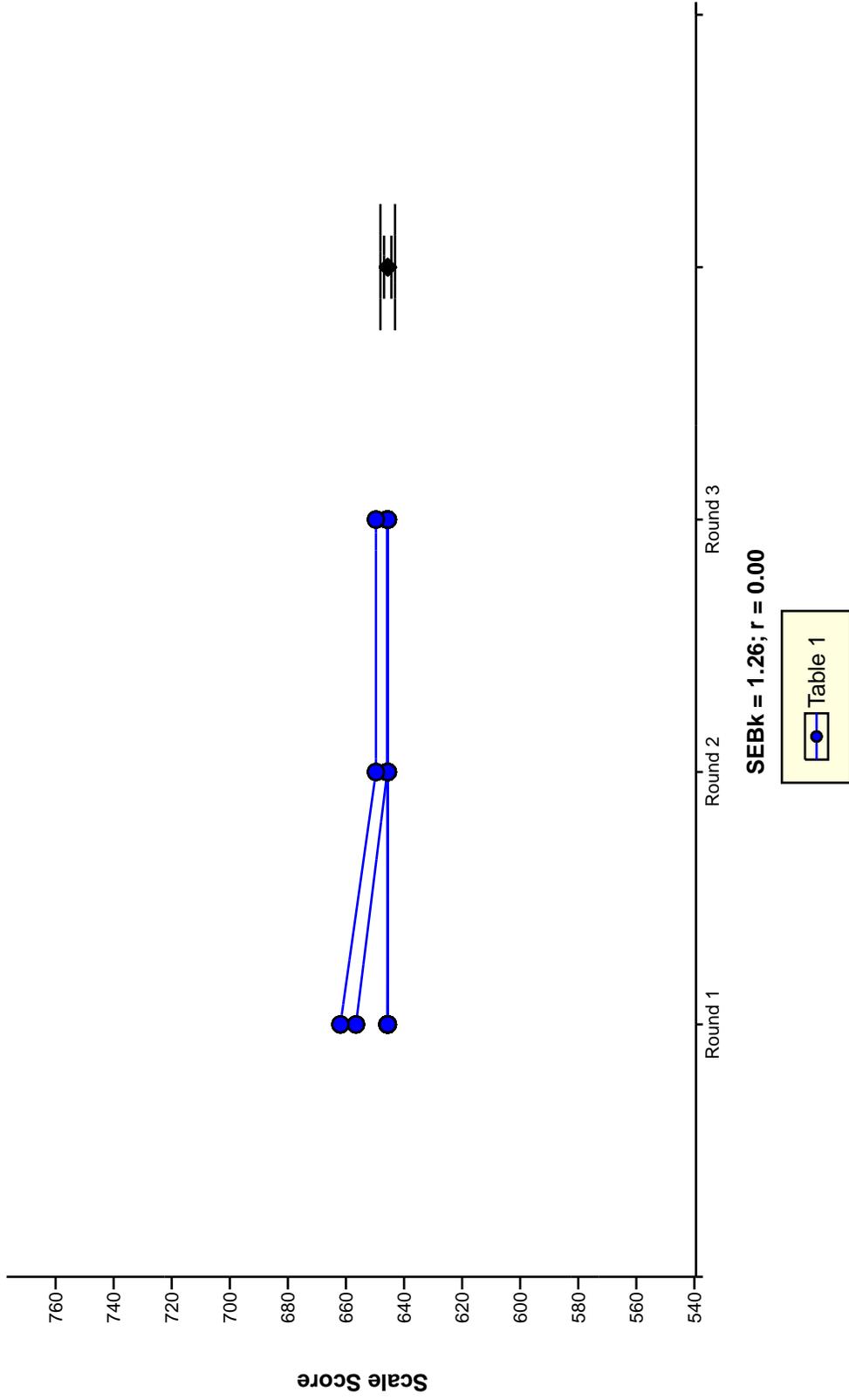
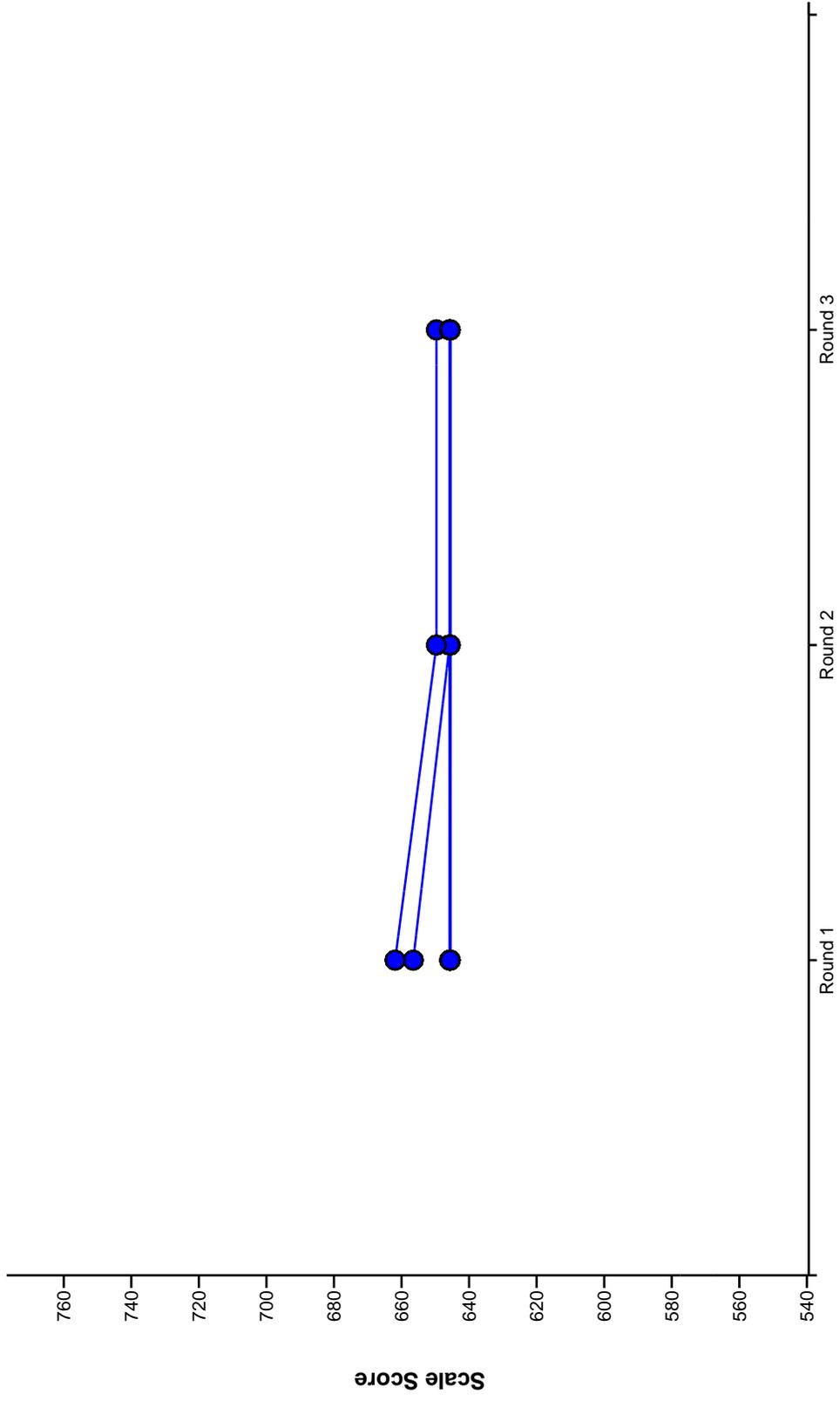


Table 1

# Missouri Assessment Program Grade 3 Communication Arts Proficient Cut Point

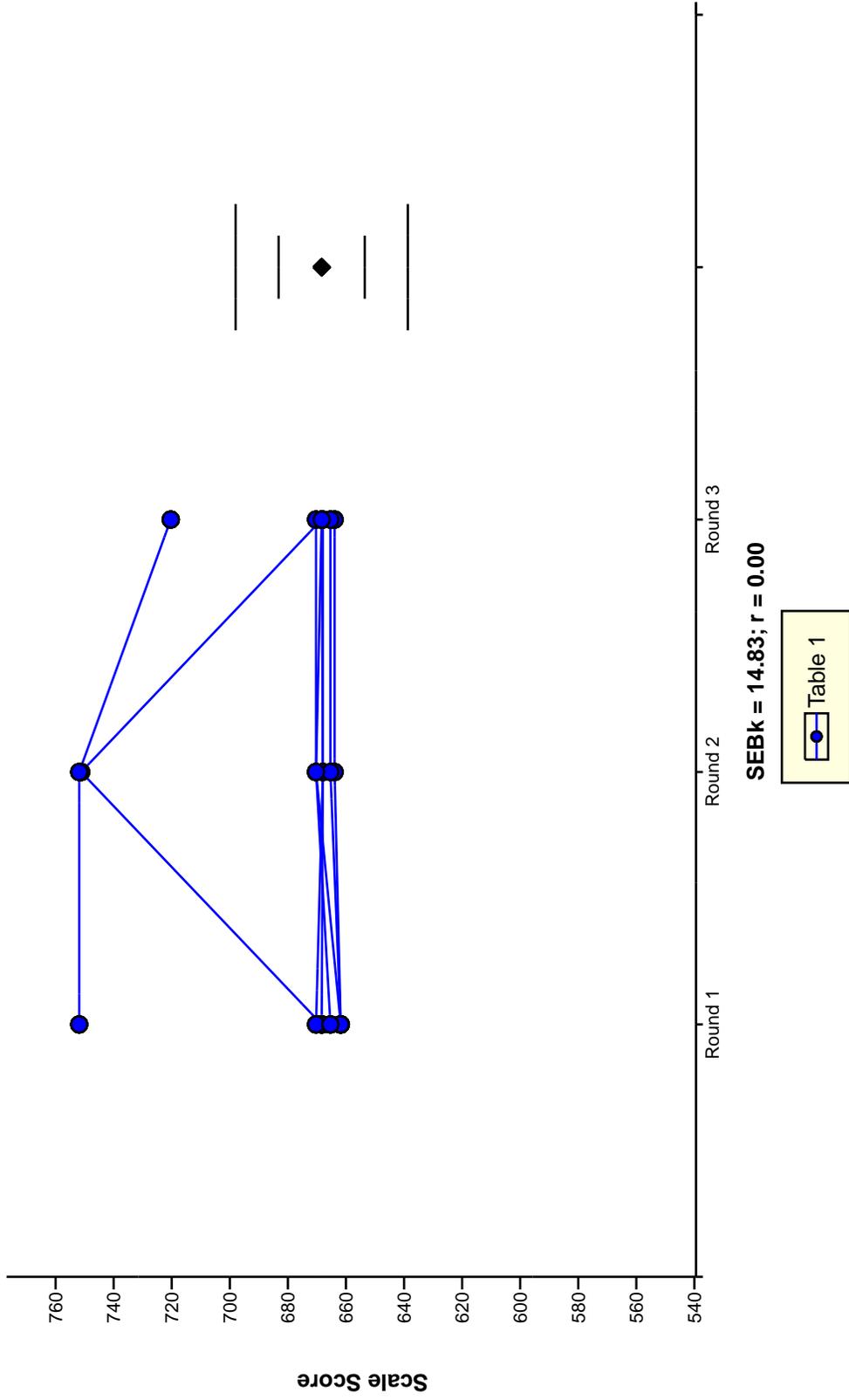


# Missouri Assessment Program Grade 3 Communication Arts Proficient Cut Point



**Table 1**

# Missouri Assessment Program Grade 3 Communication Arts Advanced Cut Point



# Missouri Assessment Program Grade 3 Communication Arts Advanced Cut Point

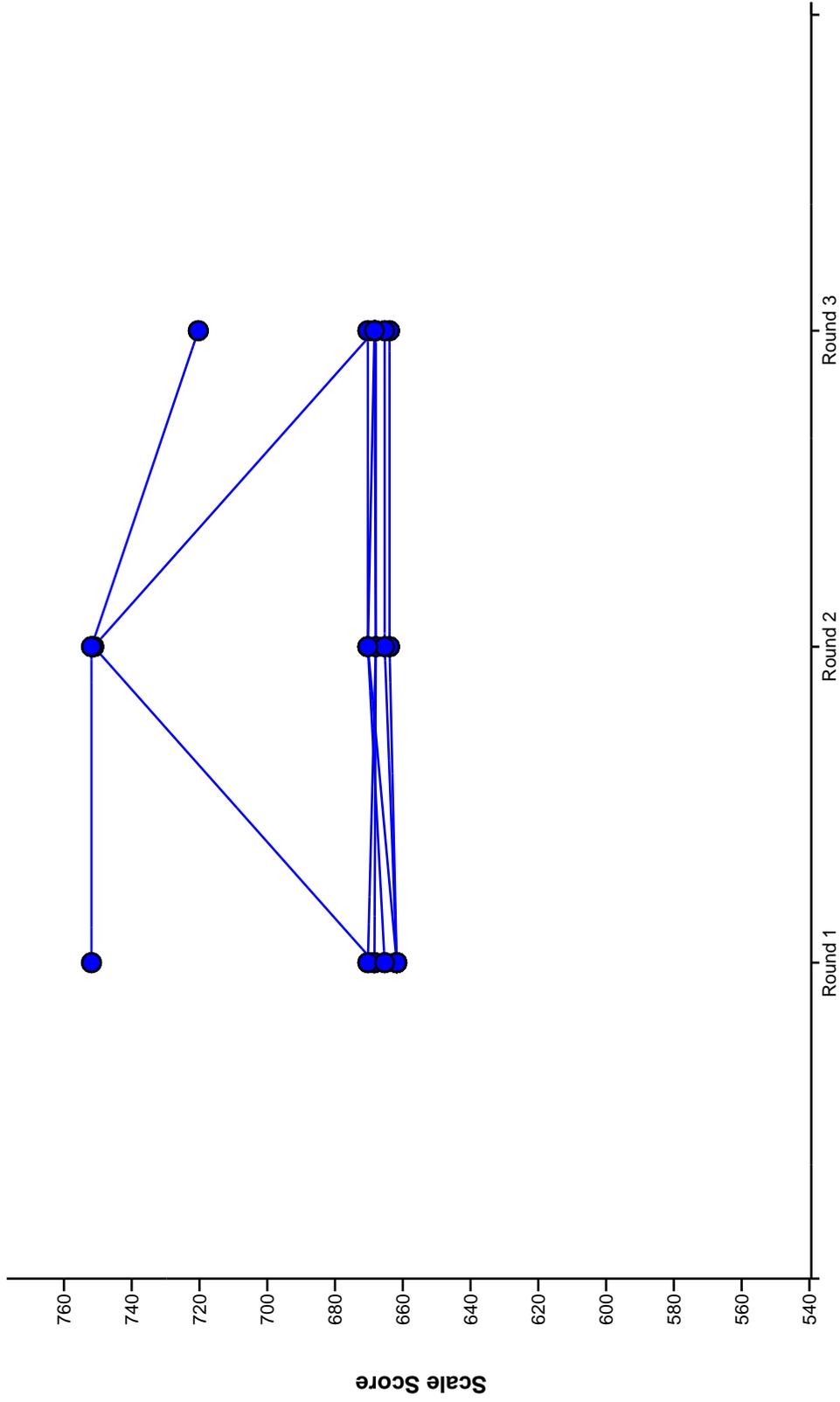
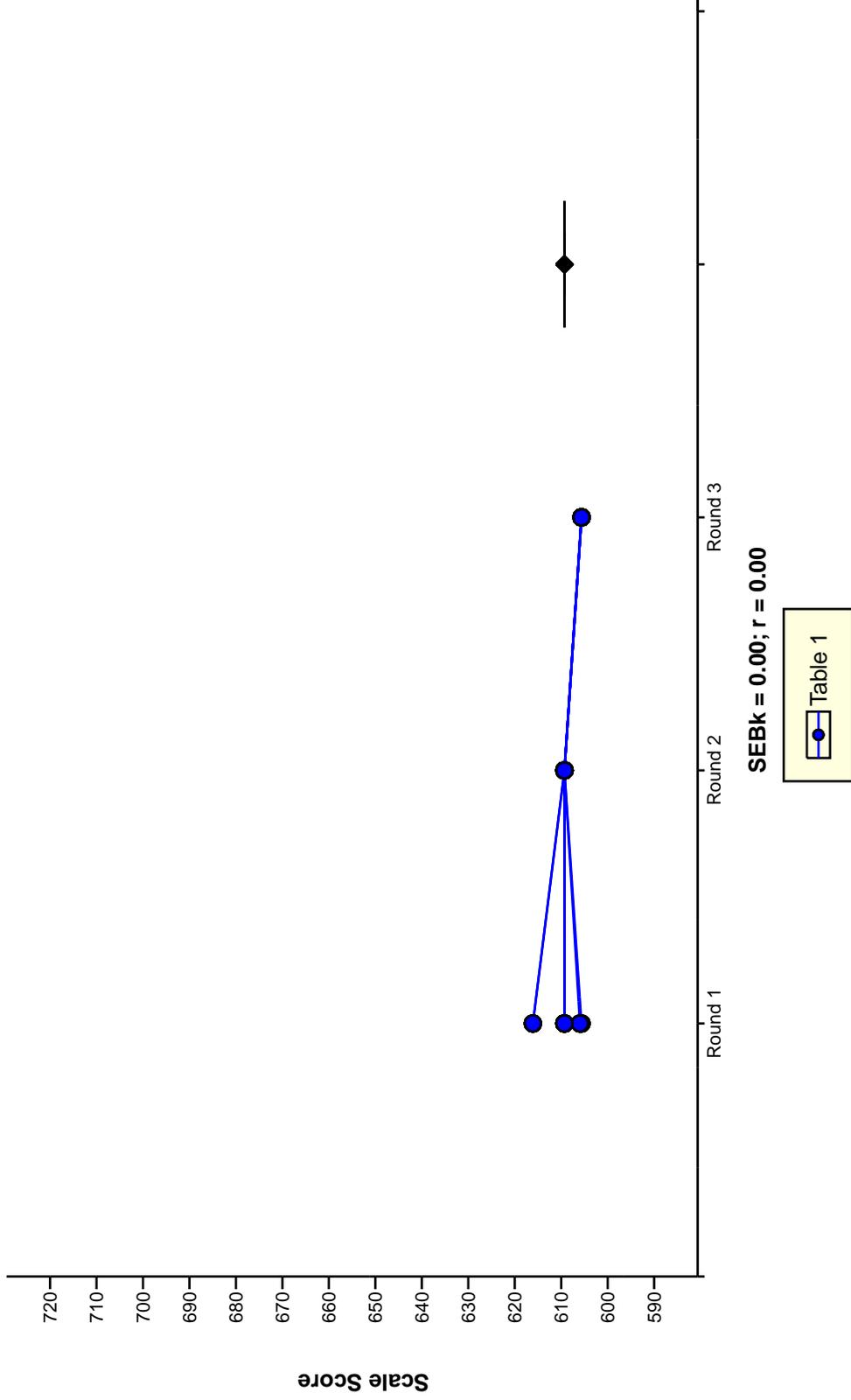
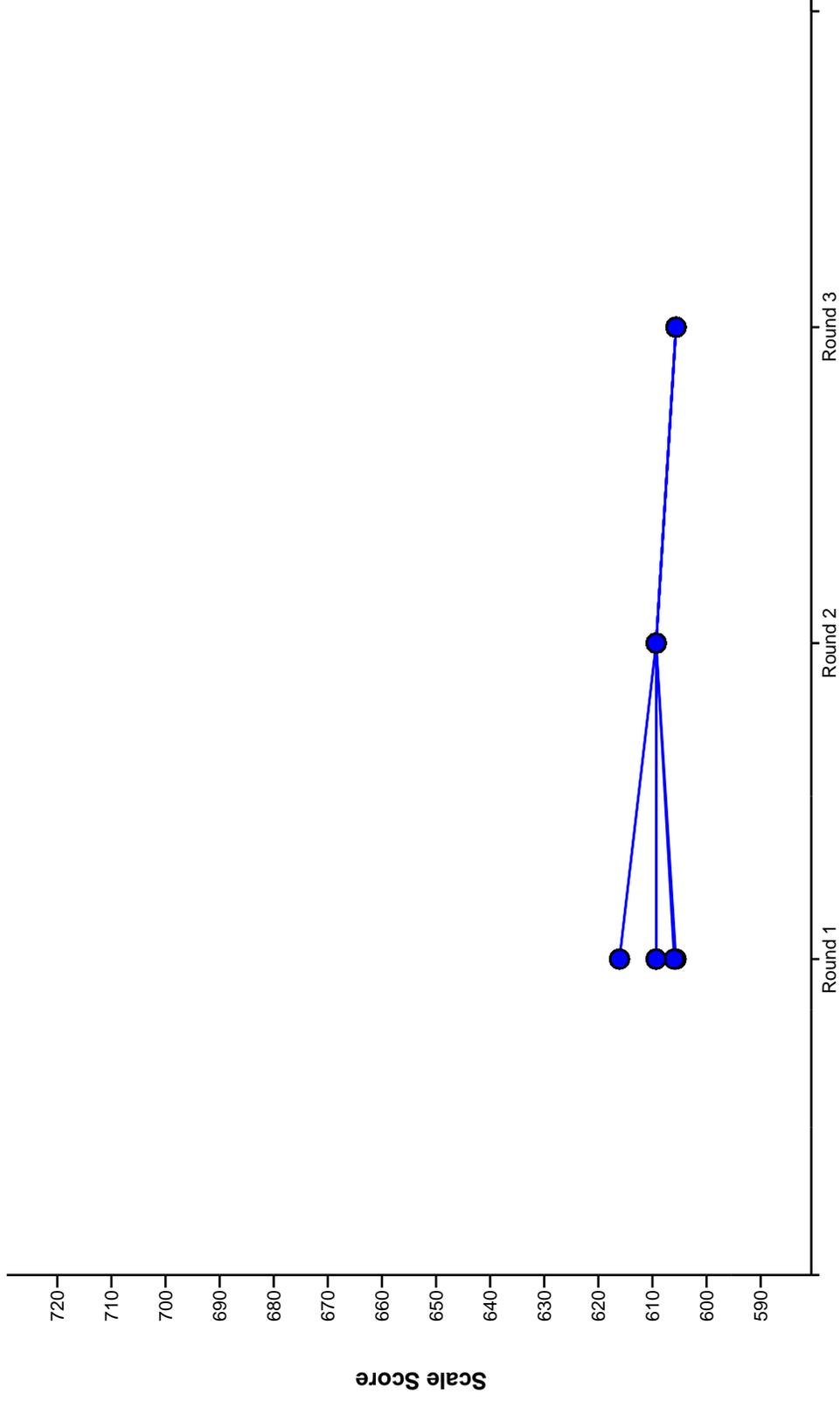


Table 1

# Missouri Assessment Program Grade 4 Communication Arts Basic Cut Point

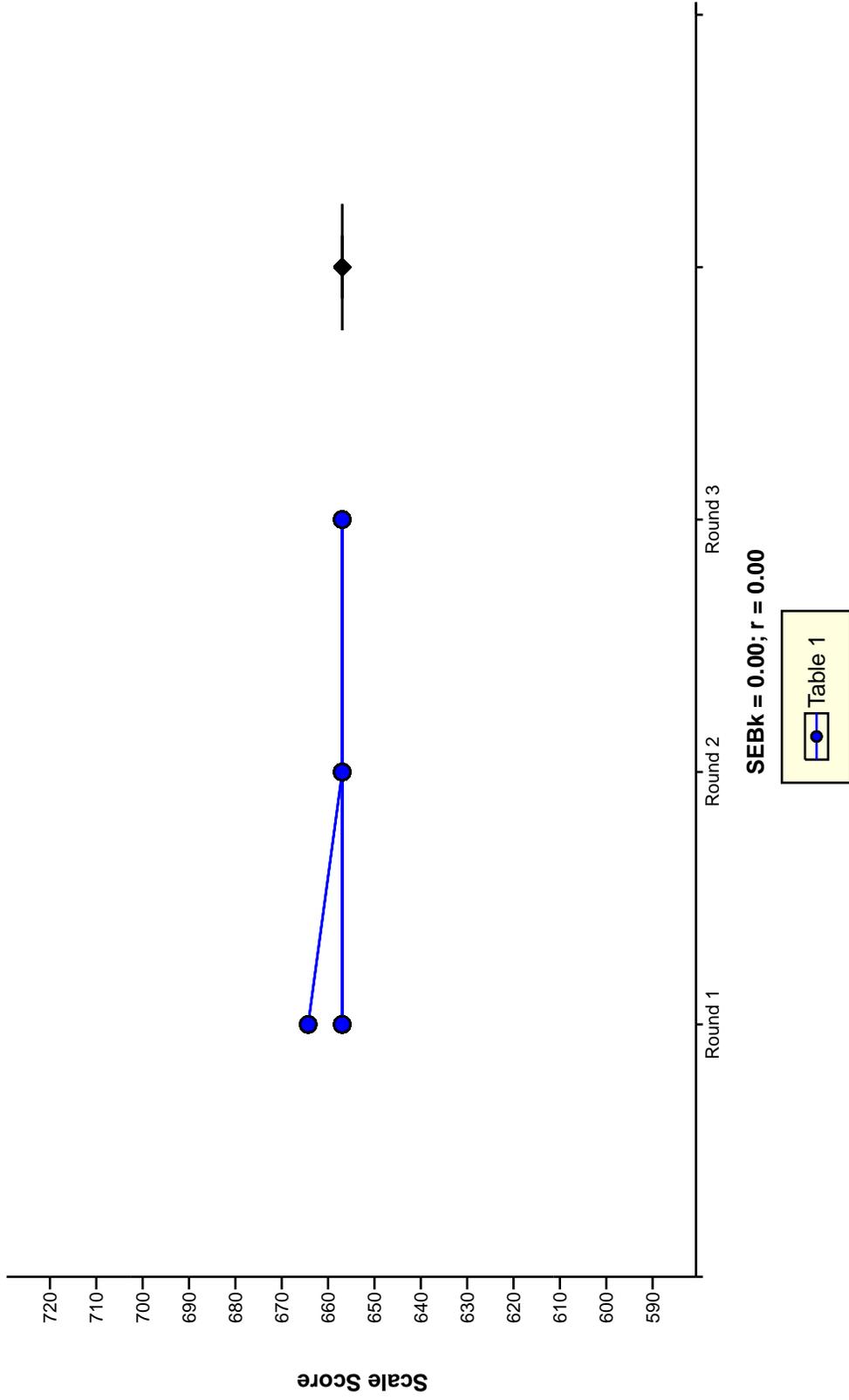


# Missouri Assessment Program Grade 4 Communication Arts Basic Cut Point

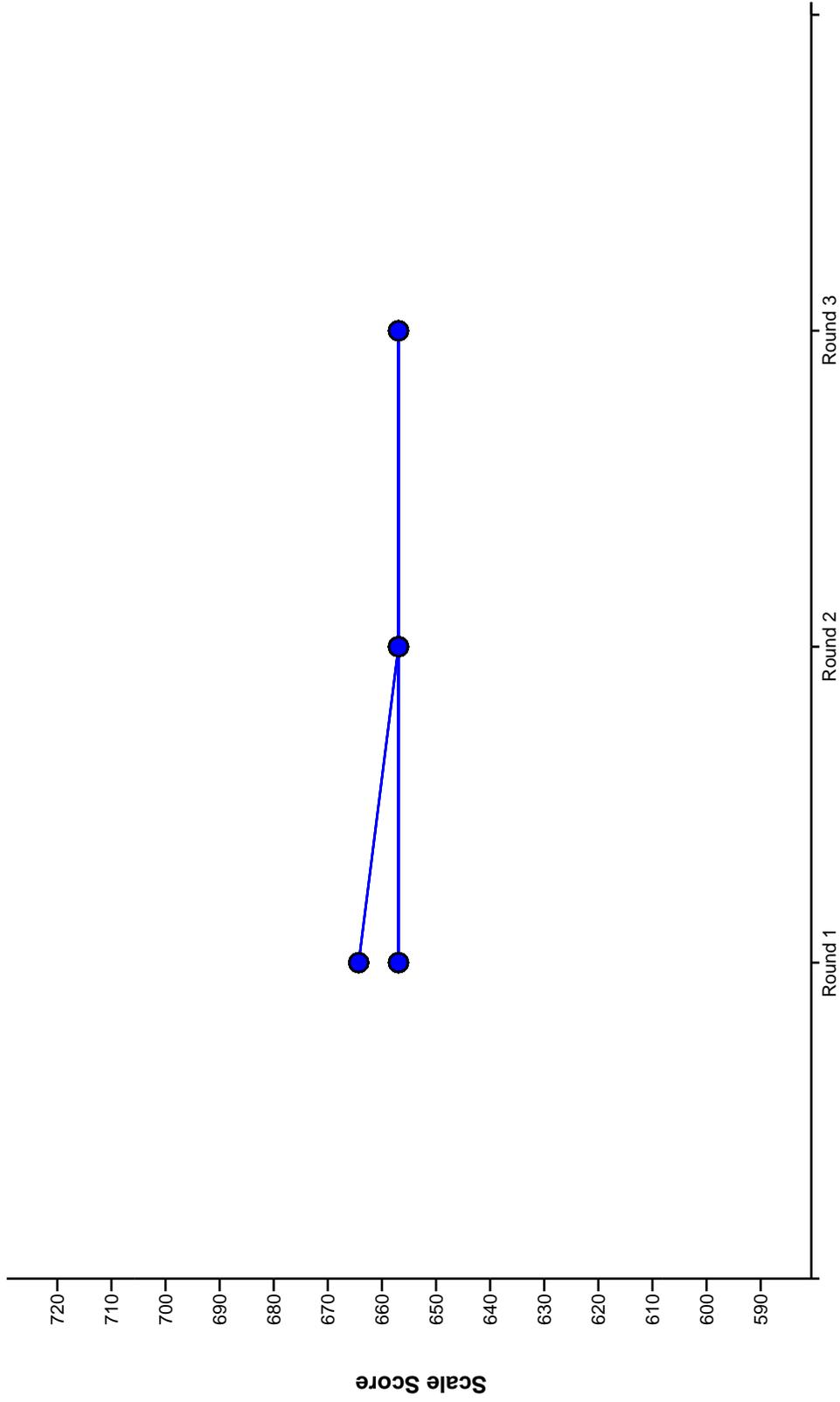


**Table 1**

# Missouri Assessment Program Grade 4 Communication Arts Proficient Cut Point

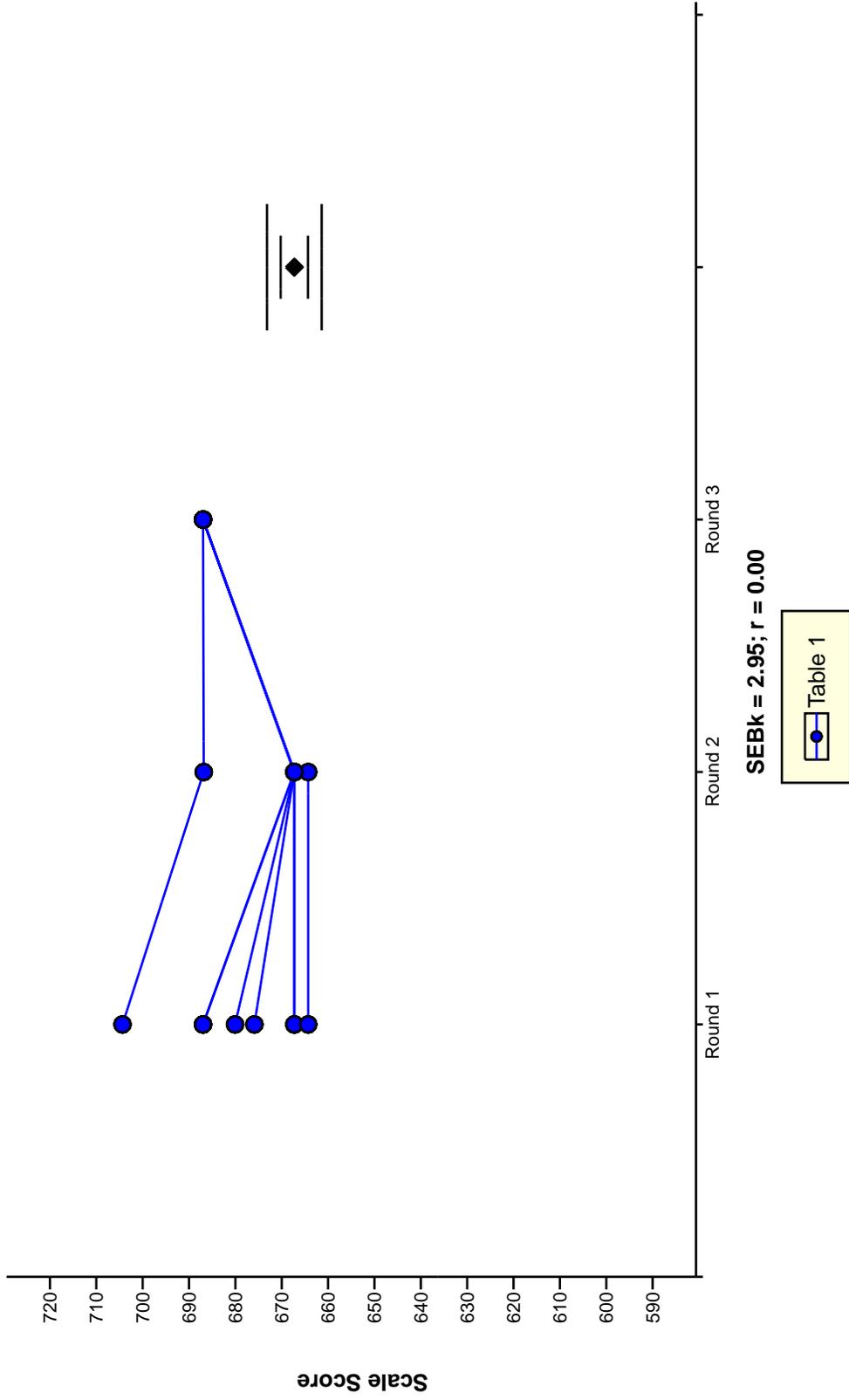


# Missouri Assessment Program Grade 4 Communication Arts Proficient Cut Point



**Table 1**

# Missouri Assessment Program Grade 4 Communication Arts Advanced Cut Point



# Missouri Assessment Program Grade 4 Communication Arts Advanced Cut Point

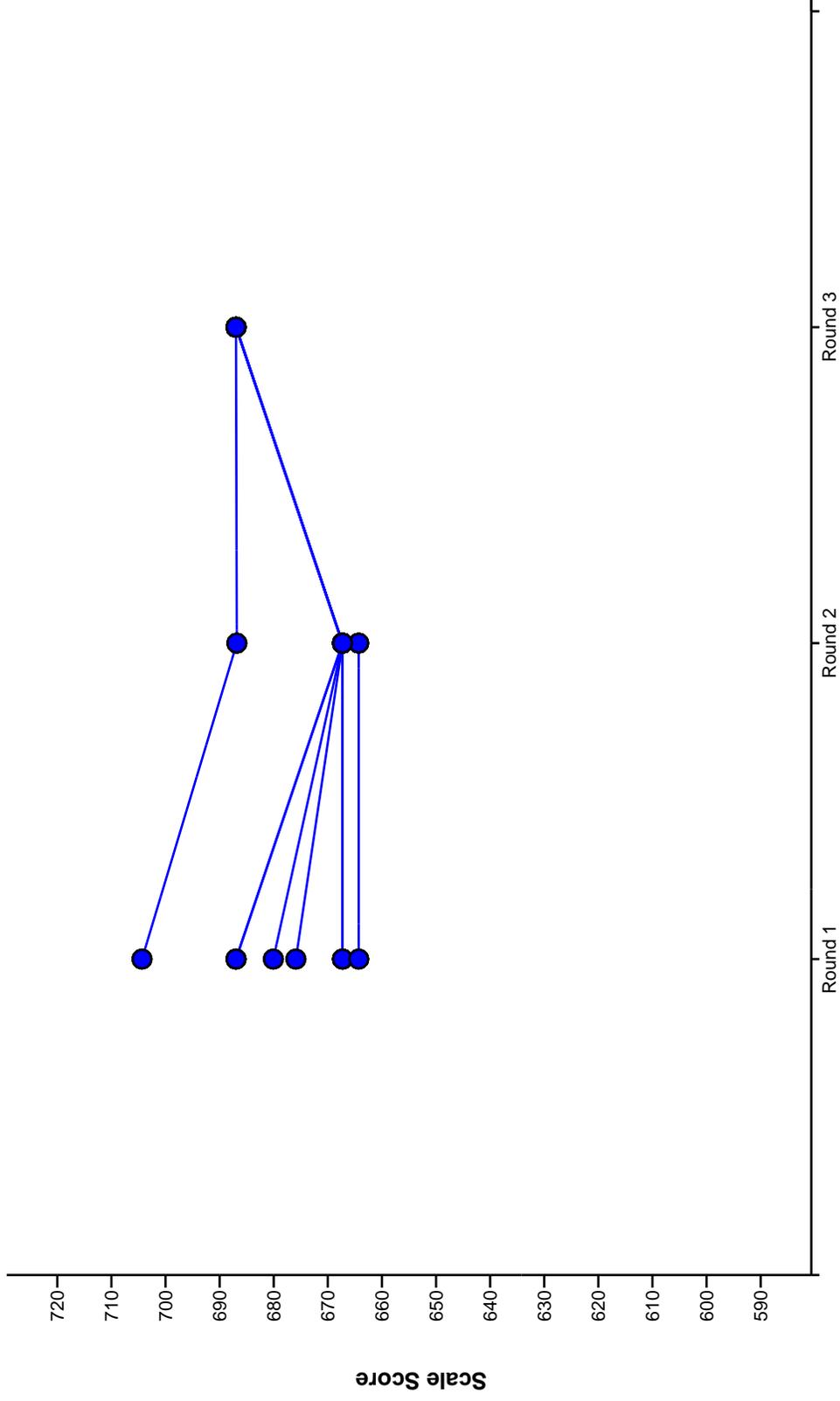
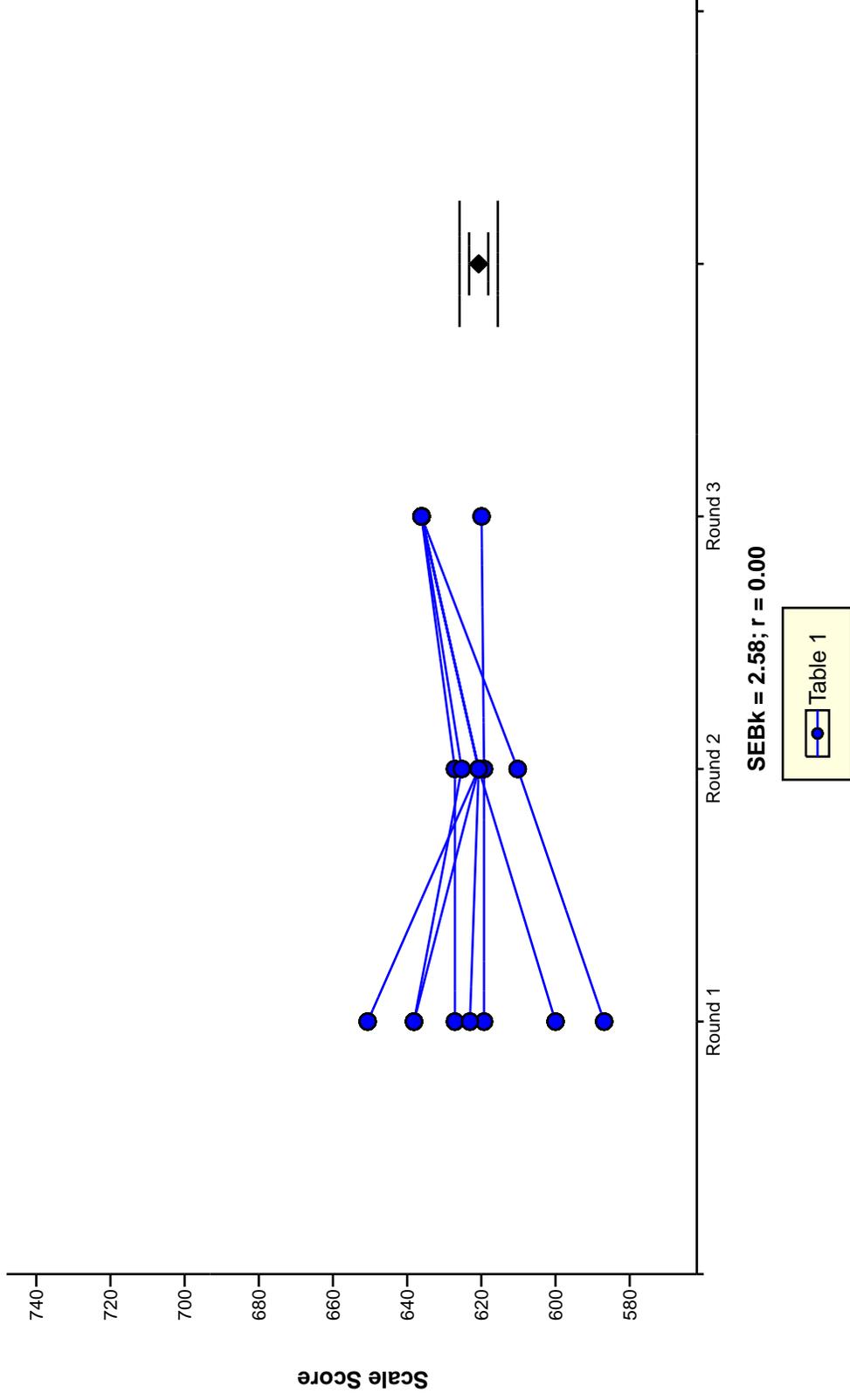


Table 1

# Missouri Assessment Program Grade 5 Communication Arts Basic Cut Point



# Missouri Assessment Program Grade 5 Communication Arts Basic Cut Point

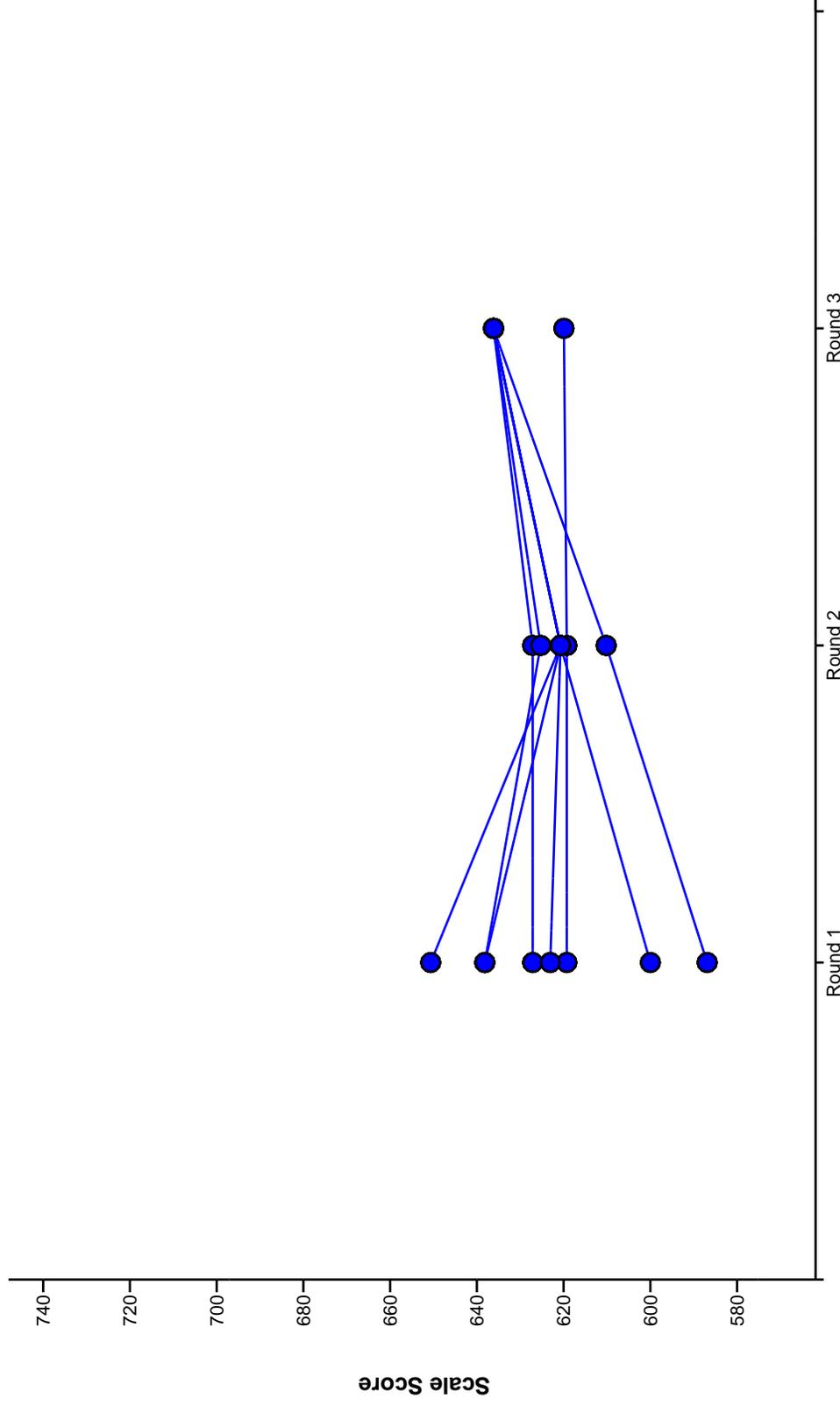
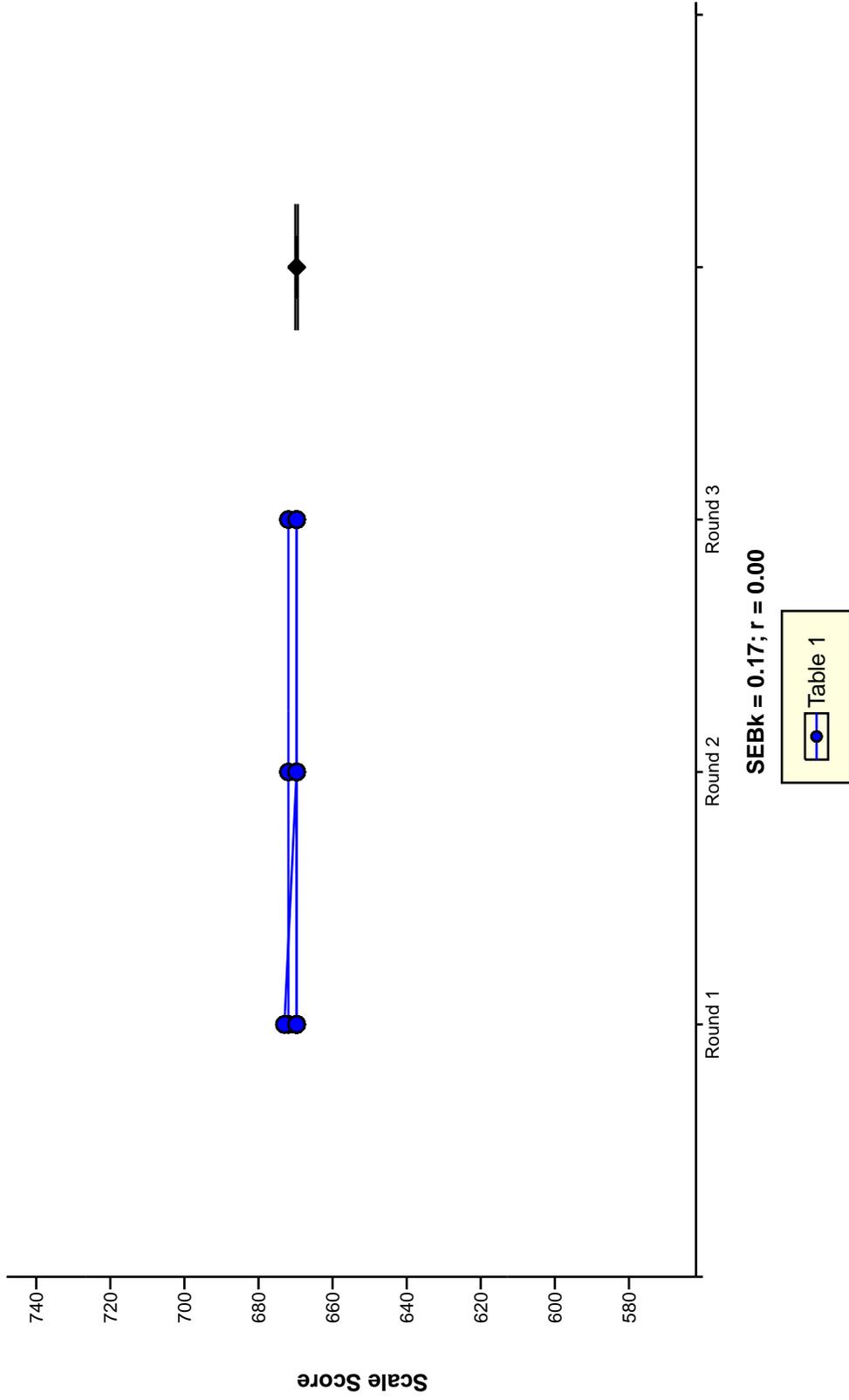
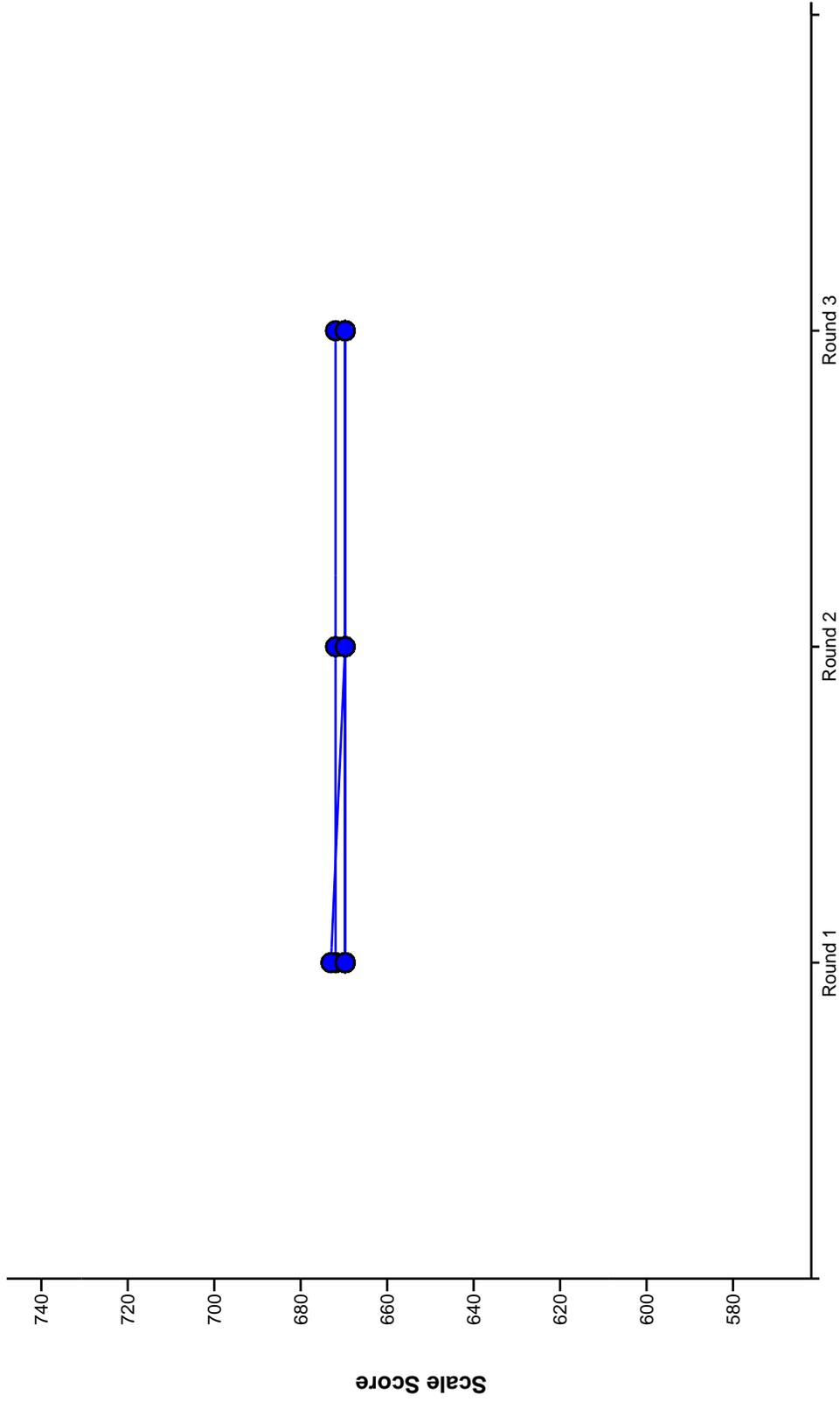


Table 1

# Missouri Assessment Program Grade 5 Communication Arts Proficient Cut Point

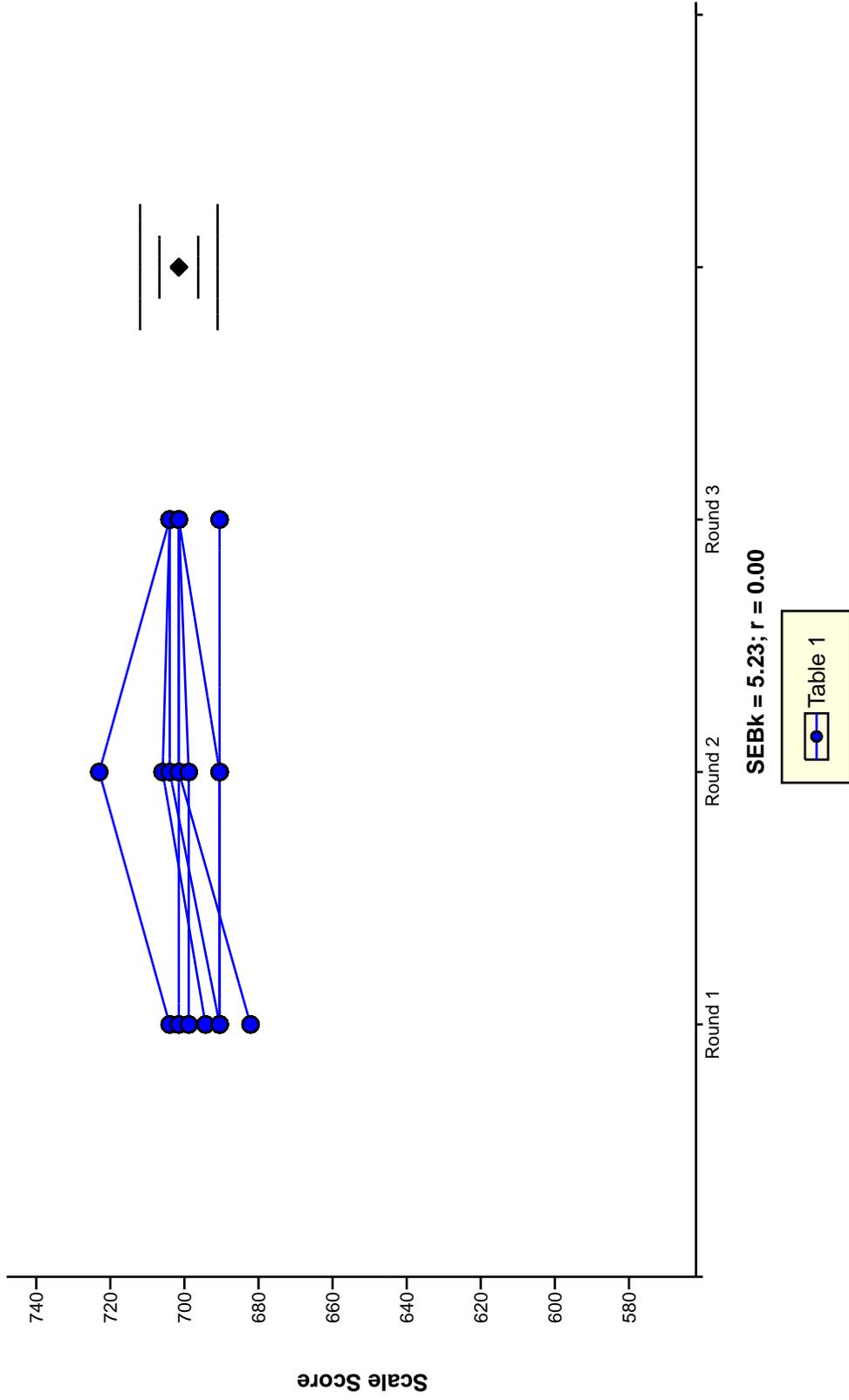


# Missouri Assessment Program Grade 5 Communication Arts Proficient Cut Point



**Table 1**

# Missouri Assessment Program Grade 5 Communication Arts Advanced Cut Point



# Missouri Assessment Program Grade 5 Communication Arts Advanced Cut Point

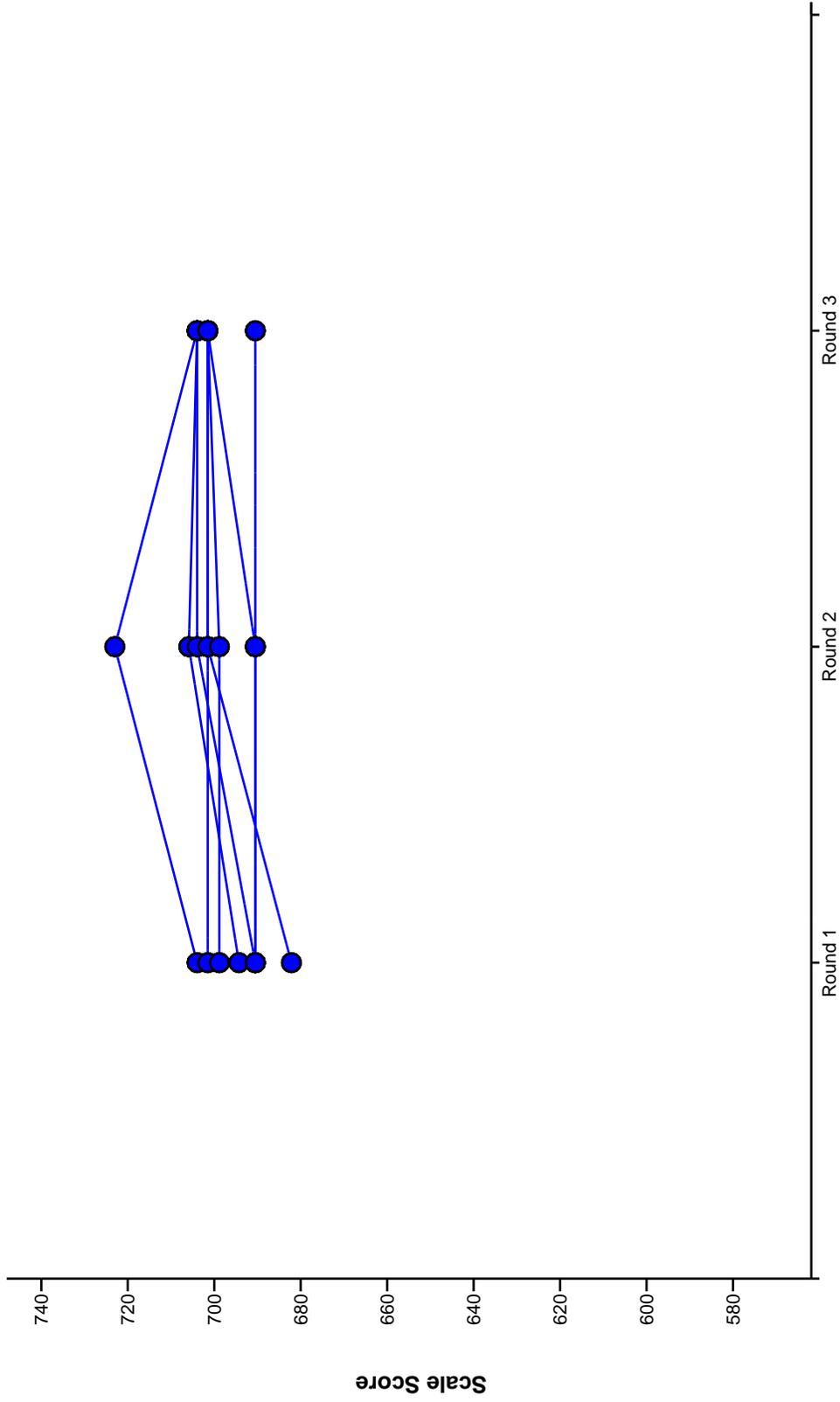
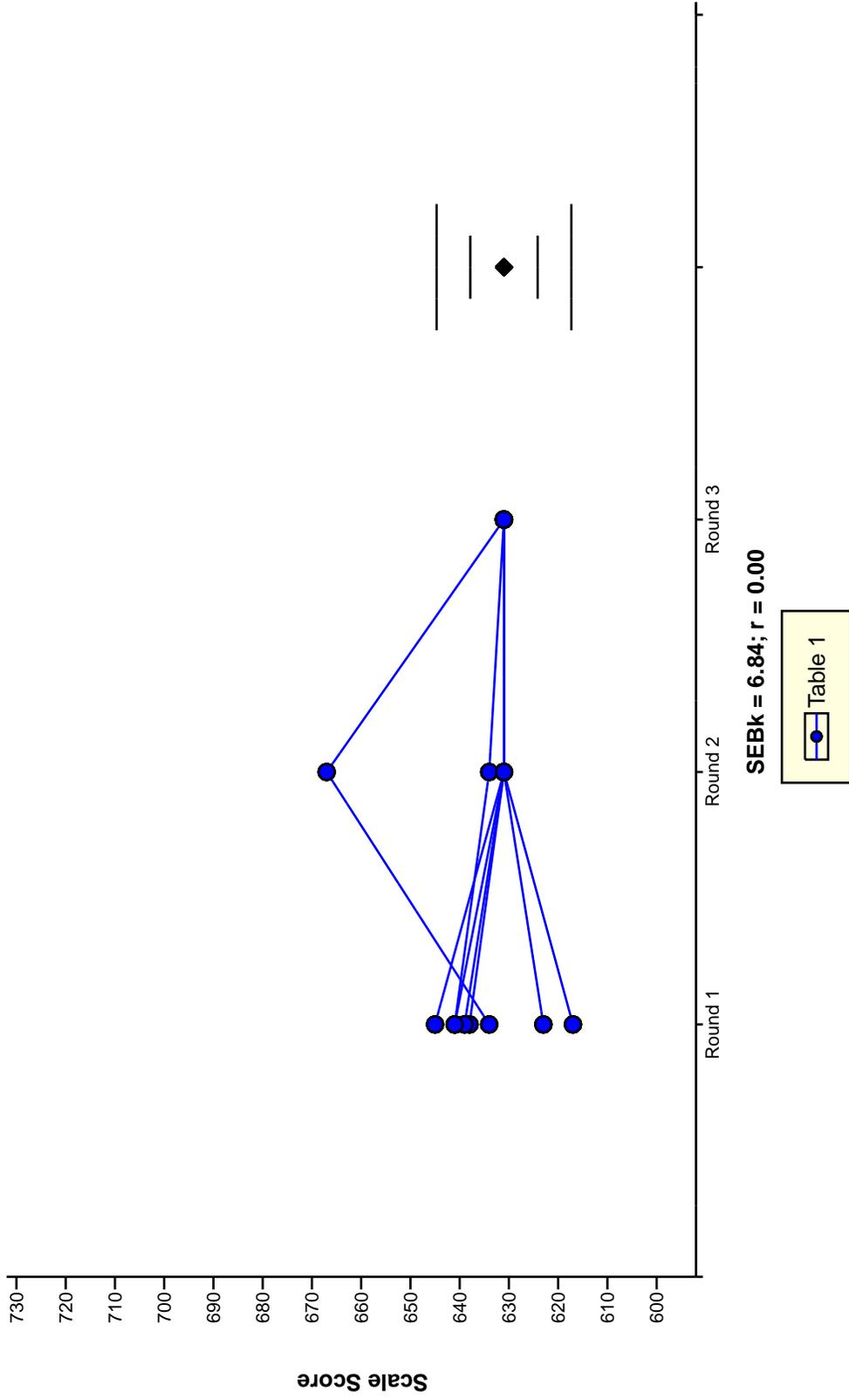


Table 1

# Missouri Assessment Program Grade 6 Communication Arts Basic Cut Point



# Missouri Assessment Program Grade 6 Communication Arts Basic Cut Point

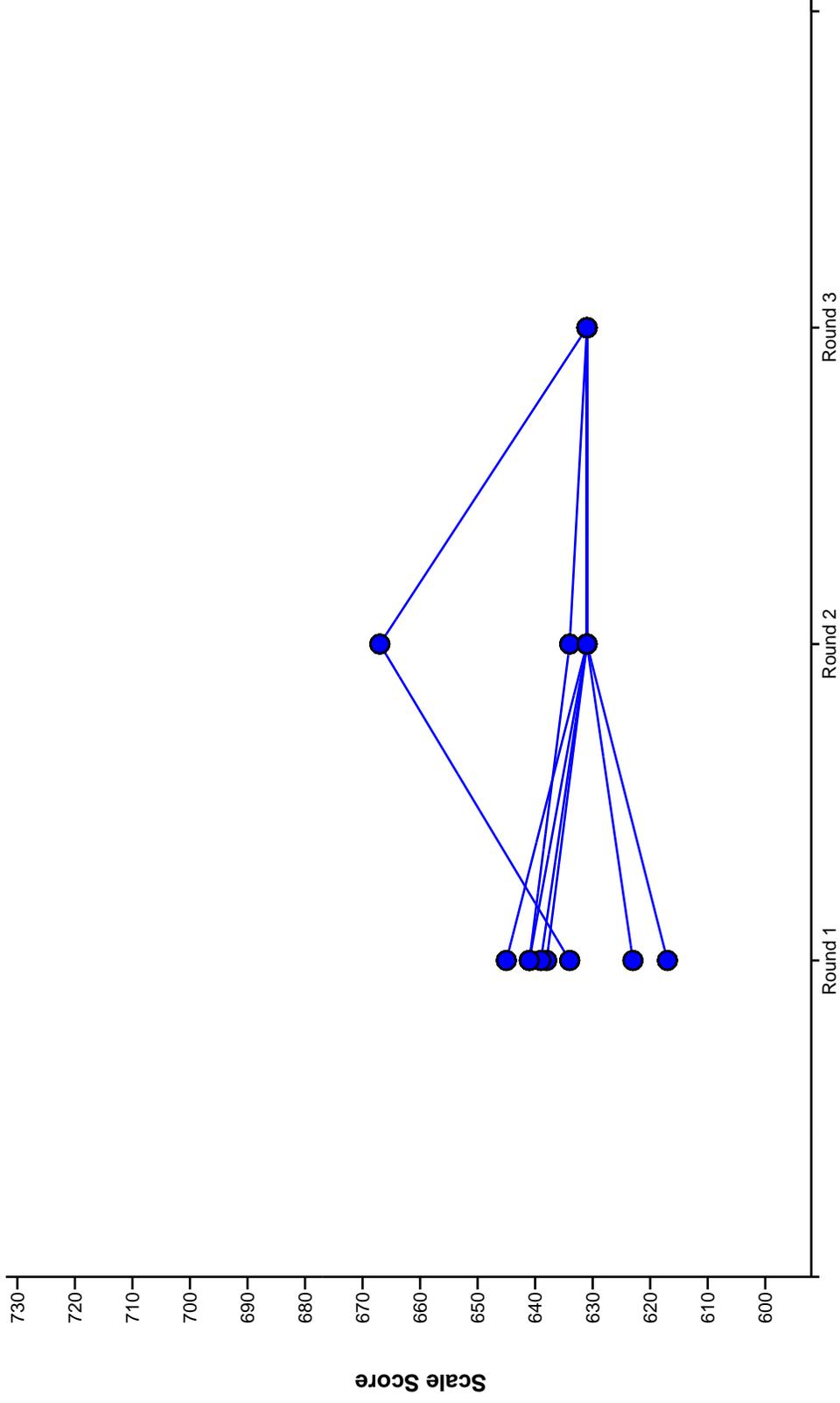
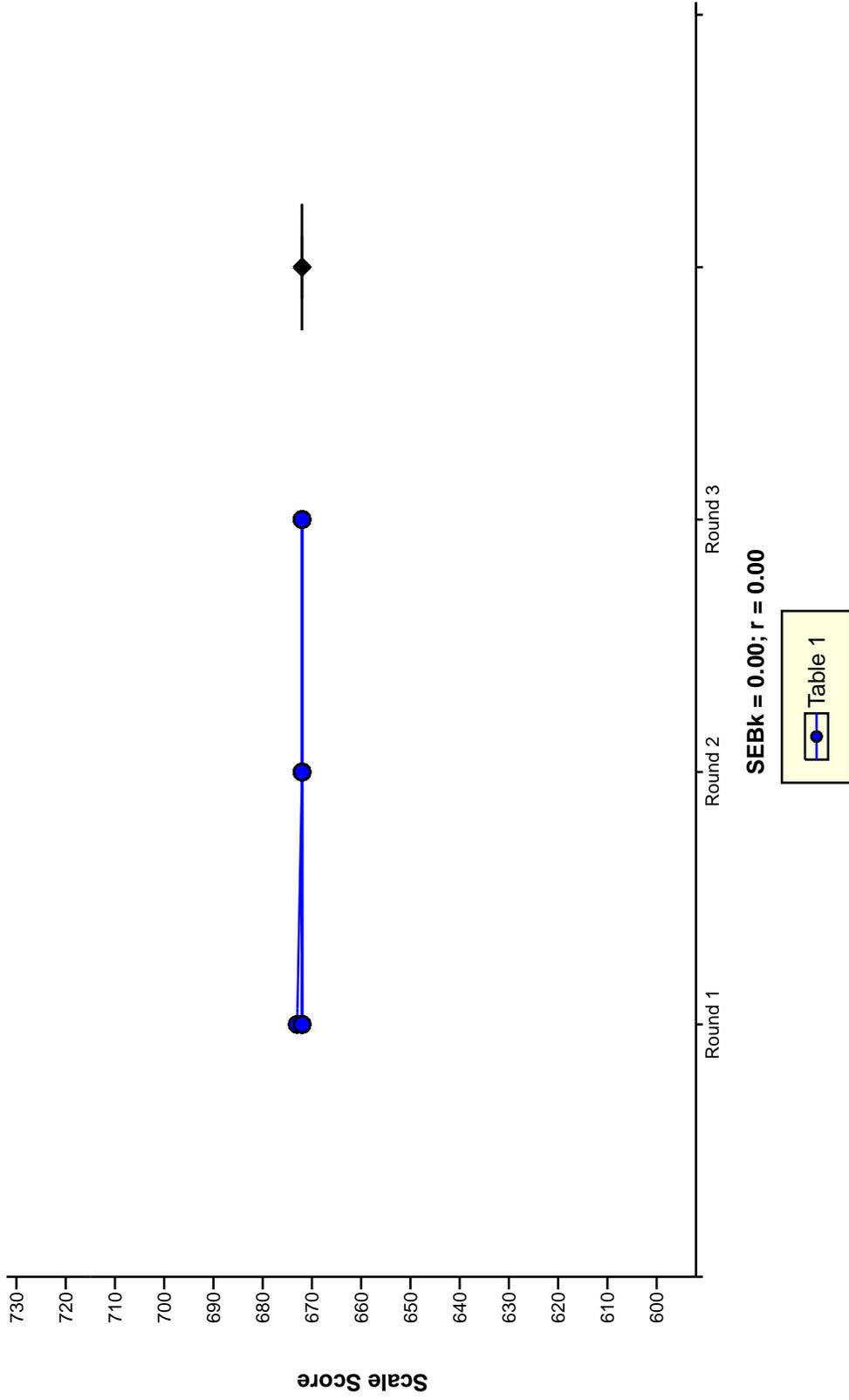
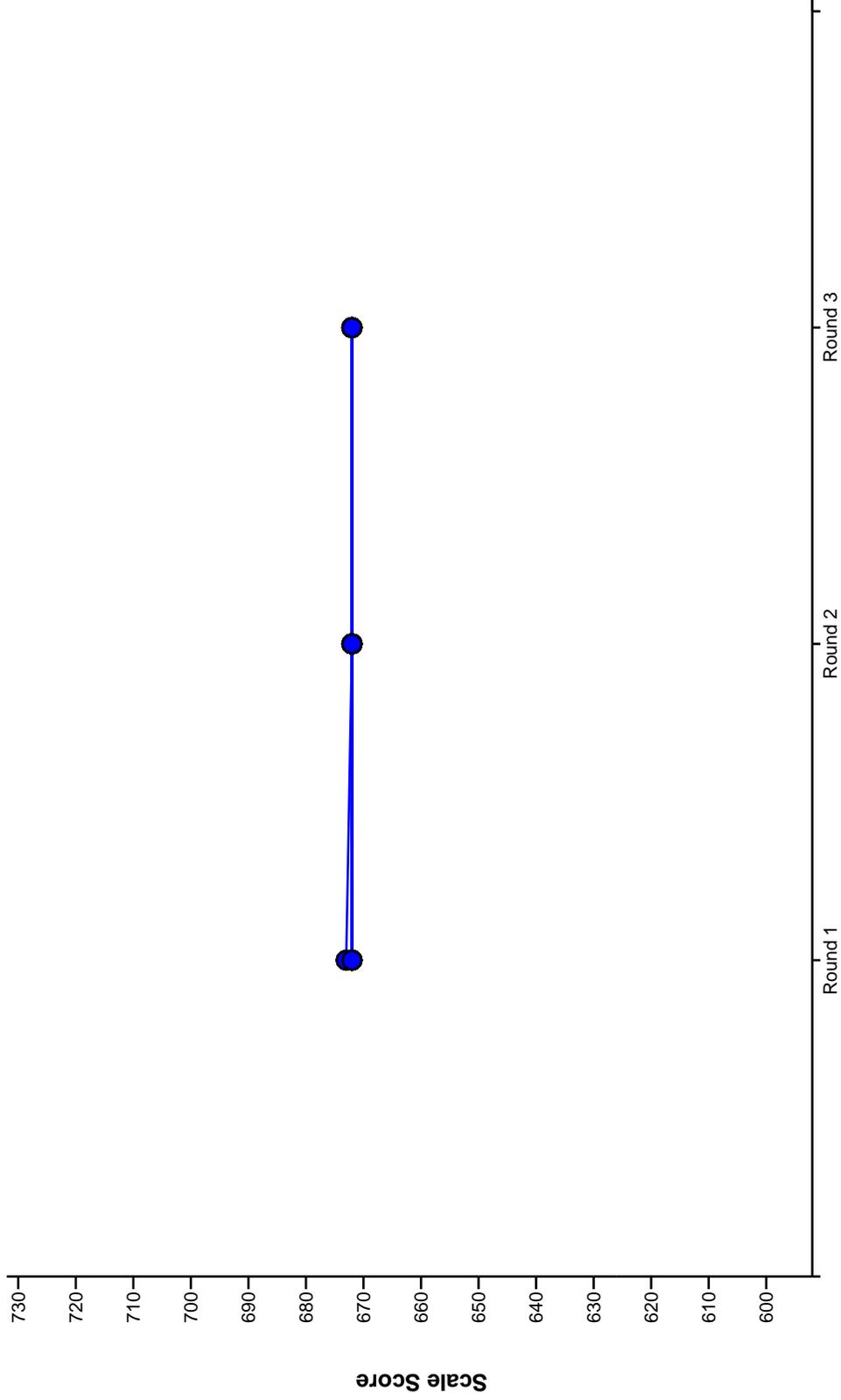


Table 1

# Missouri Assessment Program Grade 6 Communication Arts Proficient Cut Point

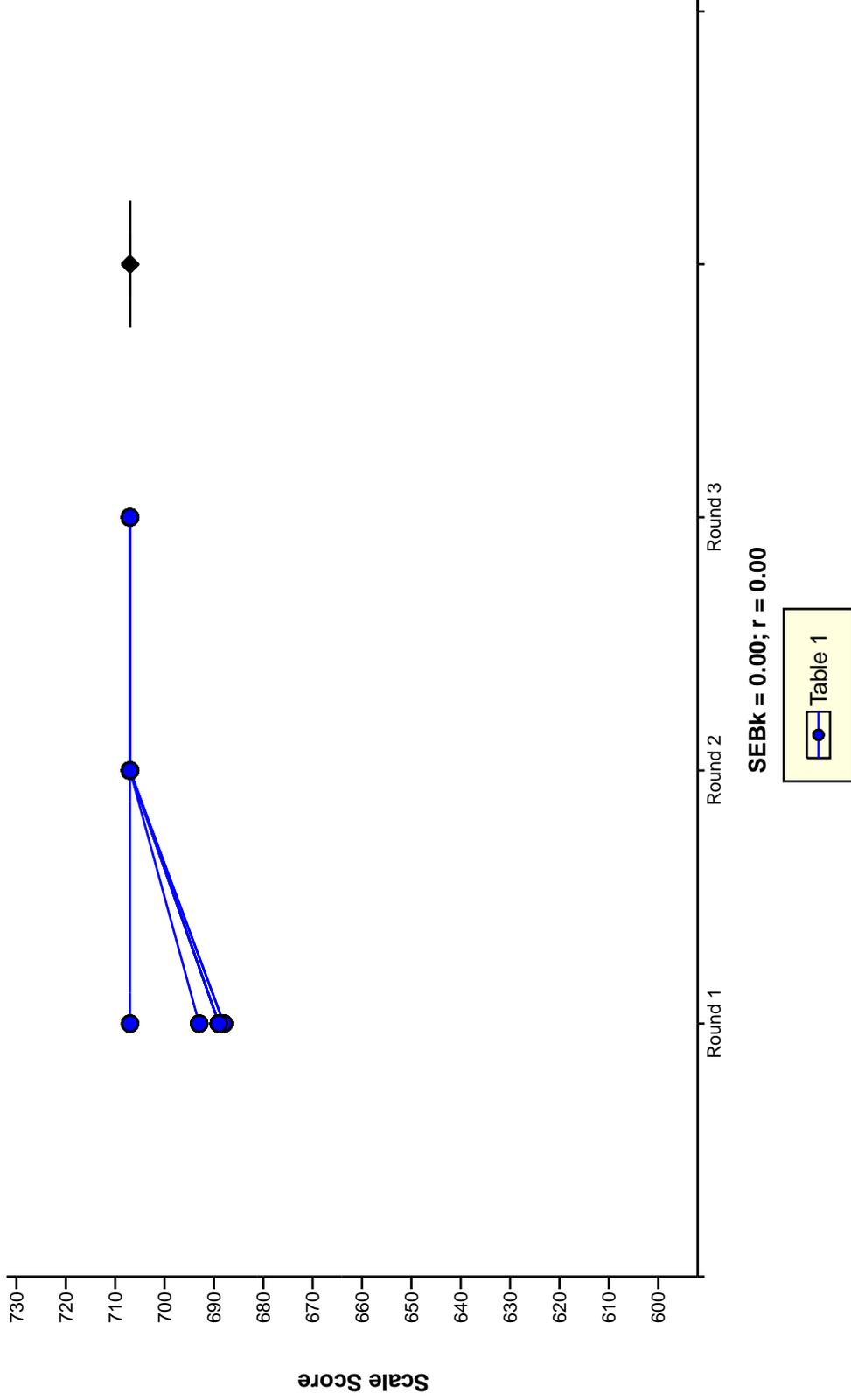


# Missouri Assessment Program Grade 6 Communication Arts Proficient Cut Point

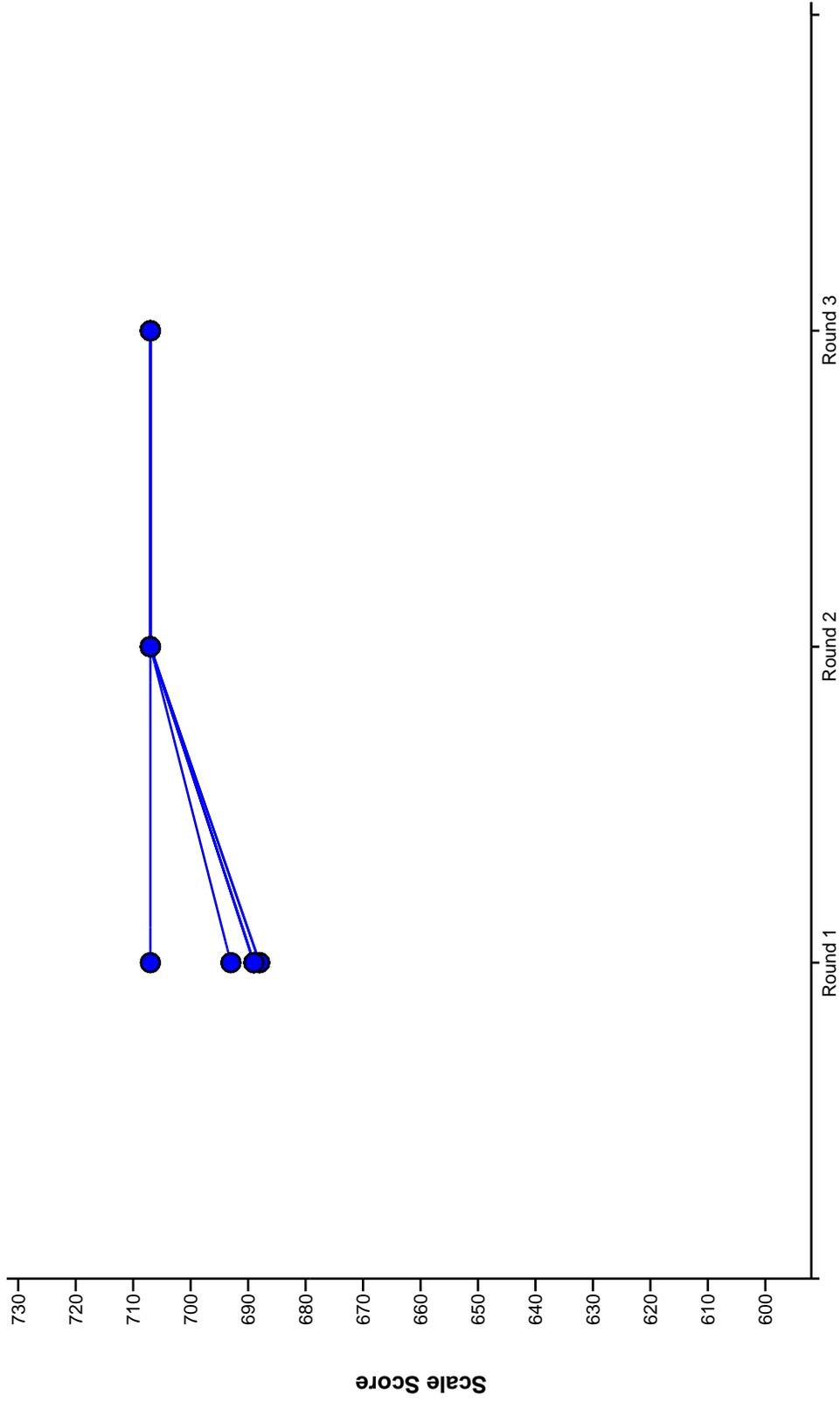


**Table 1**

# Missouri Assessment Program Grade 6 Communication Arts Advanced Cut Point

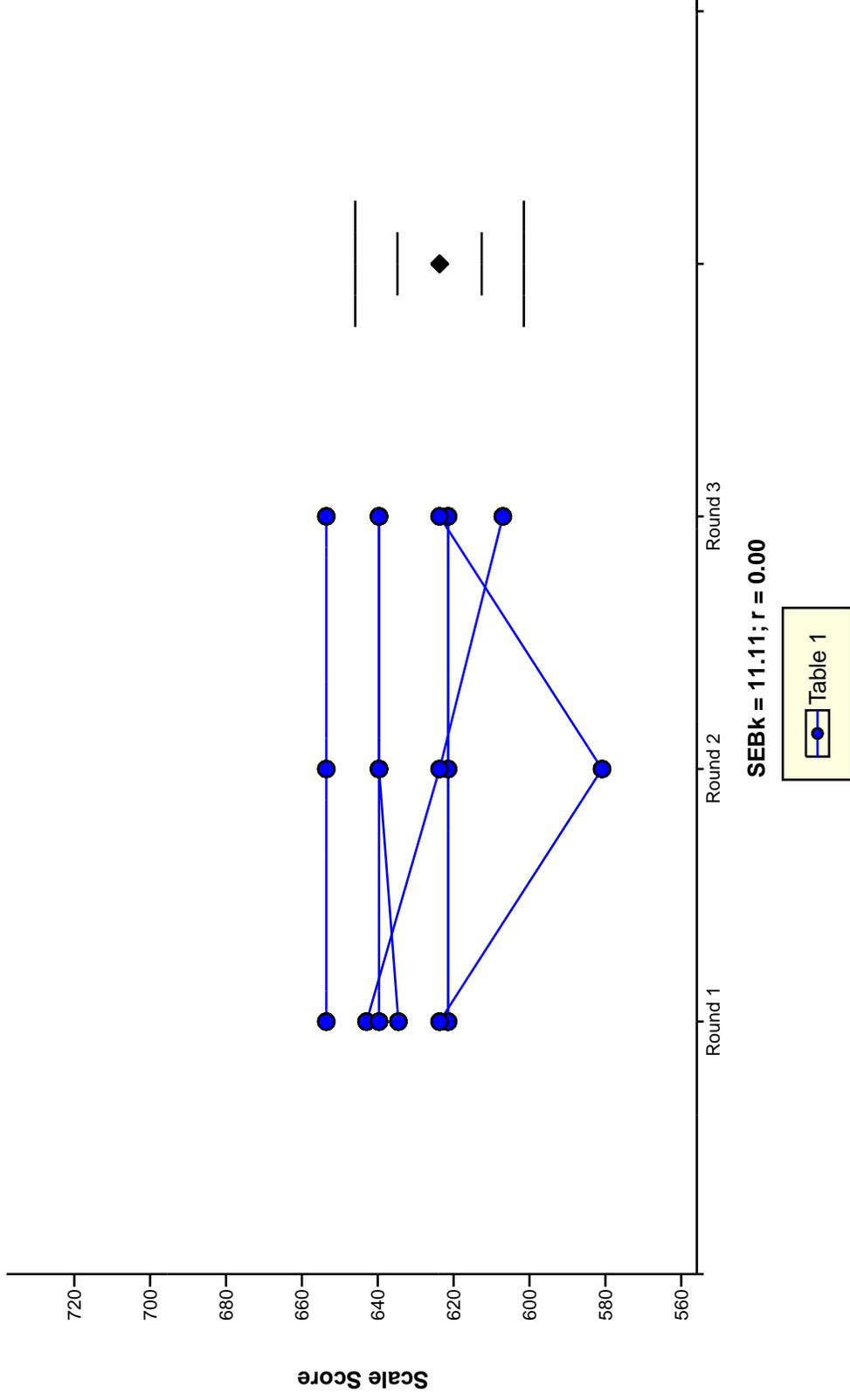


# Missouri Assessment Program Grade 6 Communication Arts Advanced Cut Point

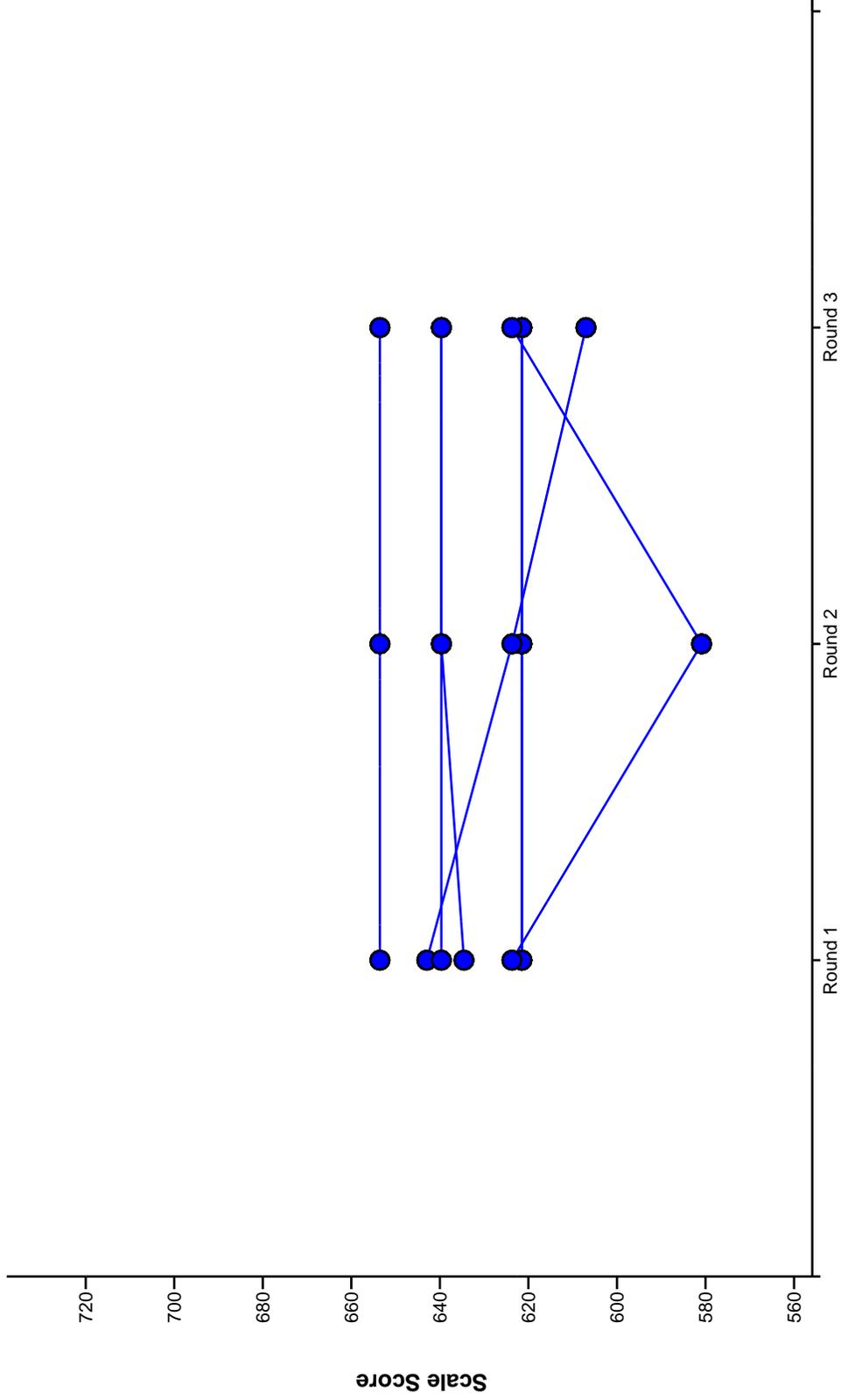


**Table 1**

# Missouri Assessment Program Grade 7 Communication Arts Basic Cut Point

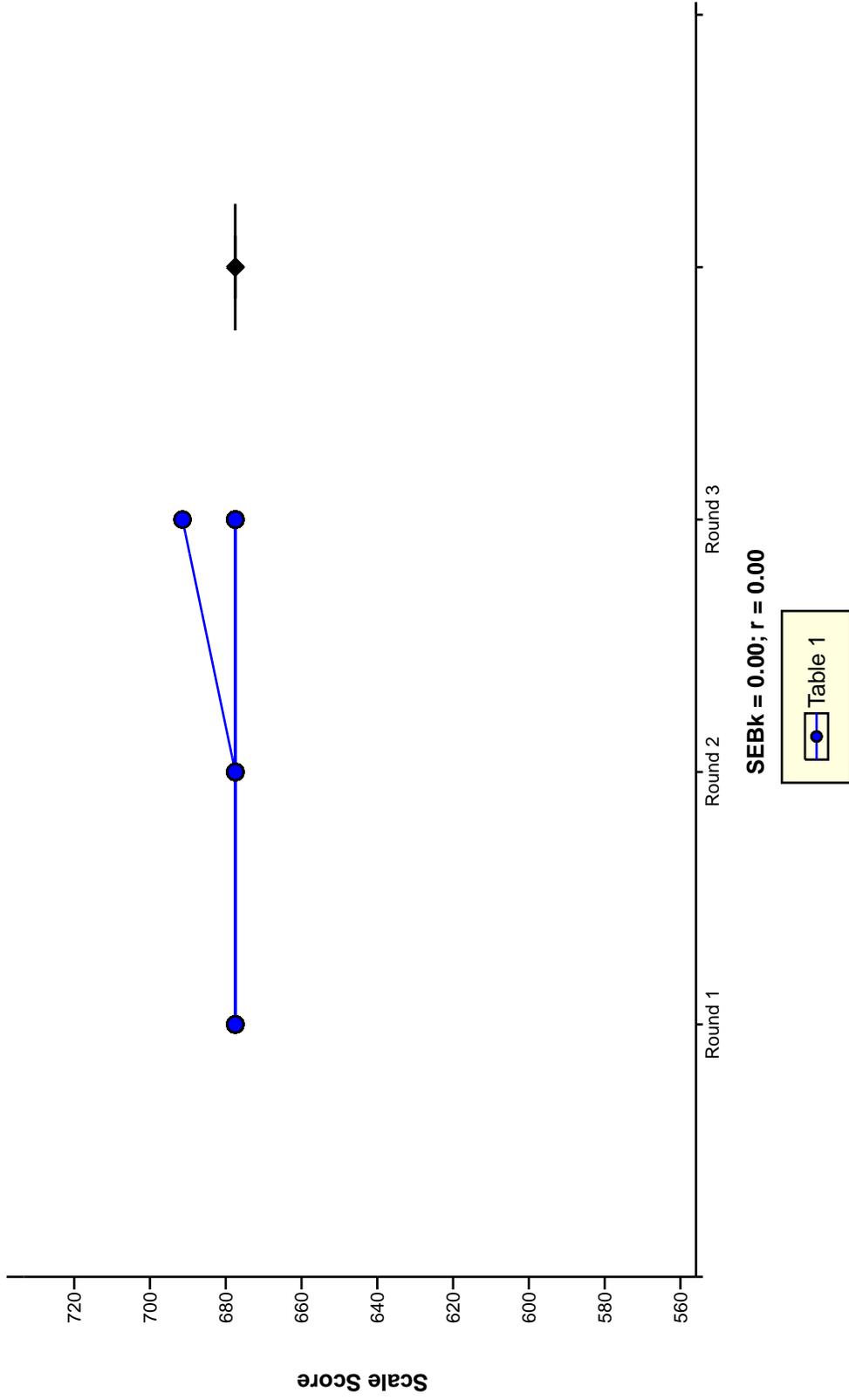


# Missouri Assessment Program Grade 7 Communication Arts Basic Cut Point

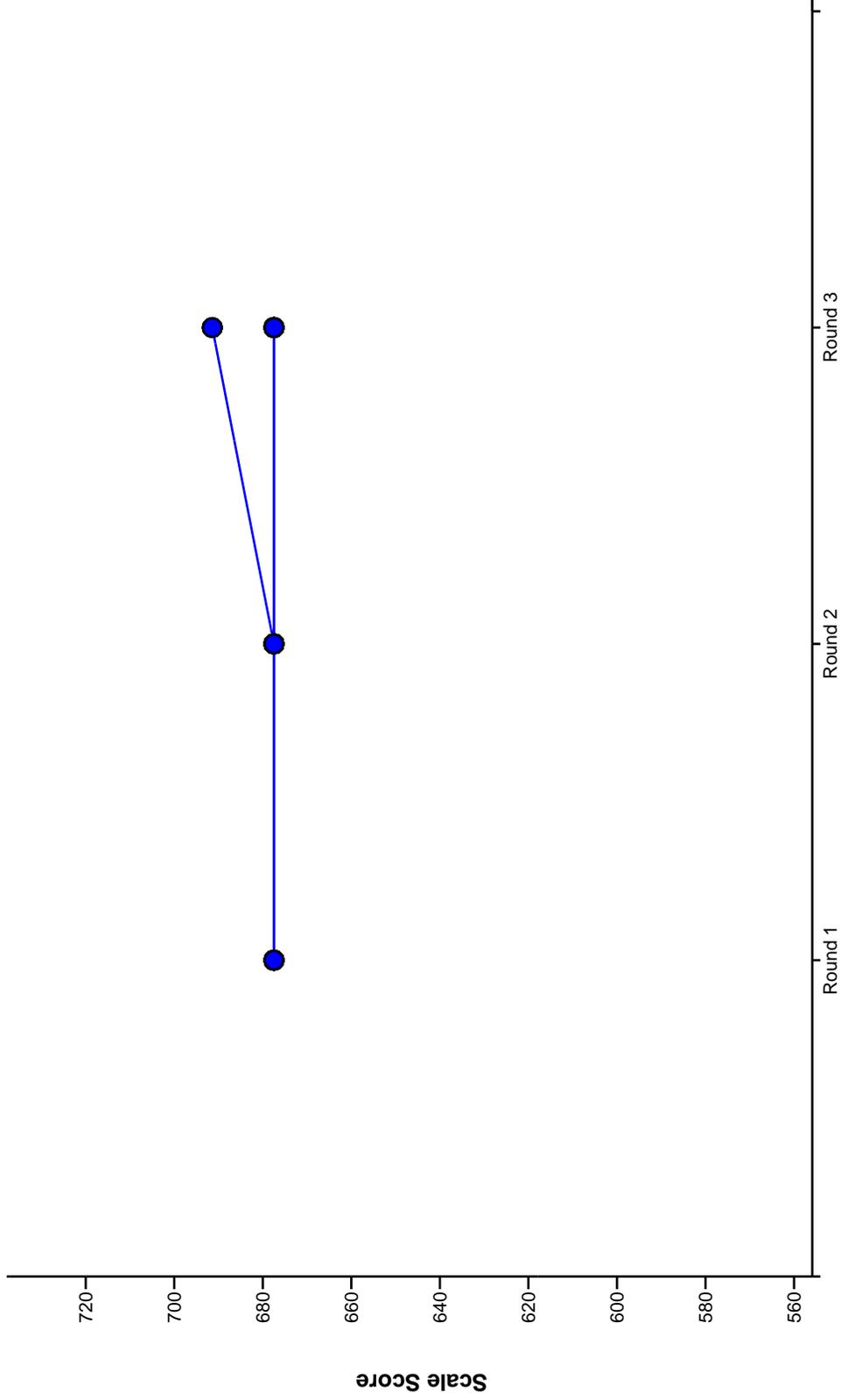


**Table 1**

# Missouri Assessment Program Grade 7 Communication Arts Proficient Cut Point



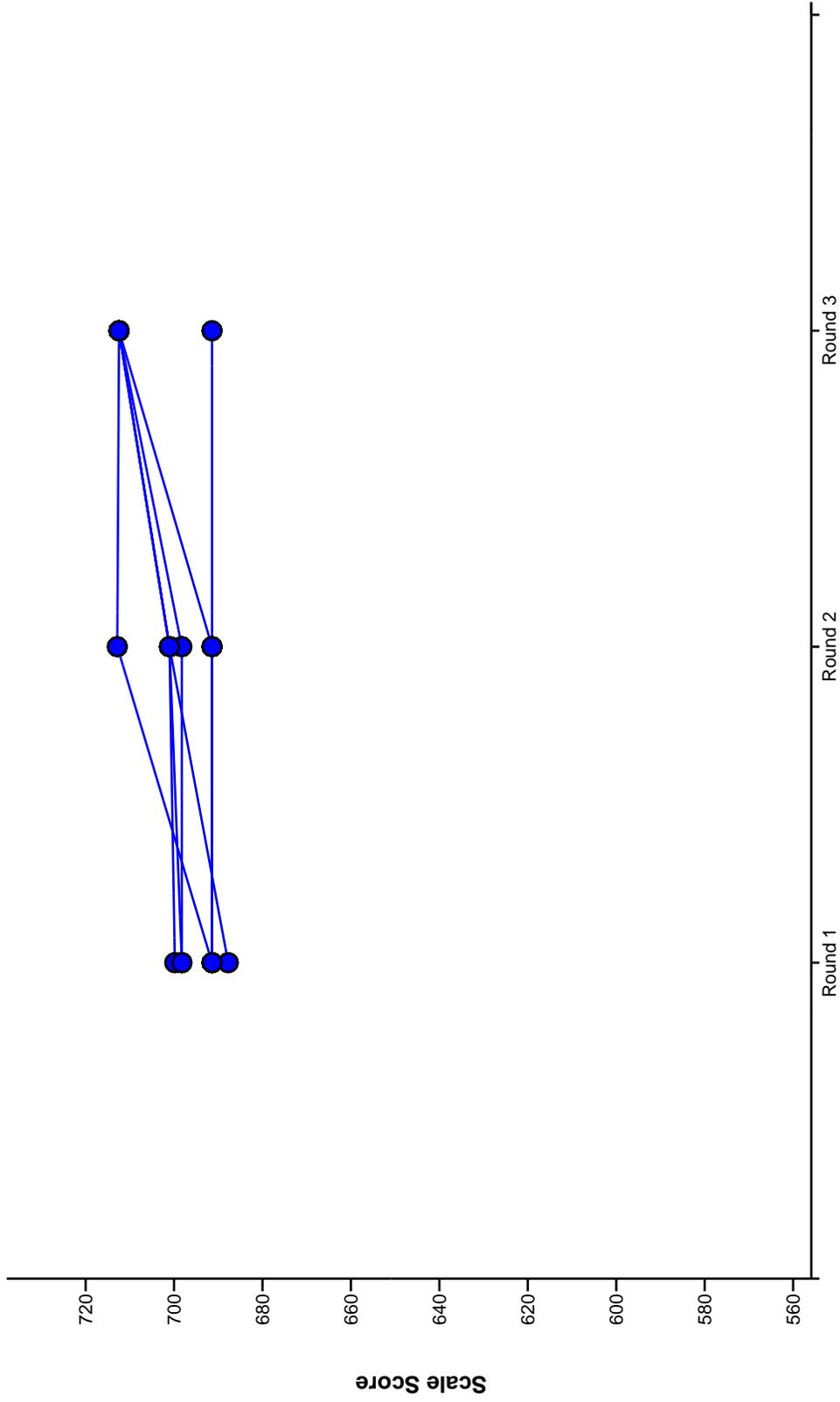
# Missouri Assessment Program Grade 7 Communication Arts Proficient Cut Point



**Table 1**

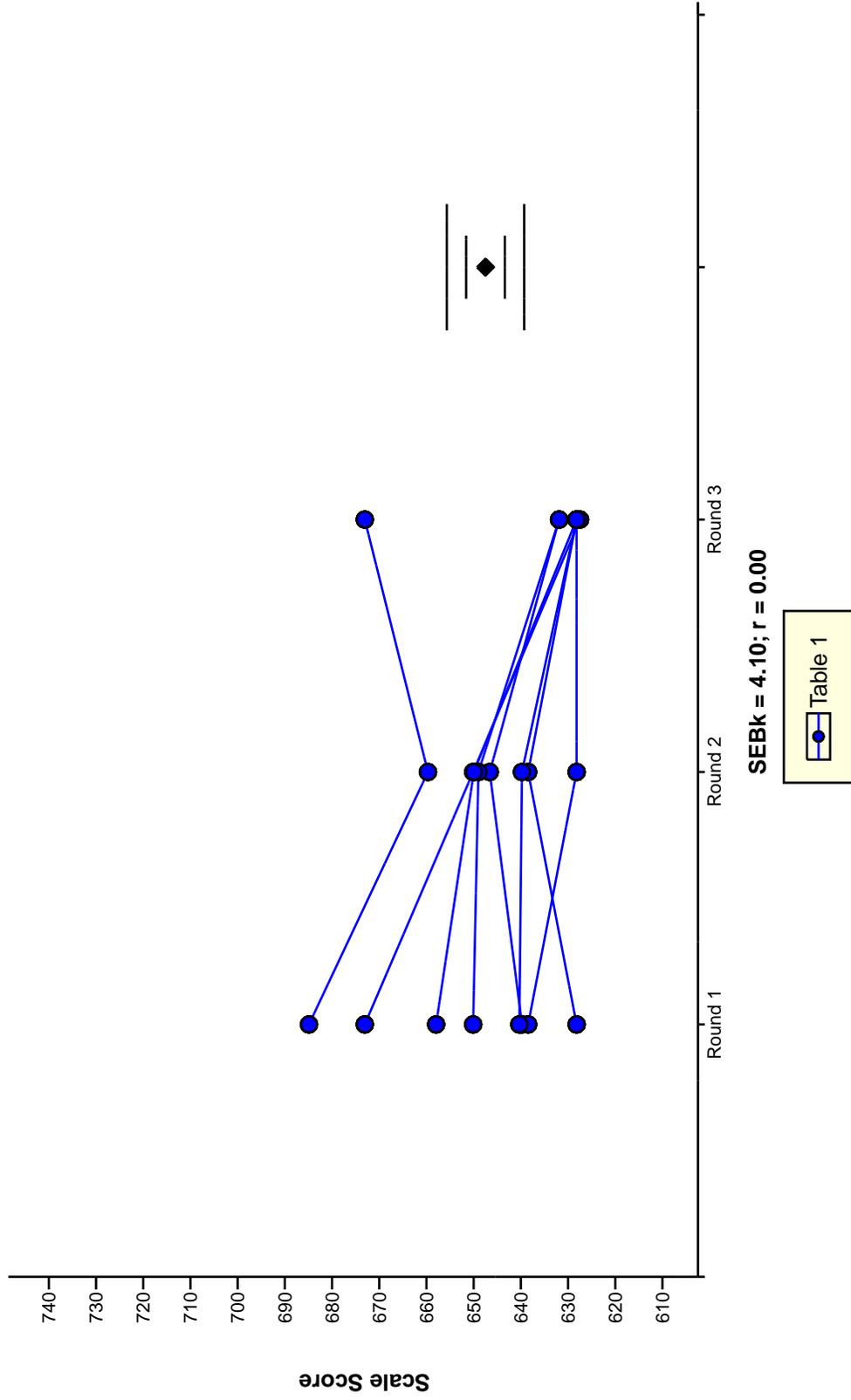


# Missouri Assessment Program Grade 7 Communication Arts Advanced Cut Point



**Table 1**

# Missouri Assessment Program Grade 8 Communication Arts Basic Cut Point



# Missouri Assessment Program Grade 8 Communication Arts Basic Cut Point

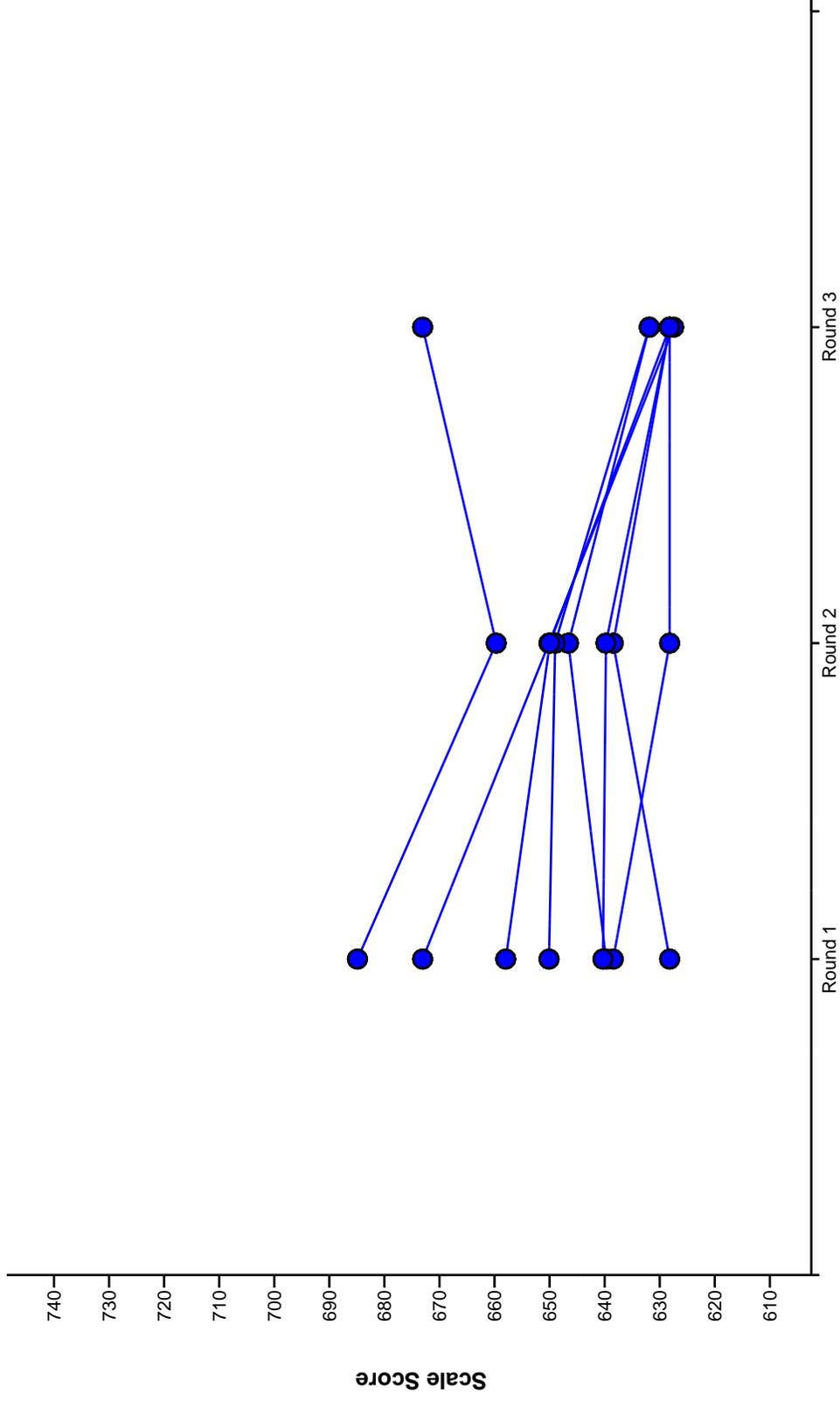
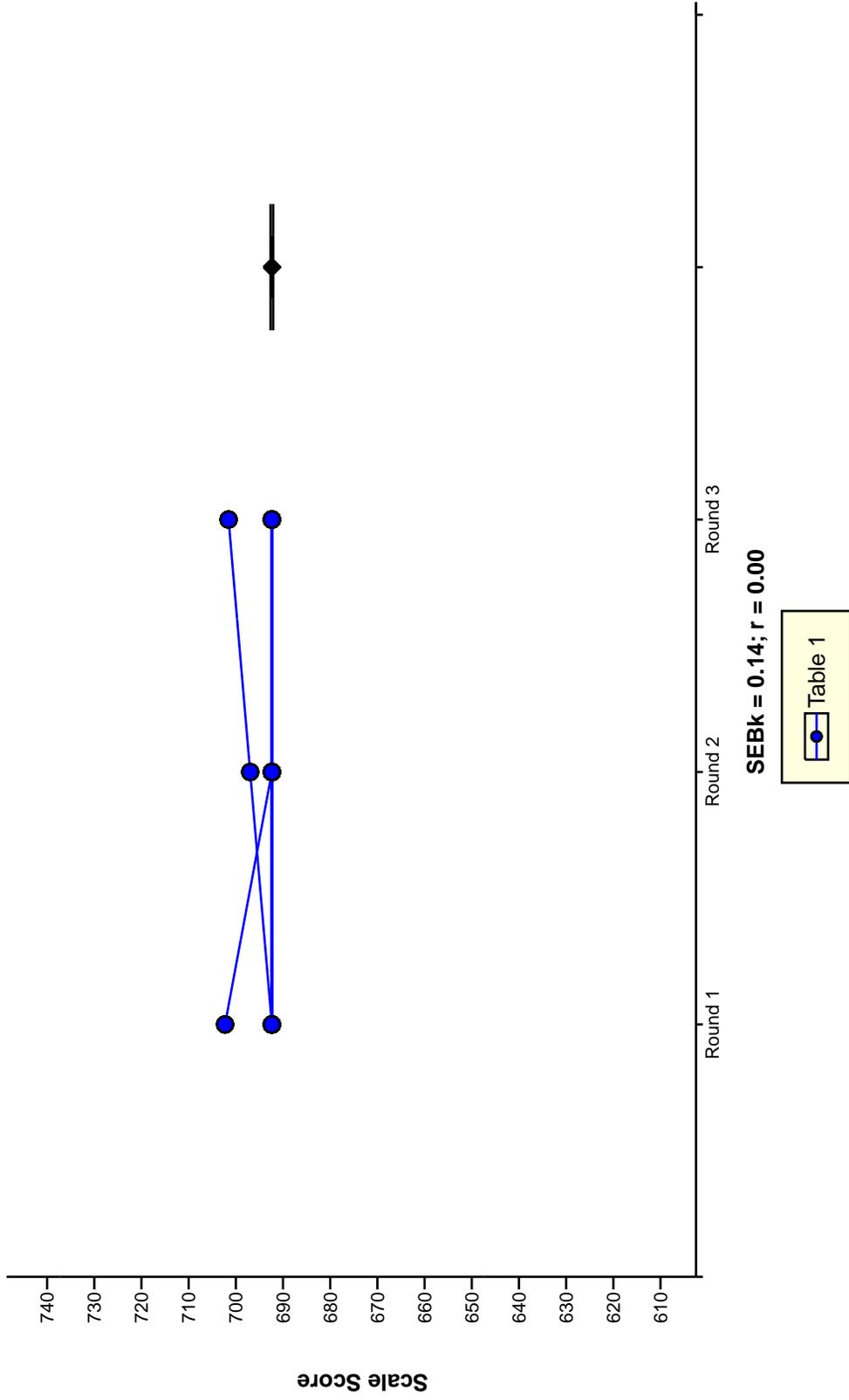


Table 1

# Missouri Assessment Program Grade 8 Communication Arts Proficient Cut Point



# Missouri Assessment Program Grade 8 Communication Arts Proficient Cut Point

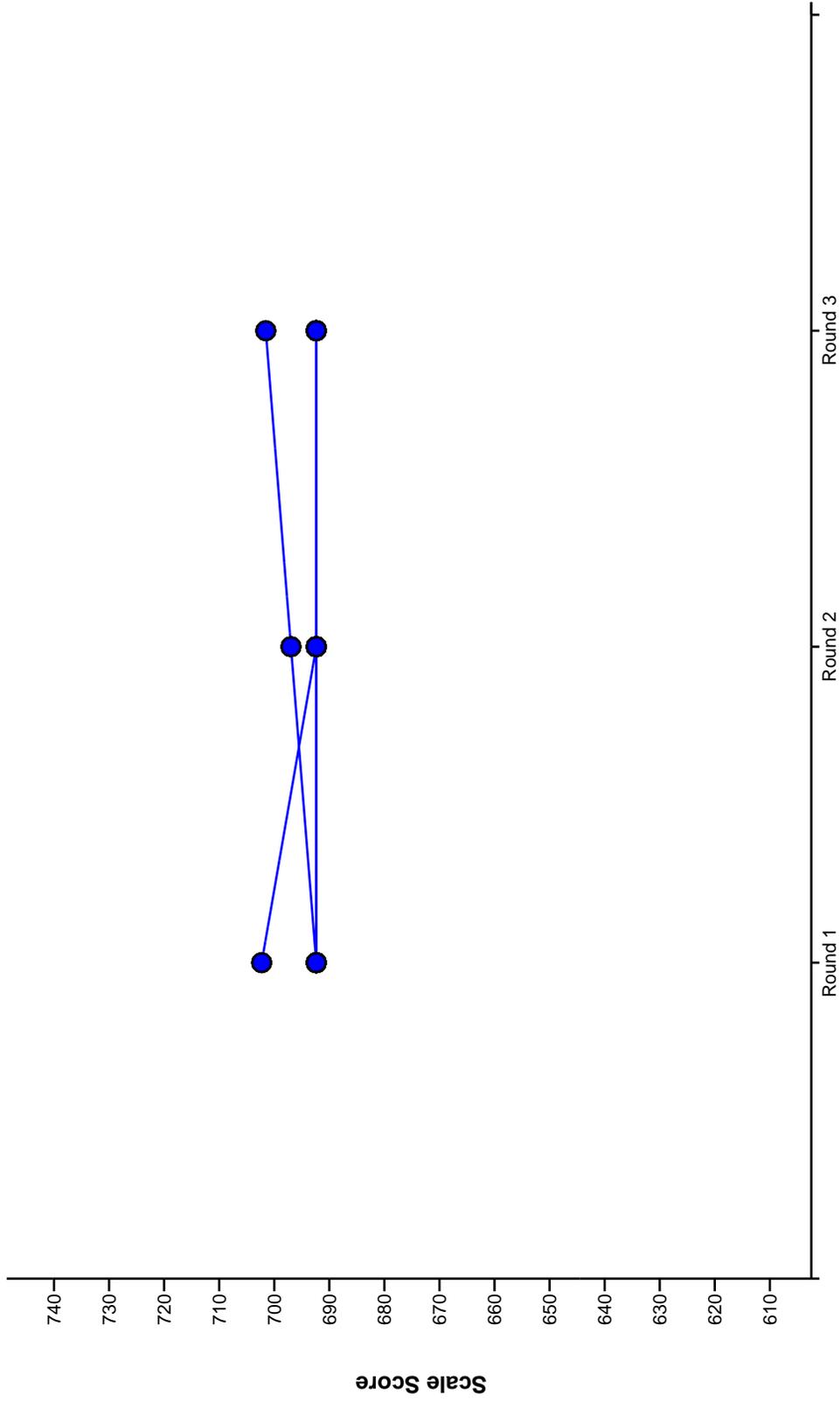
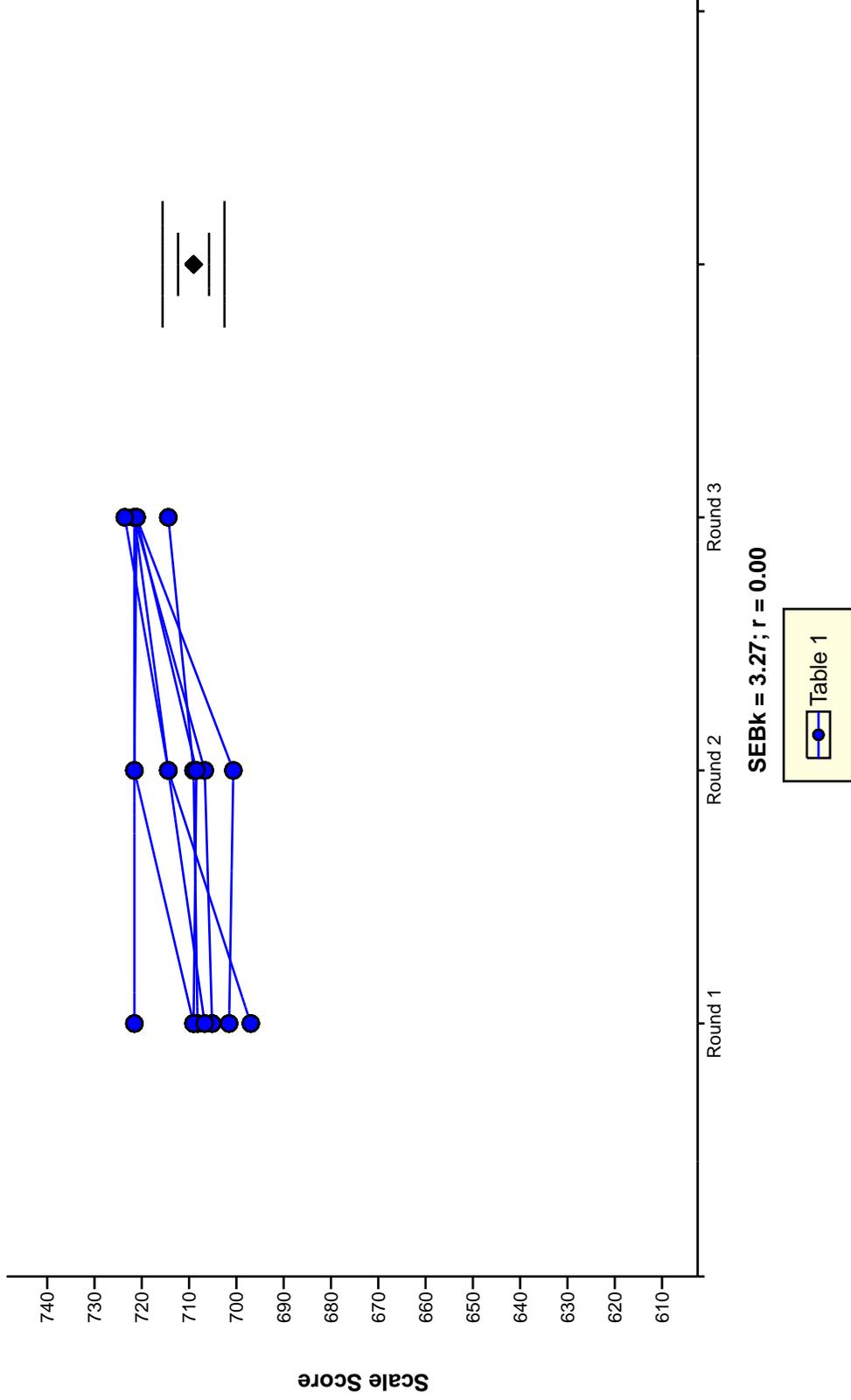


Table 1

# Missouri Assessment Program Grade 8 Communication Arts Advanced Cut Point



# Missouri Assessment Program Grade 8 Communication Arts Advanced Cut Point

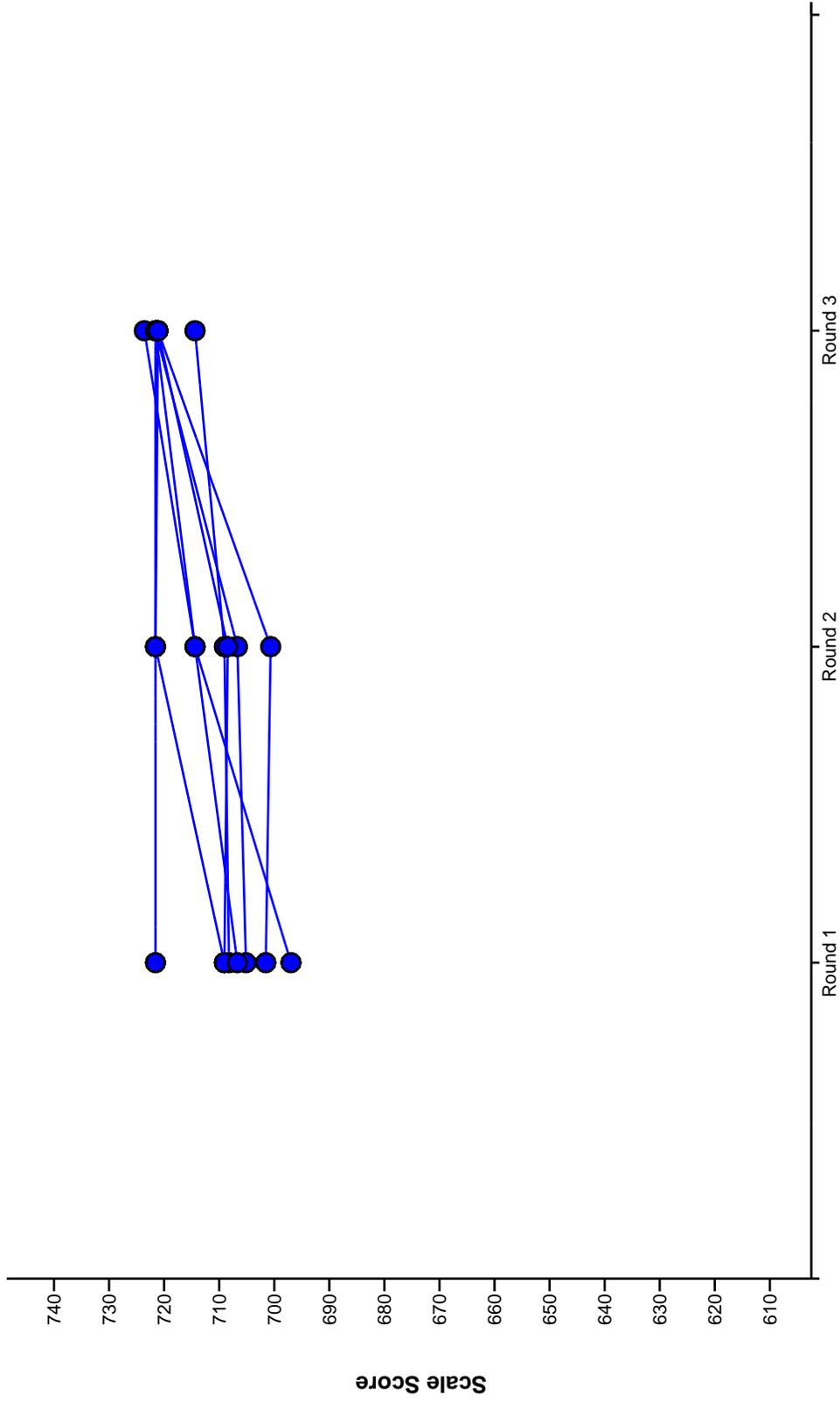
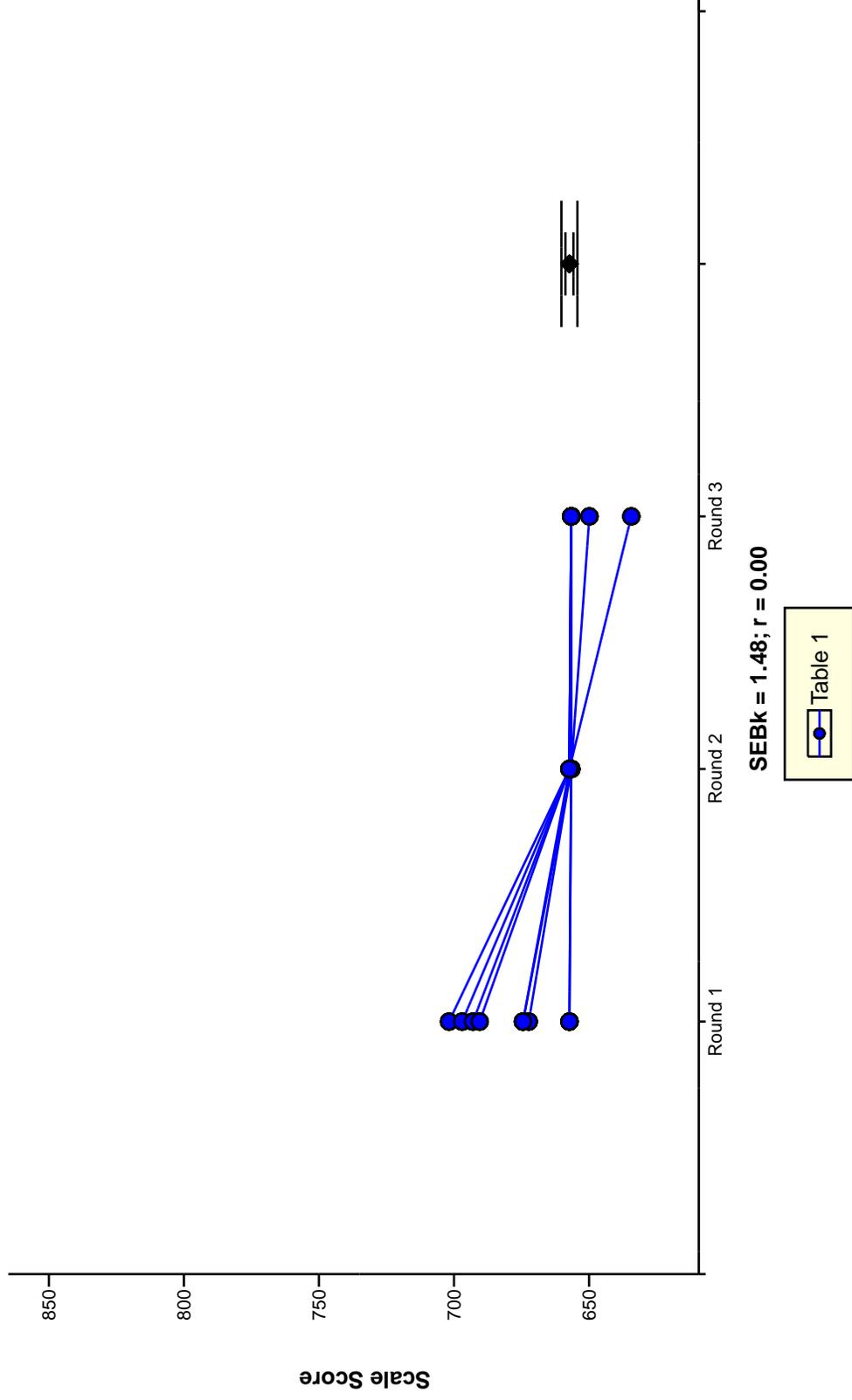


Table 1

# Missouri Assessment Program Grade 11 Communication Arts Basic Cut Point



# Missouri Assessment Program Grade 11 Communication Arts Basic Cut Point

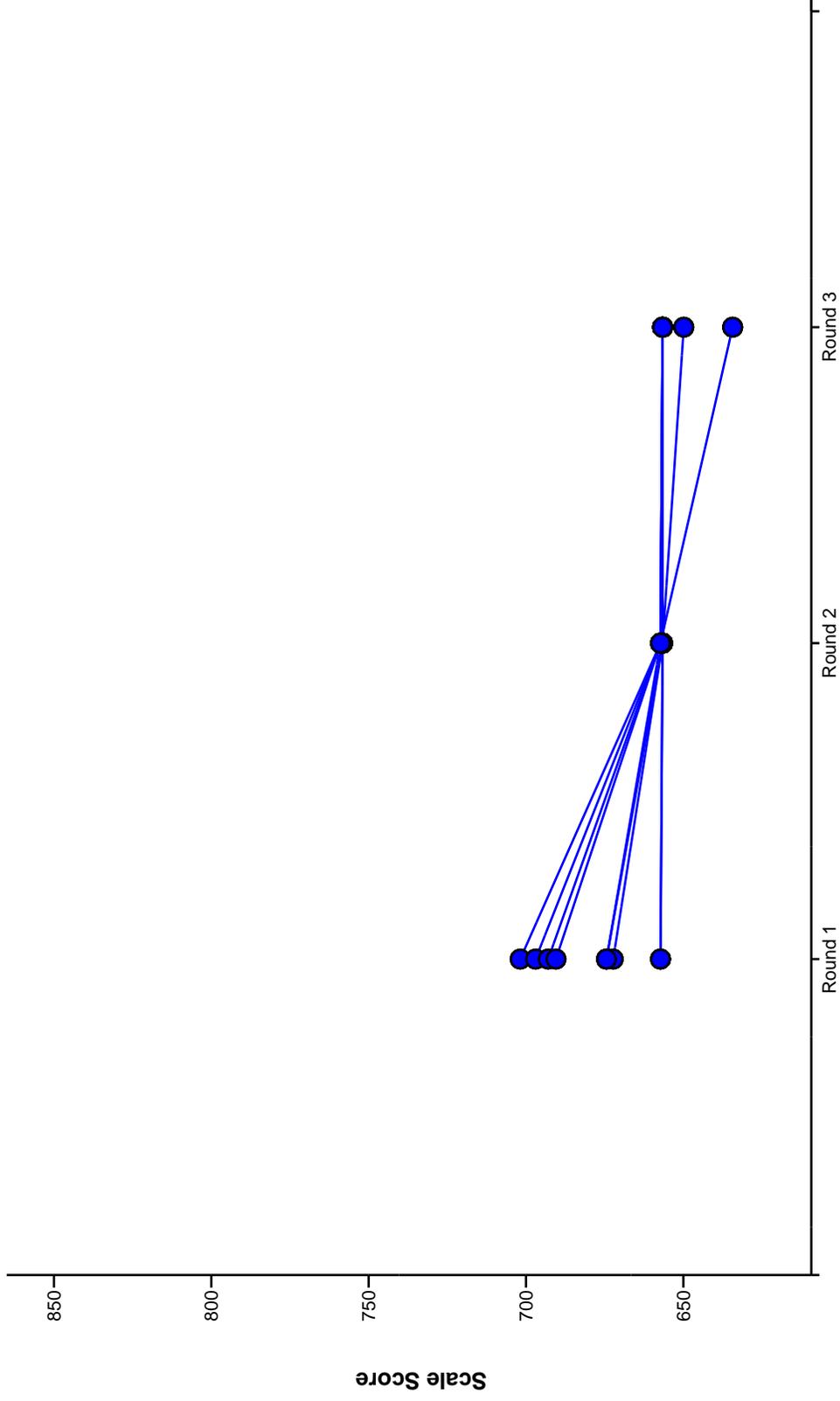
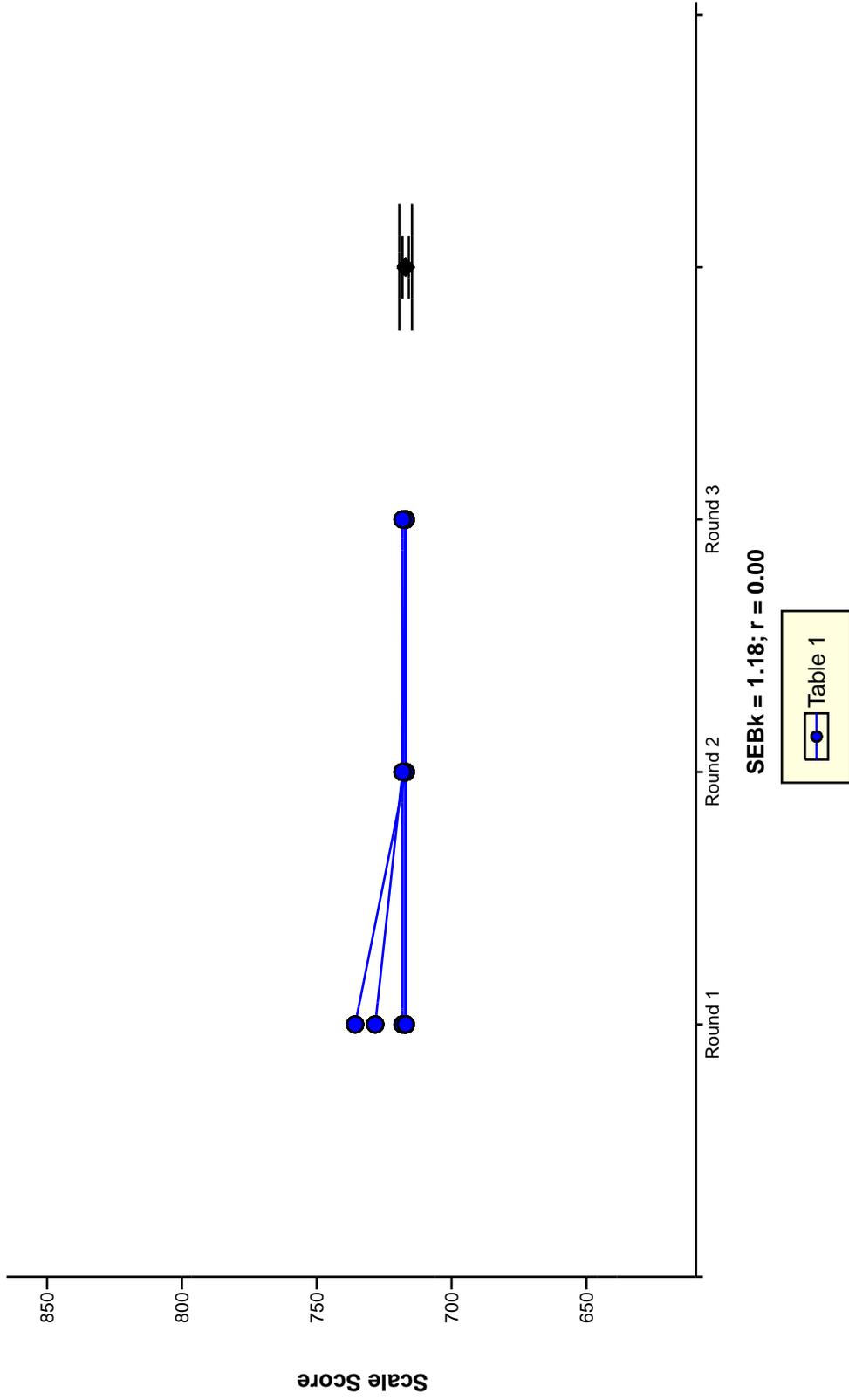


Table 1

# Missouri Assessment Program Grade 11 Communication Arts Proficient Cut Point



# Missouri Assessment Program Grade 11 Communication Arts Proficient Cut Point

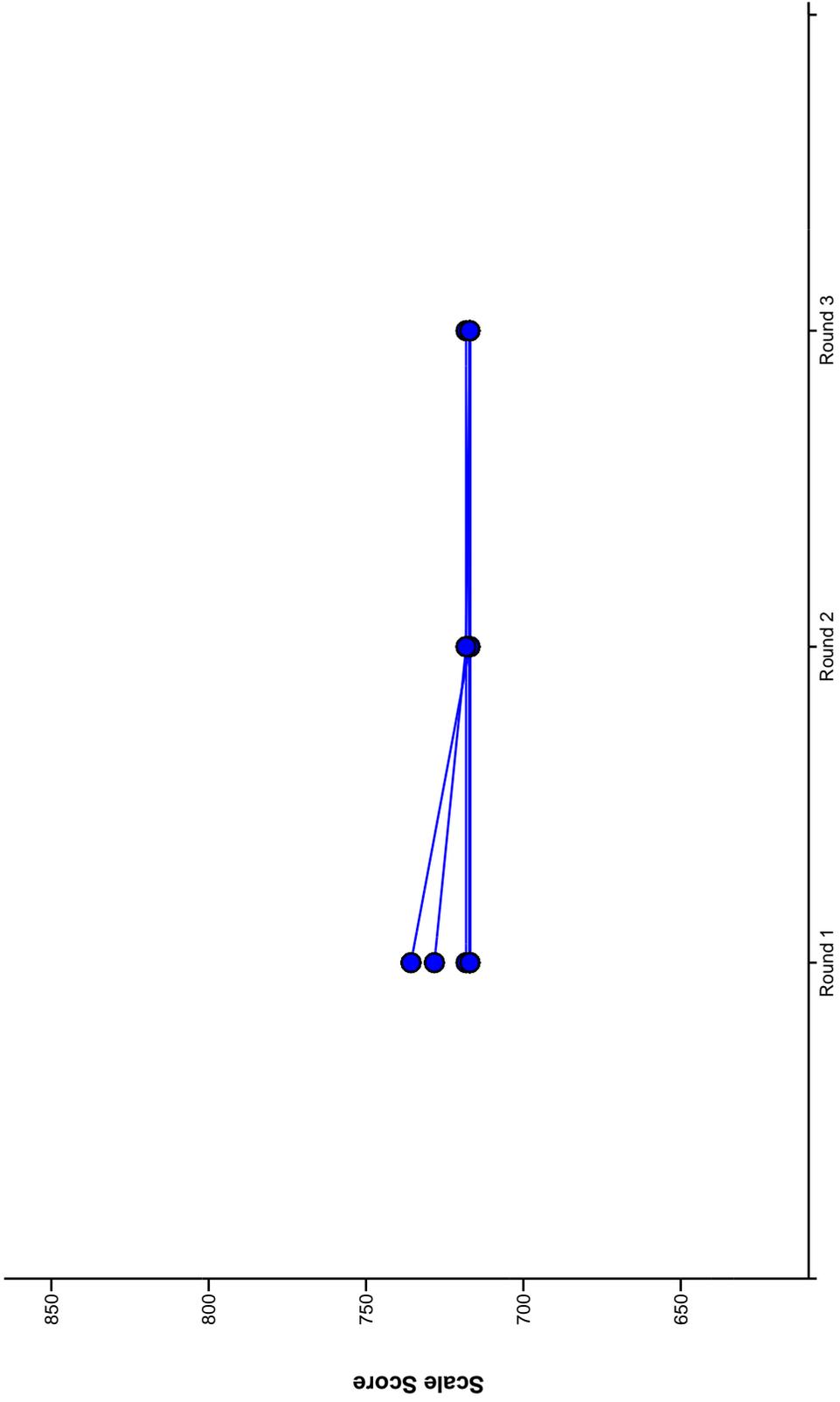
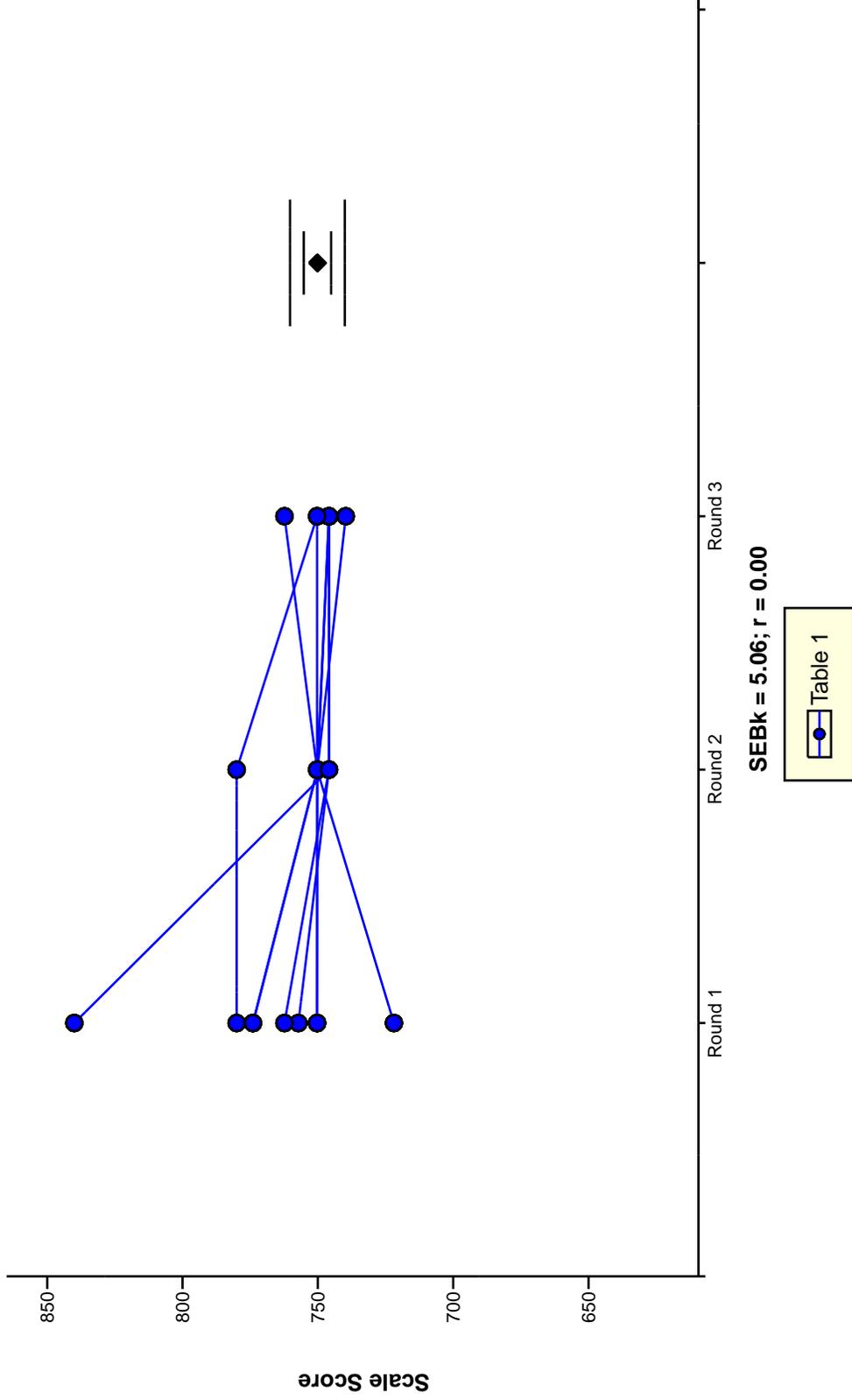


Table 1

# Missouri Assessment Program Grade 11 Communication Arts Advanced Cut Point



# Missouri Assessment Program Grade 11 Communication Arts Advanced Cut Point

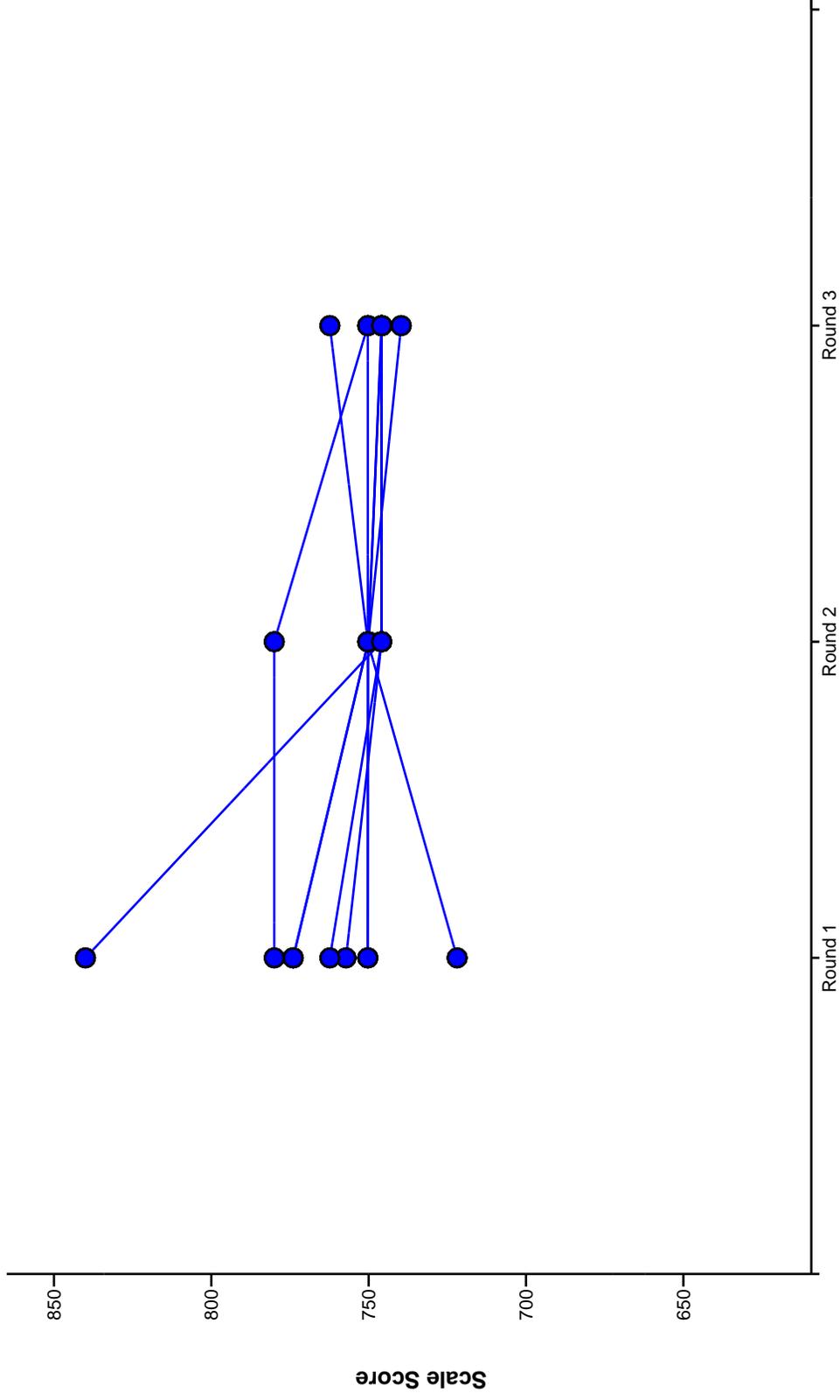
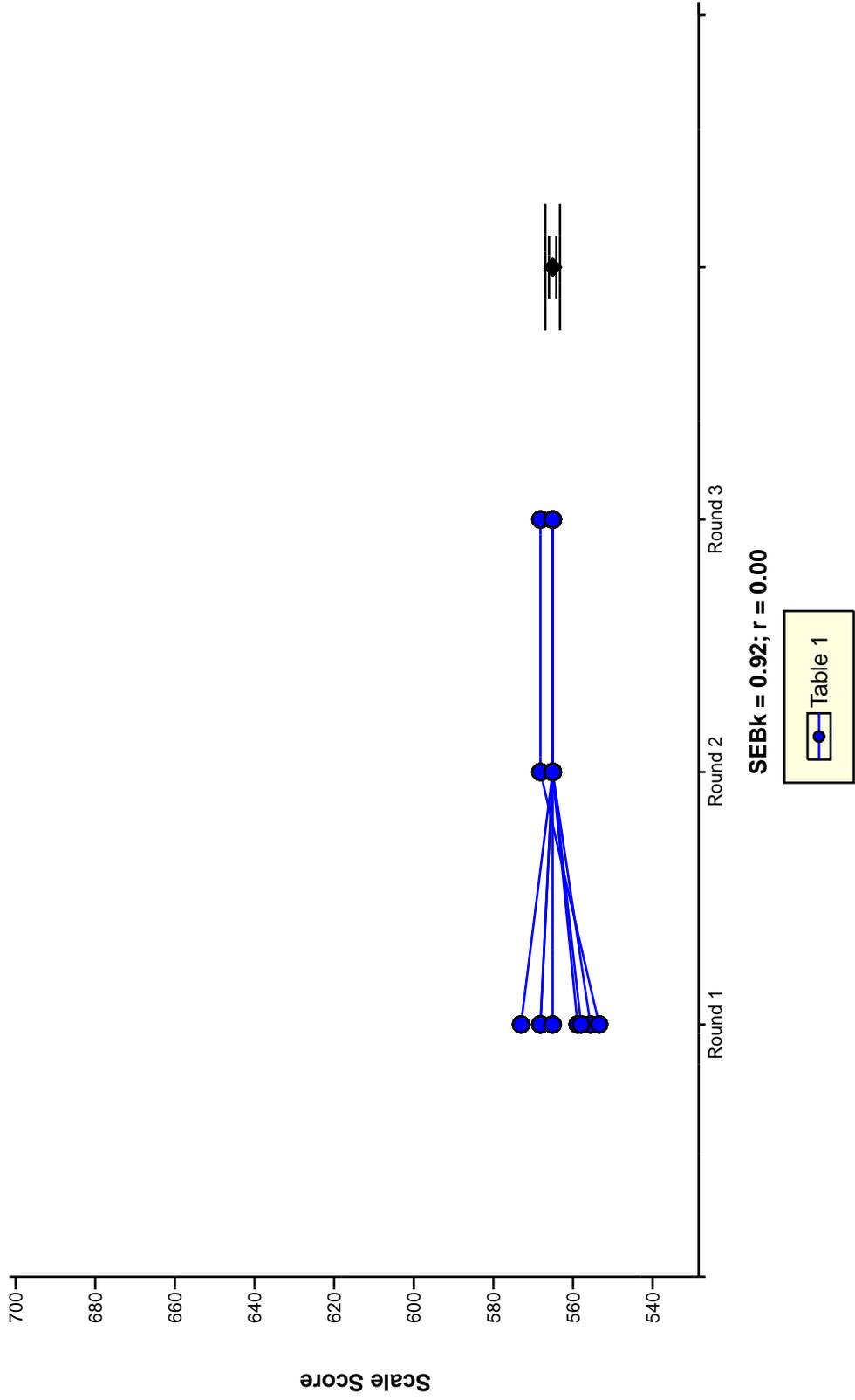


Table 1

# Missouri Assessment Program Grade 3 Mathematics Basic Cut Point



# Missouri Assessment Program Grade 3 Mathematics Basic Cut Point

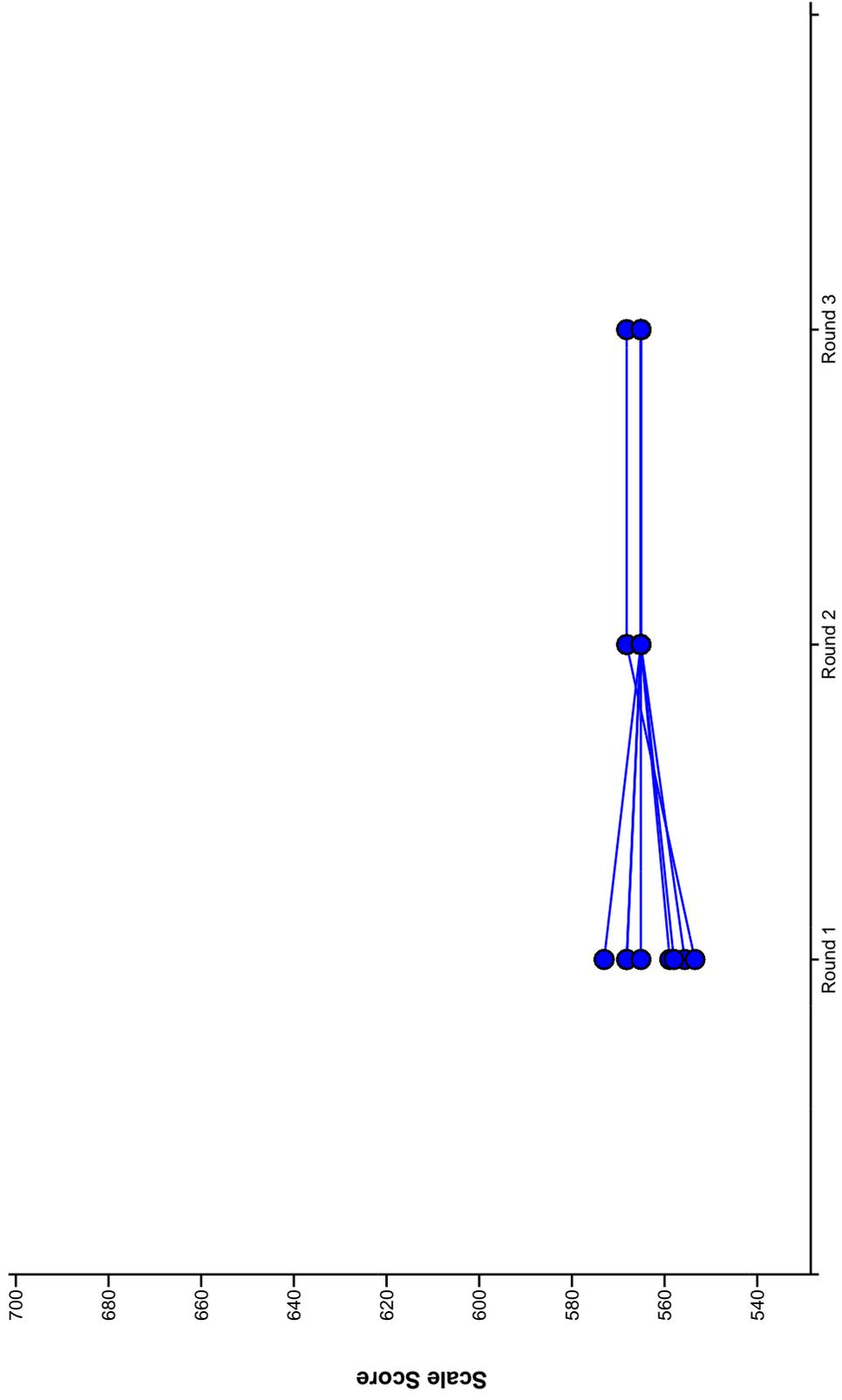
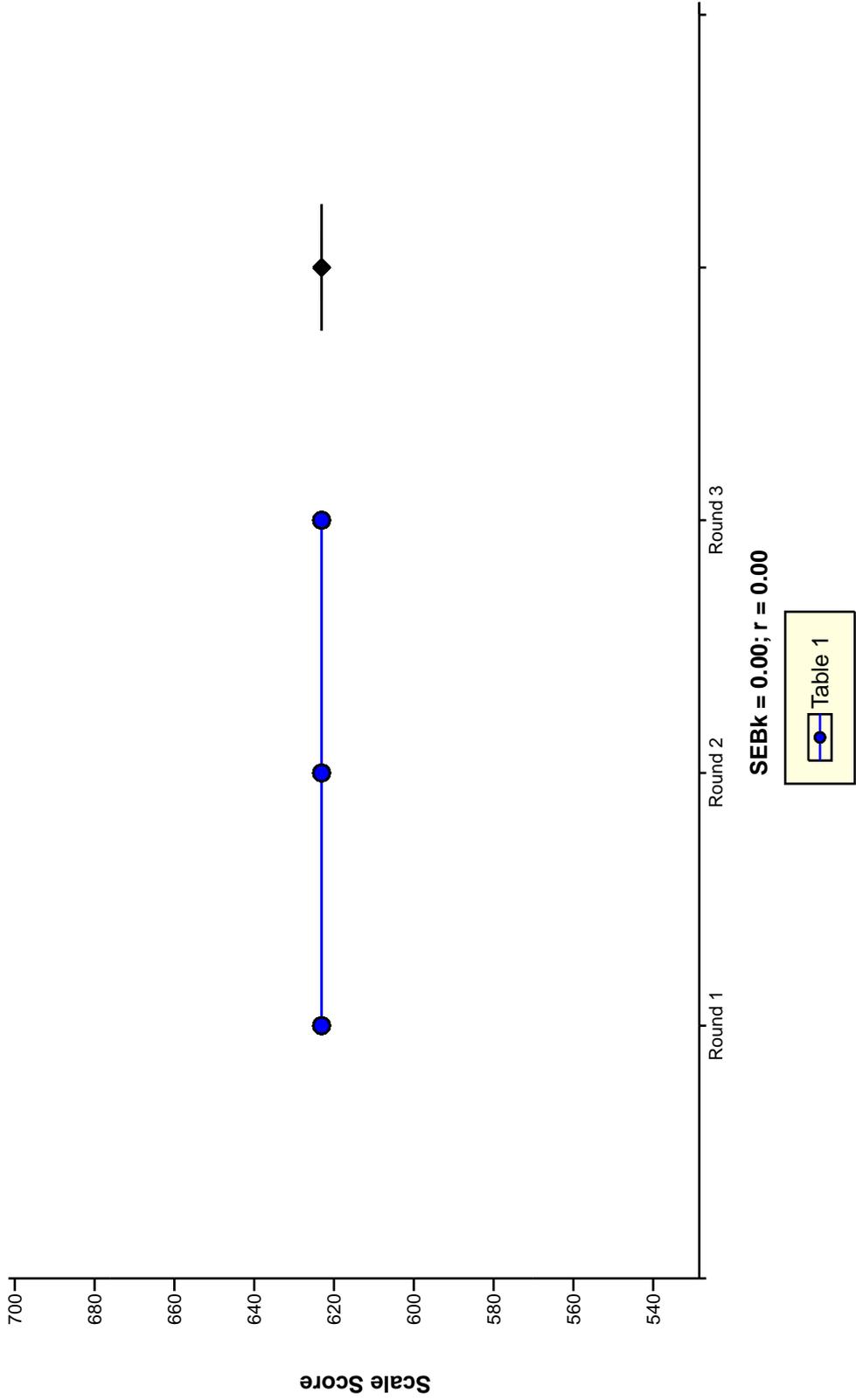
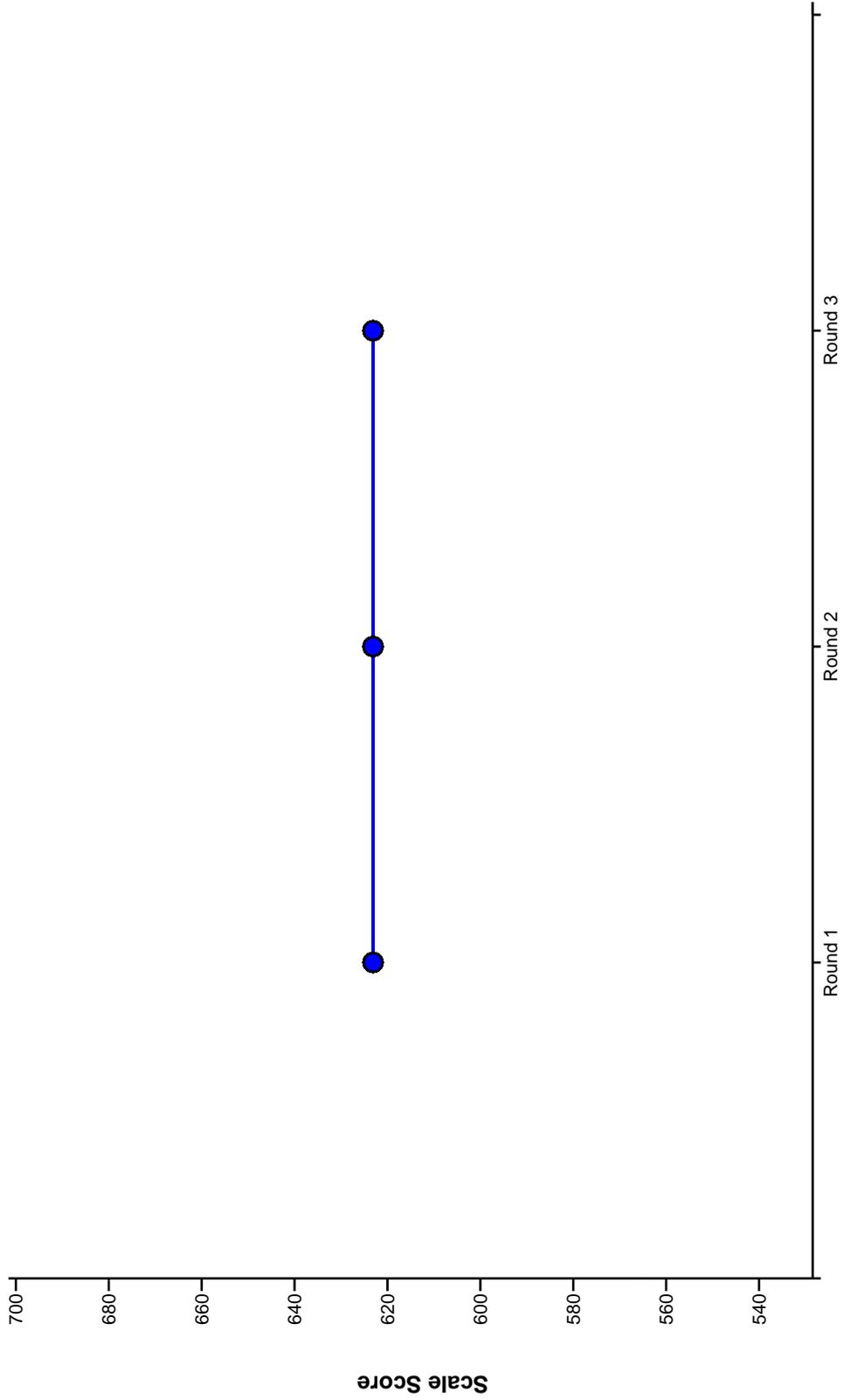


Table 1

# Missouri Assessment Program Grade 3 Mathematics Proficient Cut Point

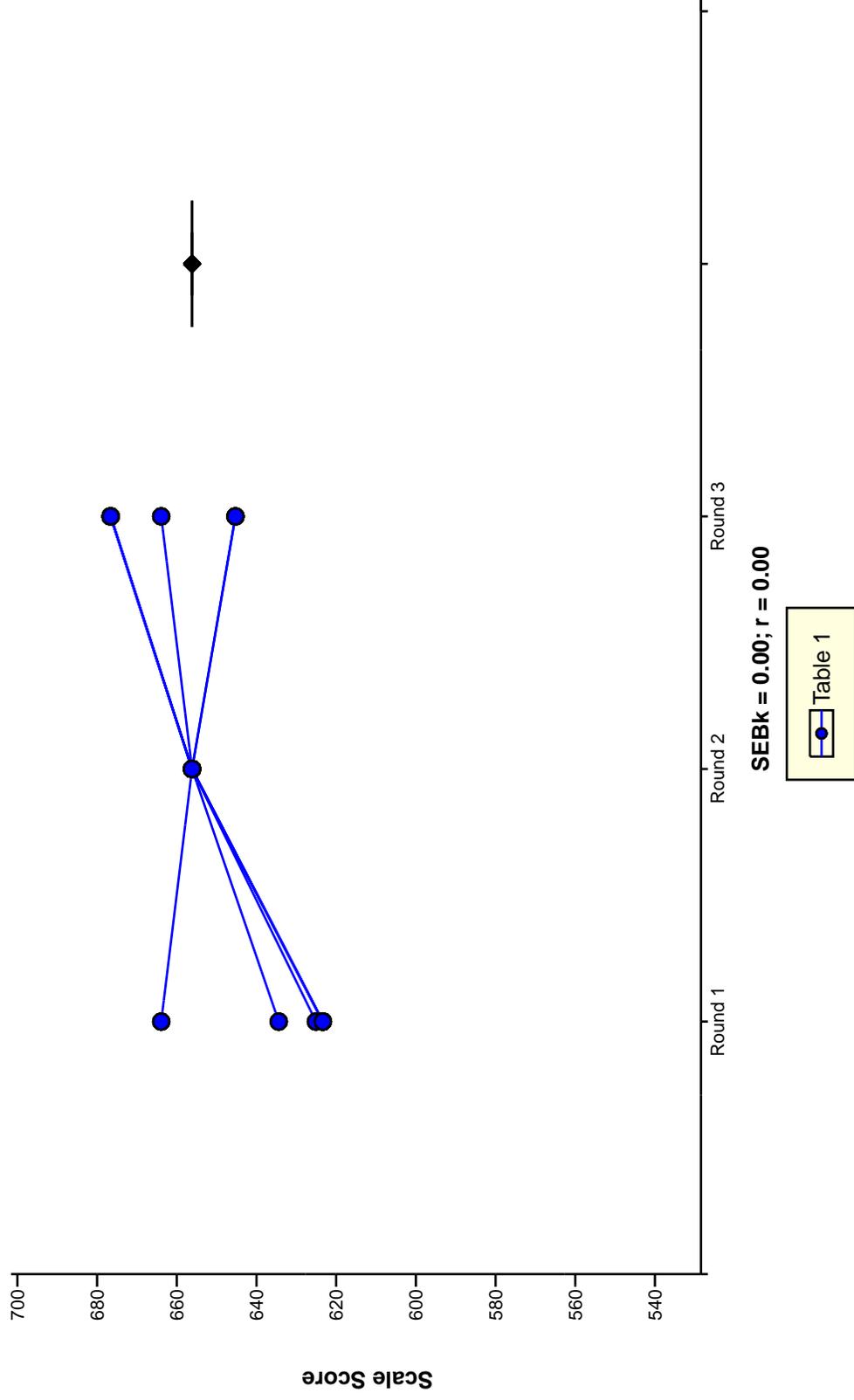


# Missouri Assessment Program Grade 3 Mathematics Proficient Cut Point

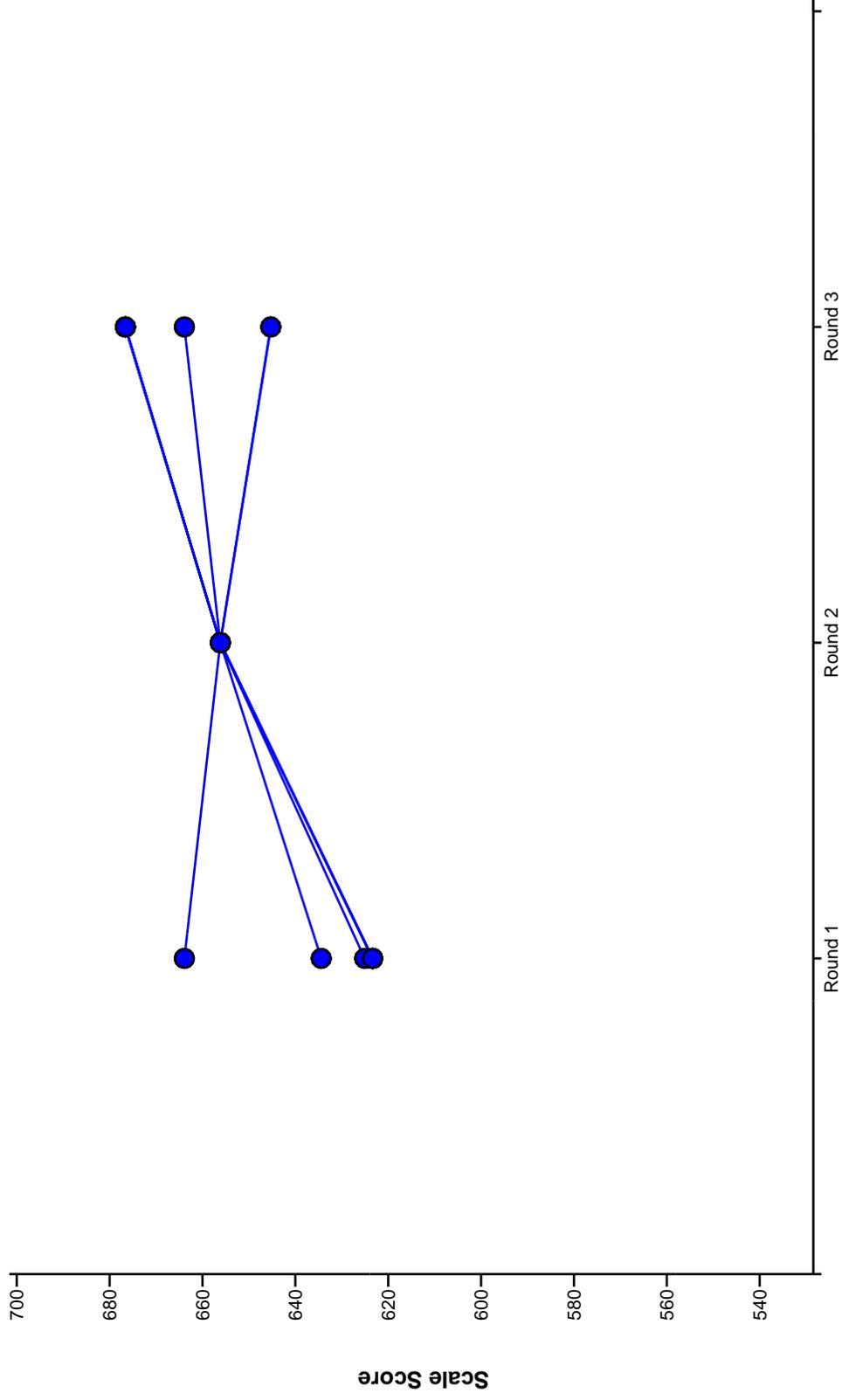


**Table 1**

# Missouri Assessment Program Grade 3 Mathematics Advanced Cut Point



# Missouri Assessment Program Grade 3 Mathematics Advanced Cut Point



**Table 1**



# Missouri Assessment Program Grade 4 Mathematics Basic Cut Point

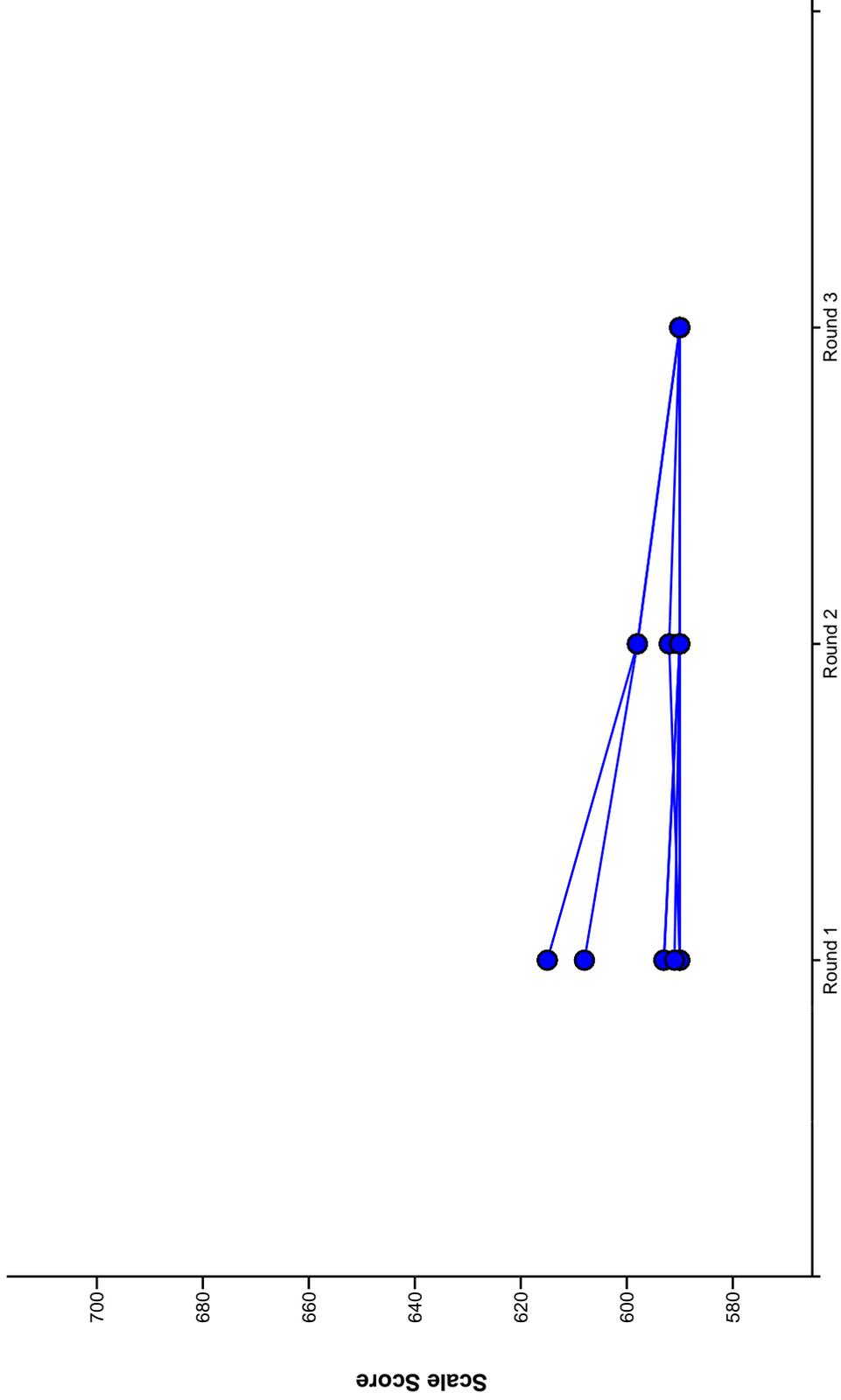
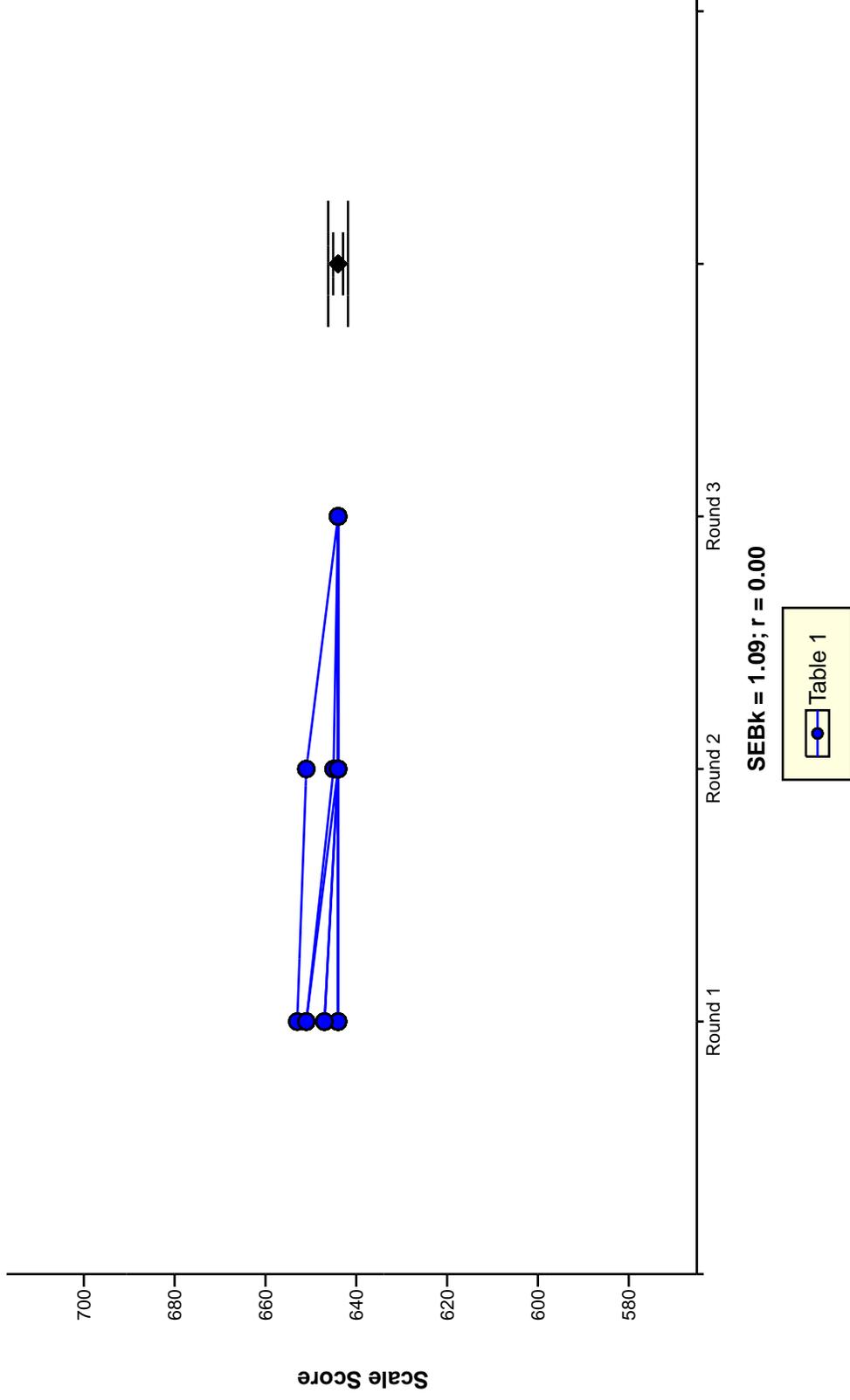
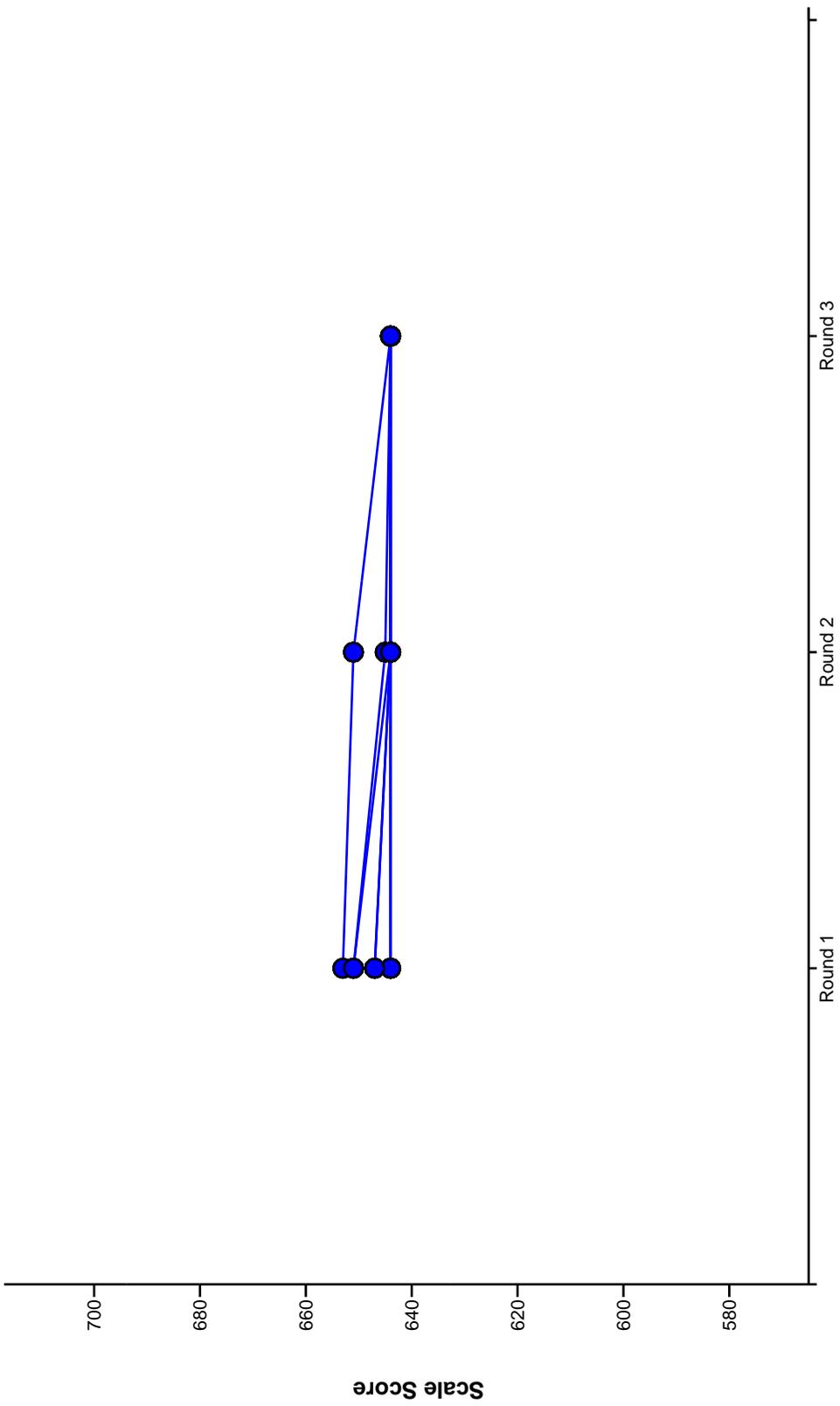


Table 1

# Missouri Assessment Program Grade 4 Mathematics Proficient Cut Point

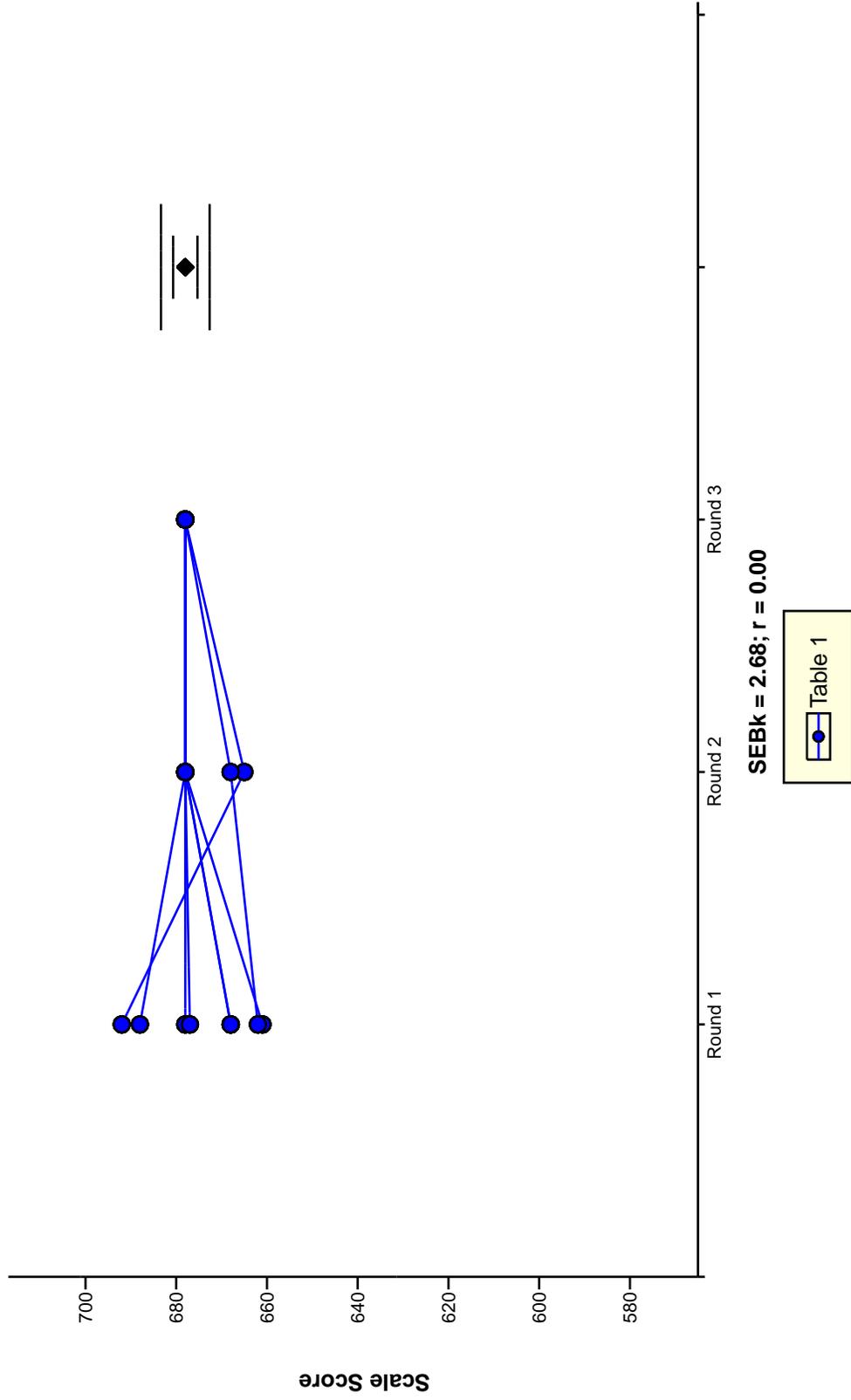


# Missouri Assessment Program Grade 4 Mathematics Proficient Cut Point



**Table 1**

# Missouri Assessment Program Grade 4 Mathematics Advanced Cut Point



# Missouri Assessment Program Grade 4 Mathematics Advanced Cut Point

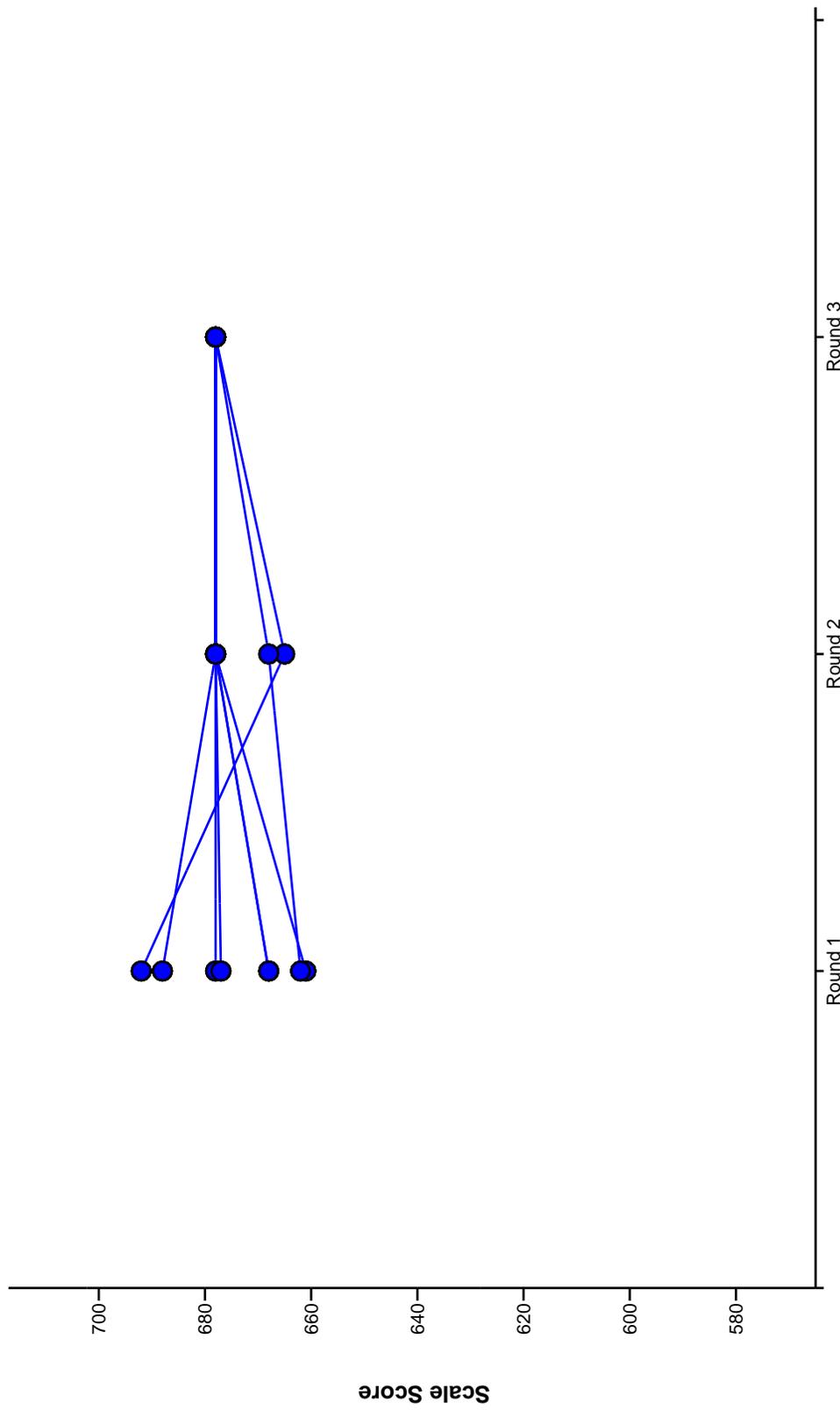
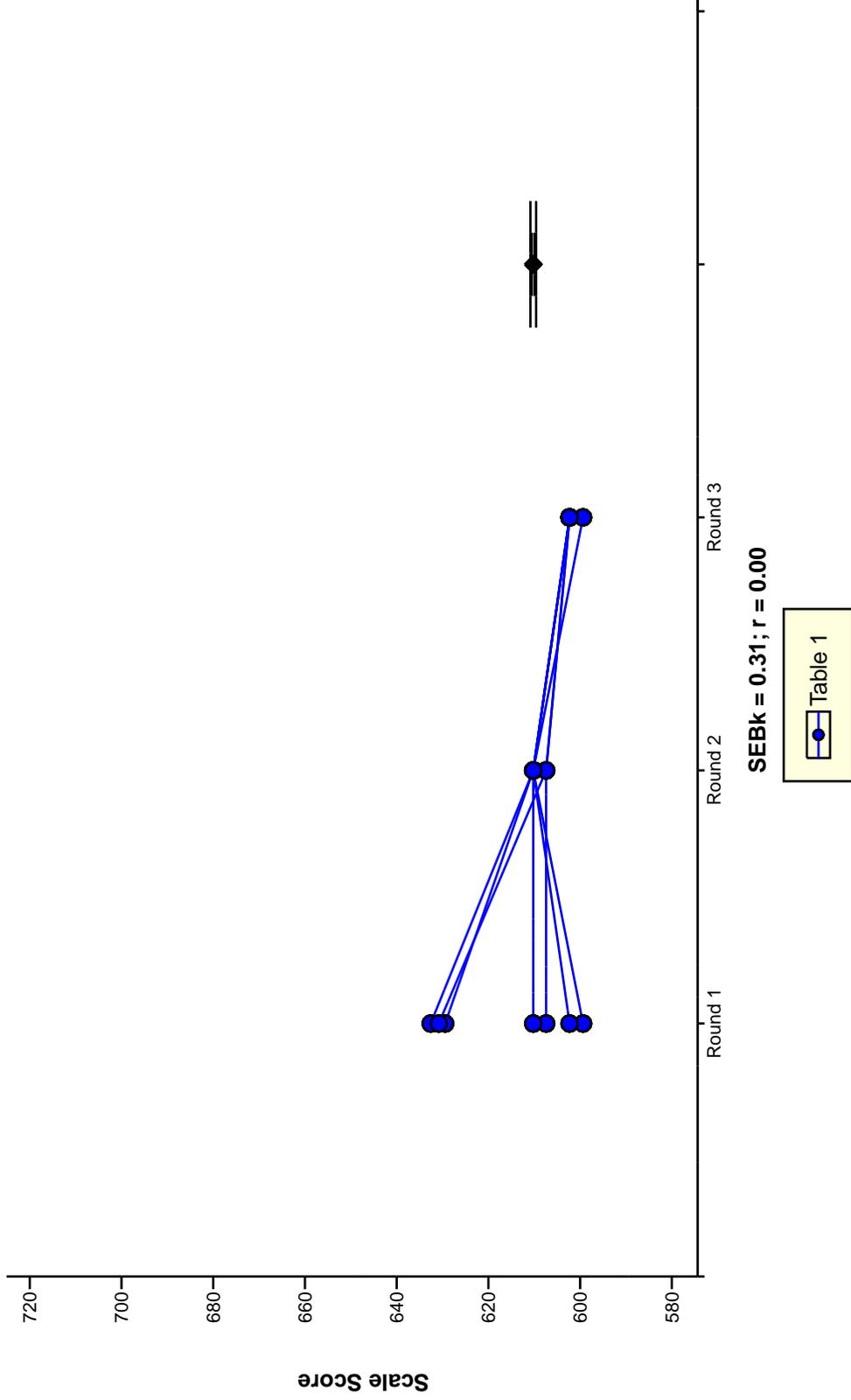


Table 1

# Missouri Assessment Program Grade 5 Mathematics Basic Cut Point



# Missouri Assessment Program Grade 5 Mathematics Basic Cut Point

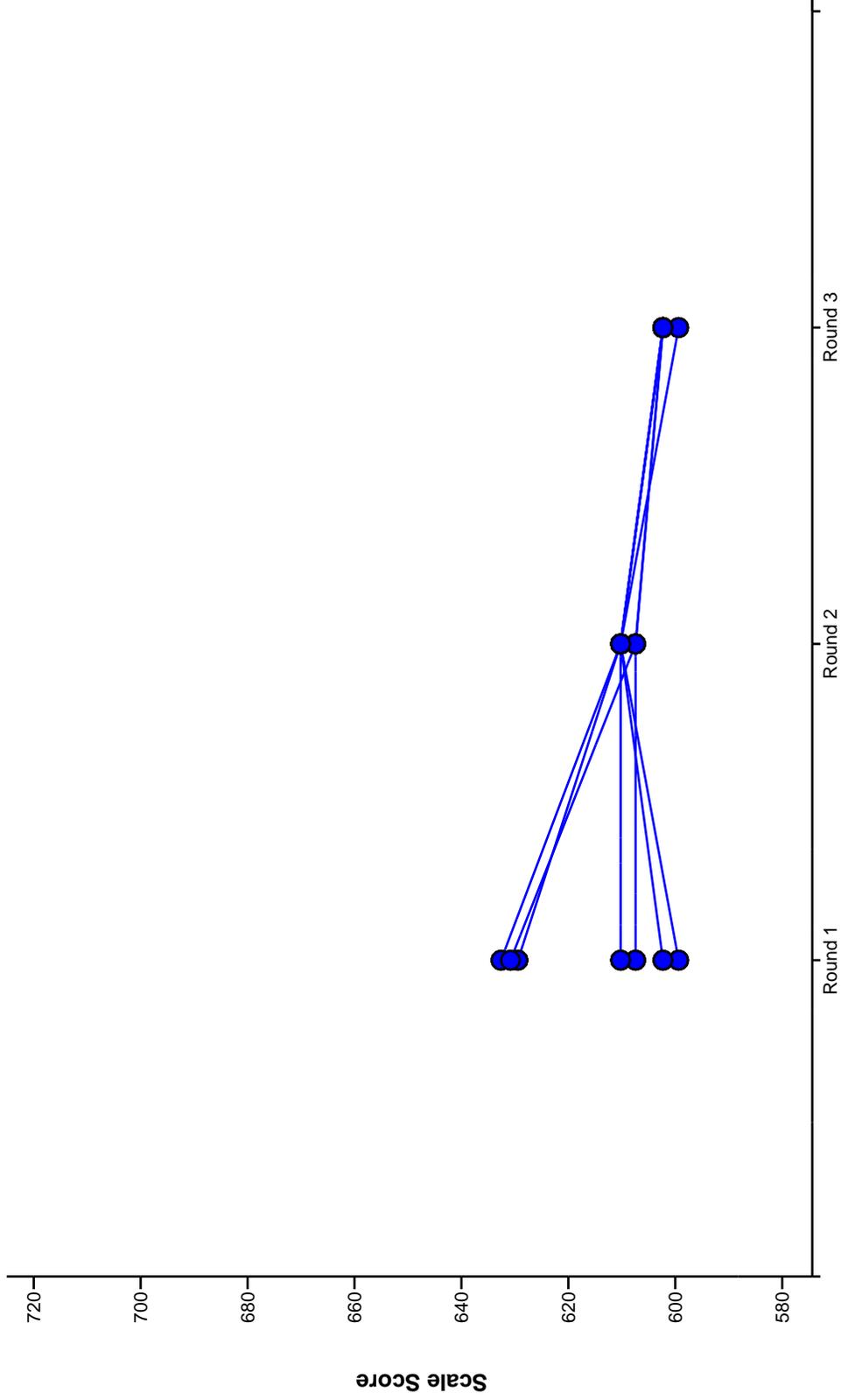
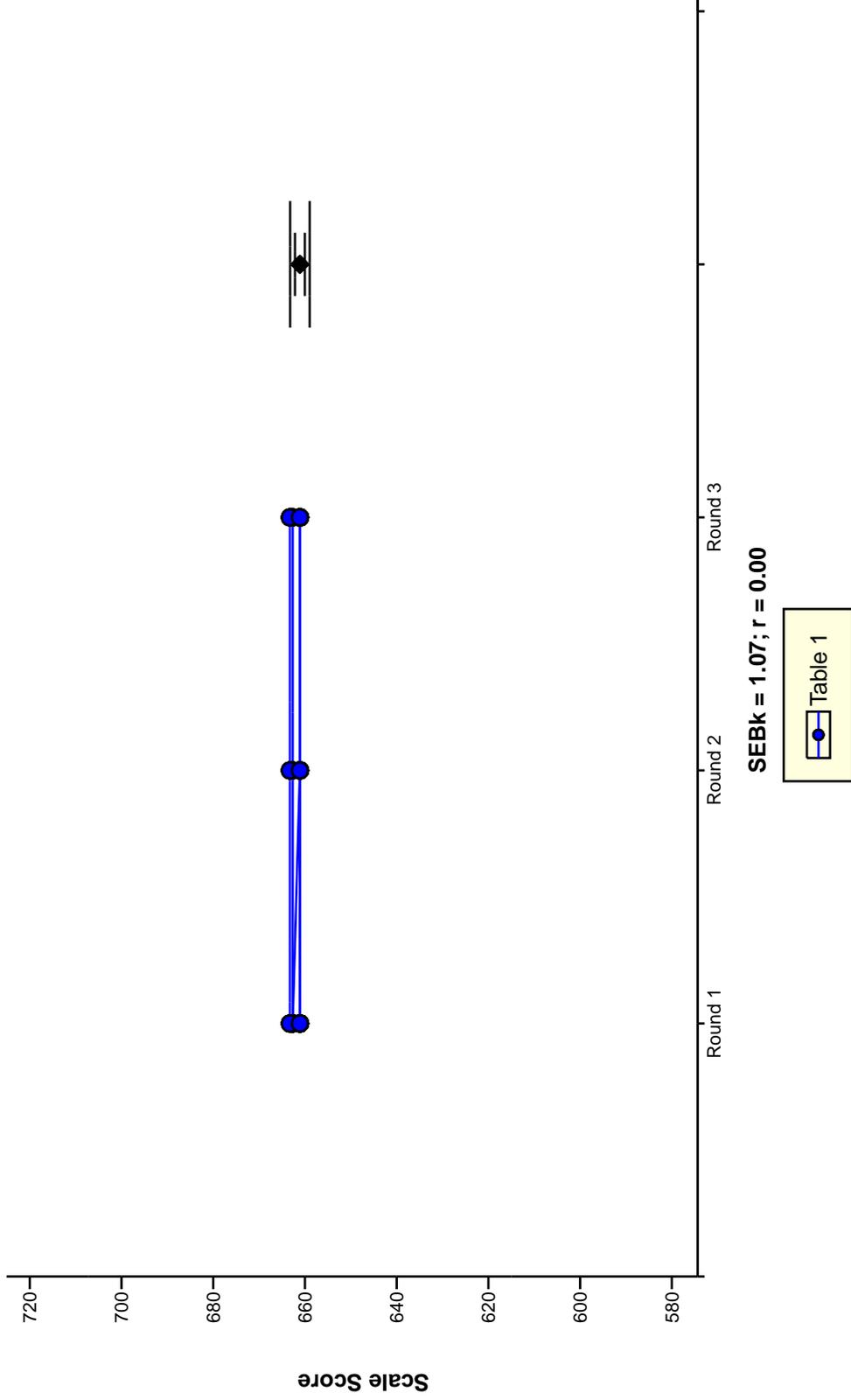
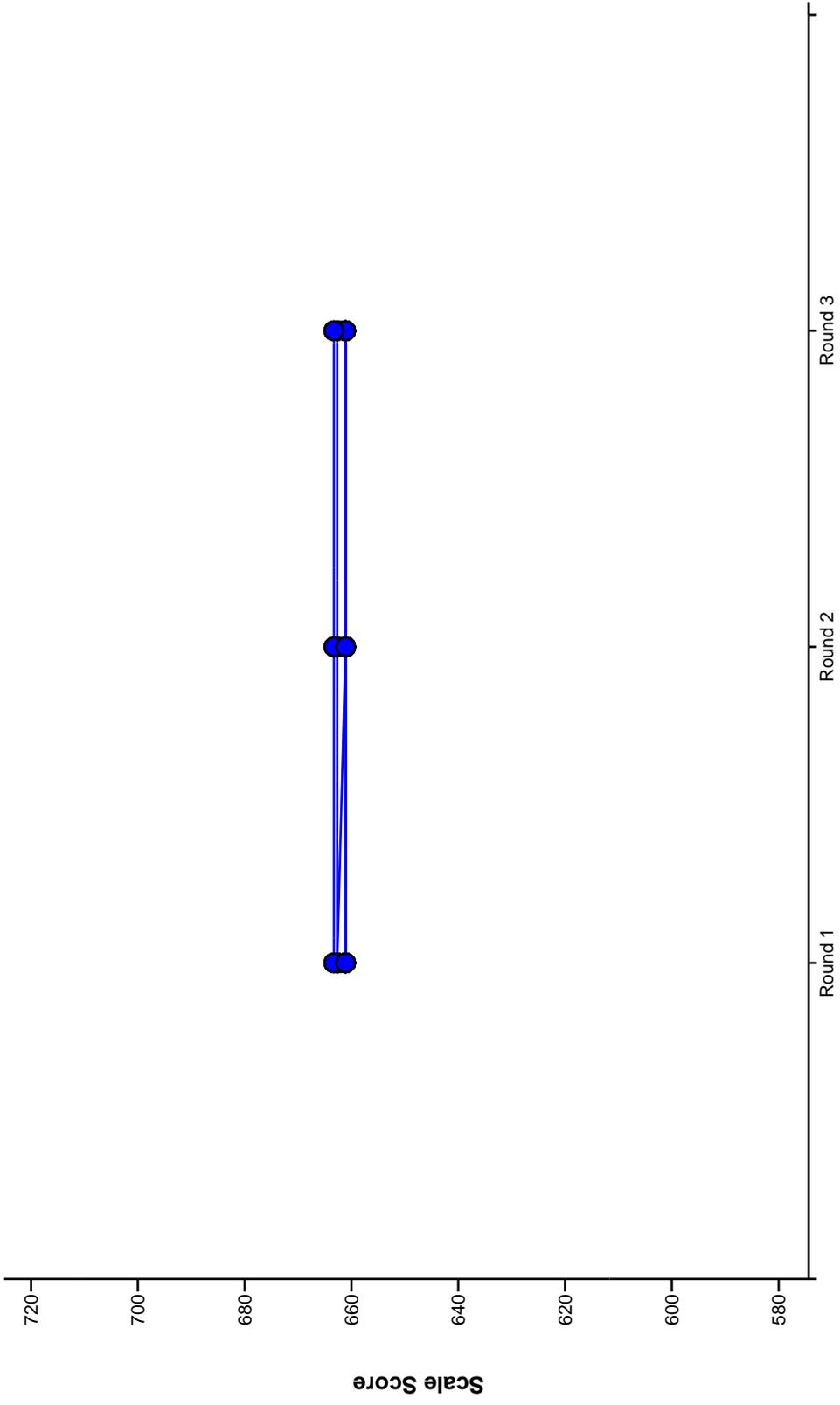


Table 1

# Missouri Assessment Program Grade 5 Mathematics Proficient Cut Point

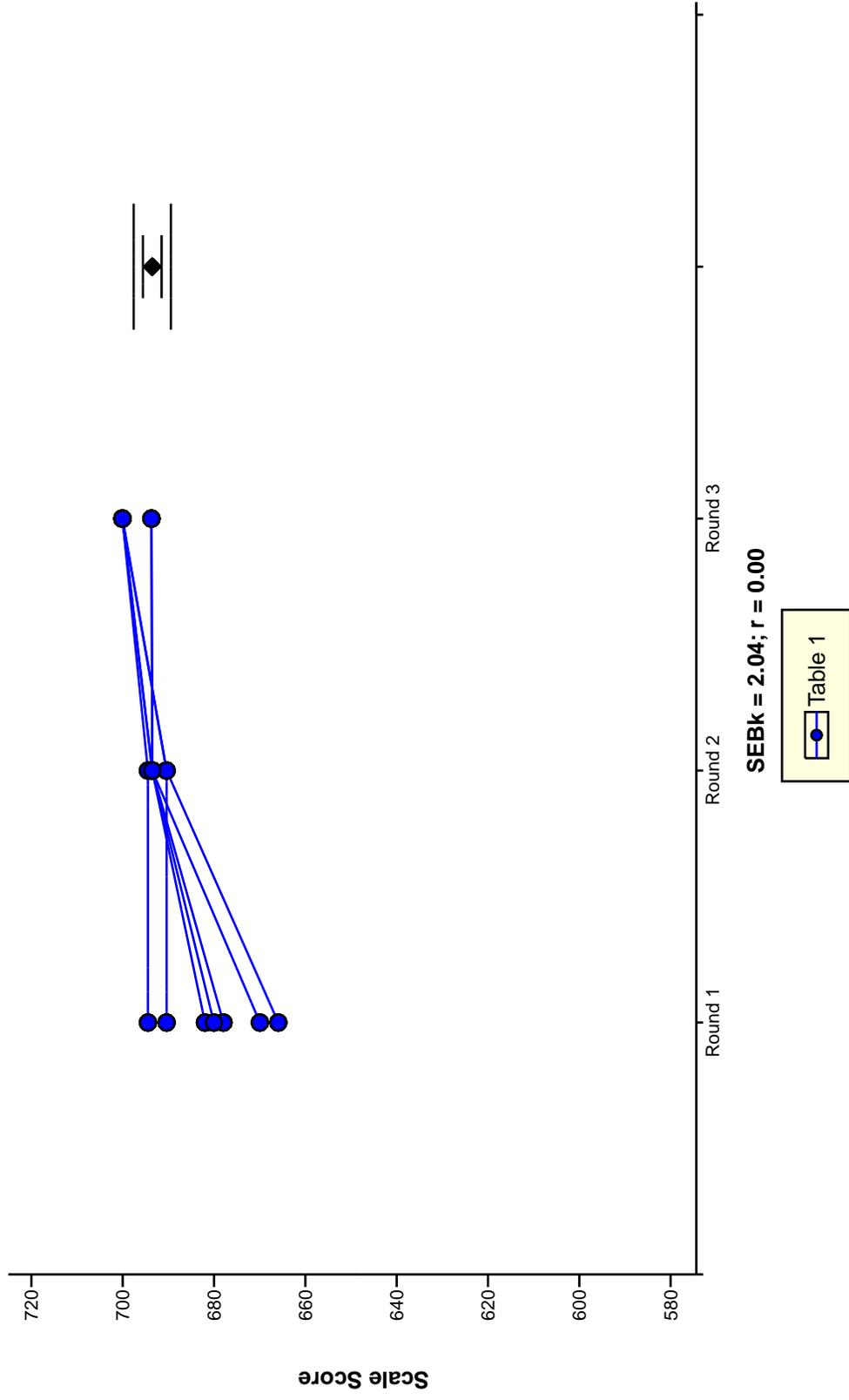


# Missouri Assessment Program Grade 5 Mathematics Proficient Cut Point



**Table 1**

# Missouri Assessment Program Grade 5 Mathematics Advanced Cut Point



# Missouri Assessment Program Grade 5 Mathematics Advanced Cut Point

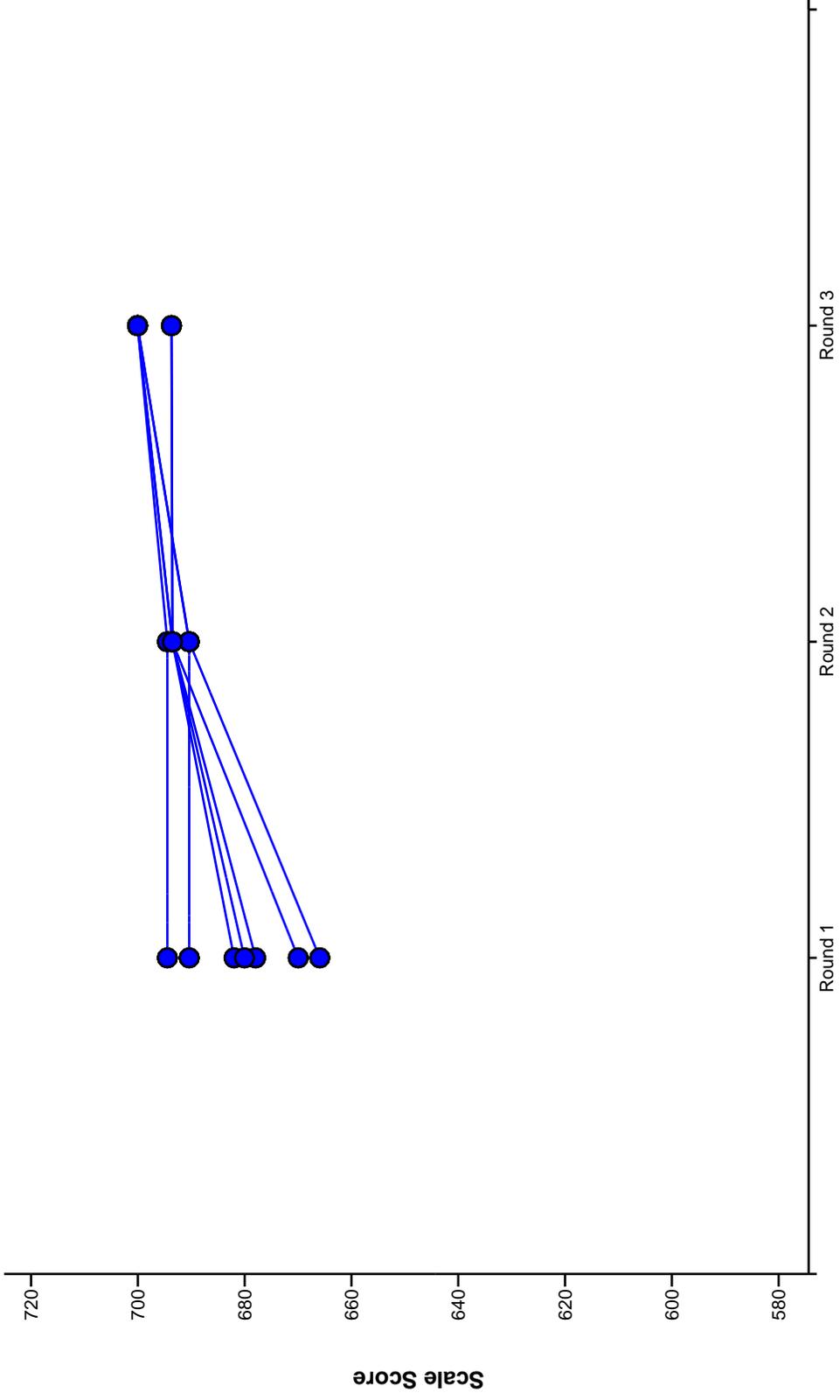
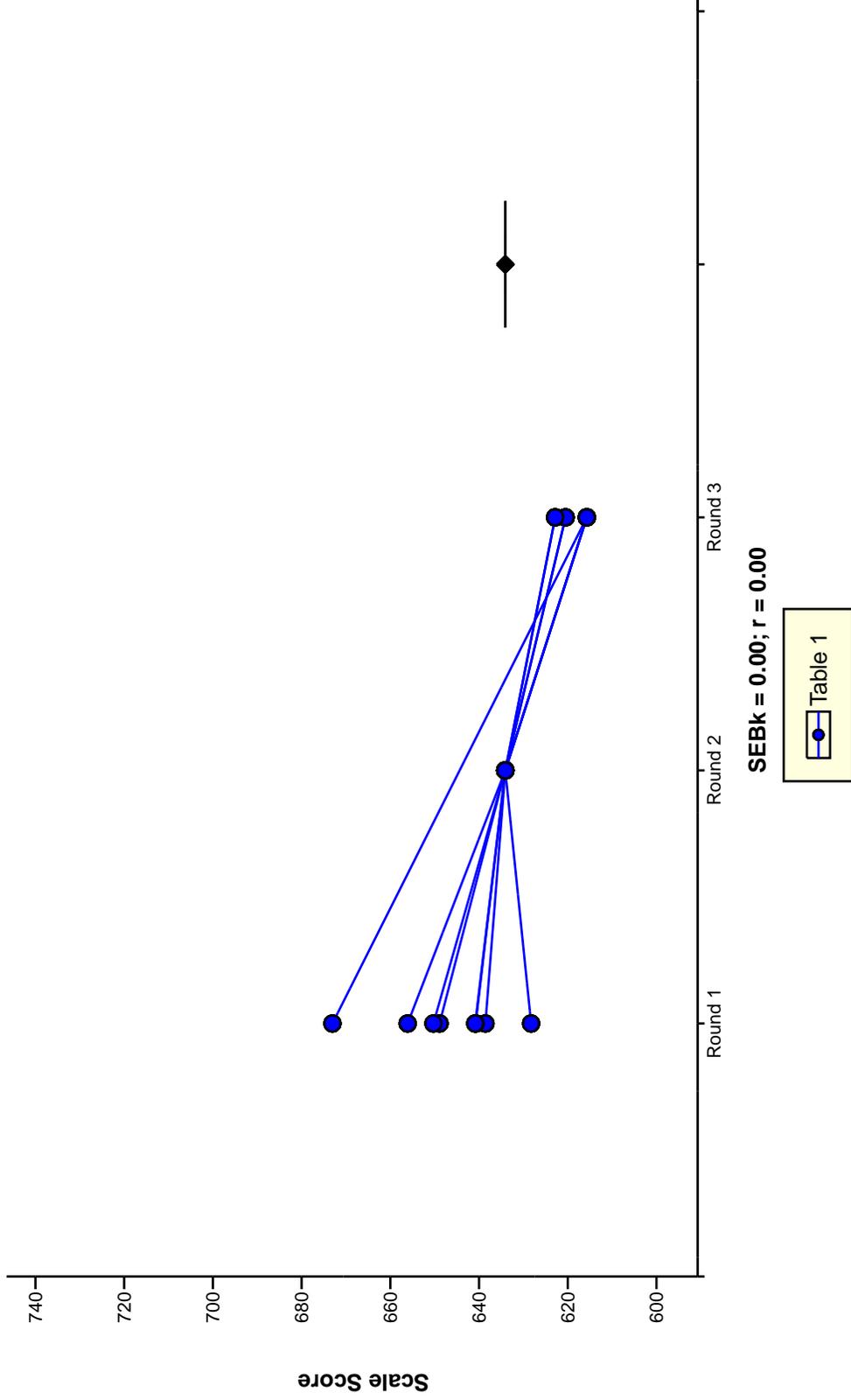


Table 1

# Missouri Assessment Program Grade 6 Mathematics Basic Cut Point



# Missouri Assessment Program Grade 6 Mathematics Basic Cut Point

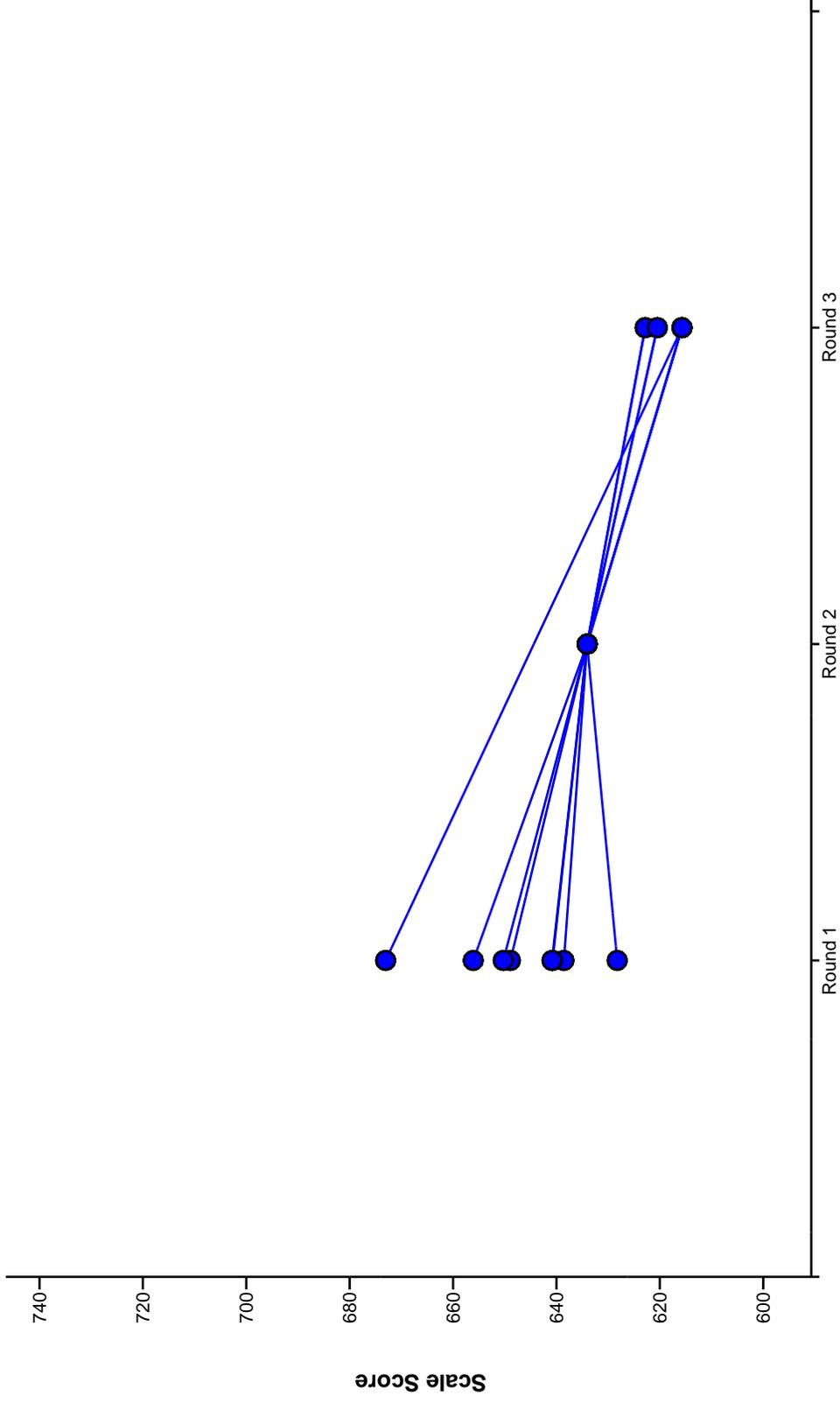
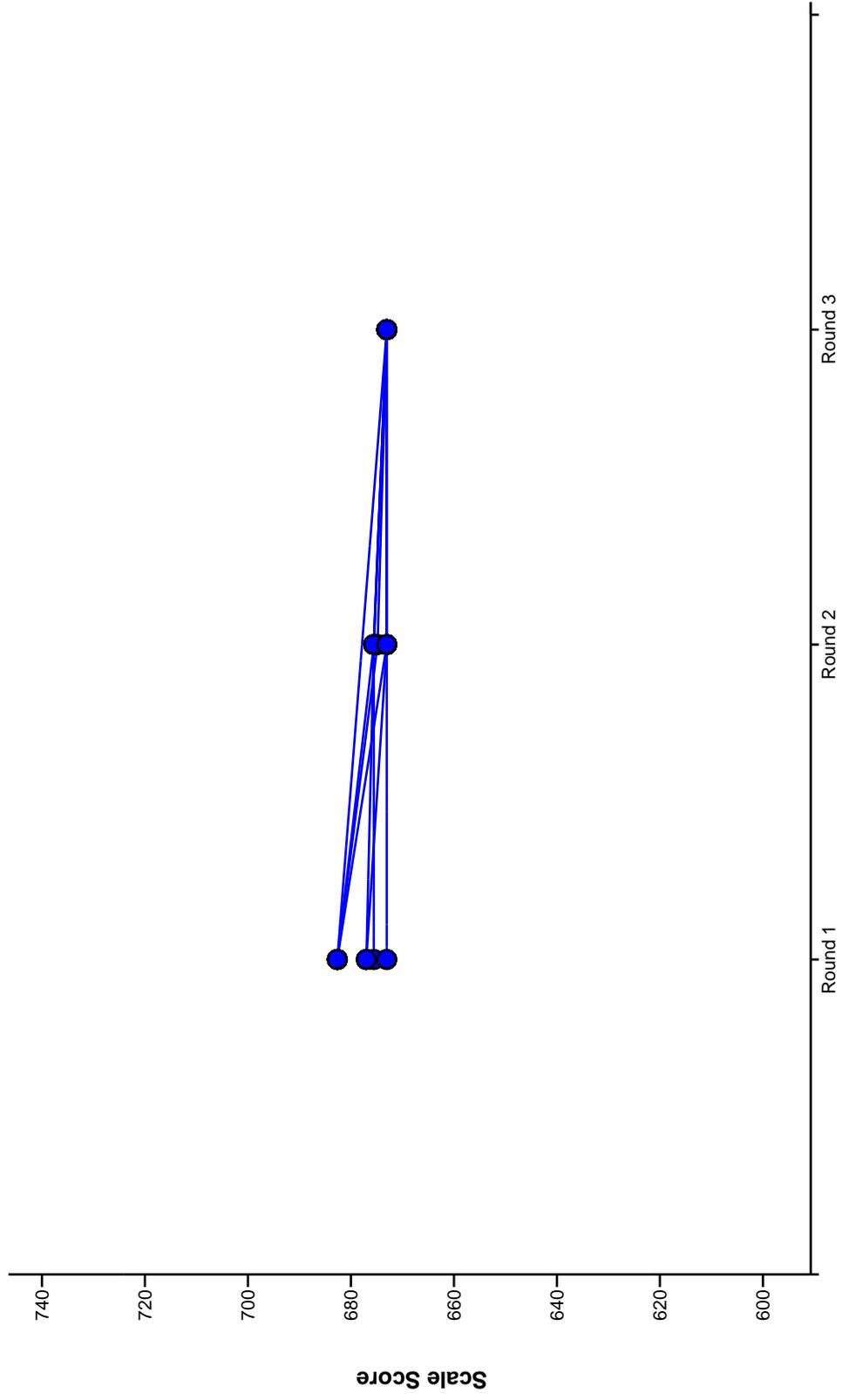


Table 1

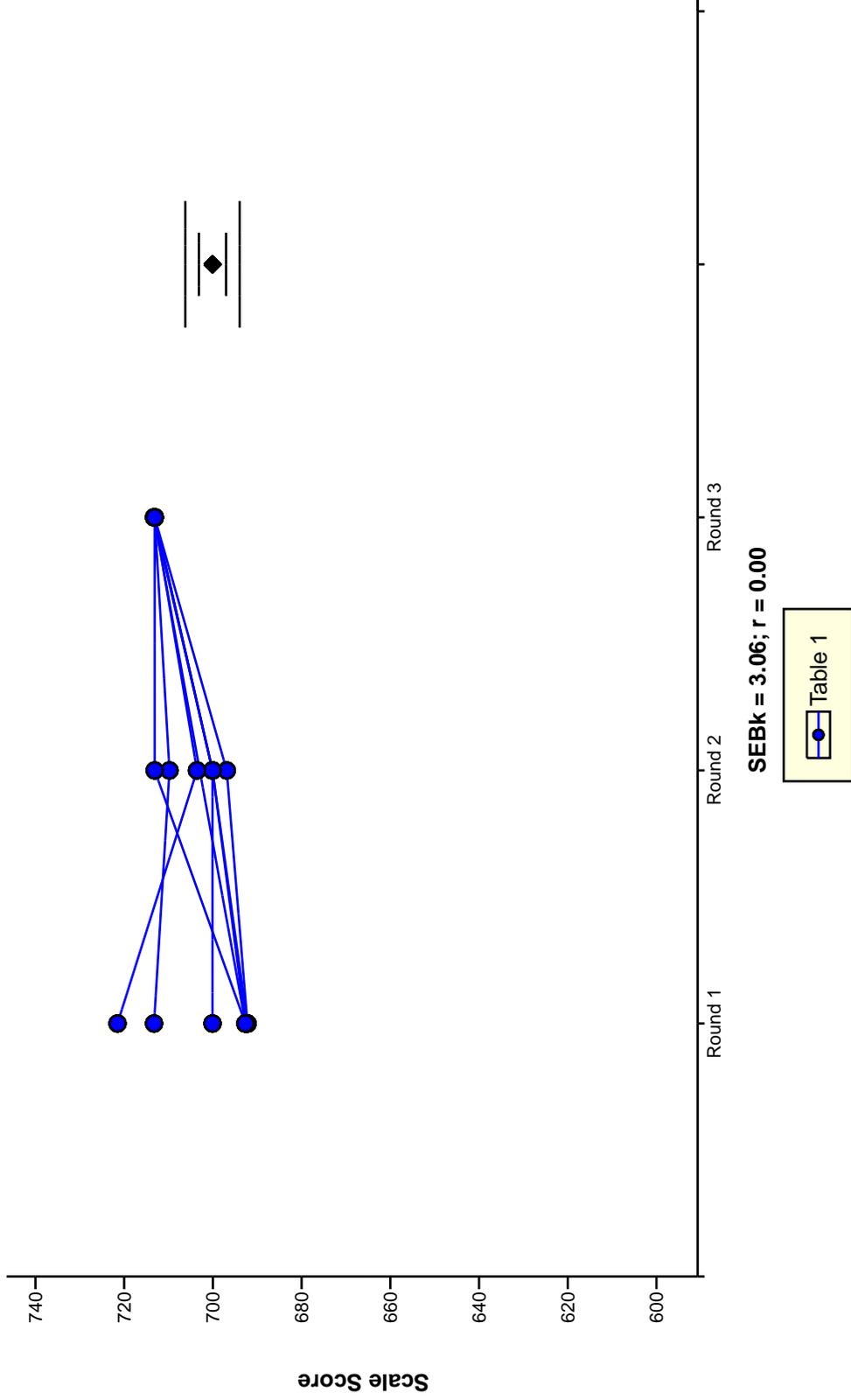


# Missouri Assessment Program Grade 6 Mathematics Proficient Cut Point

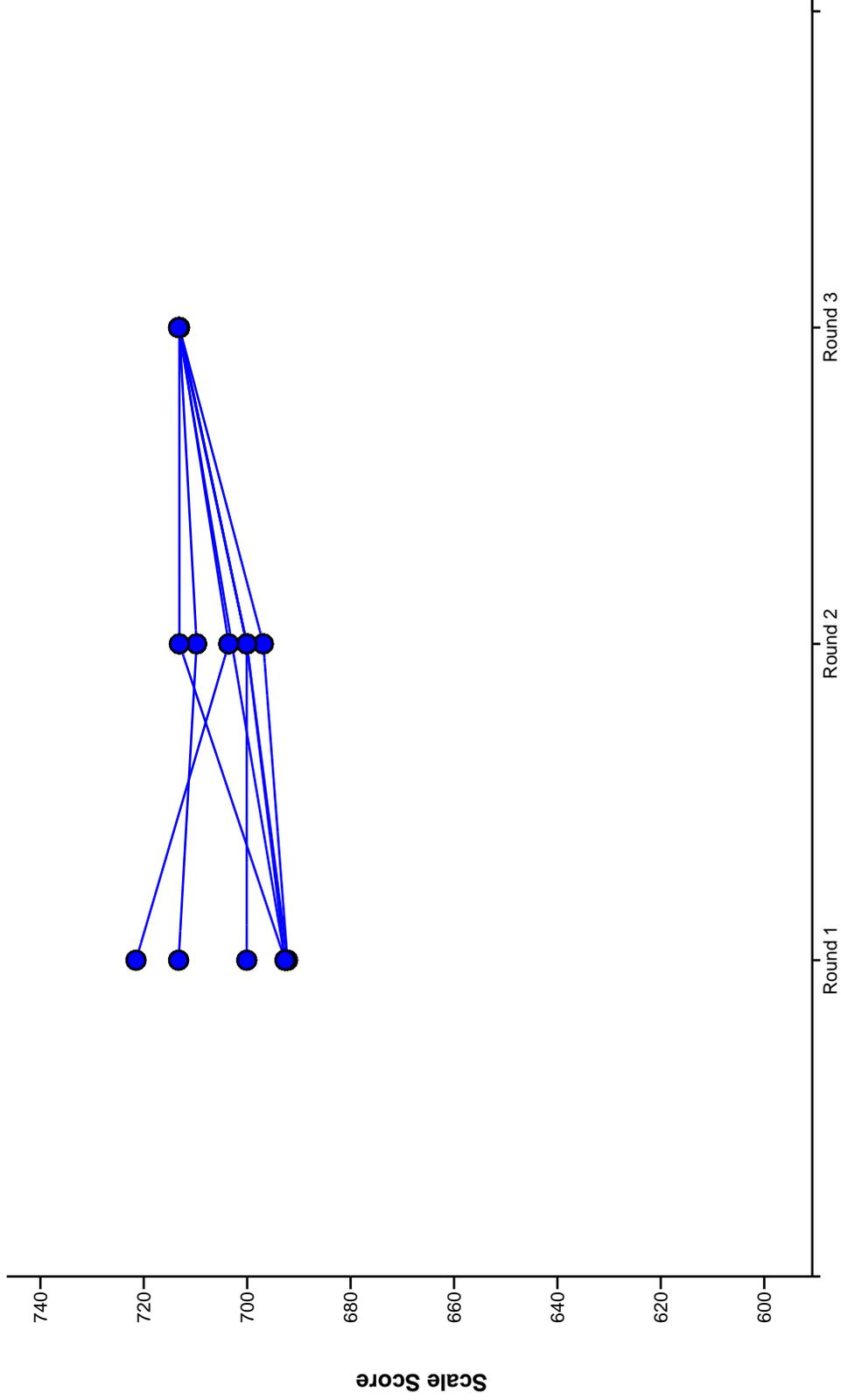


**Table 1**

# Missouri Assessment Program Grade 6 Mathematics Advanced Cut Point

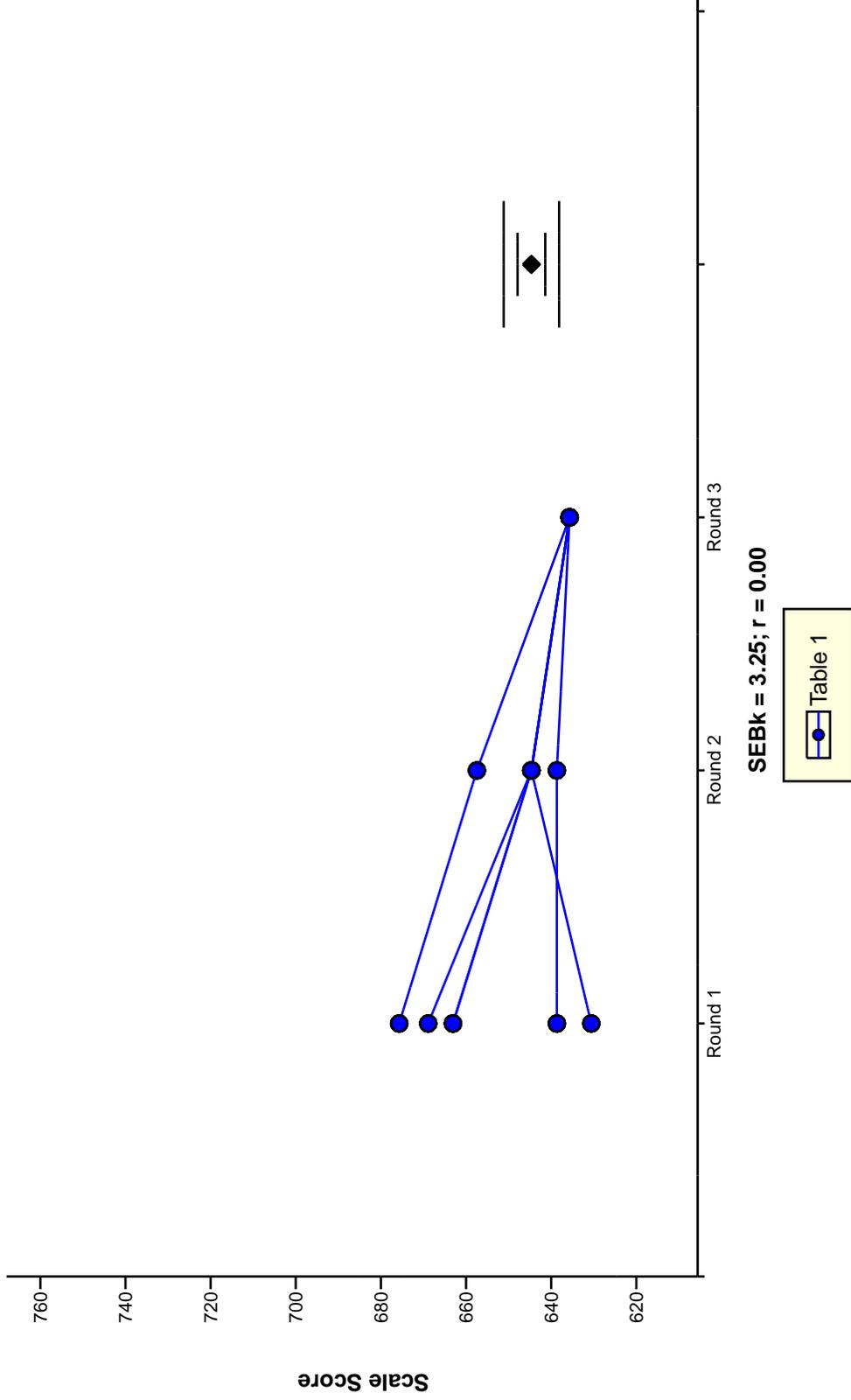


# Missouri Assessment Program Grade 6 Mathematics Advanced Cut Point

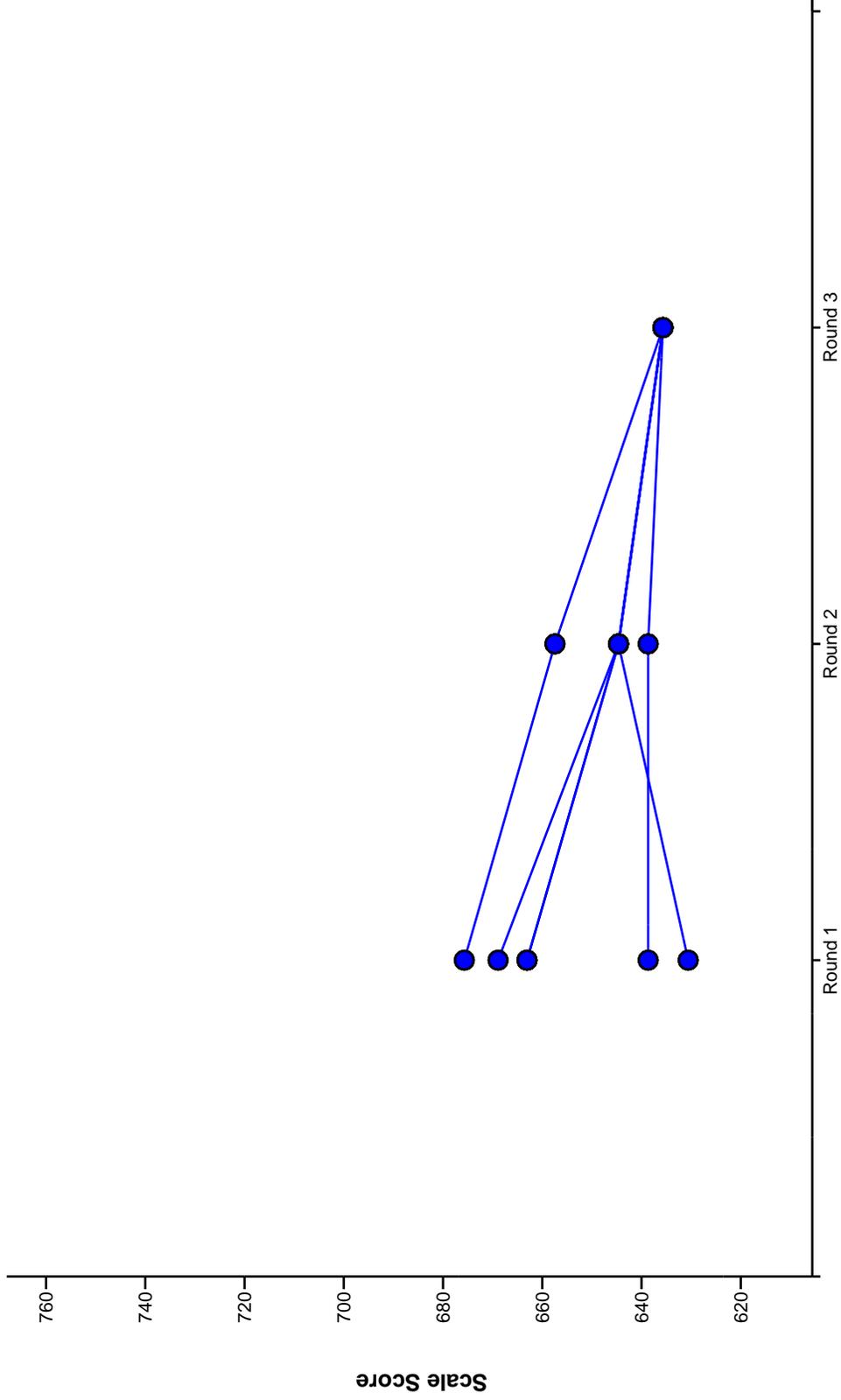


**Table 1**

# Missouri Assessment Program Grade 7 Mathematics Basic Cut Point

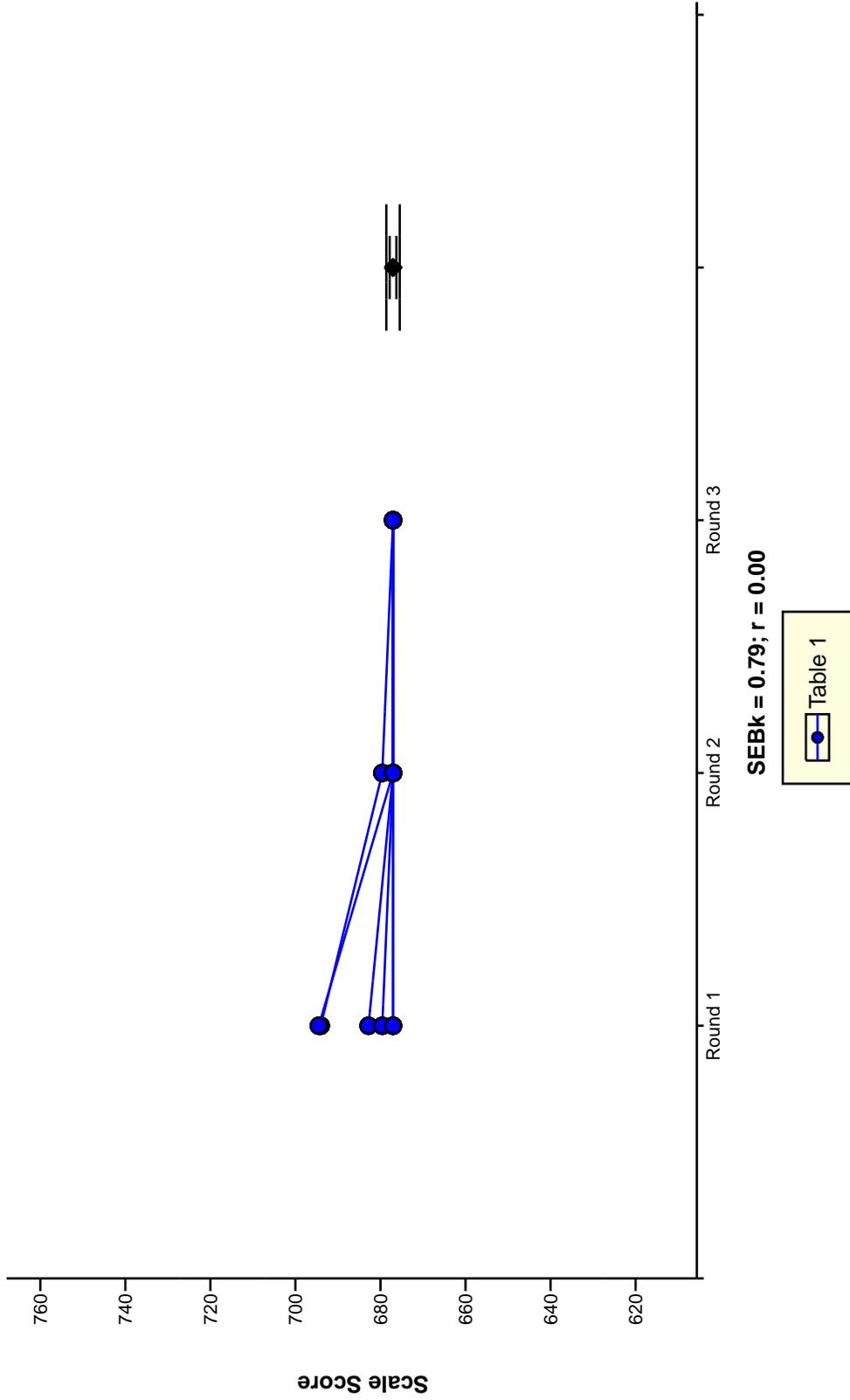


# Missouri Assessment Program Grade 7 Mathematics Basic Cut Point

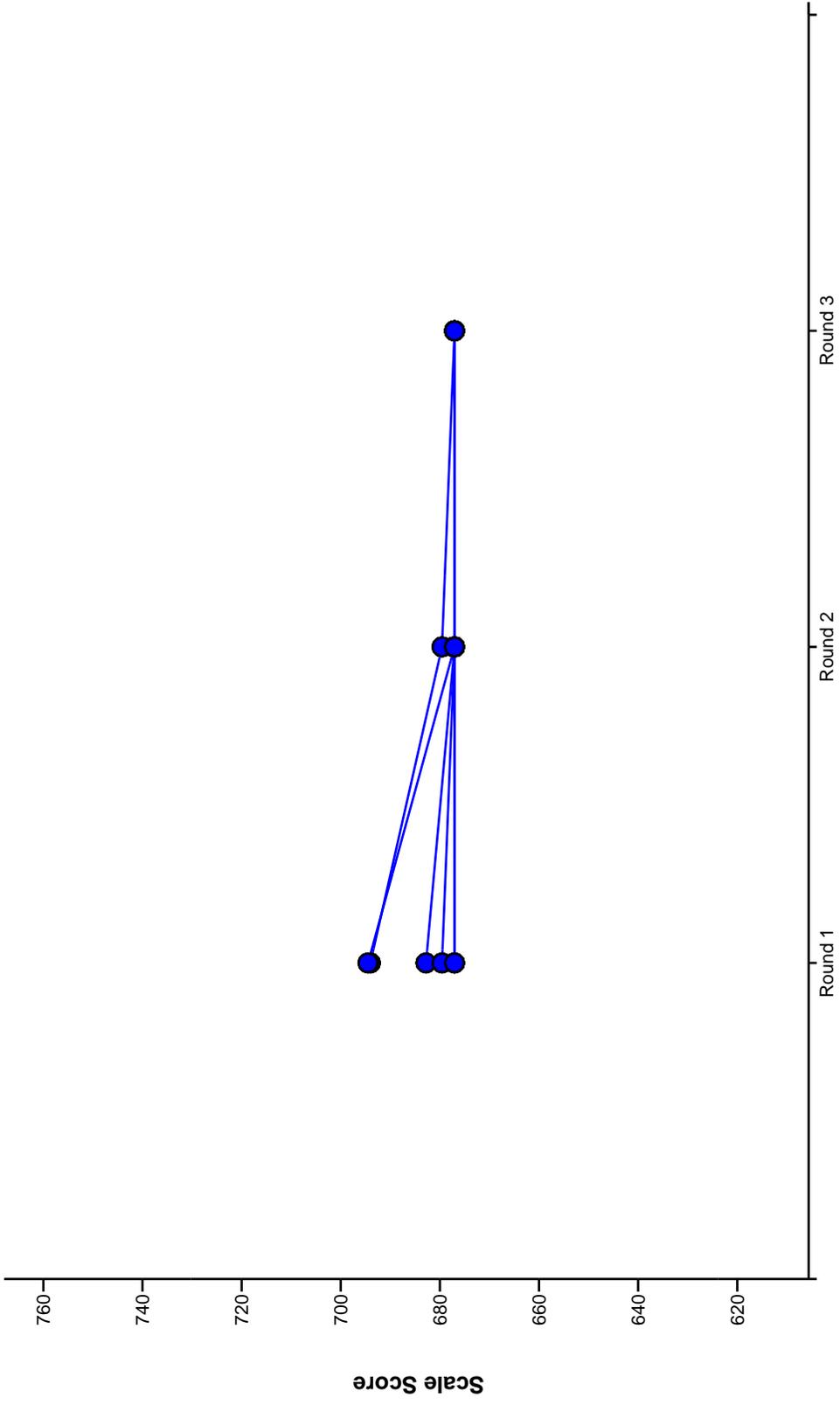


**Table 1**

# Missouri Assessment Program Grade 7 Mathematics Proficient Cut Point

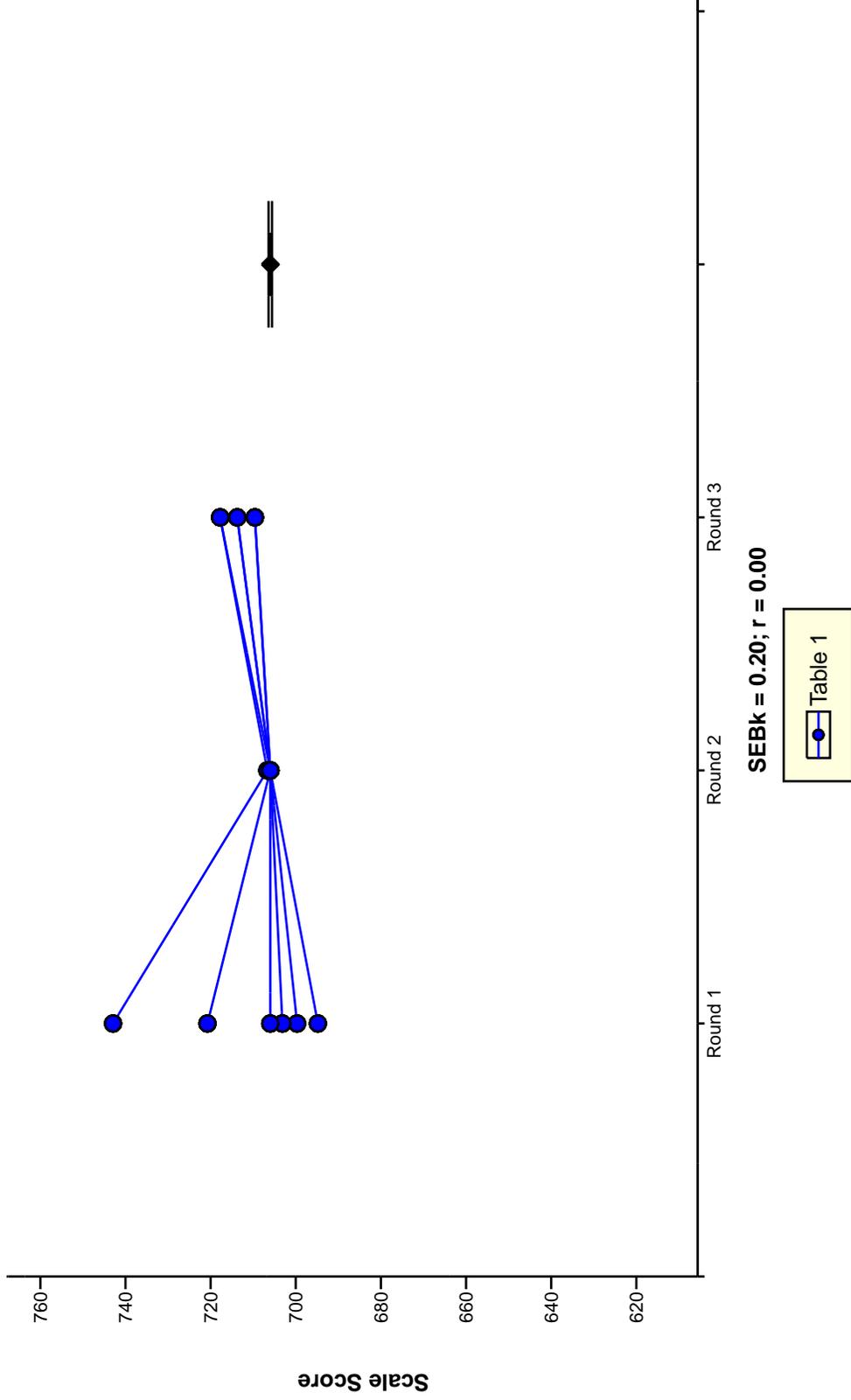


# Missouri Assessment Program Grade 7 Mathematics Proficient Cut Point

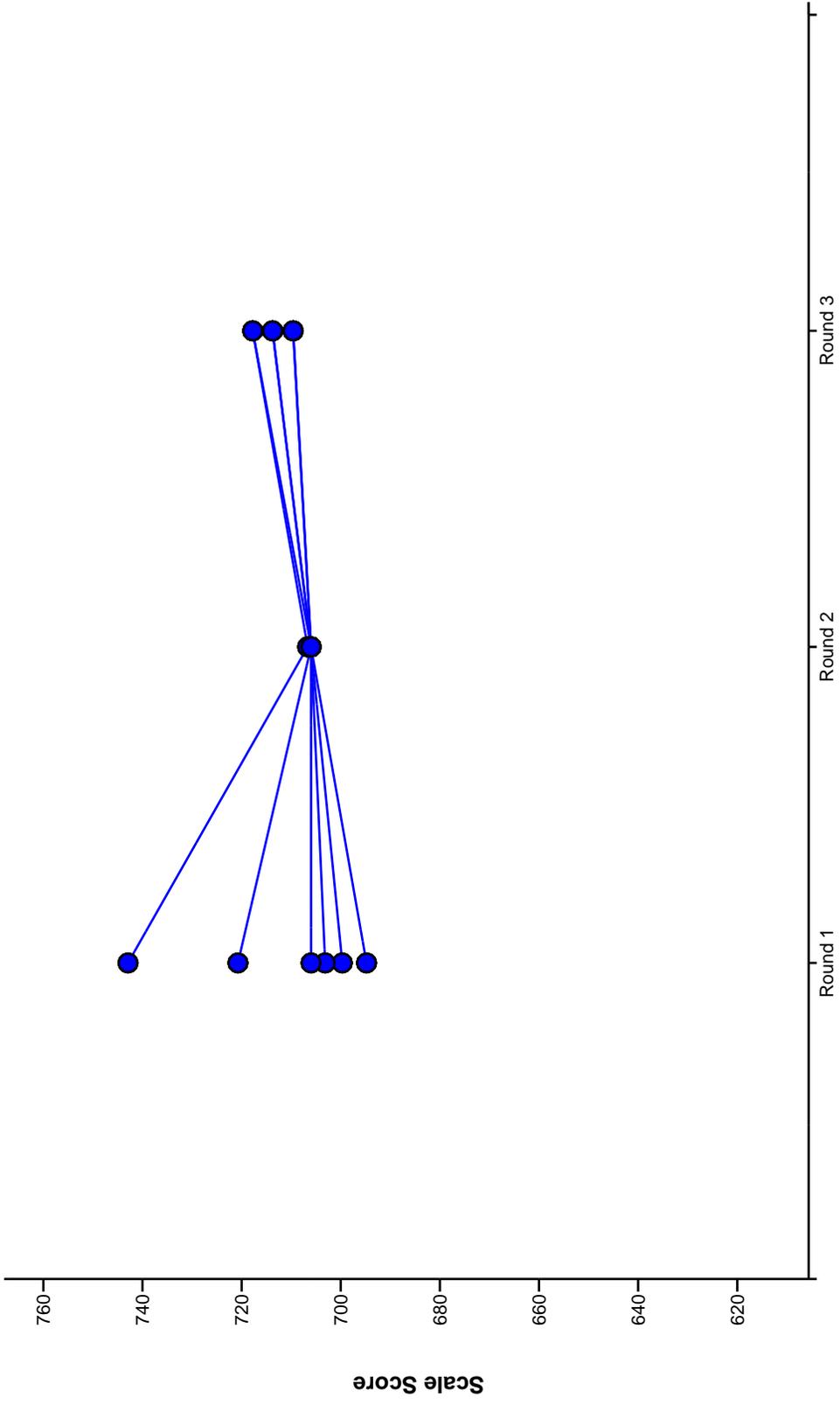


**Table 1**

# Missouri Assessment Program Grade 7 Mathematics Advanced Cut Point

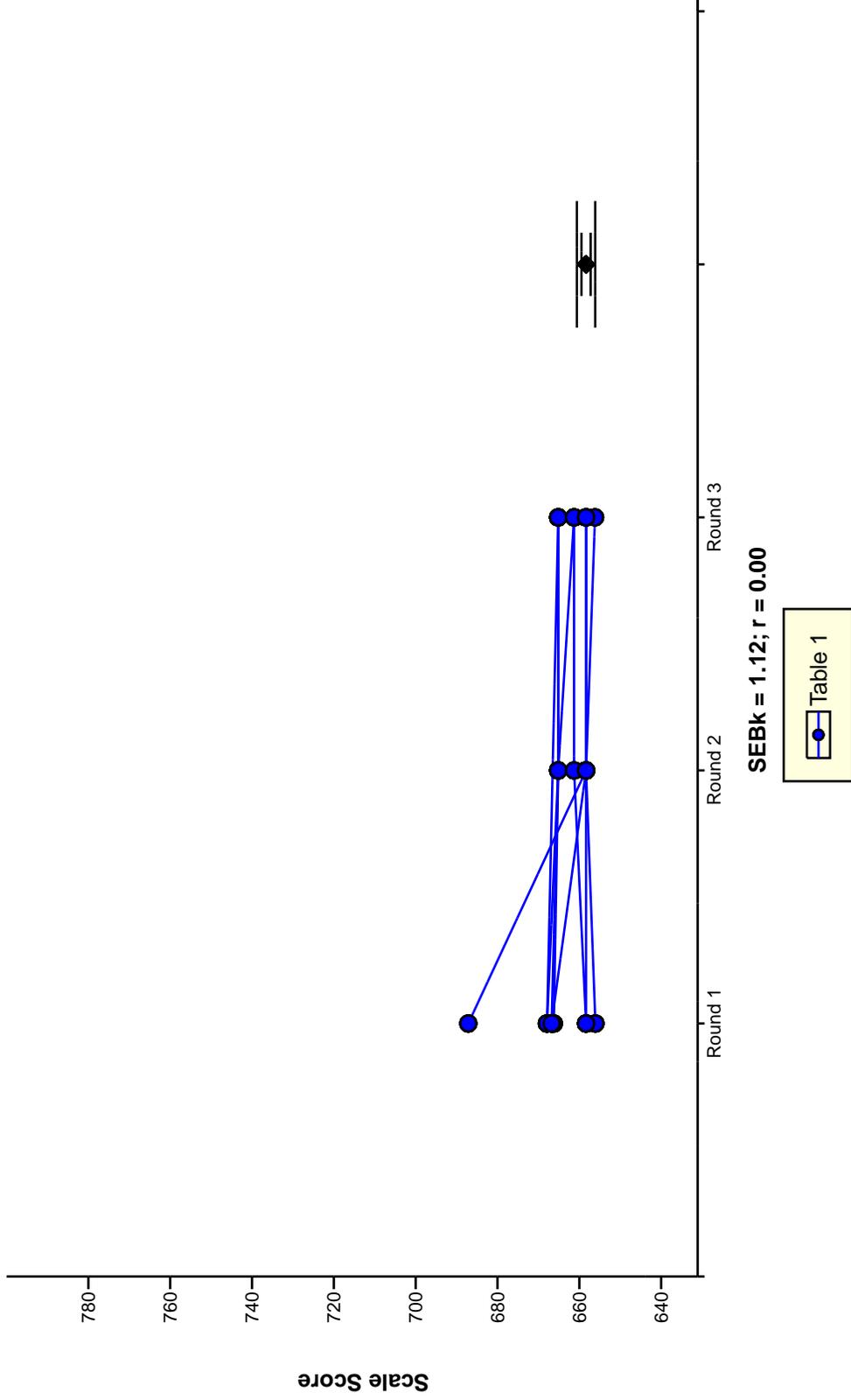


# Missouri Assessment Program Grade 7 Mathematics Advanced Cut Point

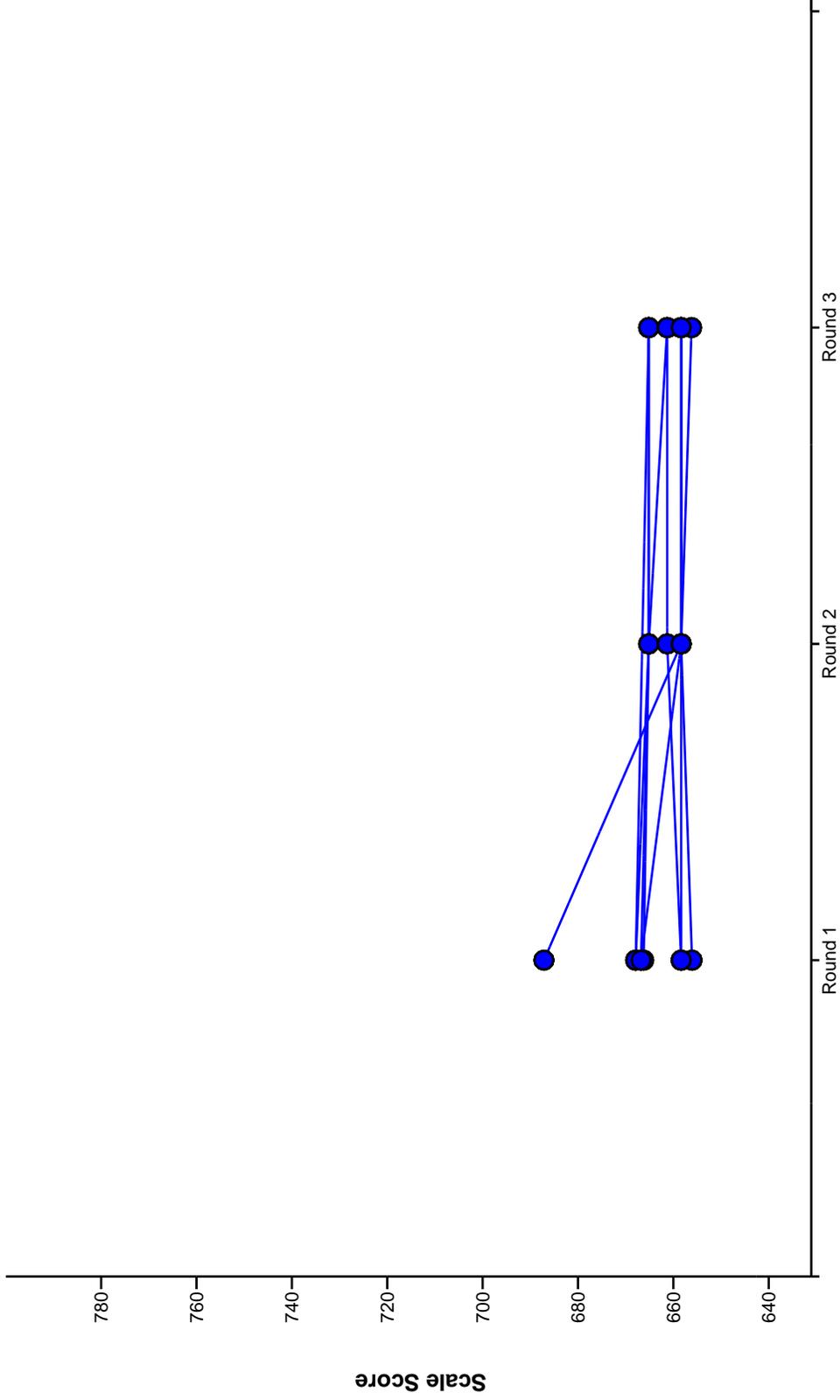


**Table 1**

# Missouri Assessment Program Grade 8 Mathematics Basic Cut Point



# Missouri Assessment Program Grade 8 Mathematics Basic Cut Point

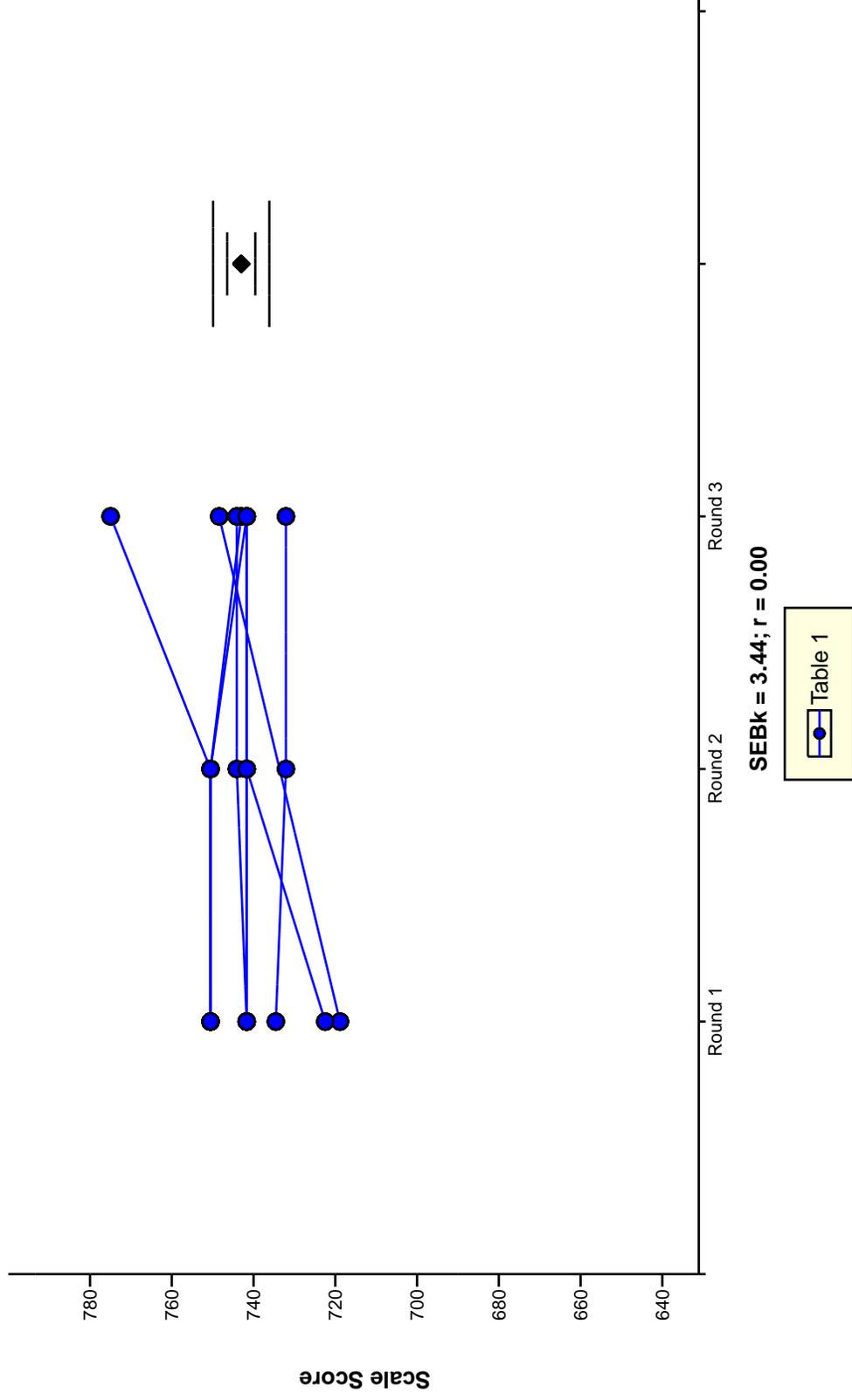


**Table 1**





# Missouri Assessment Program Grade 8 Mathematics Advanced Cut Point



# Missouri Assessment Program Grade 8 Mathematics Advanced Cut Point

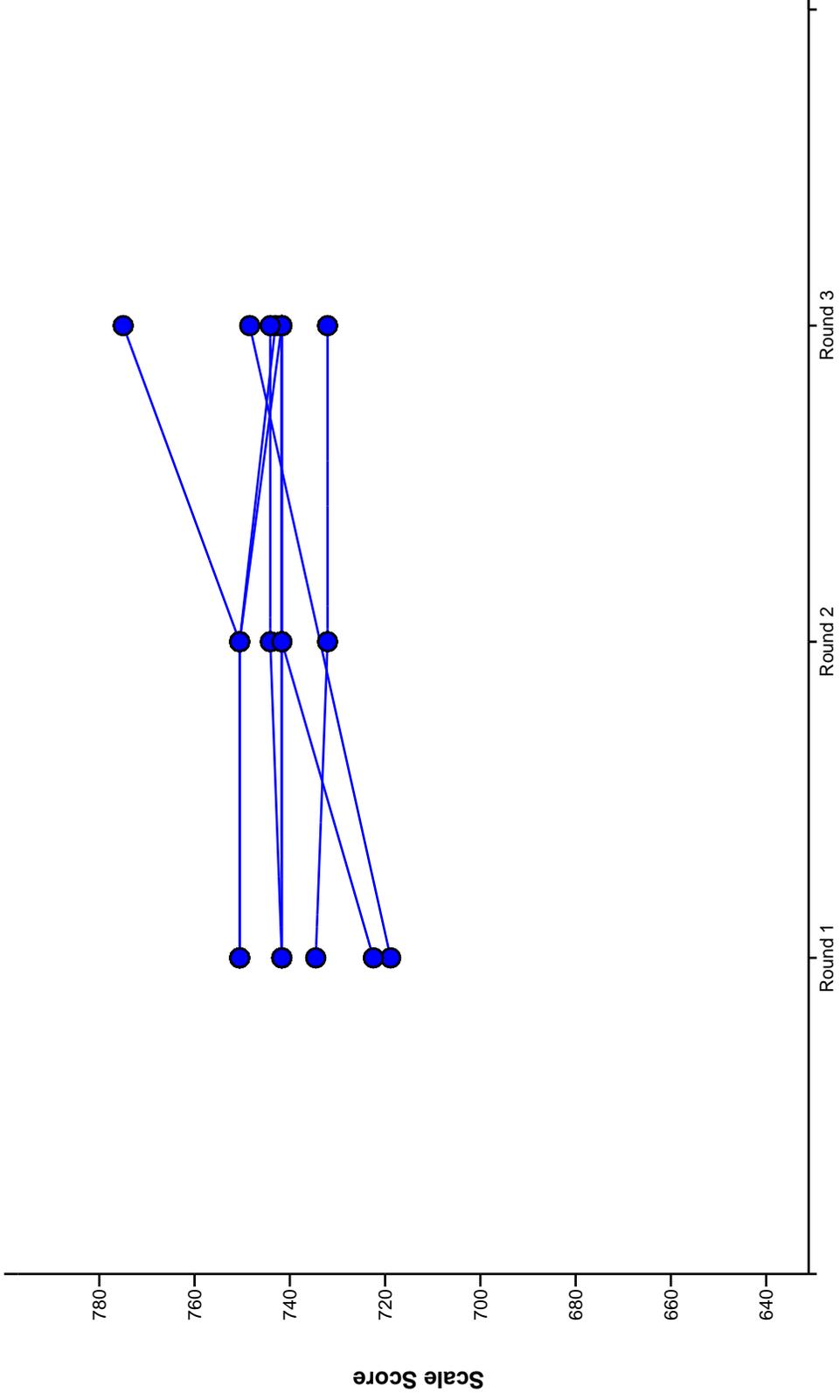
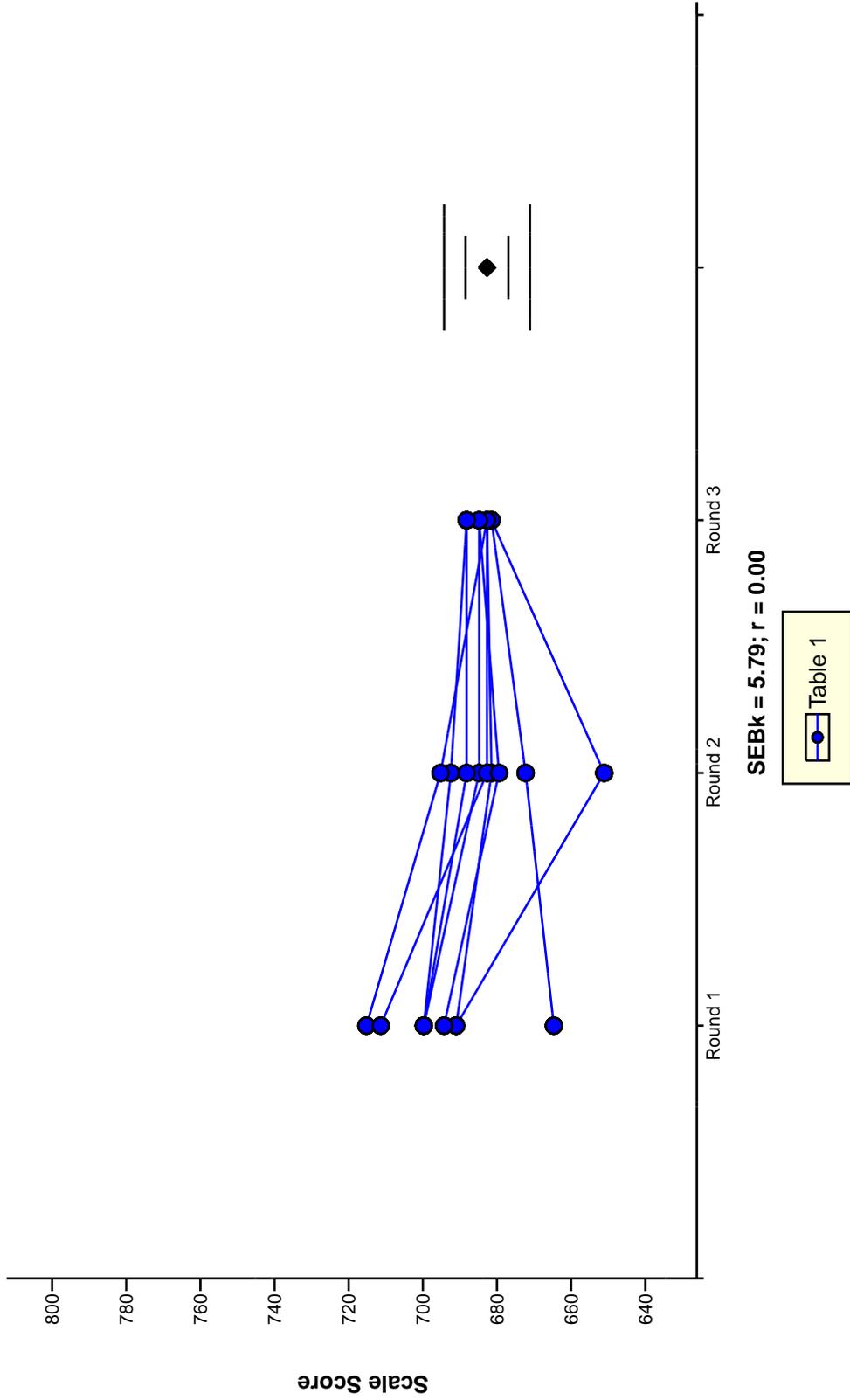


Table 1

# Missouri Assessment Program Grade 10 Mathematics Basic Cut Point



# Missouri Assessment Program Grade 10 Mathematics Basic Cut Point

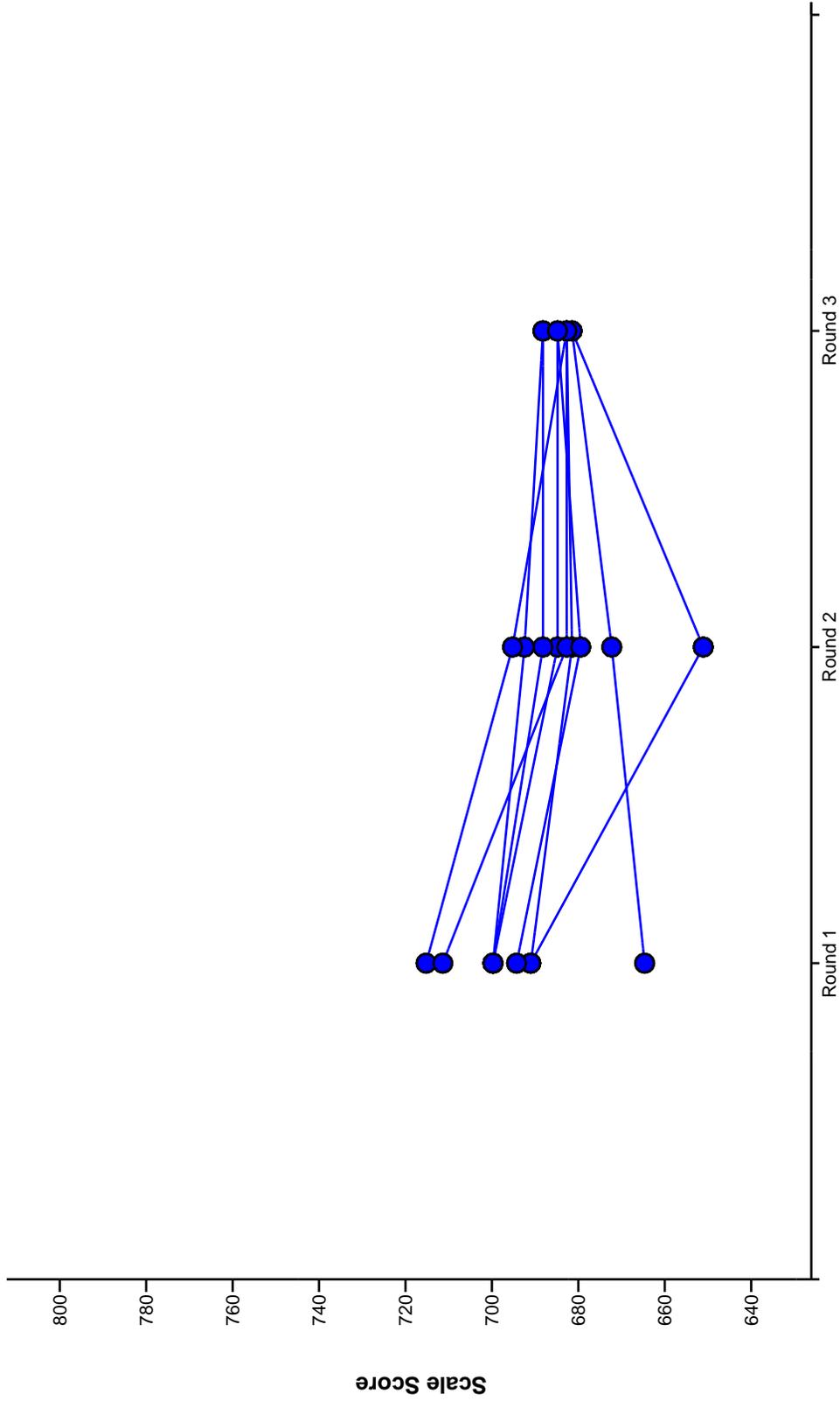
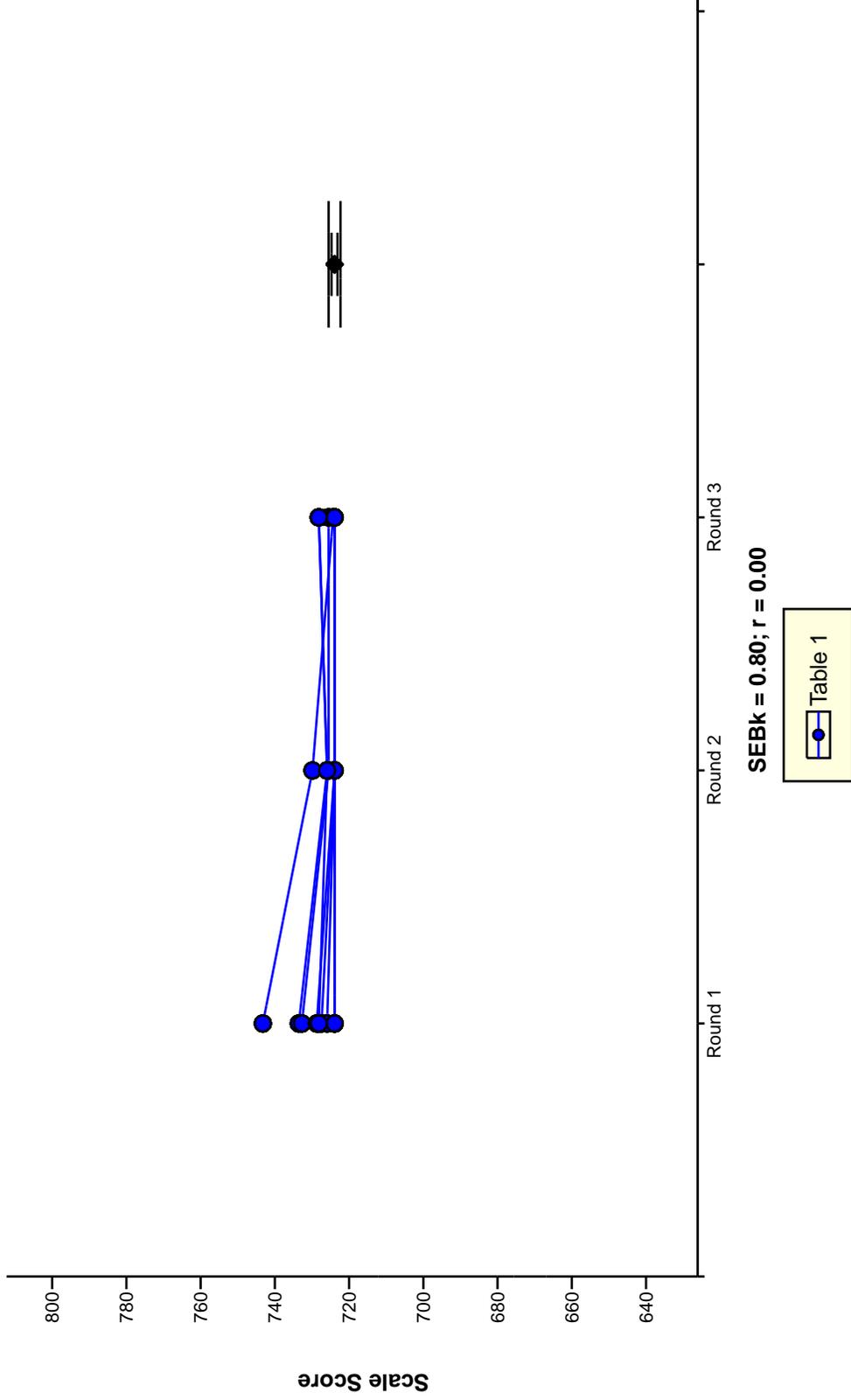
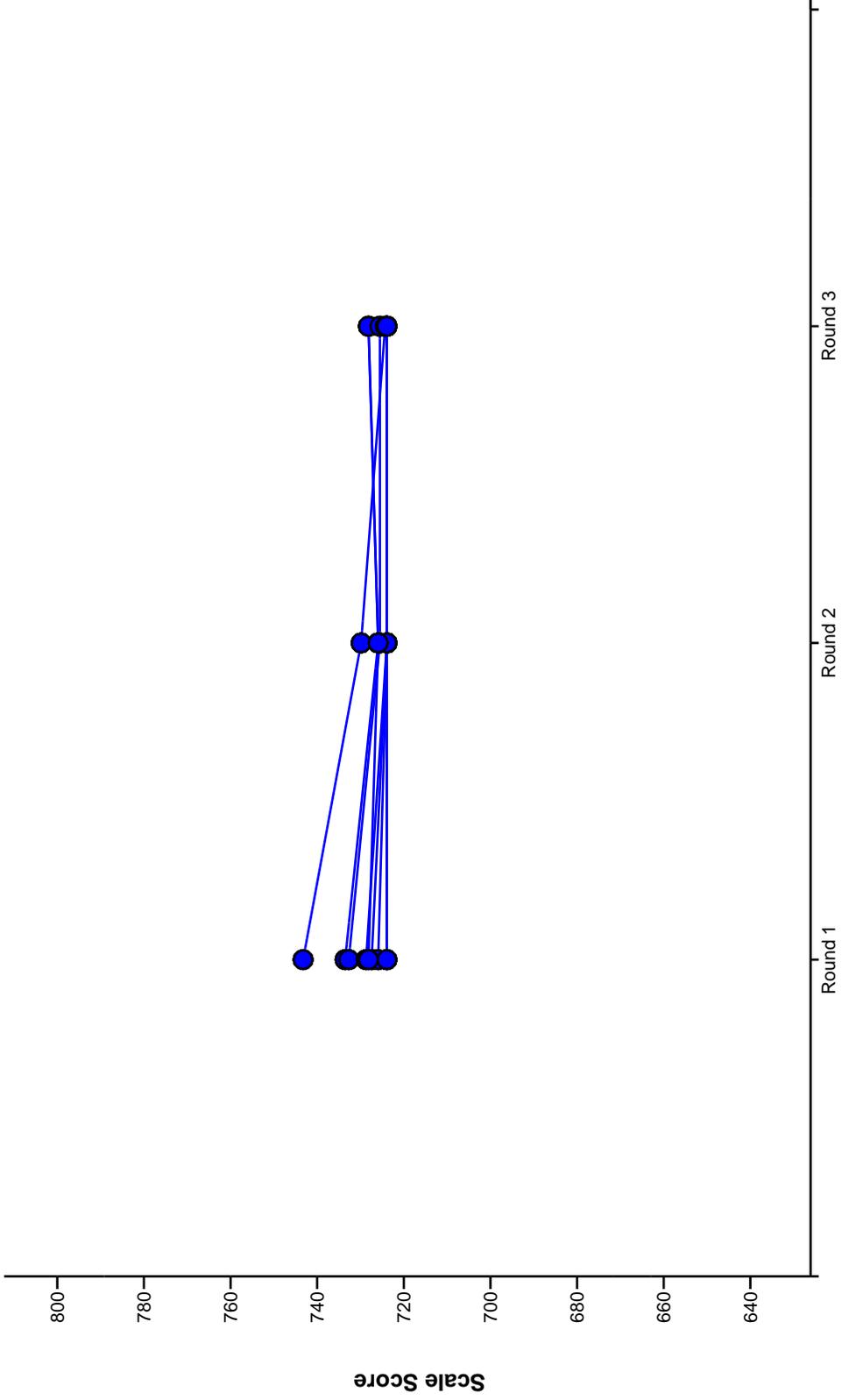


Table 1

# Missouri Assessment Program Grade 10 Mathematics Proficient Cut Point

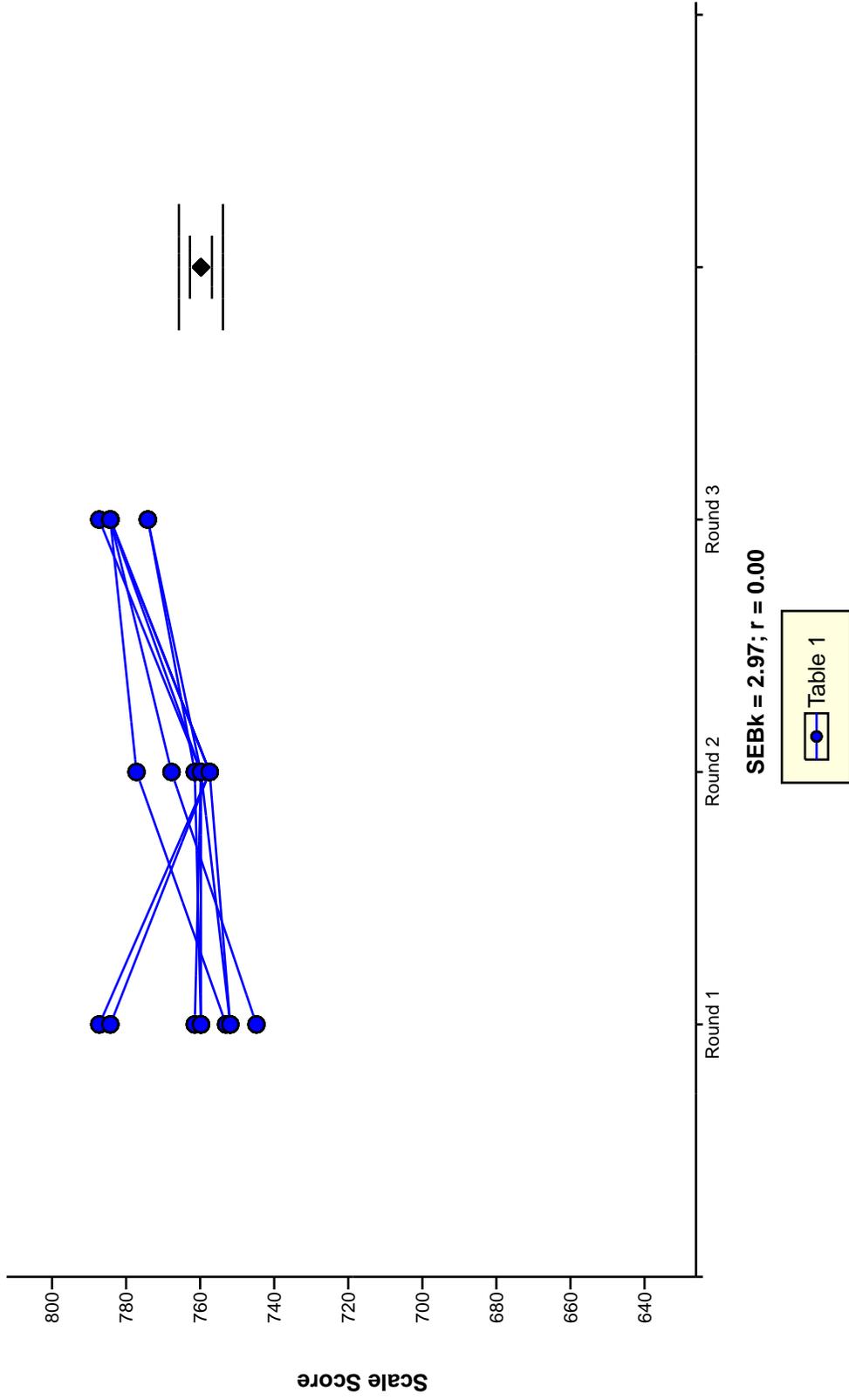


# Missouri Assessment Program Grade 10 Mathematics Proficient Cut Point



**Table 1**

# Missouri Assessment Program Grade 10 Mathematics Advanced Cut Point



# Missouri Assessment Program Grade 10 Mathematics Advanced Cut Point

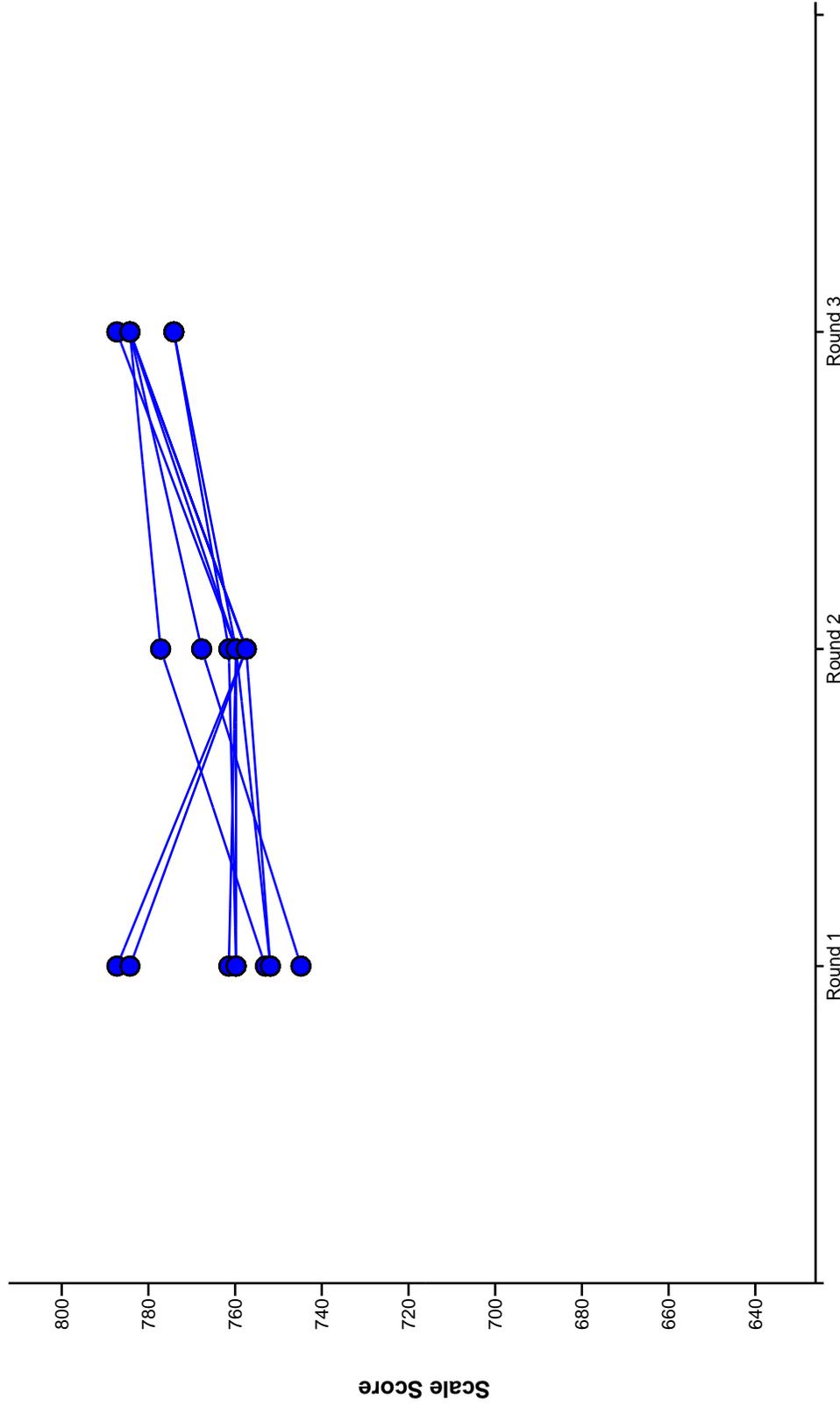


Table 1

## Section H

### Participant Training Materials

## SAMPLE Mathematics Item Map

Print Name: \_\_\_\_\_ Group Number: \_\_\_\_\_

Order of difficulty (easy to hard)	Location	Form	Item No.	Item Type	Score Key	Content Strand *	What does this item measure? That is, what do you know about a student who can respond successfully to this item/score point?	Why is this item more difficult than the preceding items?
1	220	12	1	MC	2	1		N/A
2	225	9	4	MC	3	4		
3	229	9	3	MC	2	5		
4	240	12	2	MC	4	1		
5	241	12	4	MC	2	4		
6	256	12	7	CR	1/2	1		
7	262	9	5	MC	1	1		
8	282	12	7	CR	2/2	1		
9	303	9	6	MC	2	2		
10	321	9	8	MC	2	2		
11	401	9	9	MC	3	4		

\* 1 = Number Sense, Properties, & Operations; 2 = Measurement; 3 = Geometry; 4 = Data Analysis, Statistics, & Probability; 5 = Algebra & Functions

# SAMPLE

Standard Setting Workshop

Grade 4  
Mathematics

Ordered Item Booklet

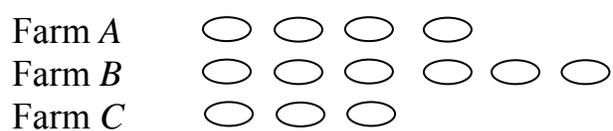
Publicly released items from the National Assessment of Educational  
Progress 1996 State Assessment Program in Mathematics.



CTB Standard Setting Handbook Copyright © 2005 by CTB/McGraw-Hill LLC.

1. Kitty is taking a trip on which she plans to drive 300 miles each day. Her trip is 1,723 miles long. She has already driven 849 miles. How much farther must she drive?
  - A. 574 miles
  - B. 874 miles
  - C. 1,423 miles
  - D. 2,872 miles

## CARTONS OF EGGS SOLD LAST MONTH



Each ○ = 100 cartons

4. According to the graph, how many cartons of eggs were sold altogether by farms A, B, and C last month?
- A. 13
  - B. 130
  - C. 1,300
  - D. 13,000

3.  $N$  stands for the number of stamps John had. He gave 12 stamps to his sister. Which expression tells how many stamps John has now?

A.  $N + 12$

B.  $N - 12$

C.  $12 - N$

D.  $12 \times N$

2. A whole number is multiplied by 5. Which of these could be the result?

A. 652

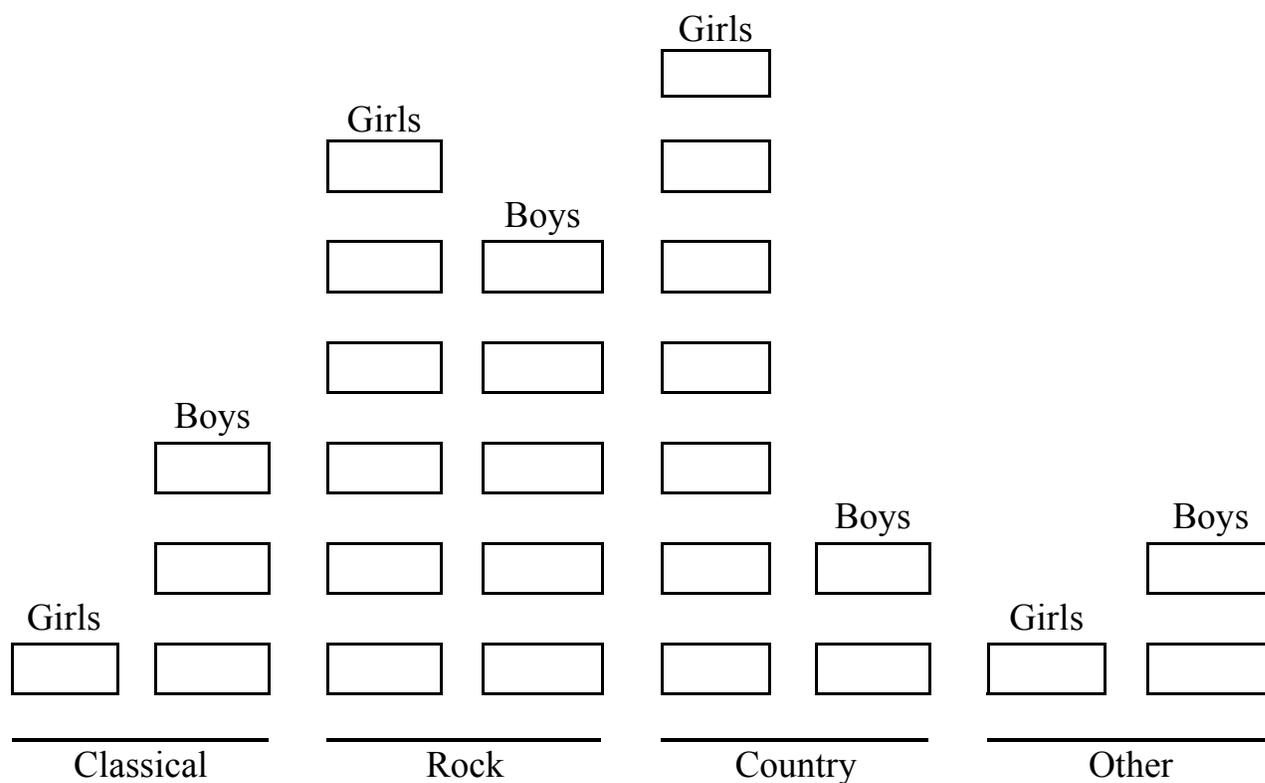
B. 562

C. 526

D. 265

4. Each boy and girl in the class voted for his or her favorite kind of music.  
Here are the results.

= 1 student



Which kind of music did most students in the class prefer?

- A. Classical
- B. Rock
- C. Country
- D. Other

Score Point 1 of 2
-----------------------

7. Sam can purchase his lunch at school. Each day he wants to have juice that costs  $50\text{¢}$ , a sandwich that costs  $90\text{¢}$ , and fruit that costs  $35\text{¢}$ . His mother has only  $\$1.00$  bills. What is the least number of  $\$1.00$  bills that his mother should give him so he will have enough money to buy lunch for 5 days?

<b>Scoring Guide</b>
--------------------------

Solution:

For one day the sum is \$1.75. For 5 days, the sum is \$8.75. Therefore, he should ask his mother for nine \$1.00 bills (or one \$5.00 bill and four \$1.00 bills.)

Answer may be given pictorially.

Note: No explanation is asked for, so the paper could have a small error, such as copying a number incorrectly and still get a score of 2, provided method and answer are correct.

Scoring Guide:

0                      Incorrect response—includes \$1.75 or \$2; also \$875 or \$875.00

1

\$8.75 or 875

OR

One day is \$1.75 so he needs \$2 each day, so \$10 for a week (picture of a \$10 bill is acceptable)

OR

Correct method but rounded down to \$8 (this requires work to be shown)

OR

Correct method but small error and incorrect response of \$7 to \$11, inclusive

2

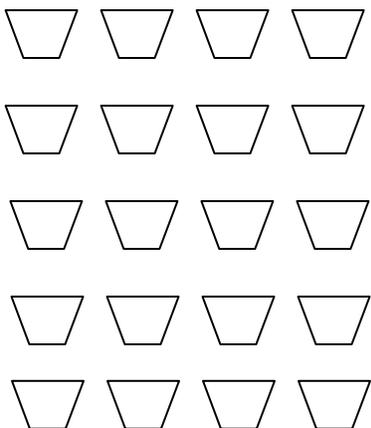
Correct response

Anchor Paper
-----------------

7. Sam can purchase his lunch at school. Each day he wants to have juice that costs  $50\text{¢}$ , a sandwich that costs  $90\text{¢}$ , and fruit that costs  $35\text{¢}$ . His mother has only  $\$1.00$  bills. What is the least number of  $\$1.00$  bills that his mother should give him so he will have enough money to buy lunch for 5 days?

\$8.75

**Score point: 1**



5. The picture shows the flower pots in which Kevin will plant flower seeds. He needs 3 seeds for each pot. Which of the following number sentences shows how many seeds Kevin will need for all of the pots?

A.  $5 \times 4 \times 3 = \square$

B.  $(5 \times 4) + 3 = \square$

C.  $(5 + 4) \times 3 = \square$

D.  $5 + 4 + 3 = \square$

Score Point 2 of 2
-----------------------

8. Sam can purchase his lunch at school. Each day he wants to have juice that costs  $50\text{¢}$ , a sandwich that costs  $90\text{¢}$ , and fruit that costs  $35\text{¢}$ . His mother has only  $\$1.00$  bills. What is the least number of  $\$1.00$  bills that his mother should give him so he will have enough money to buy lunch for 5 days?

<p style="text-align: center;">Scoring Guide</p>
--

Solution:

For one day the sum is \$1.75. For 5 days, the sum is \$8.75. Therefore, he should ask his mother for nine \$1.00 bills (or one \$5.00 bill and four \$1.00 bills.)

Answer may be given pictorially.

Note: No explanation is asked for, so the paper could have a small error, such as copying a number incorrectly and still get a score of 2, provided method and answer are correct.

Scoring Guide:

0	Incorrect response—includes \$1.75 or \$2; also \$875 or \$875.00
1	<p>\$8.75 or 875</p> <p>OR</p> <p>One day is \$1.75 so he needs \$2 each day, so \$10 for a week (picture of a \$10 bill is acceptable)</p> <p>OR</p> <p>Correct method but rounded down to \$8 (this requires work to be shown)</p> <p>OR</p> <p>Correct method but small error and incorrect response of \$7 to \$11, inclusive</p>
<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center; margin: 0 auto;">2</div>	Correct response

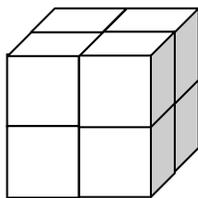
<p style="text-align: center;">Anchor Paper</p>
---

8. Sam can purchase his lunch at school. Each day he wants to have juice that costs 50¢, a sandwich that costs 90¢, and fruit that costs 35¢. His mother has only \$1.00 bills. What is the least number of \$1.00 bills that his mother should give him so he will have enough money to buy lunch for 5 days?

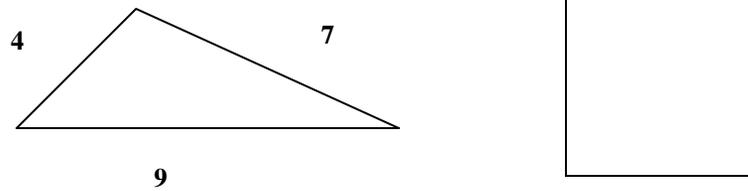
$$\begin{array}{r}
 50 \\
 90 \\
 35 \\
 \hline
 \$1.75 \\
 \times 5 \\
 \hline
 \$8.75
 \end{array}$$

9 dollar bills

**Score point: 2**

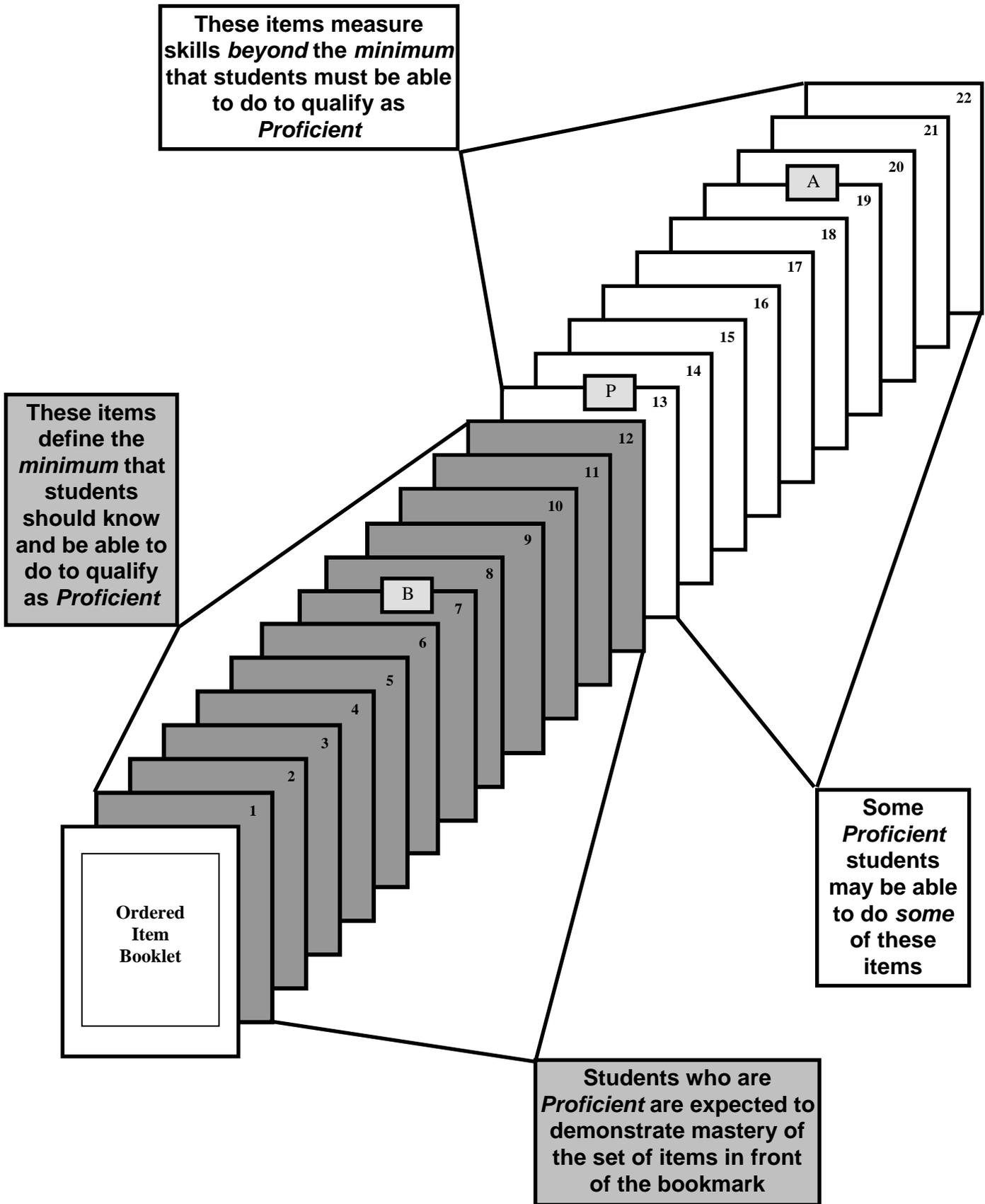


6. In this figure, how many small cubes were put together to form the large cube?
- A. 7
  - B. 8
  - C. 12
  - D. 24



8. If both the square and the triangle above have the same perimeter, what is the length of each side of the square?
- A. 4
  - B. 5
  - C. 6
  - D. 7

9. There are 3 fifth graders and 2 sixth graders on the swim team. Everyone's name is put in a hat and the captain is chosen by picking one name. What are the chances that the captain will be a fifth grader?
- A. 1 out of 5
  - B. 1 out of 3
  - C. 3 out of 5
  - D. 2 out of 3



## Bookmark Placement

These directions are written for placing the *Proficient* bookmark and apply analogously to the *Basic* and *Advanced* bookmarks.

### For whom am I placing this bookmark? The Target Student

When you place your *Proficient* bookmark, you are separating the highest ability *Basic* students from the lowest ability *Proficient* students. In other words, you are keeping in mind the Target Student who will just make it into the *Proficient* level.

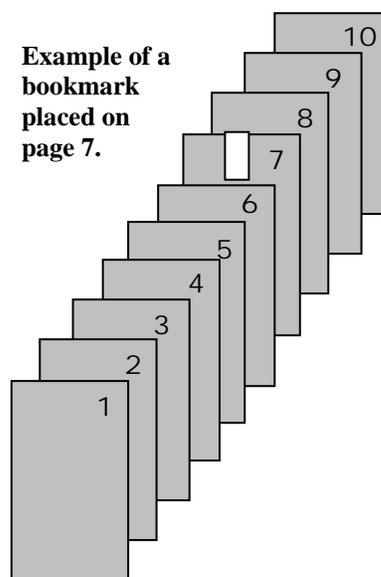
### How do I place my bookmark? The Mechanics

The bookmark is exactly that: a bookmark. It separates the content students are expected to master from the content they are *not* expected to master. In the example below, a participant has placed the *Proficient* bookmark on page 7. With this bookmark placement, the participant says that a student must master the content represented by items 1 through 6 to be *Proficient*.

To place your bookmark, start at page 1 in the Ordered Item Booklet (OIB). Page through the OIB **looking at the content covered** until you find the **first** page where you think a student has demonstrated a sufficient body of evidence to indicate that the student is *Proficient* relative to the content standards. This is the content you are saying a *Proficient* Target Student needs to master to just make it into the *Proficient* level.

Hold the pages that contain the content you expect the student to master in your left hand. Place your bookmark on the page **AFTER** the last item you expect the student to master. This page number is your bookmark. Write it on your Rating Form.

**Hint:** It may be helpful to first identify the interval of items in which you are reasonably certain the bookmark should be placed; then you can place the bookmark within that interval. If you are uncertain about where to place your bookmark, make your best decision; you will have two more rounds of voting to reconsider your bookmark.



### What does my *Proficient* Bookmark mean? Some Answers

- You expect *Proficient* students to master the knowledge, skills, and abilities contained in the items *before* your bookmark.
- *Proficient* students should know and be able to do the items *before* the bookmark. For multiple-choice items, *Proficient* students should know the correct response. For constructed-response items, *Proficient* students should most likely achieve the score points before the bookmark.

### Is my bookmark the same as a raw score? NO

It is very important to remember that your bookmark placement is *not* equal to a raw score. In the example above, the *Proficient* bookmark was placed on page 7. The participant was *not* saying that a student must get six items correct to be classified as *Proficient*. This participant is saying that a barely *Proficient* student must master the content measured by the items on pages 1 through 6. The numbers in the OIB correspond to the rank order of difficulty of each item. These numbers do *not* correspond to a raw score.

## Frequently Asked Questions about Bookmark Placement

These questions are written in reference to the *Proficient* bookmark and apply analogously to the *Basic* and *Advanced* bookmarks.

### How do I know if I placed my bookmark in the “right” place?

The “right” place is a matter of judgment, *your* judgment. You are placing your bookmark based on the content you expect students to know and be able to do.

### I set my bookmark based on the content I expect students to know and be able to do, that is, the content I expect students to master. What is the definition of mastery?

We look at mastery by considering the likelihood with which students will respond correctly to the items. This question is answered in more depth in the handout “Mastery.”

### If a student misses some items before the *Proficient* bookmark and gets some correct after the bookmark, is that student still *Proficient*?

A student does *not* have to get every item before the bookmark correct to be *Proficient*. *Proficient* students can miss some items *before* the bookmark and correctly respond to some items *after* the bookmark.

### Does the page number on which I place my bookmark correspond to the raw score a student must get on the test?

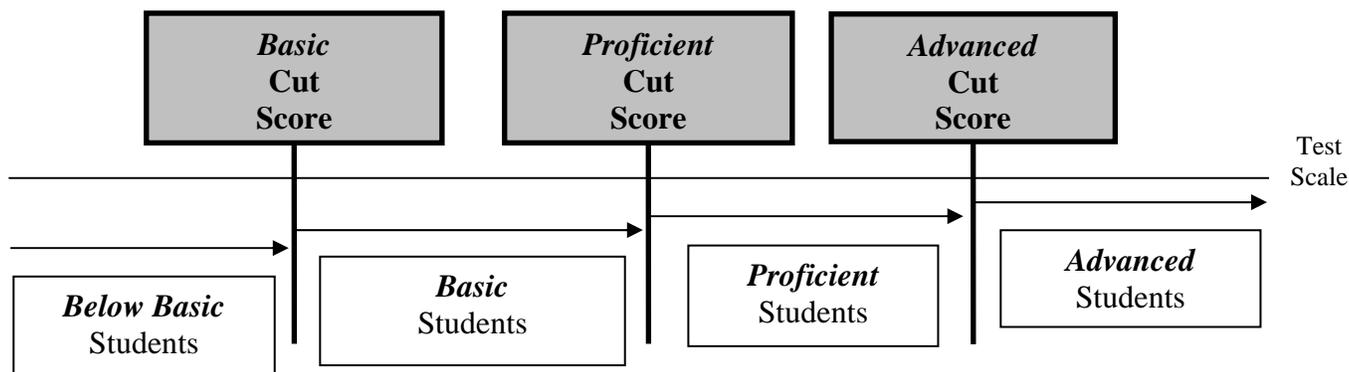
*No*. Remember, you are placing your bookmark based on the content you expect students to know and be able to do. You are *not* making your decision based on the number of items students must answer correctly. The bookmark is placed on a *page* in the Ordered Item Booklet. This page number corresponds to the difficulty ordering of the item, *not* to the raw score.

### Should I place my bookmark in the first place in the Ordered Item Booklet where all the content standards have occurred?

Not necessarily. The test only samples the content domain. In some cases, some content standards will only be represented by difficult items that would be hard for most students to master.

### How many bookmarks do I set?

You set one less bookmark than the number of achievement levels. In Missouri, you will set 3 bookmarks to separate students into 4 achievement levels.







**Definition of Mastery**

*We say that a group of like students have demonstrated mastery of the content represented by an item if at least 55 of the 100 students in the group can be expected to respond successfully to the item.*

Figure B shows how many students in Group B responded correctly to each item in the ordered item booklet. Observe that the students in Group B performed much better than students in Group A. That makes sense because Group B students are average achieving students while Group A students are low achieving students.

Before you read further, use Figure B and the definition of mastery stated in the box above to determine which items Group B has mastered.

Group B students have demonstrated mastery of the content reflected in items 1 through 40 of the ordered item booklet, but have not demonstrated mastery of the content reflected by items 41 through 50. This is true according to the definition of mastery, because at least 55 of the 100 Group B students responded successfully to each of items 1 through 40, but fewer than 55 of them responded correctly to items 41 through 50.

**Figure B. The number (or percent) of Group B students who responded correctly to each item in the ordered item booklet.**

item	item	item	item	item	item	item	item	item	item
1	2	3	4	5	6	7	8	9	10
<u>99</u>	<u>100</u>	<u>99</u>	<u>100</u>	<u>99</u>	<u>100</u>	<u>98</u>	<u>98</u>	<u>97</u>	<u>97</u>
100	100	100	100	100	100	100	100	100	100

item	item	item	item	item	item	item	item	item	item	item	item	item	item	item	item
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
<u>96</u>	<u>100</u>	<u>95</u>	<u>93</u>	<u>89</u>	<u>85</u>	<u>84</u>	<u>83</u>	<u>83</u>	<u>81</u>	<u>79</u>	<u>79</u>	<u>78</u>	<u>73</u>	<u>72</u>	<u>72</u>
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
<u>71</u>	<u>70</u>	<u>69</u>	<u>67</u>												
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

| item      |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 31        | 32        | 33        | 34        | 35        | 36        | 37        | 38        | 39        | 40        | 41        | 42        | 43        | 44        | 45        | 46        |
| <u>65</u> | <u>63</u> | <u>63</u> | <u>61</u> | <u>58</u> | <u>57</u> | <u>57</u> | <u>56</u> | <u>56</u> | <u>55</u> | <u>53</u> | <u>53</u> | <u>52</u> | <u>51</u> | <u>44</u> | <u>41</u> |
| 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       |
| 47        | 48        | 49        | 50        | 51        | 52        | 53        | 54        | 55        | 56        | 57        | 58        | 59        | 60        | 61        | 62        |
| <u>39</u> | <u>37</u> | <u>35</u> | <u>33</u> |
| 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       | 100       |



You have seen from the above examples that by using a specific definition of mastery, we can identify the content in the ordered item booklet that students at any location of the test scale have mastered.

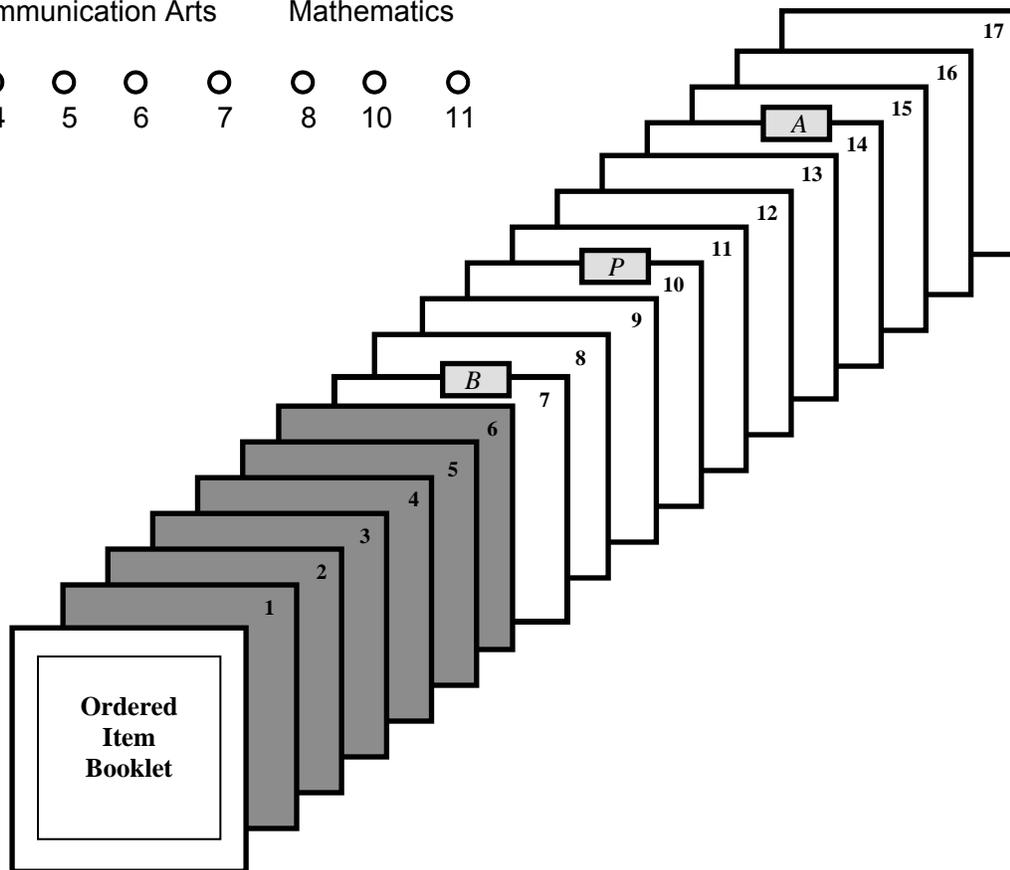
Also, if *you* identify a set of items in the ordered item booklet, the specific point on the test scale at which students have demonstrated mastery of the content you have specified can be determined. This is how the various cut scores are ascertained.

As experts, you will first specify the content in the ordered item booklet that you expect students to master in order to be classified as ***Proficient***. This means that you will identify the items that reflect the knowledge, skills, and abilities you expect all ***Proficient*** students to master. When you have made that judgment, the point on the scale at which students achieve that level of mastery can be identified.

Content Area:  Communication Arts  Mathematics

Grade:  3  4  5  6  7  8  10  11

Missouri 2005



Suppose the bookmarks were placed in this sample ordered item booklet as follows:

	<i>Basic</i> Bookmark on Page #	<i>Proficient</i> Bookmark on Page #	<i>Advanced</i> Bookmark on Page #
Round 1	7	10	14

- Which items does a student need to master to just make it into the *Basic* achievement level?  1 to 5  1 to 6  1 to 7  1 to 8
- If a student mastered only items 1 through 5, in which achievement level would this student be?  Below Basic  Basic  Proficient  Advanced
- Suppose a student mastered items 1 through 6. Which achievement level is this student in?  Below Basic  Basic  Proficient  Advanced
- For students who are classified as *Proficient*, with at least what likelihood will they be able to answer item 6?  0.50  0.55  0.60  0.65
- Will the items BEFORE the *Basic* bookmark be more or less difficult to answer than the items AFTER the bookmark or about the same?  More difficult to answer  About the same  Less difficult to answer

## Section I

### Participant Evaluation of the Missouri Standard Setting

## 2005 Missouri Standard Setting

### Evaluation

### Evaluation Results

#### About these results

Each question is shown, along with its answer choices and associated response percentages. For Likert-type questions, there are five possible responses: "Strongly Disagree," "Disagree," "Neutral," "Agree," and "Strongly Agree." For each question, the number of respondents is shown in the column labeled "N."

#### Question 1

During Round 1, I placed my bookmarks without consulting other participants.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	1.0%	10.8%	2.9%	26.5%	58.8%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	28.6%	71.4%
	Grade 4	6	0.0%	0.0%	0.0%	33.3%	66.7%
	Grade 5	8	0.0%	12.5%	0.0%	25.0%	62.5%
	Grade 6	7	0.0%	0.0%	0.0%	57.1%	42.9%
	Grade 7	6	0.0%	33.3%	0.0%	0.0%	66.7%
	Grade 8	7	0.0%	14.3%	0.0%	28.6%	57.1%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	0.0%	12.5%	87.5%
Mathematics	Grade 3	8	0.0%	37.5%	0.0%	62.5%	0.0%
	Grade 4	8	0.0%	0.0%	0.0%	25.0%	75.0%
	Grade 5	7	0.0%	0.0%	14.3%	28.6%	57.1%
	Grade 6	8	0.0%	25.0%	12.5%	0.0%	62.5%
	Grade 7	5	0.0%	0.0%	0.0%	20.0%	80.0%
	Grade 8	9	11.1%	11.1%	11.1%	11.1%	55.6%
	Grade 10	8	0.0%	12.5%	0.0%	37.5%	50.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

## Question 2

I am confident that the Bookmark Procedure produced valid standards.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	5.9%	8.8%	15.7%	49.0%	20.6%
Communication Arts	Grade 3	7	0.0%	14.3%	0.0%	57.1%	28.6%
	Grade 4	6	0.0%	0.0%	0.0%	66.7%	33.3%
	Grade 5	8	12.5%	0.0%	25.0%	62.5%	0.0%
	Grade 6	7	0.0%	14.3%	28.6%	42.9%	14.3%
	Grade 7	6	0.0%	0.0%	16.7%	50.0%	33.3%
	Grade 8	7	0.0%	0.0%	14.3%	71.4%	14.3%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	12.5%	12.5%	50.0%	25.0%
Mathematics	Grade 3	8	62.5%	25.0%	12.5%	0.0%	0.0%
	Grade 4	8	0.0%	12.5%	0.0%	62.5%	25.0%
	Grade 5	7	0.0%	14.3%	0.0%	57.1%	28.6%
	Grade 6	8	0.0%	0.0%	12.5%	62.5%	25.0%
	Grade 7	5	0.0%	0.0%	60.0%	40.0%	0.0%
	Grade 8	9	0.0%	0.0%	22.2%	44.4%	33.3%
	Grade 10	8	0.0%	25.0%	25.0%	25.0%	25.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

## Question 3

I considered the Content Standards when I placed my bookmarks.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	2.0%	3.9%	3.9%	34.3%	55.9%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	57.1%	42.9%
	Grade 4	6	0.0%	0.0%	0.0%	50.0%	50.0%
	Grade 5	8	0.0%	0.0%	0.0%	12.5%	87.5%
	Grade 6	7	0.0%	0.0%	0.0%	85.7%	14.3%
	Grade 7	6	0.0%	0.0%	0.0%	16.7%	83.3%
	Grade 8	7	0.0%	14.3%	0.0%	57.1%	28.6%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	0.0%	12.5%	87.5%
Mathematics	Grade 3	8	25.0%	0.0%	12.5%	25.0%	37.5%
	Grade 4	8	0.0%	12.5%	12.5%	37.5%	37.5%
	Grade 5	7	0.0%	0.0%	14.3%	14.3%	71.4%
	Grade 6	8	0.0%	0.0%	12.5%	37.5%	50.0%
	Grade 7	5	0.0%	0.0%	0.0%	0.0%	100.0%
	Grade 8	9	0.0%	11.1%	0.0%	22.2%	66.7%
	Grade 10	8	0.0%	12.5%	0.0%	50.0%	37.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 4**

I felt that this procedure was fair.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	4.9%	8.8%	15.7%	46.1%	24.5%
Communication Arts	Grade 3	7	0.0%	14.3%	0.0%	57.1%	28.6%
	Grade 4	6	0.0%	0.0%	16.7%	33.3%	50.0%
	Grade 5	8	0.0%	12.5%	12.5%	62.5%	12.5%
	Grade 6	7	0.0%	14.3%	28.6%	42.9%	14.3%
	Grade 7	6	0.0%	16.7%	16.7%	50.0%	16.7%
	Grade 8	7	0.0%	0.0%	0.0%	85.7%	14.3%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	12.5%	62.5%	25.0%
Mathematics	Grade 3	8	62.5%	12.5%	25.0%	0.0%	0.0%
	Grade 4	8	0.0%	12.5%	12.5%	50.0%	25.0%
	Grade 5	7	0.0%	14.3%	0.0%	57.1%	28.6%
	Grade 6	8	0.0%	0.0%	12.5%	62.5%	25.0%
	Grade 7	5	0.0%	0.0%	40.0%	40.0%	20.0%
	Grade 8	9	0.0%	0.0%	22.2%	22.2%	55.6%
	Grade 10	8	0.0%	25.0%	25.0%	25.0%	25.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 5**

I had enough time to consider my Round 1 bookmarks.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	2.0%	7.8%	3.9%	38.2%	48.0%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	71.4%	28.6%
	Grade 4	6	0.0%	33.3%	0.0%	50.0%	16.7%
	Grade 5	8	0.0%	0.0%	0.0%	50.0%	50.0%
	Grade 6	7	0.0%	0.0%	0.0%	100.0%	0.0%
	Grade 7	6	16.7%	0.0%	16.7%	33.3%	33.3%
	Grade 8	7	0.0%	14.3%	0.0%	28.6%	57.1%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	0.0%	12.5%	87.5%
Mathematics	Grade 3	8	12.5%	0.0%	0.0%	37.5%	50.0%
	Grade 4	8	0.0%	12.5%	12.5%	25.0%	50.0%
	Grade 5	7	0.0%	14.3%	0.0%	14.3%	71.4%
	Grade 6	8	0.0%	0.0%	25.0%	37.5%	37.5%
	Grade 7	5	0.0%	0.0%	0.0%	60.0%	40.0%
	Grade 8	9	0.0%	22.2%	0.0%	11.1%	66.7%
	Grade 10	8	0.0%	12.5%	0.0%	25.0%	62.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

### Question 6

I learned how to do the Bookmark placement as I went along, so my later ones may not be comparable to my earlier ones.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	7.8%	21.6%	16.7%	29.4%	24.5%
Communication Arts	Grade 3	7	0.0%	28.6%	28.6%	14.3%	28.6%
	Grade 4	6	0.0%	0.0%	16.7%	50.0%	33.3%
	Grade 5	8	12.5%	25.0%	12.5%	37.5%	12.5%
	Grade 6	7	28.6%	0.0%	28.6%	28.6%	14.3%
	Grade 7	6	16.7%	0.0%	16.7%	33.3%	33.3%
	Grade 8	7	0.0%	28.6%	0.0%	28.6%	42.9%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	25.0%	12.5%	37.5%	25.0%
Mathematics	Grade 3	8	25.0%	25.0%	12.5%	25.0%	12.5%
	Grade 4	8	0.0%	25.0%	0.0%	37.5%	37.5%
	Grade 5	7	0.0%	42.9%	0.0%	42.9%	14.3%
	Grade 6	8	0.0%	25.0%	50.0%	12.5%	12.5%
	Grade 7	5	0.0%	40.0%	0.0%	40.0%	20.0%
	Grade 8	9	22.2%	22.2%	11.1%	11.1%	33.3%
	Grade 10	8	0.0%	12.5%	37.5%	25.0%	25.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

### Question 7

I understood how to place my bookmarks.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	0.0%	3.9%	2.0%	42.2%	52.0%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	57.1%	42.9%
	Grade 4	6	0.0%	0.0%	0.0%	33.3%	66.7%
	Grade 5	8	0.0%	0.0%	12.5%	37.5%	50.0%
	Grade 6	7	0.0%	14.3%	0.0%	57.1%	28.6%
	Grade 7	6	0.0%	16.7%	0.0%	33.3%	50.0%
	Grade 8	7	0.0%	0.0%	0.0%	42.9%	57.1%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	0.0%	25.0%	75.0%
Mathematics	Grade 3	8	0.0%	0.0%	0.0%	75.0%	25.0%
	Grade 4	8	0.0%	12.5%	0.0%	50.0%	37.5%
	Grade 5	7	0.0%	14.3%	0.0%	42.9%	42.9%
	Grade 6	8	0.0%	0.0%	12.5%	62.5%	25.0%
	Grade 7	5	0.0%	0.0%	0.0%	20.0%	80.0%
	Grade 8	9	0.0%	0.0%	0.0%	22.2%	77.8%
	Grade 10	8	0.0%	0.0%	0.0%	25.0%	75.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 8**

Overall, I believe that my opinions were considered and valued by my group.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	2.0%	3.9%	1.0%	37.3%	55.9%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	42.9%	57.1%
	Grade 4	6	0.0%	0.0%	0.0%	16.7%	83.3%
	Grade 5	8	0.0%	0.0%	0.0%	12.5%	87.5%
	Grade 6	7	0.0%	28.6%	0.0%	28.6%	42.9%
	Grade 7	6	0.0%	0.0%	0.0%	66.7%	33.3%
	Grade 8	7	0.0%	0.0%	0.0%	14.3%	85.7%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	12.5%	0.0%	0.0%	37.5%	50.0%
Mathematics	Grade 3	8	0.0%	0.0%	0.0%	37.5%	62.5%
	Grade 4	8	0.0%	0.0%	0.0%	75.0%	25.0%
	Grade 5	7	0.0%	0.0%	0.0%	42.9%	57.1%
	Grade 6	8	0.0%	12.5%	0.0%	25.0%	62.5%
	Grade 7	5	0.0%	20.0%	0.0%	20.0%	60.0%
	Grade 8	9	0.0%	0.0%	11.1%	55.6%	33.3%
	Grade 10	8	12.5%	0.0%	0.0%	37.5%	50.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 9**

Overall, I valued the conference as a professional development experience.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	0.0%	1.0%	3.9%	32.4%	62.7%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	42.9%	57.1%
	Grade 4	6	0.0%	0.0%	0.0%	16.7%	83.3%
	Grade 5	8	0.0%	0.0%	0.0%	25.0%	75.0%
	Grade 6	7	0.0%	14.3%	14.3%	42.9%	28.6%
	Grade 7	6	0.0%	0.0%	16.7%	50.0%	33.3%
	Grade 8	7	0.0%	0.0%	0.0%	14.3%	85.7%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	0.0%	50.0%	50.0%
Mathematics	Grade 3	8	0.0%	0.0%	0.0%	37.5%	62.5%
	Grade 4	8	0.0%	0.0%	25.0%	25.0%	50.0%
	Grade 5	7	0.0%	0.0%	0.0%	57.1%	42.9%
	Grade 6	8	0.0%	0.0%	0.0%	25.0%	75.0%
	Grade 7	5	0.0%	0.0%	0.0%	40.0%	60.0%
	Grade 8	9	0.0%	0.0%	0.0%	0.0%	100.0%
	Grade 10	8	0.0%	0.0%	0.0%	37.5%	62.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 10**

Overall, I was satisfied with my group's final bookmarks.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		101	2.0%	6.9%	8.9%	36.6%	45.5%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	71.4%	28.6%
	Grade 4	6	0.0%	0.0%	0.0%	16.7%	83.3%
	Grade 5	8	0.0%	12.5%	25.0%	25.0%	37.5%
	Grade 6	7	0.0%	14.3%	0.0%	42.9%	42.9%
	Grade 7	5	0.0%	0.0%	20.0%	60.0%	20.0%
	Grade 8	7	0.0%	0.0%	0.0%	71.4%	28.6%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	37.5%	25.0%	25.0%	12.5%
Mathematics	Grade 3	8	25.0%	12.5%	0.0%	25.0%	37.5%
	Grade 4	8	0.0%	0.0%	0.0%	25.0%	75.0%
	Grade 5	7	0.0%	14.3%	0.0%	57.1%	28.6%
	Grade 6	8	0.0%	0.0%	12.5%	12.5%	75.0%
	Grade 7	5	0.0%	0.0%	20.0%	20.0%	60.0%
	Grade 8	9	0.0%	0.0%	11.1%	33.3%	55.6%
	Grade 10	8	0.0%	0.0%	12.5%	37.5%	50.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 11**

Overall, my table's discussions were open and honest.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		101	3.0%	0.0%	1.0%	31.7%	64.4%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	28.6%	71.4%
	Grade 4	6	0.0%	0.0%	0.0%	0.0%	100.0%
	Grade 5	8	0.0%	0.0%	0.0%	37.5%	62.5%
	Grade 6	7	0.0%	0.0%	0.0%	57.1%	42.9%
	Grade 7	6	16.7%	0.0%	16.7%	16.7%	50.0%
	Grade 8	6	0.0%	0.0%	0.0%	16.7%	83.3%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	12.5%	0.0%	0.0%	62.5%	25.0%
Mathematics	Grade 3	8	12.5%	0.0%	0.0%	25.0%	62.5%
	Grade 4	8	0.0%	0.0%	0.0%	37.5%	62.5%
	Grade 5	7	0.0%	0.0%	0.0%	42.9%	57.1%
	Grade 6	8	0.0%	0.0%	0.0%	12.5%	87.5%
	Grade 7	5	0.0%	0.0%	0.0%	60.0%	40.0%
	Grade 8	9	0.0%	0.0%	0.0%	11.1%	88.9%
	Grade 10	8	0.0%	0.0%	0.0%	37.5%	62.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

## Question 12

Participating in the Bookmark Standard Setting Procedure increased my understanding of the test.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		101	0.0%	1.0%	1.0%	19.8%	78.2%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	28.6%	71.4%
	Grade 4	6	0.0%	0.0%	0.0%	0.0%	100.0%
	Grade 5	8	0.0%	0.0%	0.0%	0.0%	100.0%
	Grade 6	7	0.0%	14.3%	0.0%	57.1%	28.6%
	Grade 7	6	0.0%	0.0%	0.0%	33.3%	66.7%
	Grade 8	6	0.0%	0.0%	16.7%	16.7%	66.7%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	0.0%	0.0%	100.0%
Mathematics	Grade 3	8	0.0%	0.0%	0.0%	25.0%	75.0%
	Grade 4	8	0.0%	0.0%	0.0%	25.0%	75.0%
	Grade 5	7	0.0%	0.0%	0.0%	14.3%	85.7%
	Grade 6	8	0.0%	0.0%	0.0%	12.5%	87.5%
	Grade 7	5	0.0%	0.0%	0.0%	40.0%	60.0%
	Grade 8	9	0.0%	0.0%	0.0%	0.0%	100.0%
	Grade 10	8	0.0%	0.0%	0.0%	37.5%	62.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

## Question 13

Reviewing the Target Student helped me place my bookmarks.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		101	1.0%	5.0%	10.9%	48.5%	34.7%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	85.7%	14.3%
	Grade 4	6	0.0%	0.0%	0.0%	33.3%	66.7%
	Grade 5	7	0.0%	0.0%	14.3%	42.9%	42.9%
	Grade 6	7	0.0%	14.3%	14.3%	57.1%	14.3%
	Grade 7	6	16.7%	0.0%	0.0%	50.0%	33.3%
	Grade 8	7	0.0%	14.3%	14.3%	57.1%	14.3%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	12.5%	25.0%	62.5%
Mathematics	Grade 3	8	0.0%	12.5%	12.5%	25.0%	50.0%
	Grade 4	8	0.0%	0.0%	12.5%	50.0%	37.5%
	Grade 5	7	0.0%	0.0%	0.0%	57.1%	42.9%
	Grade 6	8	0.0%	12.5%	12.5%	62.5%	12.5%
	Grade 7	5	0.0%	0.0%	40.0%	40.0%	20.0%
	Grade 8	9	0.0%	0.0%	0.0%	66.7%	33.3%
	Grade 10	8	0.0%	12.5%	25.0%	25.0%	37.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 14**

Taking the test helped me place my bookmarks.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	2.0%	3.9%	8.8%	48.0%	37.3%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	71.4%	28.6%
	Grade 4	6	0.0%	0.0%	0.0%	0.0%	100.0%
	Grade 5	8	0.0%	0.0%	12.5%	75.0%	12.5%
	Grade 6	7	0.0%	14.3%	0.0%	85.7%	0.0%
	Grade 7	6	16.7%	0.0%	0.0%	33.3%	50.0%
	Grade 8	7	0.0%	0.0%	28.6%	42.9%	28.6%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	12.5%	0.0%	37.5%	50.0%
Mathematics	Grade 3	8	0.0%	0.0%	0.0%	75.0%	25.0%
	Grade 4	8	0.0%	0.0%	25.0%	25.0%	50.0%
	Grade 5	7	0.0%	28.6%	0.0%	42.9%	28.6%
	Grade 6	8	12.5%	0.0%	12.5%	50.0%	25.0%
	Grade 7	5	0.0%	0.0%	20.0%	60.0%	20.0%
	Grade 8	9	0.0%	0.0%	0.0%	44.4%	55.6%
	Grade 10	8	0.0%	0.0%	25.0%	25.0%	50.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 15**

The Bookmark Standard Setting Procedure was well described.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	0.0%	7.8%	6.9%	48.0%	37.3%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	85.7%	14.3%
	Grade 4	6	0.0%	0.0%	16.7%	0.0%	83.3%
	Grade 5	8	0.0%	12.5%	0.0%	87.5%	0.0%
	Grade 6	7	0.0%	42.9%	0.0%	42.9%	14.3%
	Grade 7	6	0.0%	16.7%	0.0%	66.7%	16.7%
	Grade 8	7	0.0%	0.0%	0.0%	42.9%	57.1%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	12.5%	25.0%	62.5%
Mathematics	Grade 3	8	0.0%	12.5%	12.5%	50.0%	25.0%
	Grade 4	8	0.0%	12.5%	12.5%	50.0%	25.0%
	Grade 5	7	0.0%	0.0%	0.0%	71.4%	28.6%
	Grade 6	8	0.0%	12.5%	12.5%	37.5%	37.5%
	Grade 7	5	0.0%	0.0%	20.0%	40.0%	40.0%
	Grade 8	9	0.0%	0.0%	0.0%	44.4%	55.6%
	Grade 10	8	0.0%	0.0%	12.5%	25.0%	62.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 16**

The conference was well organized.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	1.0%	6.9%	6.9%	43.1%	42.2%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	85.7%	14.3%
	Grade 4	6	0.0%	16.7%	33.3%	0.0%	50.0%
	Grade 5	8	0.0%	12.5%	12.5%	25.0%	50.0%
	Grade 6	7	0.0%	28.6%	0.0%	57.1%	14.3%
	Grade 7	6	16.7%	16.7%	0.0%	50.0%	16.7%
	Grade 8	7	0.0%	0.0%	0.0%	42.9%	57.1%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	0.0%	37.5%	62.5%
Mathematics	Grade 3	8	0.0%	0.0%	12.5%	37.5%	50.0%
	Grade 4	8	0.0%	25.0%	0.0%	50.0%	25.0%
	Grade 5	7	0.0%	0.0%	0.0%	57.1%	42.9%
	Grade 6	8	0.0%	0.0%	12.5%	50.0%	37.5%
	Grade 7	5	0.0%	0.0%	0.0%	60.0%	40.0%
	Grade 8	9	0.0%	0.0%	0.0%	33.3%	66.7%
	Grade 10	8	0.0%	0.0%	25.0%	25.0%	50.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 17**

The goals for this procedure were clear.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	2.0%	5.9%	6.9%	51.0%	34.3%
Communication Arts	Grade 3	7	14.3%	0.0%	0.0%	71.4%	14.3%
	Grade 4	6	0.0%	16.7%	0.0%	33.3%	50.0%
	Grade 5	8	0.0%	0.0%	0.0%	75.0%	25.0%
	Grade 6	7	0.0%	42.9%	0.0%	42.9%	14.3%
	Grade 7	6	0.0%	16.7%	16.7%	33.3%	33.3%
	Grade 8	7	0.0%	0.0%	14.3%	42.9%	42.9%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	0.0%	50.0%	50.0%
Mathematics	Grade 3	8	0.0%	12.5%	12.5%	37.5%	37.5%
	Grade 4	8	12.5%	0.0%	25.0%	37.5%	25.0%
	Grade 5	7	0.0%	0.0%	0.0%	57.1%	42.9%
	Grade 6	8	0.0%	0.0%	0.0%	75.0%	25.0%
	Grade 7	5	0.0%	0.0%	0.0%	60.0%	40.0%
	Grade 8	9	0.0%	0.0%	0.0%	55.6%	44.4%
	Grade 10	8	0.0%	0.0%	25.0%	37.5%	37.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

### Question 18

The ordering of the items in the ordered item booklet agreed with my perception of the relative difficulty of the items.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		101	5.9%	27.7%	13.9%	41.6%	10.9%
Communication Arts	Grade 3	7	0.0%	42.9%	14.3%	42.9%	0.0%
	Grade 4	6	0.0%	16.7%	0.0%	33.3%	50.0%
	Grade 5	8	12.5%	50.0%	0.0%	37.5%	0.0%
	Grade 6	7	0.0%	28.6%	14.3%	57.1%	0.0%
	Grade 7	6	0.0%	50.0%	16.7%	33.3%	0.0%
	Grade 8	7	14.3%	14.3%	14.3%	57.1%	0.0%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	12.5%	0.0%	87.5%	0.0%
Mathematics	Grade 3	7	28.6%	28.6%	0.0%	28.6%	14.3%
	Grade 4	8	12.5%	12.5%	12.5%	62.5%	0.0%
	Grade 5	7	0.0%	0.0%	14.3%	57.1%	28.6%
	Grade 6	8	0.0%	12.5%	50.0%	12.5%	25.0%
	Grade 7	5	0.0%	40.0%	40.0%	0.0%	20.0%
	Grade 8	9	0.0%	55.6%	11.1%	33.3%	0.0%
	Grade 10	8	12.5%	25.0%	12.5%	25.0%	25.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

### Question 19

The training materials were helpful.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	1.0%	3.9%	7.8%	55.9%	31.4%
Communication Arts	Grade 3	7	0.0%	0.0%	0.0%	85.7%	14.3%
	Grade 4	6	0.0%	0.0%	0.0%	66.7%	33.3%
	Grade 5	8	0.0%	12.5%	0.0%	75.0%	12.5%
	Grade 6	7	0.0%	14.3%	14.3%	57.1%	14.3%
	Grade 7	6	0.0%	16.7%	16.7%	50.0%	16.7%
	Grade 8	7	0.0%	14.3%	0.0%	28.6%	57.1%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	0.0%	50.0%	50.0%
Mathematics	Grade 3	8	12.5%	0.0%	0.0%	62.5%	25.0%
	Grade 4	8	0.0%	0.0%	25.0%	50.0%	25.0%
	Grade 5	7	0.0%	0.0%	0.0%	57.1%	42.9%
	Grade 6	8	0.0%	0.0%	37.5%	25.0%	37.5%
	Grade 7	5	0.0%	0.0%	0.0%	80.0%	20.0%
	Grade 8	9	0.0%	0.0%	0.0%	44.4%	55.6%
	Grade 10	8	0.0%	0.0%	12.5%	62.5%	25.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 20**

The presentation of the impact data was helpful to me.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	2.0%	4.9%	9.8%	48.0%	35.3%
Communication Arts	Grade 3	7	0.0%	14.3%	14.3%	57.1%	14.3%
	Grade 4	6	0.0%	0.0%	0.0%	83.3%	16.7%
	Grade 5	8	0.0%	12.5%	12.5%	62.5%	12.5%
	Grade 6	7	0.0%	14.3%	28.6%	42.9%	14.3%
	Grade 7	6	16.7%	0.0%	16.7%	33.3%	33.3%
	Grade 8	7	0.0%	0.0%	0.0%	42.9%	57.1%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	0.0%	37.5%	62.5%
Mathematics	Grade 3	8	0.0%	0.0%	0.0%	37.5%	62.5%
	Grade 4	8	0.0%	0.0%	0.0%	50.0%	50.0%
	Grade 5	7	0.0%	14.3%	14.3%	42.9%	28.6%
	Grade 6	8	0.0%	0.0%	12.5%	50.0%	37.5%
	Grade 7	5	0.0%	0.0%	0.0%	60.0%	40.0%
	Grade 8	9	11.1%	0.0%	11.1%	33.3%	44.4%
	Grade 10	8	0.0%	12.5%	25.0%	50.0%	12.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 21**

The training on Bookmark placement made the task clear to me.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	2.0%	4.9%	6.9%	53.9%	32.4%
Communication Arts	Grade 3	7	0.0%	14.3%	0.0%	71.4%	14.3%
	Grade 4	6	0.0%	0.0%	0.0%	66.7%	33.3%
	Grade 5	8	0.0%	12.5%	0.0%	62.5%	25.0%
	Grade 6	7	0.0%	14.3%	0.0%	71.4%	14.3%
	Grade 7	6	16.7%	0.0%	16.7%	50.0%	16.7%
	Grade 8	7	0.0%	0.0%	0.0%	71.4%	28.6%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	25.0%	37.5%	37.5%
Mathematics	Grade 3	8	0.0%	0.0%	0.0%	75.0%	25.0%
	Grade 4	8	0.0%	12.5%	0.0%	62.5%	25.0%
	Grade 5	7	0.0%	0.0%	0.0%	42.9%	57.1%
	Grade 6	8	0.0%	12.5%	12.5%	50.0%	25.0%
	Grade 7	5	0.0%	0.0%	20.0%	20.0%	60.0%
	Grade 8	9	11.1%	0.0%	11.1%	44.4%	33.3%
	Grade 10	8	0.0%	0.0%	12.5%	25.0%	62.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 22**

This experience will help me target instruction for the students in my classroom.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		99	1.0%	2.0%	21.2%	33.3%	42.4%
Communication Arts	Grade 3	7	0.0%	0.0%	14.3%	42.9%	42.9%
	Grade 4	6	0.0%	0.0%	16.7%	33.3%	50.0%
	Grade 5	8	12.5%	0.0%	25.0%	37.5%	25.0%
	Grade 6	7	0.0%	14.3%	28.6%	28.6%	28.6%
	Grade 7	5	0.0%	0.0%	20.0%	40.0%	40.0%
	Grade 8	7	0.0%	0.0%	28.6%	42.9%	28.6%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	37.5%	25.0%	37.5%
Mathematics	Grade 3	8	0.0%	0.0%	12.5%	50.0%	37.5%
	Grade 4	8	0.0%	0.0%	25.0%	25.0%	50.0%
	Grade 5	7	0.0%	0.0%	14.3%	42.9%	42.9%
	Grade 6	7	0.0%	0.0%	14.3%	14.3%	71.4%
	Grade 7	5	0.0%	0.0%	0.0%	40.0%	60.0%
	Grade 8	8	0.0%	0.0%	25.0%	25.0%	50.0%
	Grade 10	8	0.0%	12.5%	25.0%	25.0%	37.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 23**

I would defend the Basic cut score against criticism that it is too high.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	1.0%	9.8%	12.7%	43.1%	33.3%
Communication Arts	Grade 3	7	0.0%	14.3%	0.0%	71.4%	14.3%
	Grade 4	6	0.0%	33.3%	0.0%	50.0%	16.7%
	Grade 5	8	0.0%	12.5%	12.5%	37.5%	37.5%
	Grade 6	7	0.0%	14.3%	14.3%	42.9%	28.6%
	Grade 7	6	16.7%	0.0%	50.0%	33.3%	0.0%
	Grade 8	7	0.0%	0.0%	42.9%	28.6%	28.6%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	12.5%	37.5%	25.0%	25.0%
Mathematics	Grade 3	8	0.0%	12.5%	12.5%	62.5%	12.5%
	Grade 4	8	0.0%	0.0%	0.0%	25.0%	75.0%
	Grade 5	7	0.0%	0.0%	0.0%	71.4%	28.6%
	Grade 6	8	0.0%	12.5%	12.5%	37.5%	37.5%
	Grade 7	5	0.0%	20.0%	0.0%	60.0%	20.0%
	Grade 8	9	0.0%	11.1%	0.0%	11.1%	77.8%
	Grade 10	8	0.0%	0.0%	0.0%	62.5%	37.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 24**

I would defend the Basic cut score against criticism that it is too low.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	4.9%	12.7%	15.7%	32.4%	34.3%
Communication Arts	Grade 3	7	14.3%	0.0%	0.0%	71.4%	14.3%
	Grade 4	6	0.0%	16.7%	0.0%	66.7%	16.7%
	Grade 5	8	12.5%	25.0%	0.0%	25.0%	37.5%
	Grade 6	7	0.0%	14.3%	14.3%	42.9%	28.6%
	Grade 7	6	33.3%	0.0%	33.3%	16.7%	16.7%
	Grade 8	7	0.0%	14.3%	28.6%	14.3%	42.9%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	50.0%	12.5%	37.5%
Mathematics	Grade 3	8	12.5%	25.0%	25.0%	25.0%	12.5%
	Grade 4	8	0.0%	0.0%	25.0%	25.0%	50.0%
	Grade 5	7	0.0%	14.3%	14.3%	28.6%	42.9%
	Grade 6	8	0.0%	12.5%	12.5%	37.5%	37.5%
	Grade 7	5	0.0%	0.0%	0.0%	60.0%	40.0%
	Grade 8	9	0.0%	22.2%	11.1%	22.2%	44.4%
	Grade 10	8	0.0%	25.0%	0.0%	25.0%	50.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 25**

I would defend the Proficient cut score against criticism that it is too high.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	6.9%	11.8%	18.6%	32.4%	30.4%
Communication Arts	Grade 3	7	14.3%	14.3%	0.0%	57.1%	14.3%
	Grade 4	6	16.7%	0.0%	0.0%	66.7%	16.7%
	Grade 5	8	0.0%	12.5%	50.0%	25.0%	12.5%
	Grade 6	7	0.0%	14.3%	42.9%	14.3%	28.6%
	Grade 7	6	33.3%	0.0%	33.3%	33.3%	0.0%
	Grade 8	7	0.0%	28.6%	14.3%	28.6%	28.6%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	0.0%	25.0%	37.5%	37.5%
Mathematics	Grade 3	8	25.0%	25.0%	25.0%	12.5%	12.5%
	Grade 4	8	0.0%	0.0%	12.5%	50.0%	37.5%
	Grade 5	7	0.0%	14.3%	0.0%	57.1%	28.6%
	Grade 6	8	0.0%	0.0%	25.0%	25.0%	50.0%
	Grade 7	5	20.0%	20.0%	0.0%	40.0%	20.0%
	Grade 8	9	0.0%	22.2%	0.0%	0.0%	77.8%
	Grade 10	8	0.0%	12.5%	25.0%	25.0%	37.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 26**

I would defend the Proficient cut score against criticism that it is too low.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	5.9%	7.8%	21.6%	28.4%	36.3%
Communication Arts	Grade 3	7	14.3%	0.0%	0.0%	71.4%	14.3%
	Grade 4	6	0.0%	16.7%	0.0%	50.0%	33.3%
	Grade 5	8	12.5%	0.0%	25.0%	25.0%	37.5%
	Grade 6	7	0.0%	14.3%	28.6%	28.6%	28.6%
	Grade 7	6	16.7%	0.0%	50.0%	33.3%	0.0%
	Grade 8	7	0.0%	0.0%	28.6%	28.6%	42.9%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	0.0%	12.5%	50.0%	0.0%	37.5%
Mathematics	Grade 3	8	25.0%	0.0%	25.0%	0.0%	50.0%
	Grade 4	8	0.0%	0.0%	25.0%	25.0%	50.0%
	Grade 5	7	0.0%	0.0%	14.3%	42.9%	42.9%
	Grade 6	8	0.0%	0.0%	25.0%	37.5%	37.5%
	Grade 7	5	20.0%	0.0%	0.0%	40.0%	40.0%
	Grade 8	9	0.0%	33.3%	0.0%	11.1%	55.6%
	Grade 10	8	0.0%	25.0%	25.0%	25.0%	25.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 27**

I would defend the Advanced cut score against criticism that it is too high.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	3.9%	7.8%	13.7%	41.2%	33.3%
Communication Arts	Grade 3	7	14.3%	0.0%	0.0%	71.4%	14.3%
	Grade 4	6	16.7%	0.0%	0.0%	66.7%	16.7%
	Grade 5	8	0.0%	0.0%	25.0%	37.5%	37.5%
	Grade 6	7	0.0%	28.6%	14.3%	28.6%	28.6%
	Grade 7	6	16.7%	0.0%	50.0%	33.3%	0.0%
	Grade 8	7	0.0%	0.0%	0.0%	71.4%	28.6%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	12.5%	25.0%	25.0%	0.0%	37.5%
Mathematics	Grade 3	8	0.0%	12.5%	37.5%	25.0%	25.0%
	Grade 4	8	0.0%	0.0%	12.5%	37.5%	50.0%
	Grade 5	7	0.0%	14.3%	0.0%	57.1%	28.6%
	Grade 6	8	0.0%	0.0%	12.5%	50.0%	37.5%
	Grade 7	5	0.0%	0.0%	0.0%	80.0%	20.0%
	Grade 8	9	0.0%	11.1%	11.1%	11.1%	66.7%
	Grade 10	8	0.0%	12.5%	0.0%	37.5%	50.0%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 28**

I would defend the Advanced cut score against criticism that it is too low.

Content Area	Grade Level	N	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Overall		102	4.9%	12.7%	15.7%	37.3%	29.4%
Communication Arts	Grade 3	7	14.3%	0.0%	0.0%	71.4%	14.3%
	Grade 4	6	0.0%	16.7%	0.0%	50.0%	33.3%
	Grade 5	8	0.0%	12.5%	25.0%	37.5%	25.0%
	Grade 6	7	0.0%	28.6%	28.6%	14.3%	28.6%
	Grade 7	6	16.7%	0.0%	50.0%	33.3%	0.0%
	Grade 8	7	0.0%	28.6%	0.0%	42.9%	28.6%
	Grade 10	0	0.0%	0.0%	0.0%	0.0%	0.0%
	Grade 11	8	12.5%	25.0%	25.0%	37.5%	0.0%
Mathematics	Grade 3	8	12.5%	12.5%	37.5%	12.5%	25.0%
	Grade 4	8	0.0%	0.0%	0.0%	50.0%	50.0%
	Grade 5	7	0.0%	0.0%	0.0%	57.1%	42.9%
	Grade 6	8	0.0%	0.0%	25.0%	37.5%	37.5%
	Grade 7	5	20.0%	0.0%	0.0%	60.0%	20.0%
	Grade 8	9	0.0%	11.1%	22.2%	11.1%	55.6%
	Grade 10	8	0.0%	37.5%	0.0%	25.0%	37.5%
	Grade 11	0	0.0%	0.0%	0.0%	0.0%	0.0%

**Question 29**

What is your occupation?

Content Area	Grade Level	N	Teacher	Administrator	Other
Overall		100	53.0%	24.0%	23.0%
Communication Arts	Grade 3	7	42.9%	28.6%	28.6%
	Grade 4	6	66.7%	16.7%	16.7%
	Grade 5	8	62.5%	0.0%	37.5%
	Grade 6	7	57.1%	14.3%	28.6%
	Grade 7	6	33.3%	50.0%	16.7%
	Grade 8	7	57.1%	28.6%	14.3%
	Grade 10	0	0.0%	0.0%	0.0%
	Grade 11	7	42.9%	28.6%	28.6%
Mathematics	Grade 3	7	42.9%	42.9%	14.3%
	Grade 4	8	50.0%	37.5%	12.5%
	Grade 5	7	57.1%	14.3%	28.6%
	Grade 6	8	50.0%	12.5%	37.5%
	Grade 7	5	60.0%	20.0%	20.0%
	Grade 8	9	55.6%	22.2%	22.2%
	Grade 10	8	62.5%	25.0%	12.5%
	Grade 11	0	0.0%	0.0%	0.0%

**Question 30**

How many years in your current profession?

Content Area	Grade Level	N	1-5	6-10	11-15
Overall		99	7.1%	20.2%	23.2%
Communication Arts	Grade 3	7	0.0%	14.3%	28.6%
	Grade 4	6	16.7%	16.7%	50.0%
	Grade 5	8	12.5%	12.5%	25.0%
	Grade 6	7	0.0%	42.9%	28.6%
	Grade 7	6	0.0%	33.3%	0.0%
	Grade 8	7	14.3%	0.0%	14.3%
	Grade 10	0	0.0%	0.0%	0.0%
	Grade 11	6	16.7%	16.7%	16.7%
	Mathematics	Grade 3	7	0.0%	14.3%
Grade 4		8	12.5%	12.5%	0.0%
Grade 5		7	0.0%	14.3%	42.9%
Grade 6		8	0.0%	12.5%	37.5%
Grade 7		5	0.0%	0.0%	40.0%
Grade 8		9	22.2%	44.4%	11.1%
Grade 10		8	0.0%	37.5%	25.0%
Grade 11		0	0.0%	0.0%	0.0%

**Question 30 (cont.)**

How many years in your current profession?

Content Area	Grade Level	N	16-20	21+
Overall		99	10.1%	39.4%
Communication Arts	Grade 3	7	0.0%	57.1%
	Grade 4	6	16.7%	0.0%
	Grade 5	8	25.0%	25.0%
	Grade 6	7	14.3%	14.3%
	Grade 7	6	0.0%	66.7%
	Grade 8	7	14.3%	57.1%
	Grade 10	0	0.0%	0.0%
	Grade 11	6	0.0%	50.0%
	Mathematics	Grade 3	7	14.3%
Grade 4		8	12.5%	62.5%
Grade 5		7	0.0%	42.9%
Grade 6		8	12.5%	37.5%
Grade 7		5	20.0%	40.0%
Grade 8		9	11.1%	11.1%
Grade 10		8	0.0%	37.5%
Grade 11		0	0.0%	0.0%

**Question 31**

What is your education level?

Content Area	Grade Level	N	Bachelor's	Master's	Doctorate
Overall		96	18.8%	72.9%	8.3%
Communication Arts	Grade 3	7	0.0%	100.0%	0.0%
	Grade 4	4	25.0%	75.0%	0.0%
	Grade 5	8	25.0%	75.0%	0.0%
	Grade 6	7	14.3%	85.7%	0.0%
	Grade 7	5	0.0%	60.0%	40.0%
	Grade 8	6	16.7%	66.7%	16.7%
	Grade 10	0	0.0%	0.0%	0.0%
	Grade 11	7	14.3%	57.1%	28.6%
	Mathematics	Grade 3	7	0.0%	85.7%
Grade 4		8	50.0%	50.0%	0.0%
Grade 5		7	14.3%	85.7%	0.0%
Grade 6		8	25.0%	75.0%	0.0%
Grade 7		5	0.0%	100.0%	0.0%
Grade 8		9	11.1%	77.8%	11.1%
Grade 10		8	50.0%	37.5%	12.5%
Grade 11		0	0.0%	0.0%	0.0%

**Question 32**

What is your gender?

Content Area	Grade Level	N	Male	Female
Overall		101	19.8%	80.2%
Communication Arts	Grade 3	7	14.3%	85.7%
	Grade 4	6	16.7%	83.3%
	Grade 5	8	37.5%	62.5%
	Grade 6	7	28.6%	71.4%
	Grade 7	6	33.3%	66.7%
	Grade 8	7	28.6%	71.4%
	Grade 10	0	0.0%	0.0%
	Grade 11	7	14.3%	85.7%
	Mathematics	Grade 3	8	0.0%
Grade 4		8	0.0%	100.0%
Grade 5		7	0.0%	100.0%
Grade 6		8	0.0%	100.0%
Grade 7		5	0.0%	100.0%
Grade 8		9	55.6%	44.4%
Grade 10		8	37.5%	62.5%
Grade 11		0	0.0%	0.0%

**Question 33**

What is your racial/ethnic background?

Content Area	Grade Level	N	Asian/Pacific Islander	African American	American Indian	
Overall		101	0.0%	20.8%	0.0%	
Communication Arts	Grade 3	7	0.0%	14.3%	0.0%	
	Grade 4	6	0.0%	16.7%	0.0%	
	Grade 5	8	0.0%	25.0%	0.0%	
	Grade 6	7	0.0%	0.0%	0.0%	
	Grade 7	6	0.0%	50.0%	0.0%	
	Grade 8	7	0.0%	14.3%	0.0%	
	Grade 10	0	0.0%	0.0%	0.0%	
	Grade 11	7	0.0%	28.6%	0.0%	
	Mathematics	Grade 3	8	0.0%	37.5%	0.0%
		Grade 4	8	0.0%	25.0%	0.0%
Grade 5		7	0.0%	0.0%	0.0%	
Grade 6		8	0.0%	12.5%	0.0%	
Grade 7		5	0.0%	0.0%	0.0%	
Grade 8		9	0.0%	22.2%	0.0%	
Grade 10		8	0.0%	37.5%	0.0%	
Grade 11		0	0.0%	0.0%	0.0%	

**Question 33 (cont.)**

What is your racial/ethnic background?

Content Area	Grade Level	N	Hispanic	White	Other	
Overall		101	0.0%	78.2%	1.0%	
Communication Arts	Grade 3	7	0.0%	85.7%	0.0%	
	Grade 4	6	0.0%	83.3%	0.0%	
	Grade 5	8	0.0%	75.0%	0.0%	
	Grade 6	7	0.0%	100.0%	0.0%	
	Grade 7	6	0.0%	50.0%	0.0%	
	Grade 8	7	0.0%	85.7%	0.0%	
	Grade 10	0	0.0%	0.0%	0.0%	
	Grade 11	7	0.0%	71.4%	0.0%	
	Mathematics	Grade 3	8	0.0%	62.5%	0.0%
		Grade 4	8	0.0%	75.0%	0.0%
Grade 5		7	0.0%	100.0%	0.0%	
Grade 6		8	0.0%	75.0%	12.5%	
Grade 7		5	0.0%	100.0%	0.0%	
Grade 8		9	0.0%	77.8%	0.0%	
Grade 10		8	0.0%	62.5%	0.0%	
Grade 11		0	0.0%	0.0%	0.0%	

**Question 34**

Have you taught Special Education?

Content Area	Grade Level	N	Yes	No
Overall		101	10.9%	89.1%
Communication Arts	Grade 3	7	0.0%	100.0%
	Grade 4	6	0.0%	100.0%
	Grade 5	8	0.0%	100.0%
	Grade 6	7	28.6%	71.4%
	Grade 7	6	16.7%	83.3%
	Grade 8	7	28.6%	71.4%
	Grade 10	0	0.0%	0.0%
	Grade 11	7	0.0%	100.0%
	Mathematics	Grade 3	8	12.5%
Grade 4		8	0.0%	100.0%
Grade 5		7	14.3%	85.7%
Grade 6		8	0.0%	100.0%
Grade 7		5	20.0%	80.0%
Grade 8		9	11.1%	88.9%
Grade 10		8	25.0%	75.0%
Grade 11		0	0.0%	0.0%

**Question 35**

Have you taught ESL/ELL?

Content Area	Grade Level	N	Yes	No
Overall		101	8.9%	91.1%
Communication Arts	Grade 3	7	14.3%	85.7%
	Grade 4	6	0.0%	100.0%
	Grade 5	8	0.0%	100.0%
	Grade 6	7	0.0%	100.0%
	Grade 7	6	16.7%	83.3%
	Grade 8	7	14.3%	85.7%
	Grade 10	0	0.0%	0.0%
	Grade 11	7	14.3%	85.7%
	Mathematics	Grade 3	8	0.0%
Grade 4		8	37.5%	62.5%
Grade 5		7	0.0%	100.0%
Grade 6		8	0.0%	100.0%
Grade 7		5	20.0%	80.0%
Grade 8		9	0.0%	100.0%
Grade 10		8	12.5%	87.5%
Grade 11		0	0.0%	0.0%

**Question 36**

Have you taught Vocational Education?

Content Area	Grade Level	N	Yes	No
Overall		101	4.0%	96.0%
Communication Arts	Grade 3	7	0.0%	100.0%
	Grade 4	6	0.0%	100.0%
	Grade 5	8	0.0%	100.0%
	Grade 6	7	0.0%	100.0%
	Grade 7	6	0.0%	100.0%
	Grade 8	7	14.3%	85.7%
	Grade 10	0	0.0%	0.0%
	Grade 11	7	14.3%	85.7%
	Mathematics	Grade 3	8	0.0%
Grade 4		8	0.0%	100.0%
Grade 5		7	0.0%	100.0%
Grade 6		8	0.0%	100.0%
Grade 7		5	20.0%	80.0%
Grade 8		9	0.0%	100.0%
Grade 10		8	12.5%	87.5%
Grade 11		0	0.0%	0.0%

**Question 37**

Have you taught Alternative Education?

Content Area	Grade Level	N	Yes	No
Overall		101	9.9%	90.1%
Communication Arts	Grade 3	7	0.0%	100.0%
	Grade 4	6	0.0%	100.0%
	Grade 5	8	12.5%	87.5%
	Grade 6	7	0.0%	100.0%
	Grade 7	6	0.0%	100.0%
	Grade 8	7	14.3%	85.7%
	Grade 10	0	0.0%	0.0%
	Grade 11	7	14.3%	85.7%
	Mathematics	Grade 3	8	12.5%
Grade 4		8	0.0%	100.0%
Grade 5		7	0.0%	100.0%
Grade 6		8	12.5%	87.5%
Grade 7		5	40.0%	60.0%
Grade 8		9	0.0%	100.0%
Grade 10		8	37.5%	62.5%
Grade 11		0	0.0%	0.0%

**Question 38**

Have you taught Adult Education?

Content Area	Grade Level	N	Yes	No
Overall		101	17.8%	82.2%
Communication Arts	Grade 3	7	14.3%	85.7%
	Grade 4	6	16.7%	83.3%
	Grade 5	8	0.0%	100.0%
	Grade 6	7	0.0%	100.0%
	Grade 7	6	33.3%	66.7%
	Grade 8	7	42.9%	57.1%
	Grade 10	0	0.0%	0.0%
	Grade 11	7	28.6%	71.4%
	Mathematics	Grade 3	8	25.0%
Grade 4		8	12.5%	87.5%
Grade 5		7	0.0%	100.0%
Grade 6		8	12.5%	87.5%
Grade 7		5	20.0%	80.0%
Grade 8		9	22.2%	77.8%
Grade 10		8	25.0%	75.0%
Grade 11		0	0.0%	0.0%

**Question 39**

Which content area did you work on during this standard setting?

Content Area	Grade Level	N	Communication Arts	Mathematics
Overall		102	48.0%	52.0%
Communication Arts	Grade 3	7	100.0%	0.0%
	Grade 4	6	100.0%	0.0%
	Grade 5	8	100.0%	0.0%
	Grade 6	7	100.0%	0.0%
	Grade 7	6	100.0%	0.0%
	Grade 8	7	100.0%	0.0%
	Grade 10	0	0.0%	0.0%
	Grade 11	8	100.0%	0.0%
	Mathematics	Grade 3	8	0.0%
Grade 4		8	0.0%	100.0%
Grade 5		7	0.0%	100.0%
Grade 6		8	0.0%	100.0%
Grade 7		5	0.0%	100.0%
Grade 8		9	0.0%	100.0%
Grade 10		8	0.0%	100.0%
Grade 11		0	0.0%	0.0%

**Question 40**

Which grade did you work on during this standard setting?

Content Area	Grade Level	N	Grade 3	Grade 4
Overall		102	14.7%	13.7%
Communication Arts	Grade 3	7	100.0%	0.0%
	Grade 4	6	0.0%	100.0%
	Grade 5	8	0.0%	0.0%
	Grade 6	7	0.0%	0.0%
	Grade 7	6	0.0%	0.0%
	Grade 8	7	0.0%	0.0%
	Grade 10	0	0.0%	0.0%
	Grade 11	8	0.0%	0.0%
	Mathematics	Grade 3	8	100.0%
Grade 4		8	0.0%	100.0%
Grade 5		7	0.0%	0.0%
Grade 6		8	0.0%	0.0%
Grade 7		5	0.0%	0.0%
Grade 8		9	0.0%	0.0%
Grade 10		8	0.0%	0.0%
Grade 11		0	0.0%	0.0%

**Question 40 (cont.)**

Which grade did you work on during this standard setting?

Content Area	Grade Level	N	Grade 5	Grade 6
Overall		102	14.7%	14.7%
Communication Arts	Grade 3	7	0.0%	0.0%
	Grade 4	6	0.0%	0.0%
	Grade 5	8	100.0%	0.0%
	Grade 6	7	0.0%	100.0%
	Grade 7	6	0.0%	0.0%
	Grade 8	7	0.0%	0.0%
	Grade 10	0	0.0%	0.0%
	Grade 11	8	0.0%	0.0%
	Mathematics	Grade 3	8	0.0%
Grade 4		8	0.0%	0.0%
Grade 5		7	100.0%	0.0%
Grade 6		8	0.0%	100.0%
Grade 7		5	0.0%	0.0%
Grade 8		9	0.0%	0.0%
Grade 10		8	0.0%	0.0%
Grade 11		0	0.0%	0.0%

**Question 40 (cont.)**

Which grade did you work on during this standard setting?

Content Area	Grade Level	N	Grade 7	Grade 8	
Overall		102	10.8%	15.7%	
Communication Arts	Grade 3	7	0.0%	0.0%	
	Grade 4	6	0.0%	0.0%	
	Grade 5	8	0.0%	0.0%	
	Grade 6	7	0.0%	0.0%	
	Grade 7	6	100.0%	0.0%	
	Grade 8	7	0.0%	100.0%	
	Grade 10	0	0.0%	0.0%	
	Grade 11	8	0.0%	0.0%	
	Mathematics	Grade 3	8	0.0%	0.0%
		Grade 4	8	0.0%	0.0%
Grade 5		7	0.0%	0.0%	
Grade 6		8	0.0%	0.0%	
Grade 7		5	100.0%	0.0%	
Grade 8		9	0.0%	100.0%	
Grade 10		8	0.0%	0.0%	
Grade 11		0	0.0%	0.0%	

**Question 40 (cont.)**

Which grade did you work on during this standard setting?

Content Area	Grade Level	N	Grade 10	Grade 11	
Overall		102	7.8%	7.8%	
Communication Arts	Grade 3	7	0.0%	0.0%	
	Grade 4	6	0.0%	0.0%	
	Grade 5	8	0.0%	0.0%	
	Grade 6	7	0.0%	0.0%	
	Grade 7	6	0.0%	0.0%	
	Grade 8	7	0.0%	0.0%	
	Grade 10	0	0.0%	0.0%	
	Grade 11	8	0.0%	100.0%	
	Mathematics	Grade 3	8	0.0%	0.0%
		Grade 4	8	0.0%	0.0%
Grade 5		7	0.0%	0.0%	
Grade 6		8	0.0%	0.0%	
Grade 7		5	0.0%	0.0%	
Grade 8		9	0.0%	0.0%	
Grade 10		8	100.0%	0.0%	
Grade 11		0	0.0%	0.0%	

## Section J

Memo Sent to DESE November 2005 Regarding Response Probability and the Bookmark Procedure

## *Response Probability and the MAP Bookmark Standard Setting*

### Overview

The Bookmark Procedure will be used in Missouri to recommend cut scores for the MAP. The plan for this standard setting is detailed in *MAP Standard Setting Addendum following Oct 2005 meeting with DESE 3.doc*. This memo overviews the use of the response probability criterion in Bookmark, examines its affect on the MAP standard setting, and concludes with recommendations for DESE.

### Response Probability

The Bookmark Procedure relies upon an ordered item booklet (OIB) created by ordering the test items by difficulty. In IRT-Bookmark, the difficulty value, or location, is derived for each item using the IRT item parameters: the Bookmark location is the scale score at which an examinee has a 2/3 likelihood of answering the item correctly, after guessing is factored out. The likelihood is known as a response probability (RP) criterion. RP67 is CTB's default method; however, other RP criteria (e.g., RP55) may be used to order items.

There is considerable disagreement among psychometricians as to the "right" RP criterion to choose. CTB's default of RP67 is based on research by Huynh Huynh (see Lewis, et al. 1996). Nonetheless, the choice of the RP is a methodological one that should be influenced by the data that comprises the OIB. It is important in the Bookmark Procedure that the items are well-distributed across the scale score range. The choice of RP influences the distribution of items. A difficult test may be more evenly distributed across the scale if a lower RP value is used than RP67.

In the Bookmark Procedure, participants place a bookmark in the OIB where they believe that a student just at the threshold of a performance level would have *mastery* of the content reflected by the items prior to the bookmark, but would not have mastery of the items following the bookmark. Mastery is defined as having a likelihood of success on the items prior to the bookmark that is greater than or equal to the response probability criterion. For example, using RP55, just-competent examinees would have a 0.55 probability of answering the item at the bookmark correctly.

### RP Criterion and MAP Ordered Item Booklets

In order to study the distribution of items across the scale score range, decile tables were completed for each grade/content area of the MAP standard setting. These tables help us understand how well the items are distributed across the scale score range. Tables containing the decile reports for RP55 and RP67 are attached to this document. Each PDF file contains a series of tables for the MAP Ordered Item Booklets (OIBs) for Communication Arts and Mathematics. The first column in the decile table shows the 10<sup>th</sup>, 20<sup>th</sup>, and 30<sup>th</sup>, through 90<sup>th</sup> percentile. The remaining columns show the distribution of the items for each grade in a particular grade/content area.

For the convenience of the reader, we have summarized the decile table for the Grade 8 Communication Arts test using the RP55 and RP67 ordering in Table 1.

Examining the table for RP55 for Grade 8 Communication Arts, the data show that a bookmark placed after page 16 in the Grade 8 OIB would categorize approximately 20% of students below the proficiency level at hand. If we use RP67 to order items, then there will be very few easy items on the Grade 8 Communication Arts test. This demonstrates the effect that the different RP criteria have on the distribution of items. By using RP55, we have made the criterion for mastery more reasonable given the rigor of the assessment.

Table 1. Distribution of Grade 8 Communication Arts Items by Decile for RP55 and RP67

	RP55	RP67
10	2	0
20	16	8
30	32	19
40	43	28
50	51	40
60	56	47
70	64	54
80	68	61
90	75	68
100	79	79

DESE, of course, will want to consider all grade/content areas in order to decide on the RP value appropriate for MAP. In particular, DESE will want to consider the number of items in the range where the *Proficient* cut score will be established. Table 2 shows the distribution of those items in the *Proficient* range. As is shown in Table 2, there are ample Mathematics items in the *Proficient* range for all grades; however, neither RP solution is clearly better when the Communication Arts results are examined. The very low number (4) of items in Grade 3 argues for the use of RP55, but the number of items in the *Proficient* range is decreased by more than half at Grade 11 if RP55 is used.

Table 2. Distribution of items in the *Proficient* range by grade/content area.

		RP55	RP67
Communication Arts	3	8	4
	4	6	11
	5	7	11
	6	10	11
	7	11	10
	8	11	13
	11	8	19
Mathematics	3	19	21
	4	24	18
	5	18	20
	6	26	19
	7	14	15
	8	25	15
	10	34	27

Conclusions

For almost all of the grades in both Communication Arts and Mathematics, RP55 better distributes the items across the scale score range; however, the examination of the number of the items in the *Proficiency* range does not show a clear victor between RP55 and RP67. In deciding the RP value to use to order the items, DESE may want to consider the relative importance of the item distribution against the number of score points within the range of *Proficiency*.

Even though there was not a clear choice for the RP criterion when examining the number of items in the *Proficiency* range, the very low number of *Proficient* items in Grade 3 is concerning. This number is so low that it may cause Grade 3 participants to feel constrained when placing their *Proficient* Bookmark and it may cause them to question the distribution of the items when the other grade levels have more items in the *Proficient* range. RP55 gives each grade within Communication Arts similar numbers of items within the *Proficient* range.

**Table 1. Number of score points in the Ordered Item Booklet by decile range and grade, COMM ARTS using ALL 2006 & 2007 items RP55**

<b>DECILE</b>	<b>g3</b>	<b>g4</b>	<b>g5</b>	<b>g6</b>	<b>g7</b>	<b>g8</b>	<b>g11</b>
<b>0-9</b>	27	12	9	8	7	2	6
<b>10-19</b>	12	17	10	7	9	14	6
<b>20-29</b>	11	11	11	9	8	16	6
<b>30-39</b>	4	3	8	10	12	11	9
<b>40-49</b>	4	5	8	6	11	8	11
<b>50-59</b>	3	6	6	6	2	5	11
<b>60-69</b>	4	2	3	8	6	8	3
<b>70-79</b>	6	4	4	4	4	4	4
<b>80-89</b>	8	6	7	6	13	7	8
<b>90-99</b>	6	12	9	13	17	4	24
<b>100</b>	0	0	2	0	0	0	0
<b>TOTAL</b>	85	78	77	77	89	79	88

**Table 2. Number of score points in the Ordered Item Booklet by decile range and grade, COMM ARTS using ALL 2006 & 2007 items RP67**

<b>DECILE</b>	<b>g3</b>	<b>g4</b>	<b>g5</b>	<b>g6</b>	<b>g7</b>	<b>g8</b>	<b>g11</b>
<b>0-9</b>	15	8	5	0	4	0	3
<b>10-19</b>	17	10	7	10	10	8	5
<b>20-29</b>	8	8	7	6	2	11	5
<b>30-39</b>	6	8	7	6	5	9	4
<b>40-49</b>	6	7	10	6	11	12	7
<b>50-59</b>	3	3	6	7	13	7	8
<b>60-69</b>	2	7	6	7	4	7	13
<b>70-79</b>	5	4	5	9	1	7	5
<b>80-89</b>	7	4	6	7	12	7	5
<b>90-99</b>	15	19	15	18	27	11	33
<b>100</b>	0	0	3	1	0	0	0
<b>TOTAL</b>	84	78	77	77	89	79	88

**Table 3. Number of score points in the Ordered Item Booklet by decile range and grade, Mathematics using all 2006 & 2007 items RP55**

	<b>g3</b>	<b>g4</b>	<b>g5</b>	<b>g6</b>	<b>g7</b>	<b>g8</b>	<b>g10</b>
<b>0-9</b>	20	10	14	6	2	0	1
<b>10-19</b>	12	27	5	9	8	9	2
<b>20-29</b>	12	10	15	12	8	4	7
<b>30-39</b>	8	12	13	5	9	5	8
<b>40-49</b>	9	13	9	7	3	6	10
<b>50-59</b>	9	10	8	10	10	11	15
<b>60-69</b>	12	14	11	11	9	12	15
<b>70-79</b>	7	12	10	14	6	12	20
<b>80-89</b>	1	6	7	10	14	21	14
<b>90-99</b>	5	5	10	16	32	35	24
<b>TOTAL</b>	95	119	102	100	101	115	116

**Table 4. Number of score points in the Ordered Item Booklet by decile range and grade, Mathematics using all 2006 & 2007 items RP67**

	<b>g3</b>	<b>g4</b>	<b>g5</b>	<b>g6</b>	<b>g7</b>	<b>g8</b>	<b>g10</b>
<b>0-9</b>	9	3	9	3	1	0	0
<b>10-19</b>	17	17	5	5	4	3	1
<b>20-29</b>	7	14	7	6	5	6	2
<b>30-39</b>	6	11	8	10	5	3	3
<b>40-49</b>	6	7	13	5	8	5	11
<b>50-59</b>	11	16	13	7	7	4	7
<b>60-69</b>	10	12	5	10	9	8	11
<b>70-79</b>	13	6	10	9	9	14	24
<b>80-89</b>	9	20	14	19	12	21	21
<b>90-99</b>	7	13	18	26	41	51	36
<b>TOTAL</b>	95	119	102	100	101	115	116