

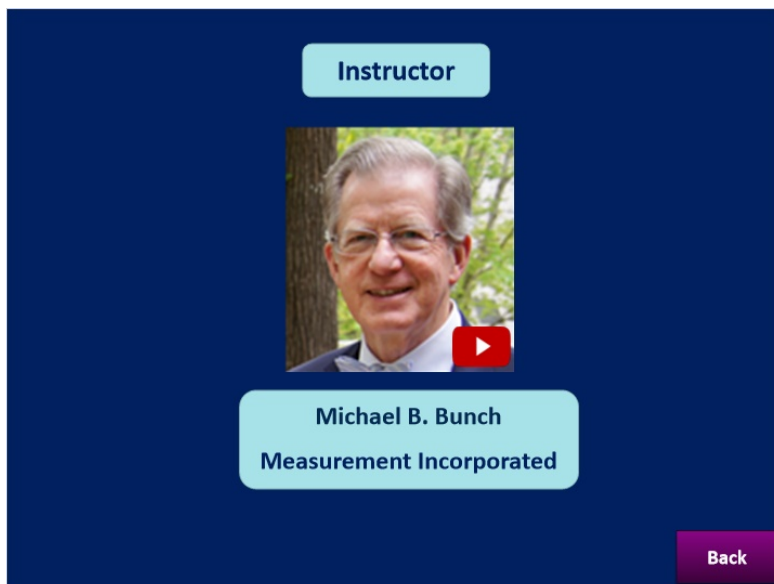
# DM14 SLIDES (Standard Setting, Version 1.0)

## 1. Module Overview

### 1.1 Module Cover (START)





### 1.2 Instructor





### 1.3 Designers

Instructional Designers




Michelle Vanchu-Orosco  
Data, Research, &  
Evaluation Specialist



André A. Rupp  
Mindful Measurement

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### 1.4 Welcome



**Welcome to the  
ITEMS Module!**

The man to the left is Jet!

Along with the instructor  
he will be guiding you through  
the module content.

Type your name here:

## 1.5 Overview




## 1.6 Target Audience

### Target Audience

Anyone who would like a gentle statistical introduction to this topic:

- graduate students and faculty in Master's, Ph.D., or certificate programs
- psychometricians and other measurement professionals
- data scientists / analysts
- research assistants or research scientists
- technical project directors
- assessment developers

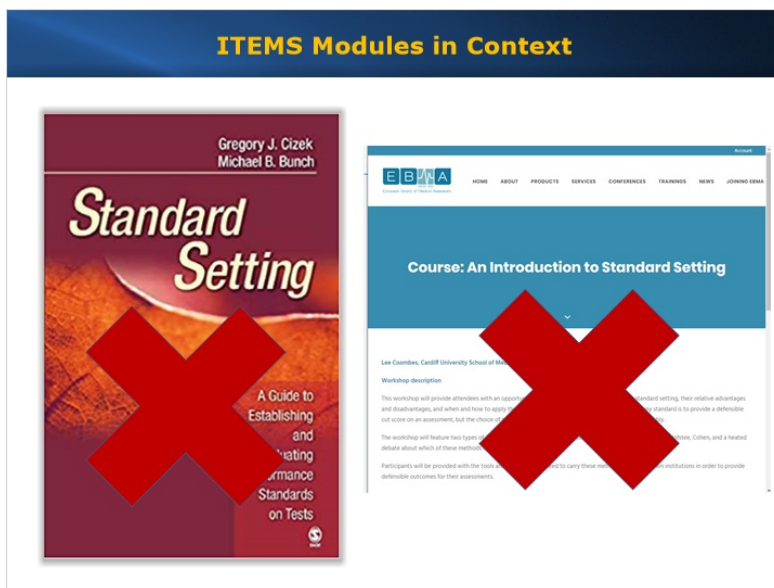


However, we hope that you find the information in this module useful no matter what your official title or role in an organization is!

## 1.7 Expectations (I)




## 1.8 Expectations (II)





## 1.9 Learning Objectives

**Learning Objectives**




1. Understand roles of policymakers, stakeholders, facilitators, and panelists
2. Understand the flow of activities before, during, and after standard setting
3. Understand scheduling and other logistical requirements
4. Understand communication and documentation requirements

## 1.10 Prerequisites

**Prerequisites**

To get the most out of this module it is beneficial to have the following background knowledge:


- Introductory understanding of the concept of standard setting
- Some familiarity with one or more standard setting procedures such as:
  - ✓ **item-centered:** Angoff, Ebel, Nedelsky, Bookmark, ID Matching
  - ✓ **Person-centered:** Borderline Survey, Contrasting Groups



## 1.11 Resources

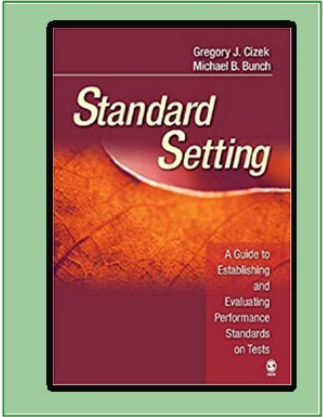
**Resources**


**Module Citation**  
Bunch, M. B. (2020). Planning and conducting standard setting (Digital ITEMS Module 14). *Educational Measurement: Issues and Practice*, 39(2), XX-XX.

  
**Book**

## References (Slide Layer)

**Standard Setting Book**



[Click on the image to go to the publisher website](#) 

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## 1.12 Main Menu





## 2. Section 1: Conceptual Foundations


### 2.1 Cover: Overview Section 1



## 2.2 Overview: SS Learning Objectives





### Learning Objectives




1. Understand roles of policymakers, stakeholders, facilitators, and panelists
2. Understand the flow of activities before, during, and after standard setting
3. Understand scheduling requirements
4. Understand communication and documentation requirements

## 2.3 Overview: SS About




### Overview

**About**

- Planning any standard setting, regardless of method
- Understanding the Who, What, When, Where, and How of standard setting
- Establishing and maintaining procedural validity of any standard setting

---

**Not About**

- A new standard setting procedure
- Any one current standard setting procedure or set of procedures
- Statistical methodology

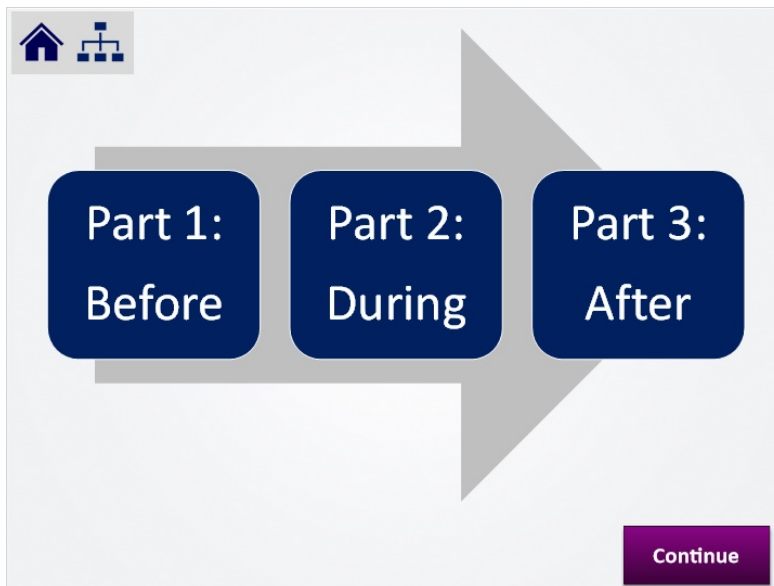
## 2.4 Overview: Activities



A screenshot of a software interface titled "Activities". The interface has a dark blue header with a home icon and a tree icon on the left, and the word "Activities" in yellow on the right. Below the header, there is a list of three numbered items:

- 1. Before**  
Everything you need to do to get ready for standard setting
- 2. During**  
Everything you need to do to make sure you maintain procedural validity
- 3. After**  
Everything you need to do to translate cut scores into score reports


## 2.5 Topic Selection: SS Overview



A screenshot of a software interface titled "Topic Selection: SS Overview". The interface has a light gray background. In the top left corner, there is a home icon and a tree icon. The main content area features a large, light gray arrow pointing to the right. Overlaid on this arrow are three dark blue rounded rectangular buttons with white text, arranged horizontally: "Part 1: Before", "Part 2: During", and "Part 3: After". In the bottom right corner, there is a purple button with the word "Continue" in white.



## 2.6 Overview: SS Activity1





### Activity 1: Before

- Writing and getting approval for a plan
- Securing staff and panelists
- Creating materials
- Training staff
- Interacting with stakeholders
- Contingency planning
- Logistics





## 2.7 Overview: SS Activity2



### Activity 2: During

- Preliminaries
- Opening day
- Training
- Rounds
- Management



## 2.8 Overview: SS Activity3





### Activity 3: After

- Standard setting report
- Review and approval
- Score reports
- Follow-up activities








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## 2.9 Overview: SS Resources



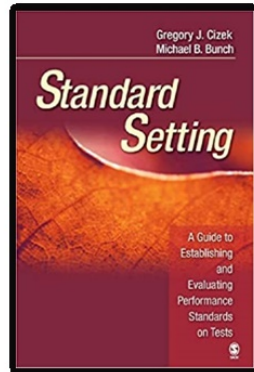
### Resources

-  1 Manual
-  4 Worksheets
-  6 PowerPoint presentations
-  7 additional documents
-  Links to other documents

Book

## Book (Slide Layer)

### Standard Setting Book





Click on the image to go to the publisher website



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## 2.10 Overview: SS Manual



### Manual & Worksheet 1


**Please Open:**

- ➡ Manual to "The Plan" on page 6
- ➡ Worksheet 1

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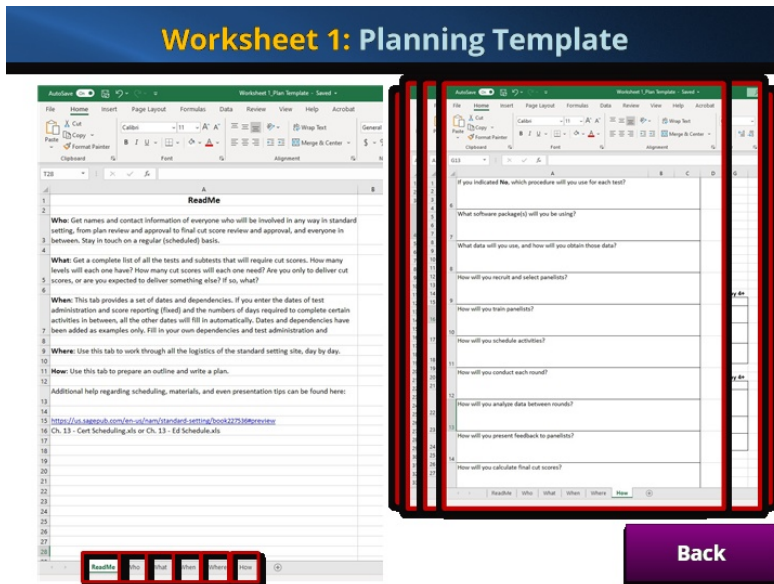
**The Manual:**

- 4 chapters
- Links to reports
- 5 appendices

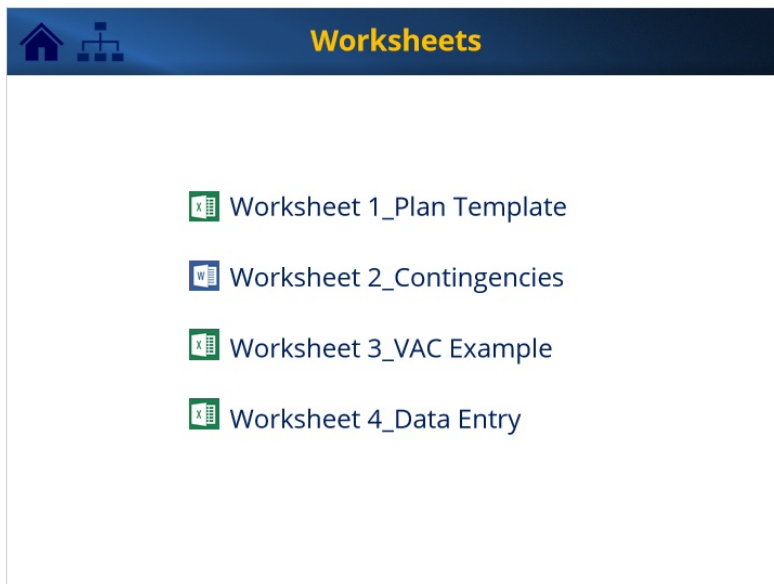


Worksheet 1



## Worksheet 1 (Slide Layer)









## 2.11 Overview: SS Worksheets





## 2.12 Overview: SS PowerPoint




### PowerPoint Presentations

-  Angoff Overview
-  Board Presentation
-  Body of Work Webinar
-  Conducting Vertical Articulation
-  Generic Opening
-  Generic VAC Webinar









## 2.13 Overview: SS Additional Docs



### Additional Documents

 **Please Open: 4\_Bookmark Round 2**

---

-  1\_Designing and Implementing
-  2\_Standard Setting Ground Level
-  3\_Extended Angoff
-   4\_Bookmark Round 2
-  5\_ VAC Motion Form
-  6\_Standard Setting to Go
-  7\_Scaling

Worksheet



## Worksheet (Slide Layer)

**Worksheet: Bookmark Round 2**

Level	Basic	Proficient	Accelerated	Advanced
Basic	8	28	43	47
Proficient	98%	88%	10%	1%
Accelerated	31%	69%	9%	1%

Level	Basic	Proficient	Accelerated	Advanced
Basic	8	28	43	47
Proficient	98%	88%	10%	1%
Accelerated	31%	69%	9%	1%

[Back](#)

## 2.14 Bookend: Section 1 (SS Overview)

This is the end of this section.

[Main Menu](#)

### 3. Section 2: Before

#### 3.1 Cover: Section 2

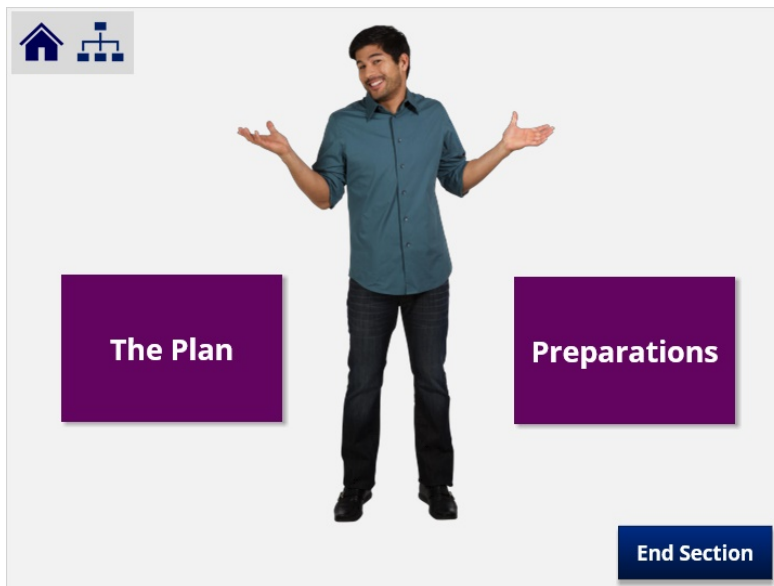


#### 3.2 Before: SS Learning Objectives

**Learning Objectives**

1. Develop a standard setting plan and get it approved
2. Be aware of all the tasks that must be completed prior to standard setting and how to schedule and complete them

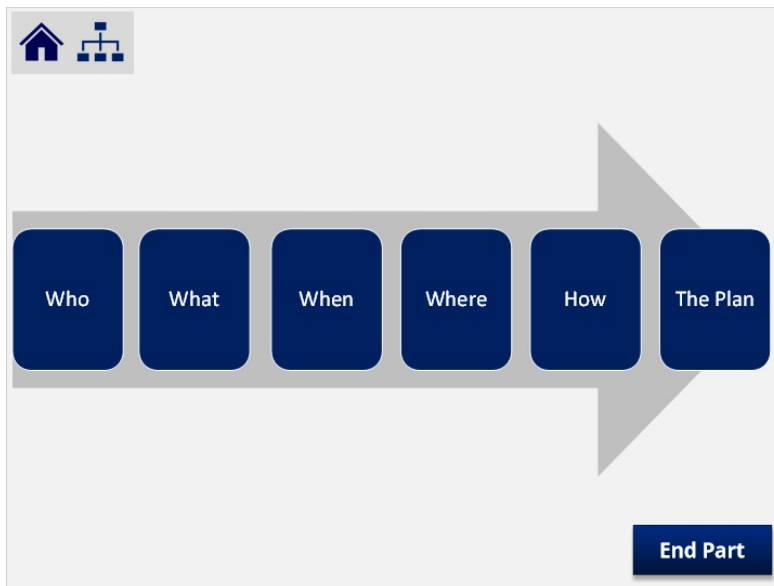
### 3.3 Topic Selection: SS Before



### 3.4 Bookmark: SS Before The Plan



### 3.5 Aspect Selection: SS Before Plan



### 3.6 Before: SS Plan Element Who

The screenshot shows a software interface for 'Plan Elements: Who'. At the top, there is a dark blue header bar with a house icon and a tree icon on the left, and the text 'Plan Elements: Who' in yellow and white. Below the header, there is a green Excel icon followed by the text 'Please Open: Worksheet 1/Who' in red. A horizontal line separates this from the main content area. The main content area contains a list of five items, each preceded by a square bullet point: 'Your staff', 'Client staff', 'Site staff', 'Subcontractors/vendors', and 'Panelists'. To the right of the list, there is a small image of a complex, white, geometric structure. At the bottom left, there is a dark blue button with white text that says 'Back'. At the bottom right, there is a purple button with white text that says 'Worksheet'.

## Worksheet (Slide Layer)

### Worksheet: Who

Worksheet 1: Standard Setting Plan Template: Who			
Role	Name(s)	Phone	e-mail
Project Manager			
Lead Funder			
Lead Funder Liaison with subcontractor/vendors			
Facilitator(s)			
Data Entry Specialist			
Data Analyst(s)			
Psychometrist(s)			
Site Manager			
Technical Support Staff (with roles)			
Clinical Support Staff (with roles)			
Contract Specialist(s)			
Contract for Meeting Site Staff			
Contract for Panelists			
Report Writer			
Other (with Roles)			

Meeting Site Staff			
Role	Name(s)	Phone	e-mail
General Manager			
Project Manager			
Contracting Manager			
Technical Support Lead			
Transportation Services			
Business Center Manager			
Housekeeper			



Subcontractors and Vendors			
Role	Name(s)	Phone	e-mail
Subcontractor(s) (with roles)			
Travel Agency			
Phone			
Shopper			
On-Site Support/Shipper			
Shopper			
Other Vendors			


Panelists			
Role	Names	Phone	e-mail
Test Group 1 (No)			
Test Group 2 (No)			
Test Group 3 (No)			
Test Group 4 (No)			
Test Group 5 (No)			
Test Group 6 (No)			
Test Group 7 (No)			
Other Test Groups by Name			

Back

## 3.7 Before: SS Plan Element What

### Plan Elements: What

 **Please Open: Worksheet 1/What**

---

#### Tests and Subtests

- How many levels/cuts
- Compensatory/conjunctive cuts
- Vertical articulation

#### Deliverables

- PLDs/ALDs
- Cut scores
- Final report
- Score reports

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Worksheet



## Worksheet (Slide Layer)

### Worksheet: What

Worksheet 1. Standard Setting Plan Template: What

What test(s) or subtest(s) will you set cut scores on?

List all tests for which cut scores will be set.

Number of subtests for which cut scores will be set

Compensatory or Conjointive? (NA unless setting cut scores on subtests)

# of levels needed?

Vertical articulation needed?

What will you deliver?

Deliverable	Yes	No
Advisory		
Cut scores		
Standard setting final report		
Score reports		
Other (specify)		

Back

## 3.8 Before: SS Plan Element When

### Plan Elements: When



Please Open: Worksheet 1/ When

Event	Begin	End
First operational administration of the test(s)	4/14/2020	4/30/2020
Approval of standard setting plan	4/4/2020	7/3/2020
<b>Standard setting</b>	7/24/2020	7/26/2020
Review of standard setting report	7/26/2020	8/25/2020
Client review of cut scores	7/26/2020	8/25/2020
Review of cut scores by approval authority	7/27/2020	8/25/2020
Approval of cut scores	8/26/2020	8/26/2020
Cut scores uploaded to score report program	8/26/2020	8/30/2020
<b>Delivery of score reports</b>	8/31/2020	9/1/2020
<b>Dependencies</b>		<b># Days</b>
Days needed to approve plan		90
Days need to conduct standard setting		3
Days needed to approve cut scores*		30
Days needed to upload cut scores and QA programs		5
Days needed to deliver score reports		2

Back

Worksheet


## Worksheet (Slide Layer)

### Worksheet: When


Worksheet 1. Standard Setting Plan Template: When			
Event	Begin	End	
First operational administration of the test(s)	4/14/2020	4/30/2020	
Approval of standard setting plan	4/14/2020	7/3/2020	
Standard setting	7/24/2020	7/26/2020	
Review of standard setting report	7/26/2020	8/25/2020	
Client review of cut scores	7/26/2020	8/25/2020	
Review of cut scores by approval authority	7/27/2020	8/25/2020	
Approval of cut scores	8/26/2020	8/26/2020	
Cut scores uploaded to score report program	8/26/2020	8/30/2020	
Delivery of score reports	8/31/2020	9/1/2020	
Fixed dates are in bold.			
Dependencies	# Days		
Days needed to approve plan	90		
Days need to conduct standard setting	3		
Days needed to approve cut scores*	30		
Days needed to upload cut scores and QA programs	5		
Days needed to deliver score reports	2		
Directions			
1. Replace bold dates with actual dates			
2. Replace bold dependencies with actual dependencies.			
Remaining dates will automatically fill in.			
* Factor in any time lag between first reading and second reading/action, which may be 1-2 months.			
ReadMe	Who	What	When
Where	How		

Back

## 3.9 Before: SS Plan Element Where



### Plan Elements: Where

 **Please Open: Worksheet 1/Where**

- Exact location of all activities
- Meeting rooms needed, by size, day, and function
- Configuration of meeting rooms
- Sleeping rooms needed, by day (including special needs)
- Other rooms needed (e.g., office, conference)
- Meals needed, by day (including special needs)
- Meeting flow, by day
- Other services needed, by day and room/area (e.g., audiovisual, internet, transportation)

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Worksheet

## Worksheet (Slide Layer)

### Worksheet: Where

Worksheet 1: Standard Setting Plan Template: Where

Where will you conduct standard setting? (Check all that apply.)

	Day 1	Day 2	Day 3	Day 4	Day 4+
1. Our offices					
2. Client's offices					
3. Conference center near us					
4. Conference center near client					
5. Hotel near us					
6. Hotel near client					
7. Hotel in neutral site					
8. Virtual (online/remote)					
9. Other (Please specify)					

10. How many large meeting rooms will you need each day?

11. How will those rooms need to be configured? (A=Auditorium, C=Classroom)

12. How many people will the large meeting rooms need to accommodate each day?

13. What are the audiovisual needs each day? (I=Internet, M=Microphone, P=Projector, S=Screen, TV=TV Monitor)

Breakfast rooms

14. How many breakfast rooms will you need each day?

15. How will those rooms need to be configured? (L=Lecture, S=Small Group) (Provide layout if possible; see Breakfast Room Detail below.)

16. How many people will each breakfast room need to accommodate each day?

17. What are the audiovisual needs each day? (I=Internet, M=Microphone, P=Projector, S=Screen, TV=TV Monitor)

Sleeping rooms

18. Will you be providing sleeping rooms for anyone? \_\_\_\_ Yes (Go to the next set of questions.) \_\_\_\_ No

19. How many sleeping rooms will you need each day? (Day 0 is the night before the first day of standard setting.)

20. How many accessible rooms will you need each day?

21. Other rooms

22. How many of each of these types of room will you need each day?

	Day 1	Day 2	Day 3	Day 4	Day 4+
23. Office					
24. Conference room					
25. Equipment room					
26. Storage Room					
27. Other (Please specify)					

Meals

28. Will you be providing meals for anyone? \_\_\_\_ Yes (Go to the next set of questions.) \_\_\_\_ No

29. How many breakfasts will you need each day?

30. How many lunches will you need each day?

31. How many dinners will you need each day? (Please)

32. How many special meals will you need each day? (Please)

33. Other support needed each day (Check each box that applies.)

34. Day 0 is the day before standard setting begins.

35. Transportation

36. Information Technology

37. Other (Please specify)

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## 3.10 Before: SS Plan Element How

Plan Elements: How

Please Open: Worksheet 1/How

- Procedure (e.g., Body of Work, Modified Angoff, Bookmark)
- Software
- Panelist recruitment and deployment
- Training activities
- Data analysis activities
- Feedback
- Calculation of cut scores
- Other procedures (e.g., PLD development, vertical articulation)
- Cut score approval process

Back

Worksheet



## Worksheet (Slide Layer)

### Worksheet: How


Worksheet 1. Standard Setting Plan Template: How		
Proposed Methodology (name of procedure(s); be specific)		
Will you be using the same procedure for each test? (Circle or highlight one.)		
Yes	No	
If you indicated <b>No</b> , which procedure will you use for each test?		
What software package(s) will you be using?		
What data will you use, and how will you obtain those data?		
How will you recruit and select panelists?		
How will you train panelists?		
How will you schedule activities?		
How will you conduct each round?		
How will you analyze data between rounds?		
How will you present feedback to panelists?		
How will you calculate final cut scores?		
Will you conduct vertical articulation?		
Yes	No	
If Yes, how will you select panelists and conduct vertical articulation?		
If Yes, how will you conduct vertical articulation?		
Will you be involved in presenting results to the approving authority (either in person or in a behind-the-scenes supporting role)?		
Yes	No	
If Yes, what will your role be, and how will you prepare for that role?		
What else do you need to do after approval of cut scores (e.g., technical report, scaling, ...)?		
Use your responses above to write out a complete plan.		

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## 3.11 Before: SS Plan Outline



### Plan Outline

 **Please Open:**  
*Planning and Conducting Standard Setting, pp. 8-14*



- Cover
- Table of Contents
- Purpose/Background
- Methodology
- Hardware and software
- Timeline
- On-Site Agenda
- Round-by-Round Description of Activities
- Data Analysis Procedures
- Sample Feedback
- Follow-Up Activities
- References
- Appendices

**Planning and Conducting  
Standard Setting**


Michael S. Bunch  
April 17, 2020

**MI** MEASUREMENT  
INCORPORATED

### 3.12 Before: SS Performance Level Descriptors



## Performance Level Descriptors

 **Please Open:**

- ➔ *Planning and Conducting Standard Setting*, pp. 14-16
- ➔ See also Egan, Schneider, & Ferarra (2012, p. 93)

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**Types**

- Policy
- Range
- Target
- Reporting

**Development**

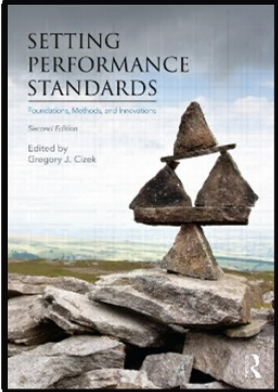
- Drafting
- Review
- Approval


**Articulation**

**Reference**

### Reference (Slide Layer)



## Reference




[Click on the image to go to the publisher website](#) 

**Back**

### 3.13 Before: SS Online Special Requirements




## Online Standard Setting

 **Please Open:**  
*Planning and Conducting Standard Setting, pp. 16-21*

---

- Minimize differences between paper and online
- Maintain security
- Give clear directions
- Give clear feedback
- Eliminate downtime
- Maintain technical support



### 3.14 Before: SS Plan Approval 1



## Plan Approval

 **Please open:**  
*Planning and Conducting Standard Setting, pp. 21-25*

---

#### Identify the plan approvers

K-12 Setting	Certification & Licensure Setting
State or Local Board of Education	Board of Directors/Trustees
Superintendent/Commissioner	Executive Director
Assistant Superintendent/ Commissioner	Assistant Director
Assessment Director	Director of Testing/Psychometrics
Assessment Department Staff	Psychometrician(s)
Technical Advisory Committee	External Reviewers
External Reviewers	

### 3.15 Before: SS Plan Approval 2



## Plan Approval (cont.)

**Please Open: *Worksheet 2 Contingencies***

---

- Identify the approval process
- Follow it
- Be prepared for revisions
- Plan for contingencies



### Worksheet (Slide Layer)

## Worksheet: Contingencies

Standard Setting Contingency Planning  
Things That Go Bump in the Night (and Day)

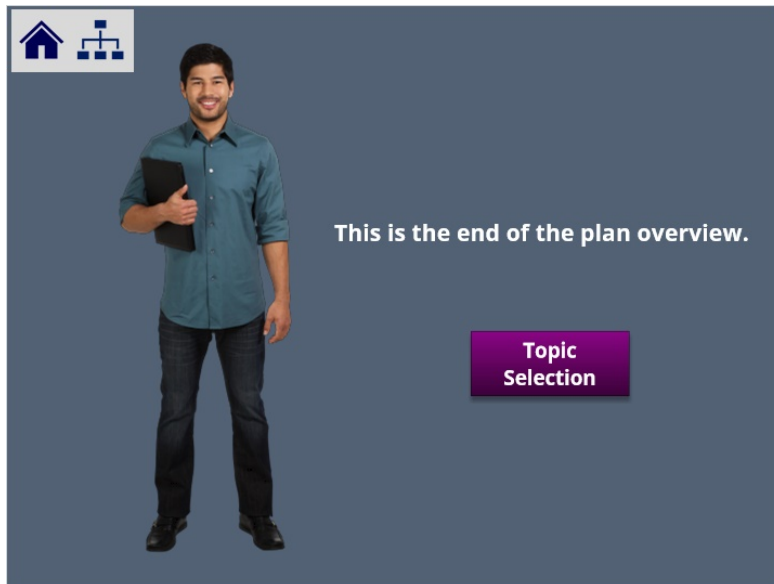
Standard setting, like any human activity, is subject to any number of things that can throw it off balance. Develop a contingency plan in concert with your client, and keep it handy. This table will help you do that. Add to it as necessary.

Contingency	Threat	Mitigation
Panelist Related		
Panelists don't show up.	Procedural validity may be called into question.	Determine absolute minimum panel size; oversample by 10-20%.
Panelists arrive late.	If they miss training, procedural validity may be called into question.	Depending on how late, provide independent training; if a day or more late, send them home, see above re oversampling.
Panelists leave early.	Procedural validity may be called into question.	Determine absolute minimum panel size; oversample by 10-20%. Confer with your client re using those panelists' data.
Panelist mix is not representative.	Procedural validity may be called into question.	In defining the target mix, make sure to get a 4+ for every group. See above re oversampling.
Panelists chat or won't follow directions.	Procedural validity may be called into question.	Facilitators should escalate this to the workshop leader, who will retrain the panelist(s). If the problem persists, the workshop leader should escalate this to the client representative in charge, who will determine whether to send the panelist home or possibly disregard all data from that panelist.
Panelists dominate.	One panelist who dominates a table or room can artificially raise or lower cut scores, calling the entire process into question. (This might also apply to a client representative.)	Facilitators should be trained to spot such panelists and channel their comments by asking other panelists to speak up. If the problem persists, the facilitator should escalate the matter to the lead facilitator who will counsel

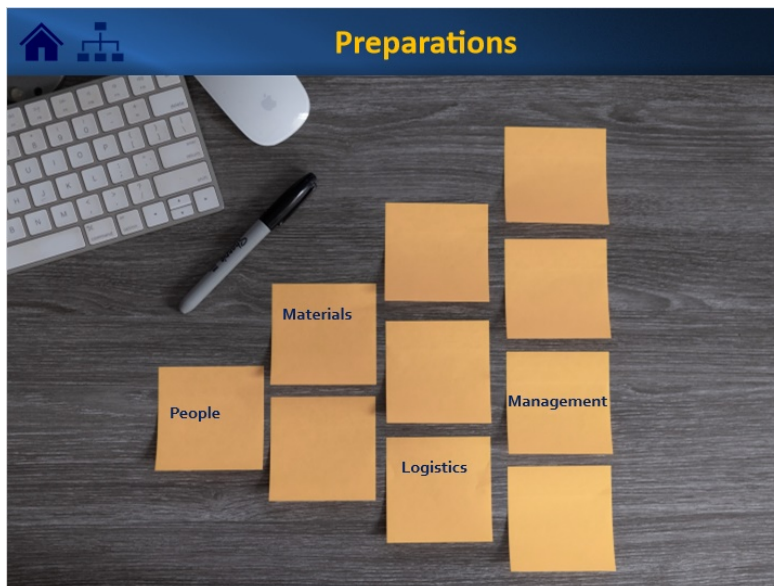
Back



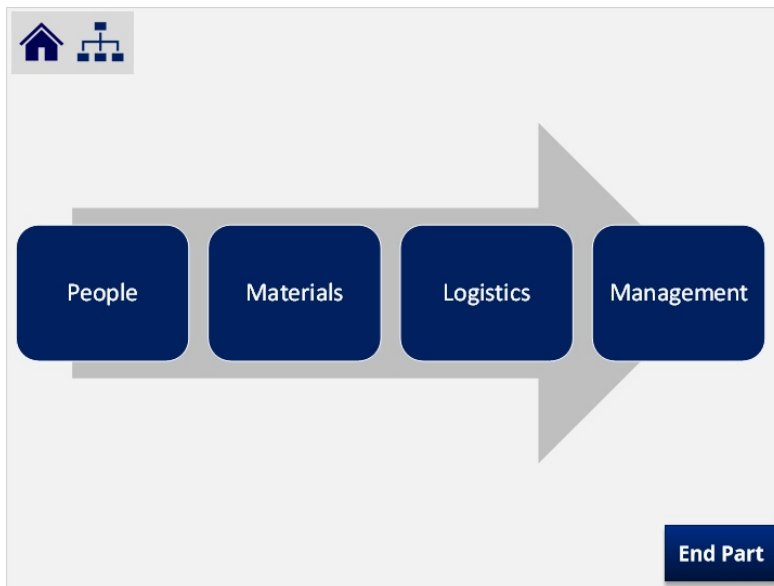
### 3.16 Bookend: SS Before The Plan



### 3.17 Bookmark: SS Before Preparations



### 3.18 Aspect Selection: SS Before Preparations



### 3.19 Before: SS People

The screenshot shows the 'People' section of the interface. At the top, there is a dark blue header bar with a house and tree icon on the left and the word 'People' in yellow text on the right. Below the header, there is a red book icon followed by the text 'Please Open:'. Below this, there are two red arrows pointing to the right, with the text 'Planning and Conducting Standard Setting, pp. 26-41' and 'Appendices A and D' respectively. Below these instructions, there are five light gray boxes, each containing a title and a bulleted list of items:

- Panelists**
  - How many? What assortment? How to recruit?
- Your staff**
  - Project manager, lead facilitator, facilitators, data entry staff, support staff
- Site staff**
  - Hotel manager, banquet manager
- Sponsoring agency staff**
  - Main contact, support staff
- Others**
  - Vendors, subcontractors

In the bottom right corner, there is a purple button with white text that says 'Back'.



### 3.20 Before: SS Logistics



### 3.21 Before: SS Materials Equipment



### 3.22 Before: SS Data Entry 1



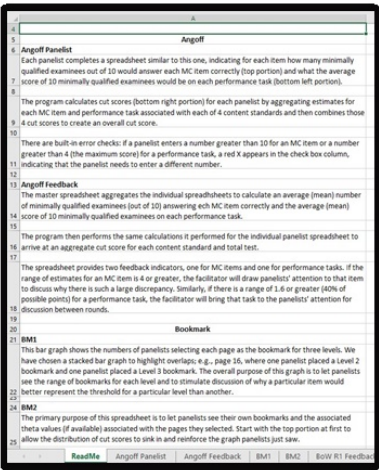
## Data Entry

- What will panelists do?
- What data will they create?
- How will you capture their data?
- What will you do with their data?
- What feedback will you produce?

[Worksheet](#)

### Worksheet (Slide Layer)

## Worksheet: Data Entry



The screenshot shows a worksheet titled "Angoff" with the following sections:

- Angoff Panelist**: Each panelist completes a spreadsheet similar to this one, indicating for each item how many minimally qualified examinees out of 10 would answer each MC item correctly (top portion) and what the average score of 10 minimally qualified examinees would be on each performance task (bottom left portion).
- Angoff Feedback**: The master spreadsheet aggregates the individual spreadsheets to calculate an average (mean) number of minimally qualified examinees (out of 10) answering each MC item correctly and the average (mean) score of 10 minimally qualified examinees on each performance task.
- Bookmark**: This bar graph shows the numbers of panelists selecting each page as the bookmark for three levels. We have chosen a stacked bar graph to highlight overlaps; e.g., page 16, where one panelist placed a Level 2 bookmark and one panelist placed a Level 3 bookmark. The overall purpose of this graph is to let panelists see the range of bookmarks for each level and to stimulate discussion of why a particular item would better represent the threshold for a particular level than another.

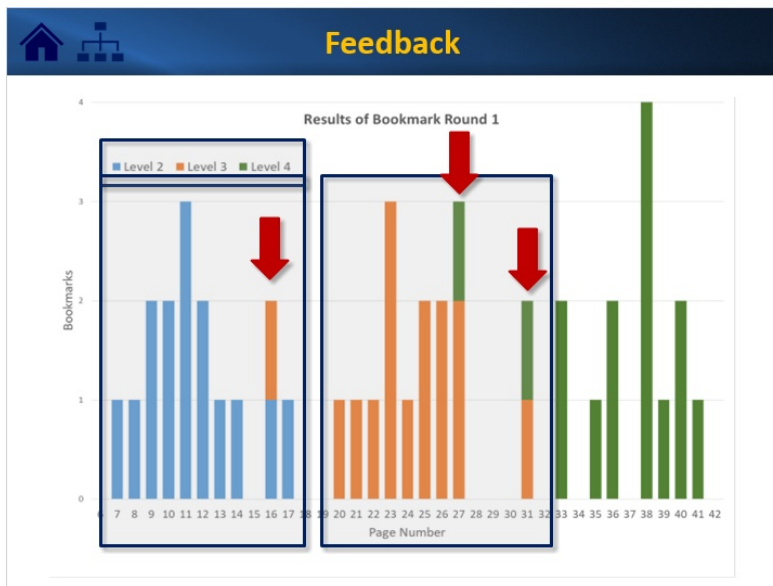
At the bottom of the worksheet, there is a navigation bar with the following tabs: ReadMe, Angoff Panelist, Angoff Feedback, BM1, BM2, and BM3 Feedback.

[Back](#)

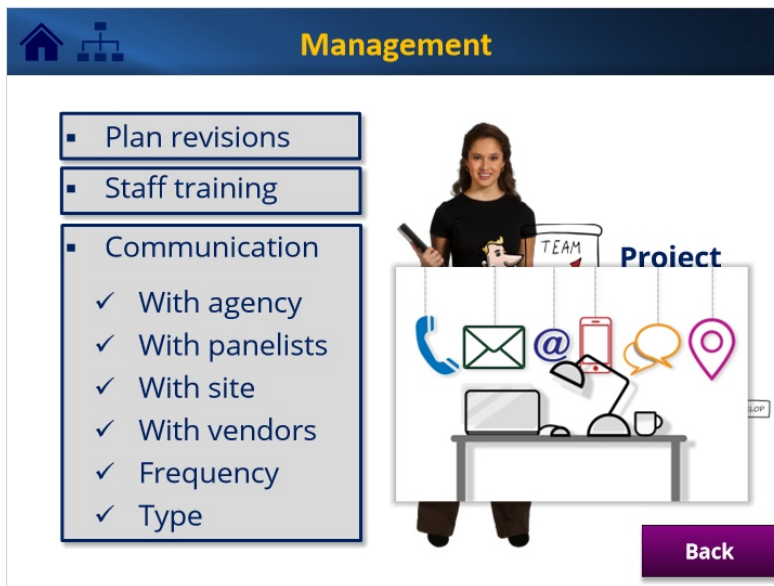
### 3.23 Before: SS Data Entry 2

Data Entry (cont.)						
Please Open: <i>Worksheet 4 Data Entry</i>						
Results of Round 1 of Bookmark Rating						
Rater	Level 2		Level 3		Level 4	
	Page	RP67	Page	RP67	Page	RP67
1	11	0.273	27	0.900	36	1.200
2	9	0.193	23	0.616	31	0.998
3	13	0.420	25	0.810	27	0.900
4	9	0.193	25	0.810	40	1.489
5	12	0.286	26	0.890	38	1.333
6	7	-0.032	20	0.569	33	1.090
13	10	0.273	16	0.493	35	1.191
14	17	0.273	23	0.616	33	1.090
15	14	0.440	26	0.890	39	1.340
Median	11	0.273	24	0.740	38	1.333
Min	7	-0.032	16	0.493	27	0.900
Max	17	0.493	31	0.998	41	1.510
Range	10	0.525	15	0.505	14	0.610

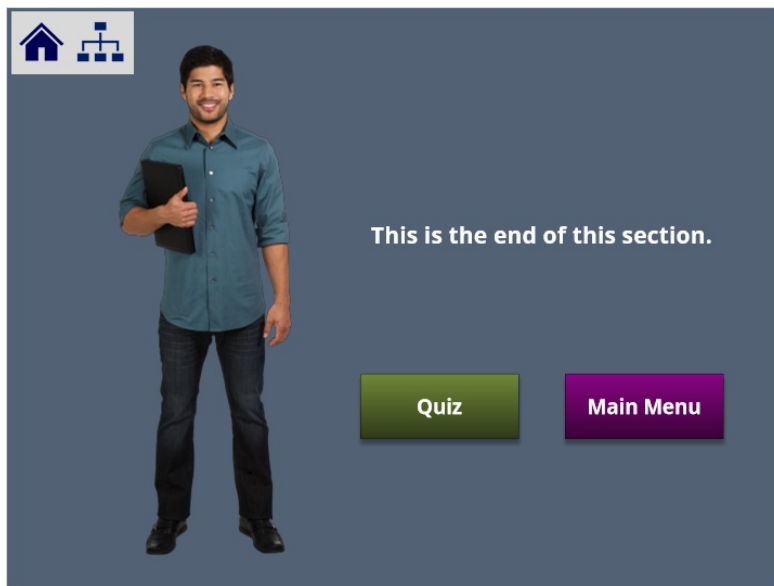
### 3.24 Before: SS Feedback



### 3.25 Before: SS Management



### 3.26 Bookend: Section 2 (SS Before)




## 4. Section 3: During

### 4.1 Cover: Section 3



### 4.2 During: SS Learning Objectives

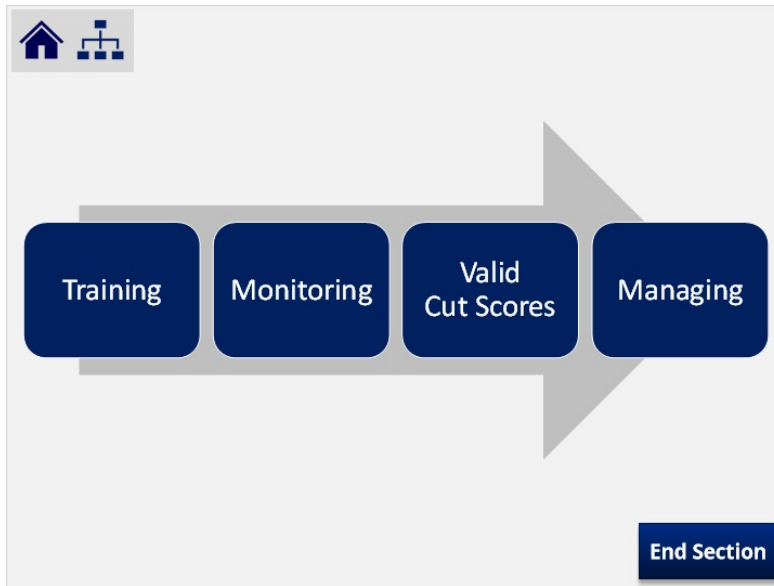
**Learning Objectives**



1. Learn how to train panelists
2. Learn how to monitor panelists and facilitators
3. Learn how to obtain valid cut scores
4. Learn how to manage all standard setting activities




### 4.3 Topic Selection: SS During



### 4.4 Bookmark: Training



#### 4.5 During: SS Opening Session Preparation



### Opening Session: Preparation

- Confirm order of speakers and content of presentations
- Rehearse presentations
- Check A/V equipment and room setup
- Practice advancing slides
- Start on time
- Speak clearly at a moderate rate
- Look at your audience, not the screen
- Stick to the script

#### 4.6 During: SS Opening Session Content



### Opening Session: Content

- Purpose of this meeting
- Why they are there
- Overview of agenda
- Ground rules
- Introduction of other staff
- Introduction of facilitators
- Directions to breakout rooms

Test Details

## Additional (Slide Layer)

### Opening Session: Test Details

- Overview of test(s)
- Overview of performance levels
- Overview of standard setting procedure
- Overview of additional training sessions

Back

## 4.7 During: SS Opening Session FollowUp




### Opening Session: Follow-Up




- Debrief with sponsoring agency
- Review remainder of Day 1 activities

#### 4.8 During: SS Training on Tests





### Training on the Test(s)

 **Please Open:**  
*Planning and Conducting Standard Setting, Appendix C*

---

- Led by facilitators
- May include comments by agency staff
- Objective is to see tests as test takers see them
- Focus on test items and difficulty
- May include taking and scoring the test(s)
- Assessment of understanding

#### 4.9 During: SS Training on PLDs





### Training on the PLDs

**Objective: Internalize Descriptors**

- Similar in setup to training on the test
- Led by facilitators
- May include comments by agency staff
- Focus
  - ✓ Range of performance within each level
  - ✓ Just barely vs. typical
- Panelist discussion of their interpretations
- Q&A session
- Assessment of understanding

#### 4.10 During: SS Training on Procedure





### Training on the Procedure

**Objective: Learn how to Apply Procedure**

- Led by lead facilitator
- Practice sessions led by individual facilitators
- Content
  - ✓ Recap of training on tests and PLDs
  - ✓ Principles of the standard setting procedure
  - ✓ Tasks panelists will perform
  - ✓ What those tasks produce
  - ✓ Reference to software (if any)
  - ✓ How panelist activity will be translated into cut scores
  - ✓ The iterative nature of the process
  - ✓ Nature and expected outcomes of each round
  - ✓ Ground rules

#### 4.11 During: SS Practice Procedure





### Practice with the Procedure

**Objective: Verify Panelist Understanding of Procedures**

- Led by facilitators in breakout rooms
- Recap of lead facilitator comments
- (Demonstration of software features)
- Q&A session
- Introduction of practice exercise
- Group practice on one or two items or work samples
- Individual completion of brief exercise
- Discussion of individual results
- Assessment of understanding and readiness

#### 4.12 During: SS Training Vertical Articulation




### Training for Vertical Articulation

**Objective: Make Sure Cut Scores and Impact are Reasonable across Grades and Content Areas**

- Typically led by lead facilitator
- Content
  - ✓ Purpose
  - ✓ Expectations
  - ✓ Review of final round cut scores and impact
  - ✓ Description of how changes are to be made
  - ✓ Presentation of examples
  - ✓ Discussion of examples and procedures
  - ✓ Ground rules
  - ✓ Assessment of understanding and readiness

#### 4.13 Bookend: SS During Training





This is the end of this topic.

**Topic Selection**

#### 4.14 Bookmark: Monitoring



#### 4.15 During: SS Training Activities

The slide has a dark blue header with a home icon and a tree diagram icon on the left, and the text "Training Activities" in yellow on the right. Below the header, there is a red book icon followed by the text "Please Open:" and "Planning and Conducting Standard Setting, Appendix B" in red. A horizontal line separates this from a list of four items, each in a light blue box with a dark blue border. The items are: "Facilitators following script?", "Panelists engaged?", "Signs of misunderstanding?", and "Readiness forms completed?".

**Please Open:**  
*Planning and Conducting Standard Setting, Appendix B*

- Facilitators following script?
- Panelists engaged?
- Signs of misunderstanding?
- Readiness forms completed?





#### 4.16 During: SS Round 1



Round 1

- Readiness forms completed?
- Facilitators following script?
- Panelists engaged?
- Signs of misunderstanding?
- Facilitator monitoring progress?
  - ✓ Observing each panelist or small group
  - ✓ Monitoring on-screen progress
  - ✓ Intervening at appropriate times



#### 4.17 During: SS Btwn R1 R2



Between Rounds 1 and 2



- All data forms properly completed?
- All data properly entered?
- All analyses complete and correct?
- All feedback produced and accurate?
- Any problems obtaining data or results?

#### 4.18 During: SS Round 2

**Round 2**



- Facilitators following script?
- Readiness forms completed?
- Signs of misunderstanding?
- Panelists engaged?
- Facilitator monitoring progress?
  - ✓ Observing each panelist or small group
  - ✓ Monitoring on-screen progress
  - ✓ Intervening at appropriate times

#### 4.19 During: SS Btwn R2 R3

**Between Rounds 2 and 3**

- All data forms properly completed?
- All data properly entered?
- All analyses complete and correct?
- All feedback produced and accurate?
- Any problems obtaining data or results?



#### **4.20 During: SS Round 3**



**Round 3**

- Facilitators following script?
- Readiness forms completed?
- Panelists engaged?
- Signs of misunderstanding?
- Facilitator monitoring progress?
  - ✓ Observing each panelist or small group
  - ✓ Monitoring on-screen progress
  - ✓ Intervening at appropriate times



#### **4.21 During: SS Btwn R3 Vertical Articulation**




**Between Round 3 and Vertical Articulation**

- All data forms properly completed?
- All data properly entered?
- All analyses complete and correct?
- All feedback produced and accurate?
- Any problems obtaining data or results?

#### 4.22 During: SS Vertical Articulation





### Vertical Articulation


 **Please Open:**  
*Planning and Conducting Standard Setting  
Appendix E (VAC Motion Form)*

---

- Facilitators following script?
- Readiness forms completed?
- Panelists engaged?
- Focus on PLDs?
- Votes being recorded properly?

#### 4.23 Bookend: SS During Monitoring

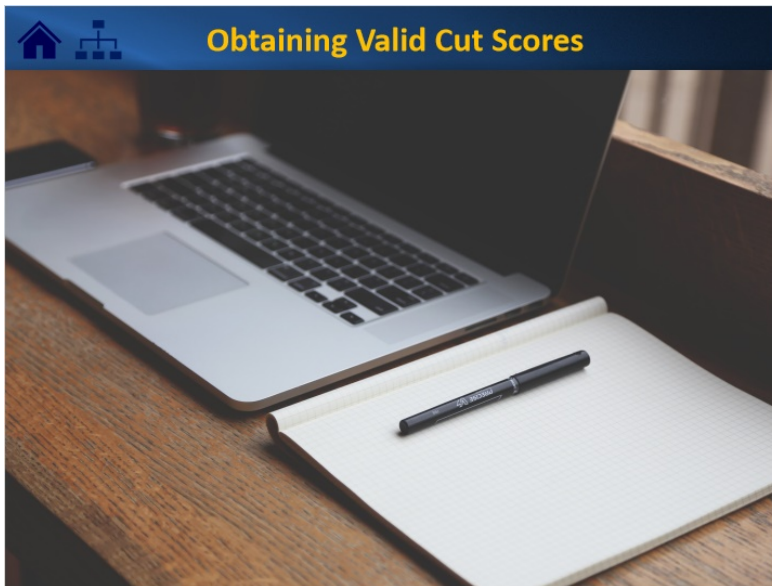




This is the end of this topic.

**Topic  
Selection**

#### 4.24 Bookmark: Valid Cut Scores





#### 4.25 During: SS Follow Script

A slide titled "Follow the Script" with a dark blue header. The header contains a home icon and a tree diagram icon on the left, and the title in yellow text on the right. Below the header, there is a red book icon followed by the text "Please Open:" and "Planning and Conducting Standard Setting, Appendix B" in red. A horizontal line separates this from a list of four items, each in a light blue box with a dark blue border. The items are: "Train facilitators thoroughly", "Conduct dry runs or field tests", "Go over next day's events after debriefing", and "Stay on schedule".

**Please Open:**  
*Planning and Conducting Standard Setting, Appendix B*



- Train facilitators thoroughly
- Conduct dry runs or field tests
- Go over next day's events after debriefing
- Stay on schedule

#### 4.26 During: SS Monitor

**Monitor**



- Know what each participant is supposed to do
- Know what each participant is actually doing
- Correct problems as they occur
- Give feedback quickly and accurately

#### 4.27 During: SS RoundXRound Tips

**Round-by-Round Tips**

- Disagreements are OK (and expected)
- All voices are heard
- No one dominates
- All decisions must be PLD-based
- Each panelist enters his or her own judgment
- Trust but verify

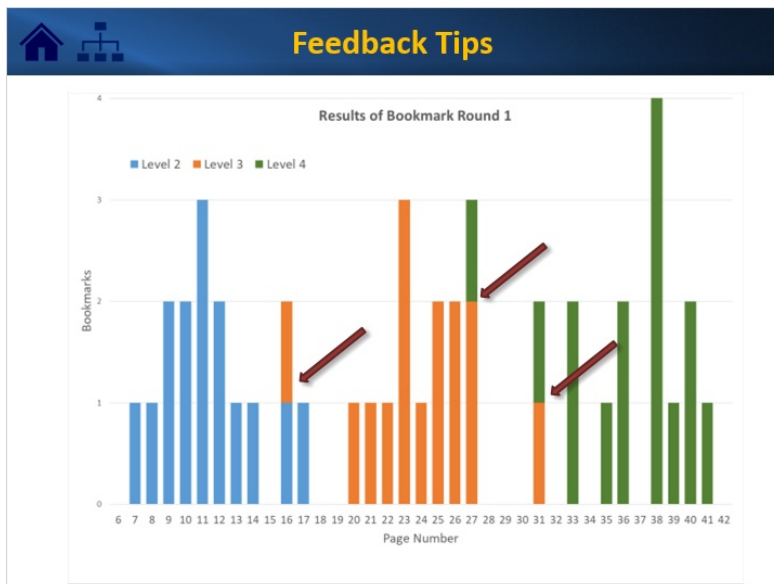
#### 4.28 During: SS InterRound Tips



### Inter-Round Tips

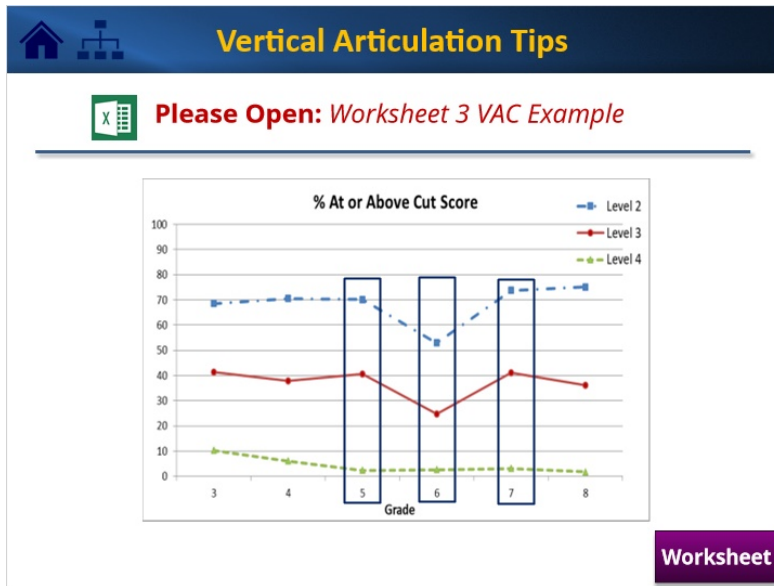
- Check completeness of each entry
- Run dummy data to validate programs
- Have 2 people check data entry and analysis
- Share cut scores and impact data with sponsoring agency

#### 4.29 During: SS Feedback Tips





## 4.30 During: SS Vertical Articulation Tips 1



### Worksheet (Slide Layer)

**Worksheet: Vertical Articulation**

**ReadMe**

This generic VAC workbook illustrates the use of information from the final round of standard setting employing an IRT model. It can even be modified to work with cut scores.

The **Theta** tab shows the page number to theta conversion as well as the percentages of students scoring at or above each theta level. For a Bookmark procedure, this theta would be the SPK7 value for each item. For a Body of Work procedure, this would be the theta.

Each grade level in the Theta tab has two values: theta and % of students scoring at or above that value.

The VAC tab contains a table in 3 sections and a graph.

The first (left) section of the table shows the OIB page number associated with the cut score from the final round of standard setting.

The second (middle) section of the table shows the percentages of students at or above the theta cuts shown in the first section. It is based on a set of bookmark tables associating the theta cut in the first section with the appropriate data set in the Theta tab. The

The third (right) section of the table uses the entries of the middle section to show the percentages of students in each level, based on the theta cuts in the first section.

The graph at the bottom of the page is based on the middle section of the table above.

Put a page number in the first section, and change it. For example, change the Round 3 bookmark for Grade 5 (Level 3) from 32 to 40, and see what happens. You will notice that the percentages in the second and third sections of the table change, and the Level 3 line in the graph transitions out between grades 4 and 5.

Change any other page number in the first section of the table, and you will notice changes in both the other sections and the graph.

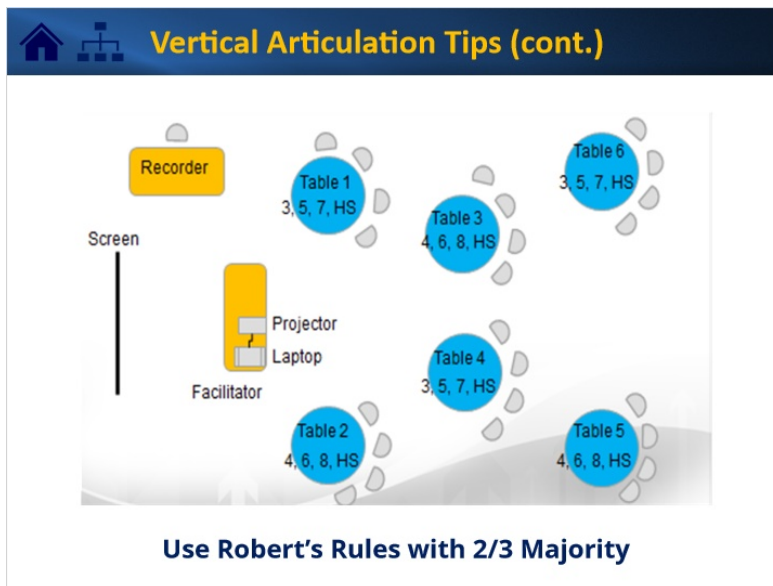
In practice, you may use a workbook such as this one, preloaded with all OIB page numbers, theta values, and associated percentages of students scoring at or above those values. Show the VAC tab to parents and identify data points on the graph that seem inconsistent with the overall pattern: constant, steadily declining, or generally

The **Locked** tab contains the original tables and does not change, regardless of what you do in the VAC tab. It is a safety device to prevent accidental changes to the cut scores. At the end of the VAC meeting, all cut scores for which there is not a valid change (with motion, second, and 2/3 majority approval) should be the same as when you started.

**Caution:** The purpose of vertical moderation is to arrive at a set of cut scores that make sense and can be defended, not to make all the lines in the graph perfectly straight. There will be times when there will still be bumps or dips in one or more of the lines when vertical moderation has been completed. In those instances, there should be a well documented reason for each significant bump or dip.

**Back**



#### 4.31 During: SS Vertical Articulation Tips 2



#### 4.32 During: SS Work With Panelists


- 
- Work With Panelists**
- Get to know them
  - Value and empower them
  - Listen to their concerns
  - Explain concepts as often as necessary
  - Let other panelists help
  - Assess understanding and readiness

#### 4.33 During: SS Work With One Another





### Work With One Another

- Collegial, not adversarial
- Discuss and resolve problems as they arise
- Maintain a positive atmosphere
  - ✓ Take care of panelists
  - ✓ Take care of facilitators and support staff



#### 4.34 Bookend: SS During CutScores





This is the end of this topic.

Topic Selection

#### **4.35 Bookmark: Managing**



#### **4.36 During: SS Division Responsibilities**

A slide titled "Division of Responsibilities" with a dark blue header. The header contains a home icon and a small organizational chart icon. The main content area features a bulleted list of roles, each in a separate box, and a circular graphic of a globe with silhouettes of people.

- Project Manager/On-Site Coordinator
- Lead Facilitator
- Sponsoring Agency Lead
- Official Reviewer

## 4.37 During: SS Project Manager OnSite



### Project Manager/On-Site Coordinator

 **Please Open: Worksheet 2 Contingencies**

- Meeting rooms
- Guest rooms
- Meals
- Security
- Contingency management
- Panelist emergencies
- General emergencies
- Coordinating with site management and staff
- Supervising clerical support staff
- Participating in and documenting daily debriefing

Worksheet

### worksheet (Slide Layer)

## Worksheet: Contingencies

**Standard Setting Contingency Planning**  
Things That Go Bump in the Night (and Day)

Standard setting, like any human activity, is subject to any number of things that can throw it off balance. Develop a contingency plan in concert with your [client](#), and keep it handy. This table will help you do that. Add to it as necessary.

Contingency	Threat	Mitigation
Panelist Related		
Panelists don't show up.	Procedural validity may be called into question.	Determine absolute minimum panel size; oversample by 10-20%.
Panelists arrive late.	If they miss training, procedural validity may be called into question.	Depending on how late, provide independent training. If a day or more late, send them home; see above re oversampling.
Panelists leave early.	Procedural validity may be called into question.	Determine absolute minimum panel size; oversample by 10-20%. Confer with your client re using those panelists' data.
Panelist mix is not representative.	Procedural validity may be called into question.	In defining the target mix, make sure to get a +/- for every group. See above re oversampling.
Panelists can't or won't follow directions.	Procedural validity may be called into question.	Facilitators should escalate this to the workshop leader, who will retrain the panelist(s). If the problem persists, the workshop leader should escalate this to the client representative in charge, who will determine whether to send the panelist home or possibly disregard all data from that panelist.
Panelists dominate.	One panelist who dominates a table or room can artificially raise or lower cut scores, calling the entire process into question. (This might also apply to a client representative.)	Facilitators should be trained to spot such panelists and channel their comments by asking other panelists to speak up. If the problem persists, the facilitator should escalate the matter to the lead facilitator who will counsel

Back

#### 4.38 During: SS Lead Facilitator



**Lead Facilitator**

 **Please Open:** *Worksheet 2 Contingencies*

---

- Monitoring breakout sessions
- Leading daily debriefing
- Contingency management
- Supervising facilitators
- Supervising data entry staff
- Supervising technical support staff
- Recommending deviations from approved plan
- Recommending solutions to problems
- Documenting the entire process and results

#### 4.39 During: SS Agency Lead



**Sponsoring Agency Lead**

- Monitoring project manager and lead facilitator
- Monitoring breakout sessions
- Participating in daily debriefing
- Answering policy-related questions
- Approving deviations from approved plan
- Approving solutions to problems

#### 4.40 During: SS Official Reviewer





### Official Reviewer

- Monitoring project manager and lead facilitator
- Monitoring breakout sessions
- Documenting observations
- Giving timely feedback

If you **see** something, **say** something

- Participating in daily debriefing

#### 4.41 During: SS Prelim OnSite



### Preliminaries: On Site

#### Prior to Day 1



- Check in with site staff
- Check on arrivals
- Meet with staff
- Check meeting rooms

#### Morning of Day 1

- Check opening session meeting room
- Check opening session A/V
- Meet with all speakers



#### 4.42 During: SS Prelim Remote



**Preliminaries: Remote**



**Prior to Day 1**

- Confirm panelist participation
- Meet with all key staff
- Check webinar software
- Check standard setting software

**Morning of Day 1**


- Recheck opening session webinar and notes
- Alert tech support

#### 4.43 During: SS Daily





**Daily**

- Monitoring
- Problem resolution
- Debriefing




#### 4.44 During: SS WrapUp





Wrap-Up

- Thanking panelists
- Closing down
- Reporting



#### 4.45 Bookend: SS During Managing

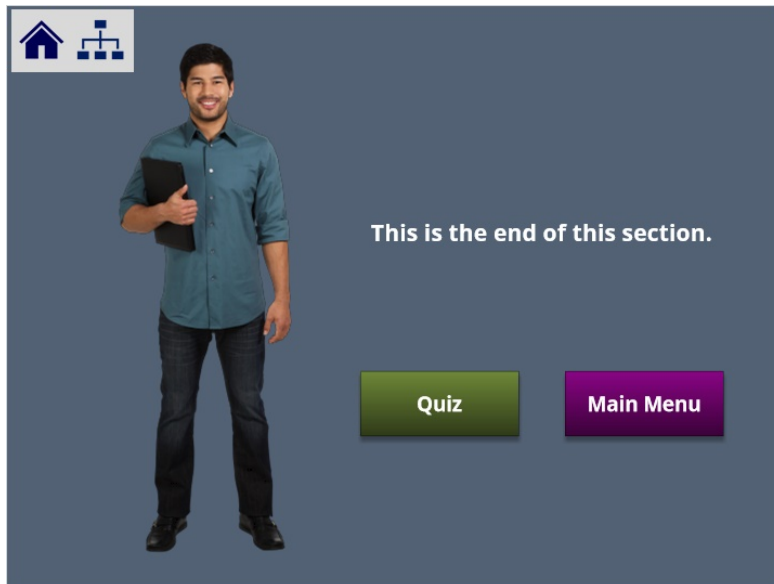




This is the end of this topic.

Topic Selection

#### 4.46 Bookend: Section 3 (SS During)



### 5. Section 4: After

#### 5.1 Cover: Section 4



## 5.2 After: SS Learning Objectives



### Learning Objectives



1. Write a final report
2. Get cut scores approved
3. Complete additional activities

## 5.3 Topic Selection: SS After



Final Report

Approve Cut Scores

Other Activities

End Section

## 5.4 Bookmark: Final Report



## 5.5 After: SS Final Report Outline

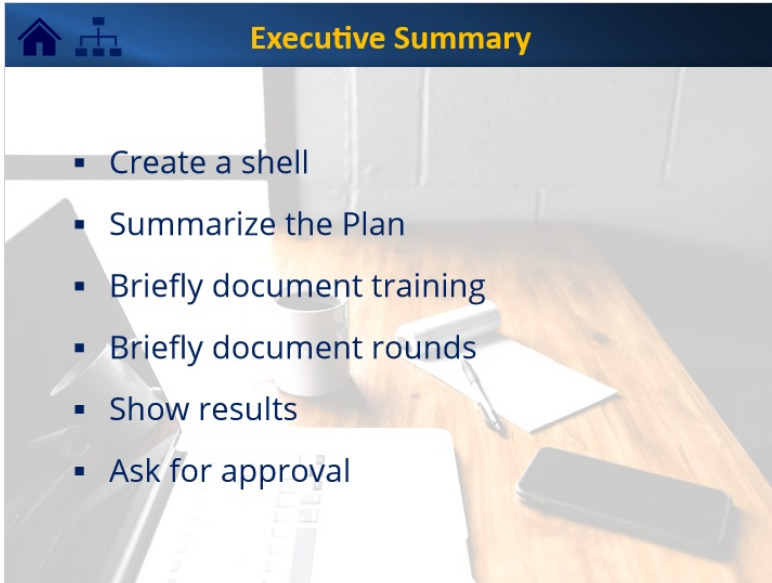
**Final Report Outline**

**Please Open:**  
*Planning and Conducting Standard Setting (p. 61) - [Links](#)*

- Title Page
- Table of Contents
- Executive Summary
- Introduction
- Methodology
- Round-by-Round Summary
- Results
  - ✓ Cut scores
  - ✓ Impact
- Recommendations
- References
- Appendices

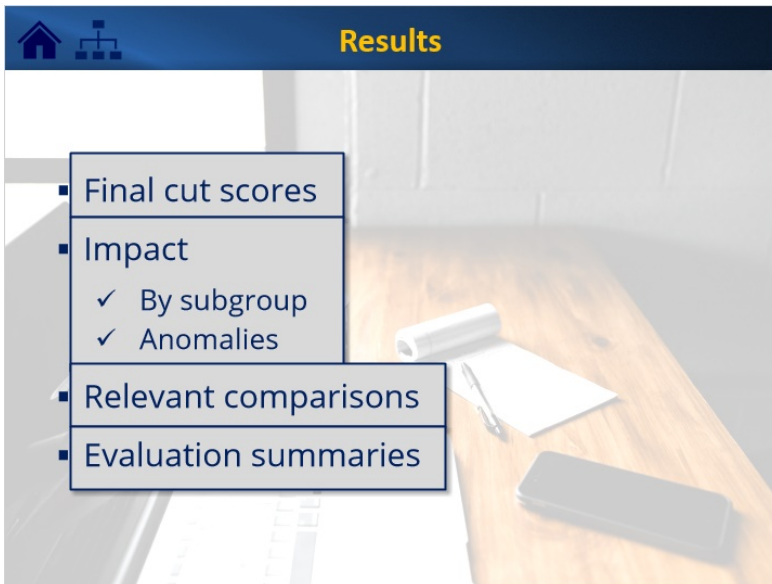
**Planning and Conducting Standard Setting**  
Michael B. Bunch  
April 17, 2020  
**MI MEASUREMENT INCORPORATED**

## 5.6 After: SS Executive Summary



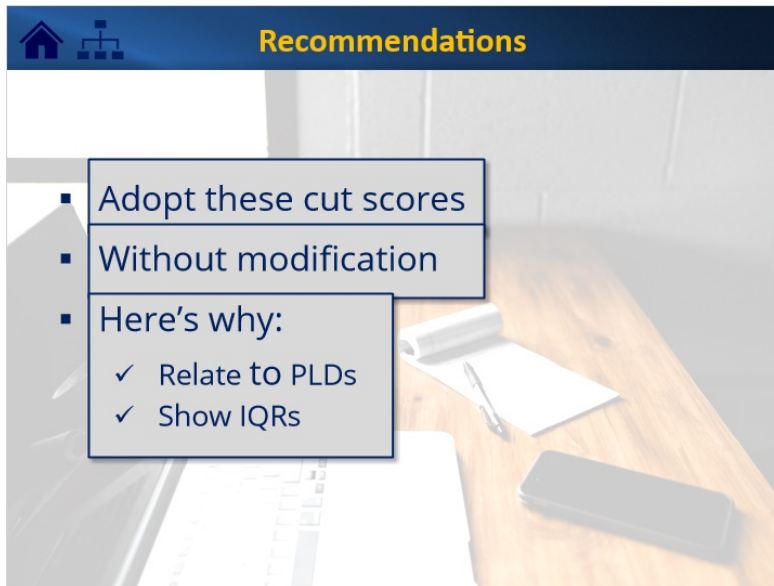
- Create a shell
- Summarize the Plan
- Briefly document training
- Briefly document rounds
- Show results
- Ask for approval

## 5.7 After: SS Results



- Final cut scores
- Impact
  - ✓ By subgroup
  - ✓ Anomalies
- Relevant comparisons
- Evaluation summaries

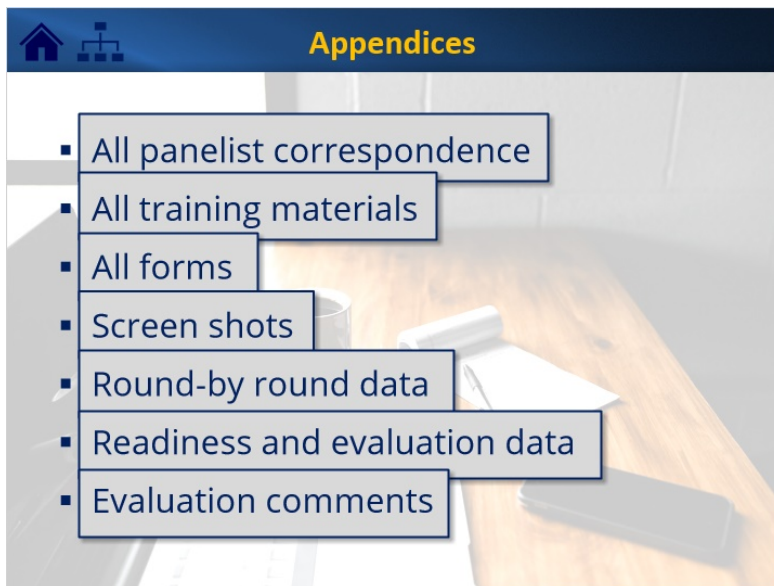
## 5.8 After: SS Recommendations



The slide features a dark blue header with a home icon and a tree diagram on the left, and the word "Recommendations" in yellow on the right. The background is a blurred image of a desk with a keyboard, a smartphone, and some papers. A list of recommendations is displayed in a light blue box with a dark blue border.

- Adopt these cut scores
- Without modification
- Here's why:
  - ✓ Relate to PLDs
  - ✓ Show IQRs

## 5.9 After: SS Appendices





The slide features a dark blue header with a home icon and a tree diagram on the left, and the word "Appendices" in yellow on the right. The background is a blurred image of a desk with a keyboard, a smartphone, and some papers. A list of appendices is displayed in a light blue box with a dark blue border.


- All panelist correspondence
- All training materials
- All forms
- Screen shots
- Round-by round data
- Readiness and evaluation data
- Evaluation comments



### 5.10 After: SS Tips




Tips



- Start with the Plan
- Create a shell
- Update verb tenses
- Update during standard setting
- Deliver *Executive Summary* first
- Collect information for appendices

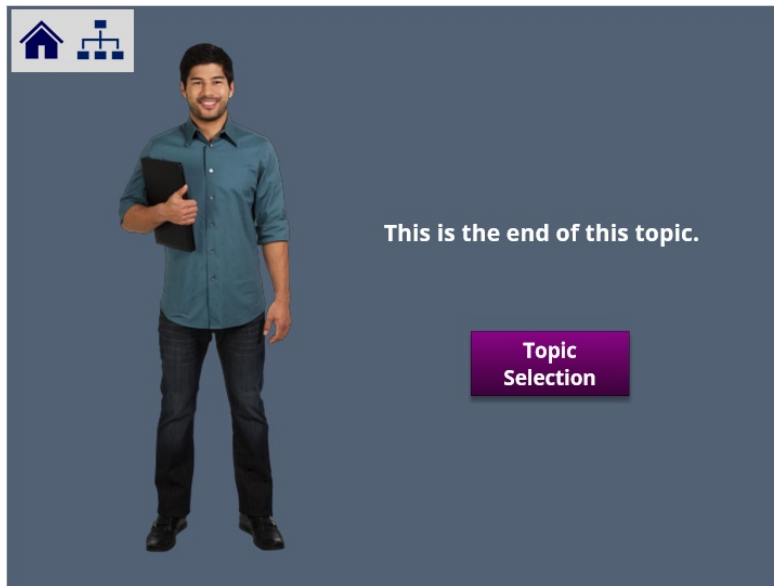
### 5.11 After: SS Reviewers Report



Official Reviewer's Report

- Summary of the Plan
- Observed vs. Expected
- The good, the bad, and the ugly
- Summary of procedural validity
- Recommendations

### ***5.12 Bookend: SS After Final Report***



### ***5.13 Bookmark: Approve Cut Scores***



## 5.14 After: SS The Usual Suspects

The Usual Suspects

**Please Open: *Worksheet 1/Who***

K-12 Setting	Certification & Licensure Setting
State or Local Board of Education	Board of Directors/Trustees
Superintendent/Commissioner	Executive Director
Assistant Superintendent/ Commissioner	Assistant Director
Assessment Director	Director of Testing/ Psychometrics
Assessment Department Staff	Psychometrician(s)
Technical Advisory Committee	External Reviewers
External Reviewers	



Worksheet

## Worksheet (Slide Layer)


Worksheet: Who

Back

## 5.15 After: SS Whats the Plan



### What's the Plan?

 **Please Open: Worksheet 1/When**

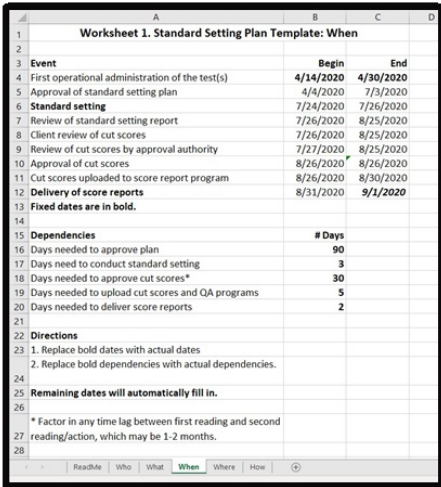
---

- What's the timeline?
- How many presentations will there be?
- Who presents what to whom?
- Be prepared!

Worksheet

### Worksheet (Slide Layer)



Worksheet: When



Event	Begin	End
First operational administration of the test(s)	4/14/2020	4/30/2020
Approval of standard setting plan	4/14/2020	7/3/2020
Standard setting	7/24/2020	7/26/2020
Review of standard setting report	7/26/2020	8/25/2020
Client review of cut scores	7/26/2020	8/25/2020
Review of cut scores by approval authority	7/27/2020	8/25/2020
Approval of cut scores	8/26/2020	8/26/2020
Cut scores uploaded to score report program	8/26/2020	8/30/2020
Delivery of score reports	8/31/2020	9/1/2020
Fixed dates are in bold.		
Dependencies	# Days	
Days needed to approve plan	90	
Days need to conduct standard setting	3	
Days needed to approve cut scores*	30	
Days needed to upload cut scores and QA programs	5	
Days needed to deliver score reports	2	
Directions		
1. Replace bold dates with actual dates		
2. Replace bold dependencies with actual dependencies.		
Remaining dates will automatically fill in.		
* Factor in any time lag between first reading and second reading/action, which may be 1-2 months.		


Back

### 5.16 After: SS Stand Deliver




#### Stand and Deliver

- Prepare
- Rehearse
- Be concise
- Be positive
- Stay on script
- Answer questions
- Ask for approval
- Thank your audience




### 5.17 After: SS Get Approval



#### Get Approval

- It was a good plan – you approved it
- We followed it
- We obtained valid results
- The cut scores should be approved





### ***5.18 Bookend: SS After Approve Cut Scores***



### ***5.19 Bookmark: Other Activities***




### 5.20 After: SS Now What





## Now What?


- Score scale
- Revise report
- Review/revise PLDs
- Upload cut scores
- Settle up
- Even more stuff



### 5.21 After: SS Score Scale



## Score Scale

 **Please Open:**  
*Planning and Conducting Standard Setting: Appendix E Additional Files*

---

- New test – new score scale
- Meaningful score at main cuts
- Meaningful range of scores
- Suggested methods

Worksheet





## Worksheet (Slide Layer)

### Worksheet: Scaling Methods

A	
1	<b>ReadMe</b>
2	
3	This workbook contains 4 spreadsheets, described below.
4	
5	<b>1 Cut Raw</b> - This spreadsheet shows how to convert a single cut score to a scale score with desired properties. It illustrates the necessity of trying more than once to satisfy all scale property criteria.
6	
7	<b>2 Cuts Raw</b> - This spreadsheet illustrates how to use the slope/intercept method with z scores.
8	
9	<b>2 Cuts IRT</b> - This spreadsheet shows how to use the slope/intercept method with theta values.
10	
11	<b>Multi. Grade IRT</b> - This spreadsheet shows how to use the slope/intercept method with two theta cuts, one from the lowest grade and one from the highest grade. It assumes a true vertical scale from the lowest to the highest grade.
12	
13	
14	

Back

## 5.22 After: SS Revise Report





### Revise Report

- Changes during review process
- Comments on report draft
- High visibility – be prepared for multiple rounds
- Get it in writing
- Resolve conflicting revisions

**If it is not in writing it did not happen!**



### 5.23 After: SS Revise PLDs



#### Review/Revise PLDs


- Review cut score changes
- Still match target PLDs?
- No chance to change cut scores now
- Change target PLDs only as absolutely necessary
- Create/revise reporting PLDs

### 5.24 After: SS Upload Cut Scores



#### Upload Cut Scores

- Plan ahead
- Know where cut scores go
  - ✓ Don't forget new score scale
  - ✓ Don't forget reporting PLDs
- Check after uploading
- Run dummy reports
- Verify
- Get approval





### 5.25 After: SS Settle Up



## Settle Up


- Pay panelist stipends and expenses
- Thank panelists again
- Pay meeting site
- Thank meeting site management
- Report any problems to meeting site management
- Thank and congratulate staff

### 5.26 After: SS More Stuff



## More Stuff

- Post results
- Debrief
- Update methodology
- Write an article or paper?
- Exhale



### 5.27 Bookend: SS After Other Activities








This is the end of this topic.

Topic  
Selection

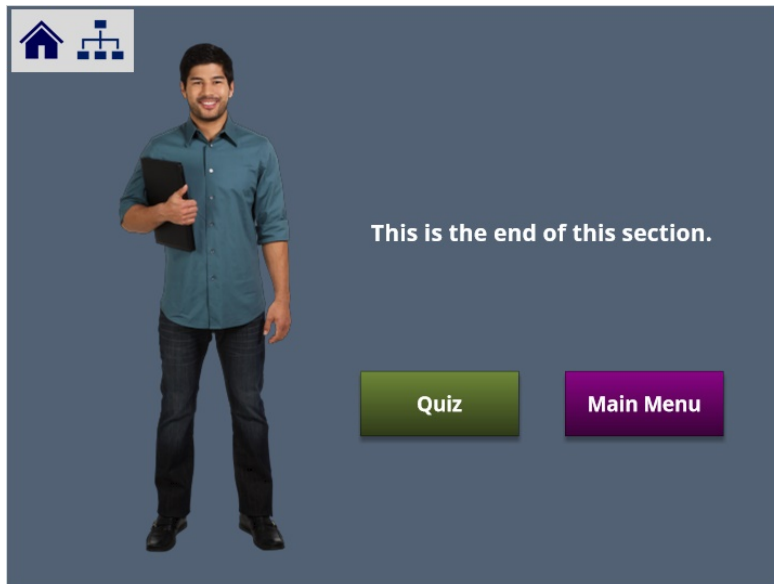
### 5.28 Fun Song





We close the module with a fun little ditty...

### 5.29 Bookend: Section 4 (SS After)



### 5.30 Module Cover (END)

