

NYSED's Standard Setting Process

These are slides from a NYSED presentation prepared for the 2015 Regents Exams Workgroup in which I participated.

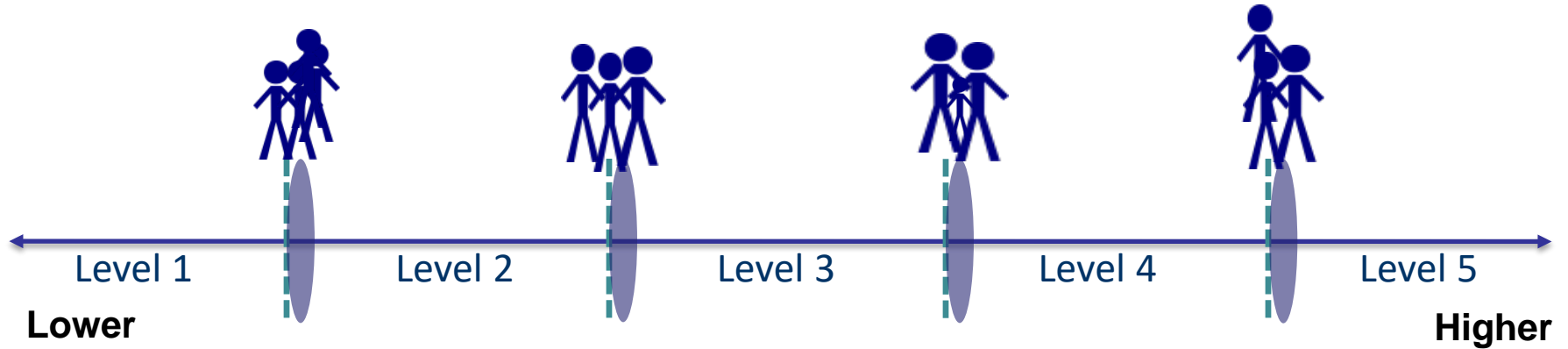
An excellent additional resource can be found on EngageNY. It is the Setting Performance Standards [presentation](#) made to the July 2014 Network Teams Institute.

Denny Atkinson
DATAG presentation with Tracy Davey
December 2018

Performance Level Descriptions

Domain	NYS Level 5	NYS Level 4	NYS Level 3	NYS Level 2	NYS Level 1
Arithmetic with Polynomials and Rational Expressions (A-APR)	<p>Explain and/or show generally why polynomials are closed under addition, subtraction, multiplication.</p> <p>Determine and use the zeros of a function to sketch its graph, generate graphs and expressions for multiple functions given particular zeros and explain the significance of its zeros.</p>	<p>Perform addition, subtraction, and multiplication with polynomials and demonstrate that polynomials are closed under the three operations.</p> <p>Identify zeros of quadratic and cubic polynomials and use the zeros to graph the function.</p> <p>Explain the relationship between a function and its zeros.</p>	<p>Perform addition, subtraction, and multiplication on polynomials.</p> <p>Factor polynomials of degree 2 to find zeros and draw its graph.</p>	<p>Perform addition and subtraction on polynomials.</p> <p>Given a linear polynomial and its zeros, student will be able to construct a rough graph of the function and identify its zeros.</p>	<p>Perform addition with linear expressions.</p>

Conceptualize the Threshold Student

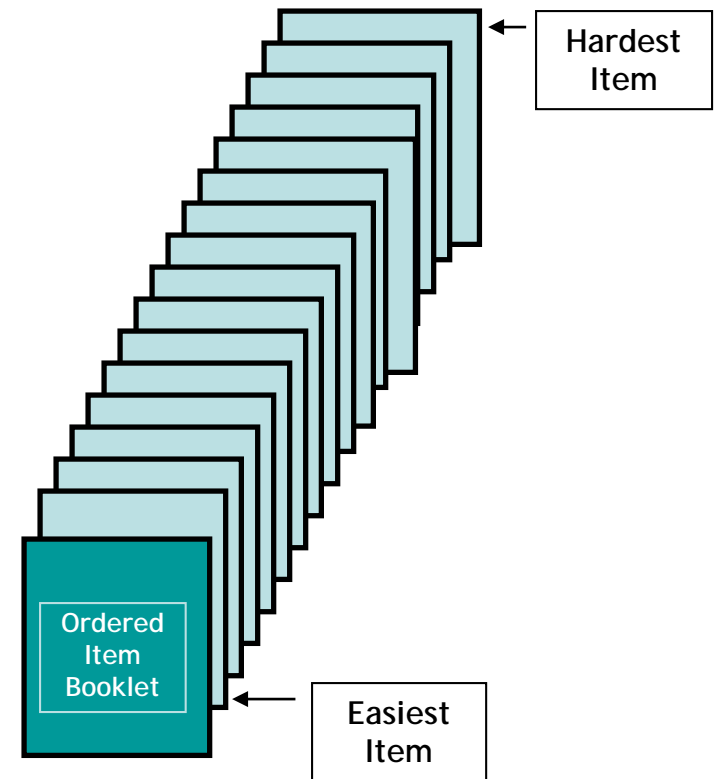


- **Develop threshold descriptions**

- **Based on the PLDs, visualize New York State students who are just barely entering the next higher level**
- **What knowledge and skills should a student have at the thresholds?**

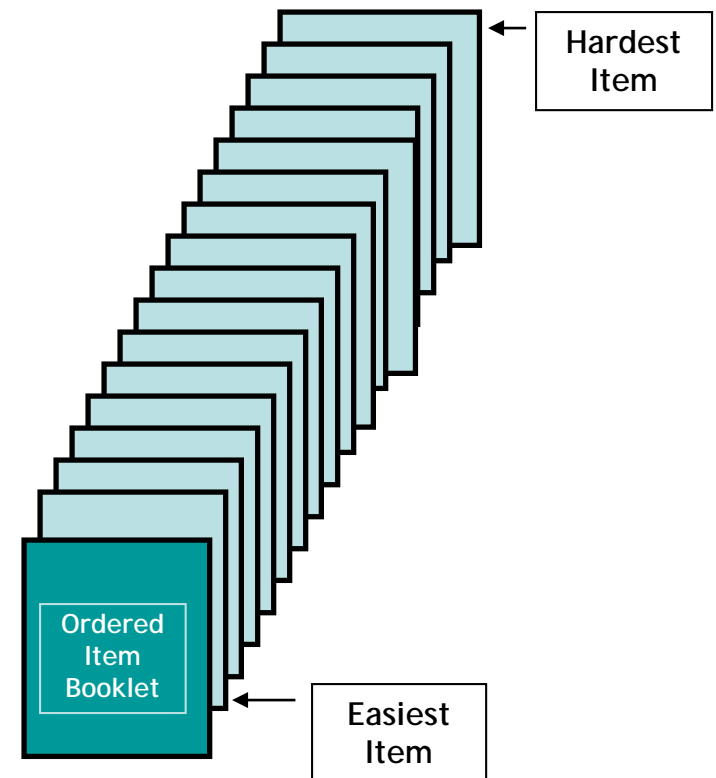
Third Task: Train on Ordered Item Booklet (OIB) Method (cont'd)

- Panelists were trained on how to use the OIB to make judgments about where the cut scores should be to distinguish:
 - Level 2 from Level 1
 - Level 3 from Level 2
 - Level 4 from Level 3
 - Level 5 from Level 4
- After training, each panelist completed a survey indicating his/her level of understanding. If any panelist was not confident in his/her understanding, more training was provided to all.



Ordered Item Book (OIB):

- Contains every item (MC) or score point (CR) from the operational test
 - Embedded FT items may be included as well
- Represents the range of knowledge, skills, and practices assessed
- Items are ordered from least to most difficult based on student results



Determining the Bookmark Location

- Start with page 1 (easiest item) and ask: Should a hypothetical *threshold NYS Level 4* student have a $2/3$ chance or greater of answering this item correctly?
- If YES, then move to next question
- Repeat this process until you get to several NOs
- Go back to your last YES and place a bookmark on this item
- Move on to the *NYS Level 3* Bookmark. Then do *NYS Level 2* Bookmark, then *NYS Level 5*.

Determining the Bookmark Location (Cont.)

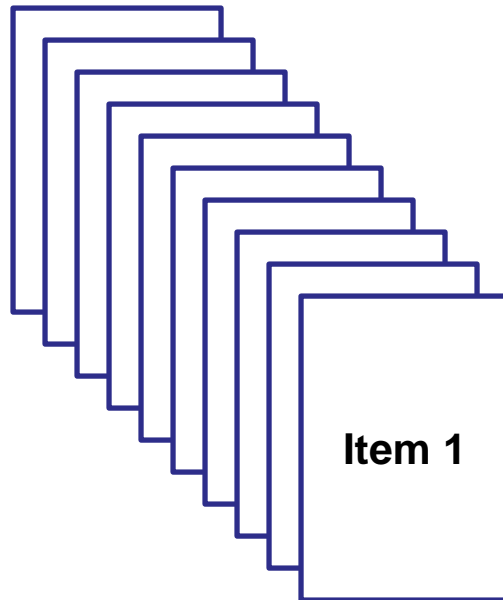
- Think about 100 threshold students right at the cut score
- Should approximately 67 of them get the item right?



"Bookmark"



Hardest



Easiest

Theory vs. Practice

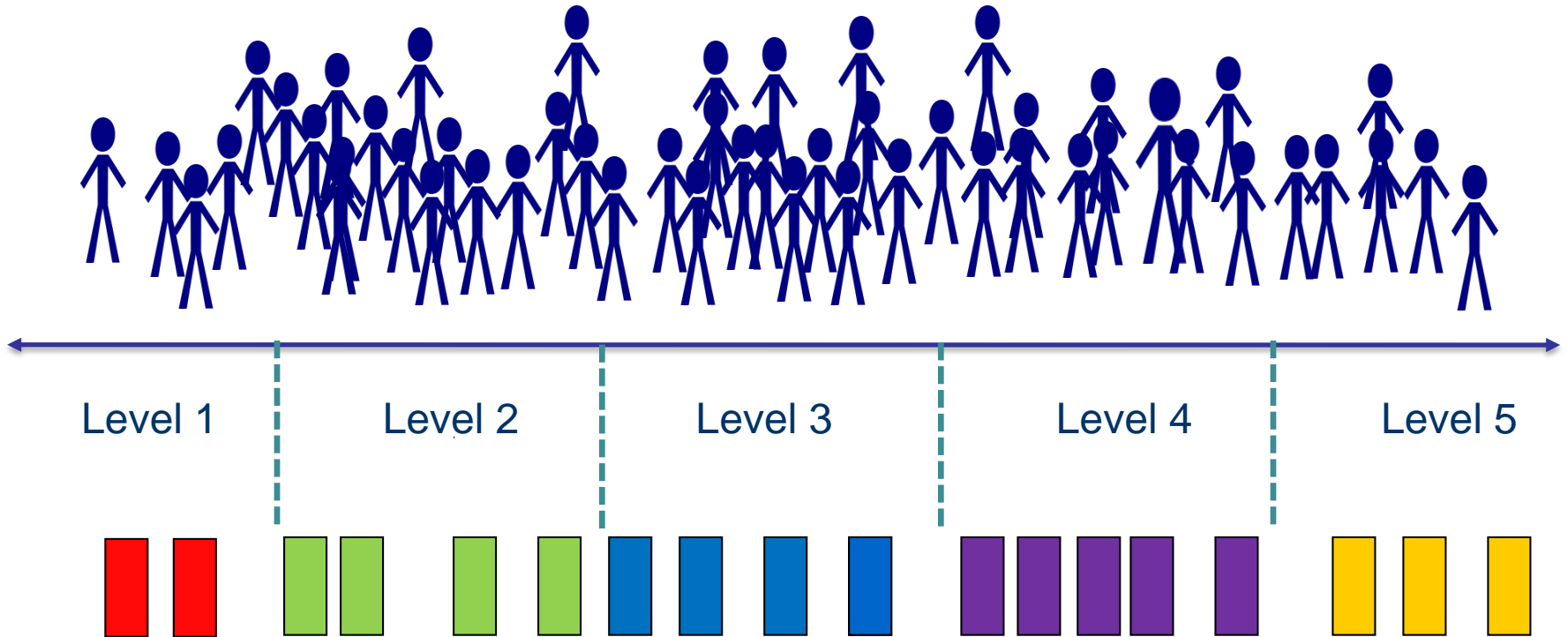
<u>Page</u>	<u>Answer</u>
19	Y
20	Y
21	Y
22	Y
23	N
24	N
25	N



<u>Page</u>	<u>Answer</u>
19	Y
20	Y
21	N
22	N
23	N
24	Y
25	N

Rationale for Bookmark Process

Students ordered by knowledge and skills



OIB: items ordered from least difficult to most difficult

Item response theory allows item difficulty and student achievement to be placed on the same scale