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Test Construction and Test Form Verification Update

Illinois Technical Advisory Committee
November 19, 2019

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Scope of Test Construction and Test Form Verification

A formal process to review and approve test forms

- The goal of this presentation is to provide a brief, high-level overview of the test construction and test form verification processes.
- Test Construction Process
  - Test forms are constructed and quality-reviewed by content and psychometric experts using a comprehensive, iterative process
- Test Form Verification Educator Meetings
  - Test forms are reviewed by state representatives and classroom teachers

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Test Construction Process

- Create Test Construction Specifications
- Internal Preparation and Training
  - General Test Construction Workshops
  - Test Construction Tool Workshops
  - Psychometric Training
- Finalize Item Pool After Field Test Data Review
- Construct Forms Using Test Construction Tools
- Perform QC Checks on Form
  - 87 Point Initial Build Checklist
  - 18 Point Psychometric Checklist
  - 41 Point Senior Review Checklist

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Test Form Verification Educator Meetings

- General training on test construction process
- Psychometric training
- Content specific training
- Forms review and approval process

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English Language Arts (ELA)

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The Pre-Build Process

- To make the best possible choices with our test builds, the ELA Content Team undergoes a rigorous pre-build process. We must balance multiple, competing priorities to emerge with the best possible version of a form.
- Our pre-build process enables us to identify the multiple challenges facing each available set; our facilitators are informed and able to talk to their committees about these challenges and potential replacements.

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The Pre-Build Process

Our test build process includes:

- Resources: Eligible Items Lists and OWG Preference Sheets
- Multiple Trainings, Form Build Workshops, ABBI Workshops
- Internal and External passage reviews
- A Review Process that includes an 87 Point Initial Build Checklist
- A Senior Review Process that includes a 41 Point Senior Review Checklist
- A Test Forms Permissions Process
- Multiple Psychometric Pre-Reviews

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An OVERVIEW of our Checklists:

- **Item Level Checks:** Content alignment, scoring, functionality, style, metadata
- **Passage Set Level Checks:** Permissions, sequences, Task Model alignment, item enemies, key runs, OWG Preferences, TECR and vocabulary requirements
- **Form Level Checks:** Multimedia, multicultural representation, gender representation, overall word counts, text complexities, item difficulties, DIF Flags, prior usage, cluing, topic variety, overall evidence statement coverage, PCR limits, linking requirements, form parallelism
- **ACC Form Checks:** Text to speech, audio/visual bias, glossing considerations
- **Field Test Set Checks:** Overall word count, topic repetition, cluing, key run, complexities, ACC form compatible, permissions

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General Process Overview

1. Review each form in ABBI using checklist
2. Record any issues
3. Review issues and consider alternatives with the group
4. Facilitator updates forms
5. Verify updates and obtain psychometric approval of forms

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Psychometric Review

- Review classical and IRT item statistics
- Review test characteristic curves (TCC) with respect to the target TCC and the other online forms
- Review conditional standard error of measurement (CSEM) curves with respect to the maximum allowed value of .45
- The following slides provide an example TCC and CSEM for one form.

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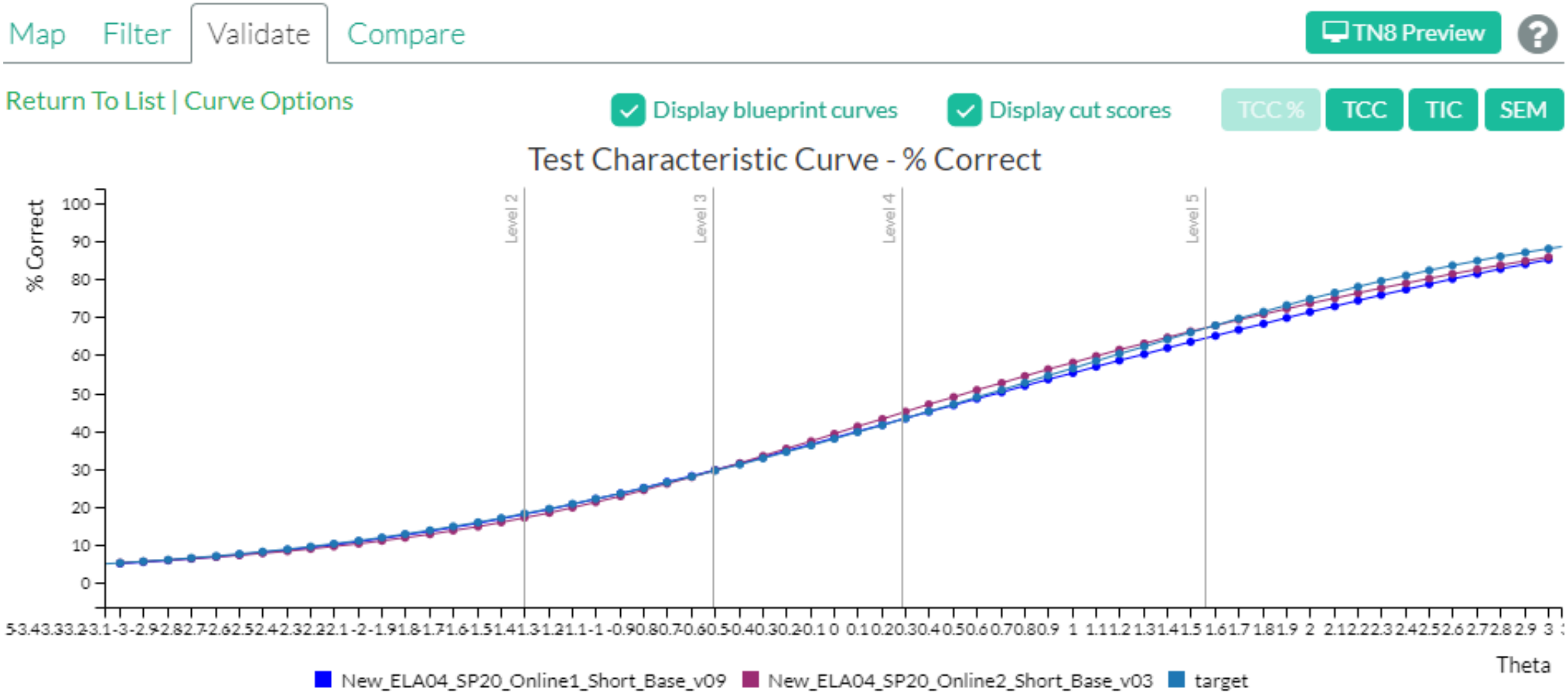
ELA Grade 4 Form 1, Form 2, and Target TCC



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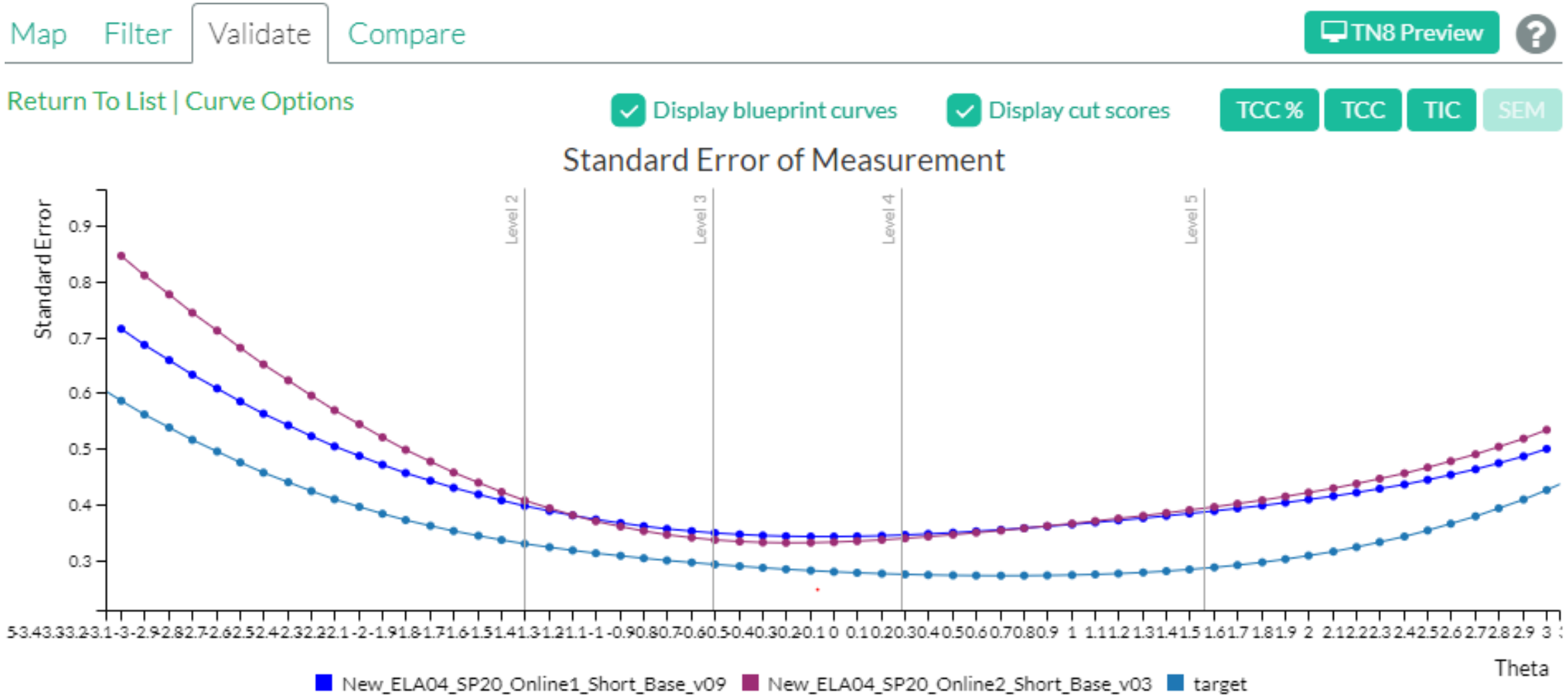
ELA Grade 4 Form 1, Form 2, and Target CSEM



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Mathematics

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Test Form Construction Process

- Initial form builds completed using Form Build spreadsheet checks:
  - Blueprint
  - Sequence
  - Key Distribution
  - TEI and Item Type percentage
  - Number of points
  - Item Statistics
  - Number of Operational Uses

- Test Construction Checklist is used to verify that each form meets the content requirements and are parallel

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General Process Overview

1. Review each test form in ABBI using checklist
2. Record any issues
3. Discuss issues and consider alternatives with the group
4. Facilitator updates forms and psychometric review
5. Verify updates and obtain content approval of forms

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Reference Documents for Reviewers

- Blueprints
- Checklists
- Test Form Verification Process Document
- Forms Construction Tables and Math Sequencing Strategy
- Rubrics

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What is ABBI?

ABBI is capable of:

1. Displaying items assigned to each form and their metadata
2. Displaying eligible items and their metadata
3. Selecting and unselecting items by form
4. Providing additional blueprint and statistical information about each form
5. Displaying test characteristic curves

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Review Process

- Review Test Forms
- Record any Issues on the Pull List and/or Checklist
- Discuss Issues and Consider Alternatives with the Group
- Facilitator Updates Forms and Psychometric Review
- Confirm Updates and Obtain Content Approval of Forms

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Psychometric Review

- Review classical and IRT item statistics
- Review test characteristic curves (TCC) with respect to the target TCC and the other online forms
- Review conditional standard error of measurement (CSEM) curves with respect to the maximum allowed value of .45
- The following slides provide example TCC and CSEM for one mathematics form.

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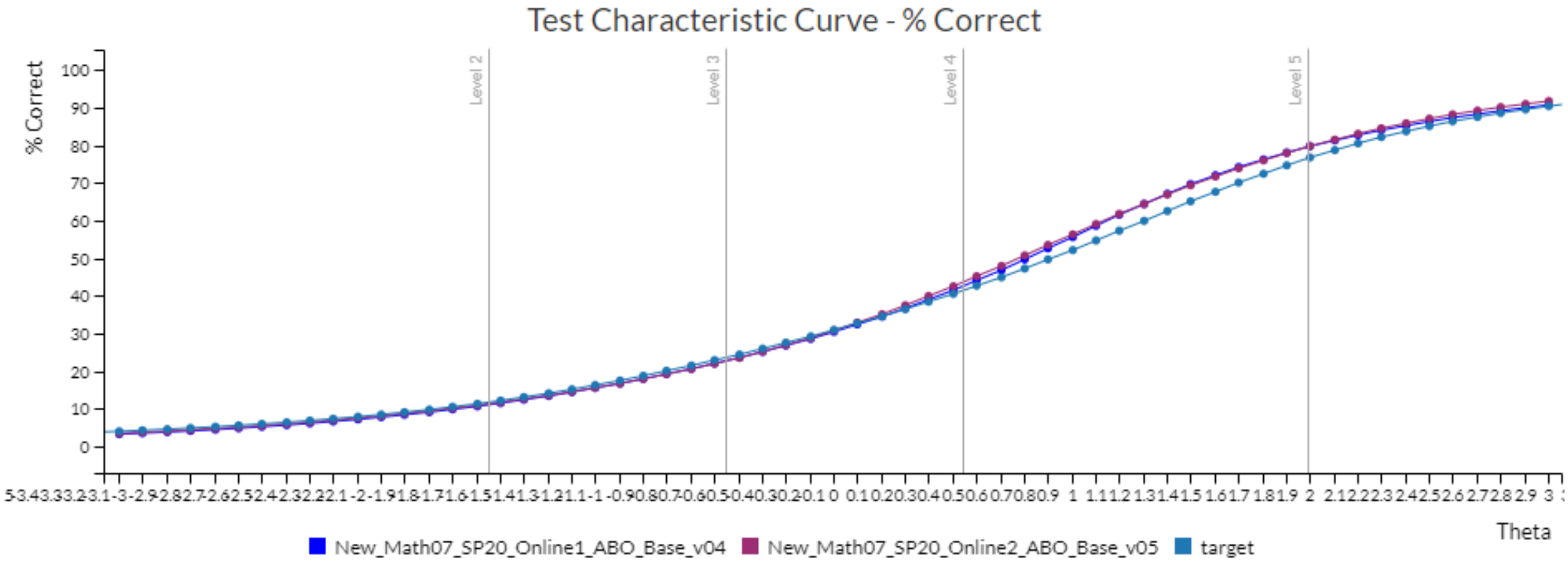
Math Grade 7 Form 1, Form 2, and Target TCC

Map | Filter | Validate | Compare

TN8 Preview

Return To List | Curve Options

Display blueprint curves | Display cut scores | TCC % | TCC | TIC | SEM



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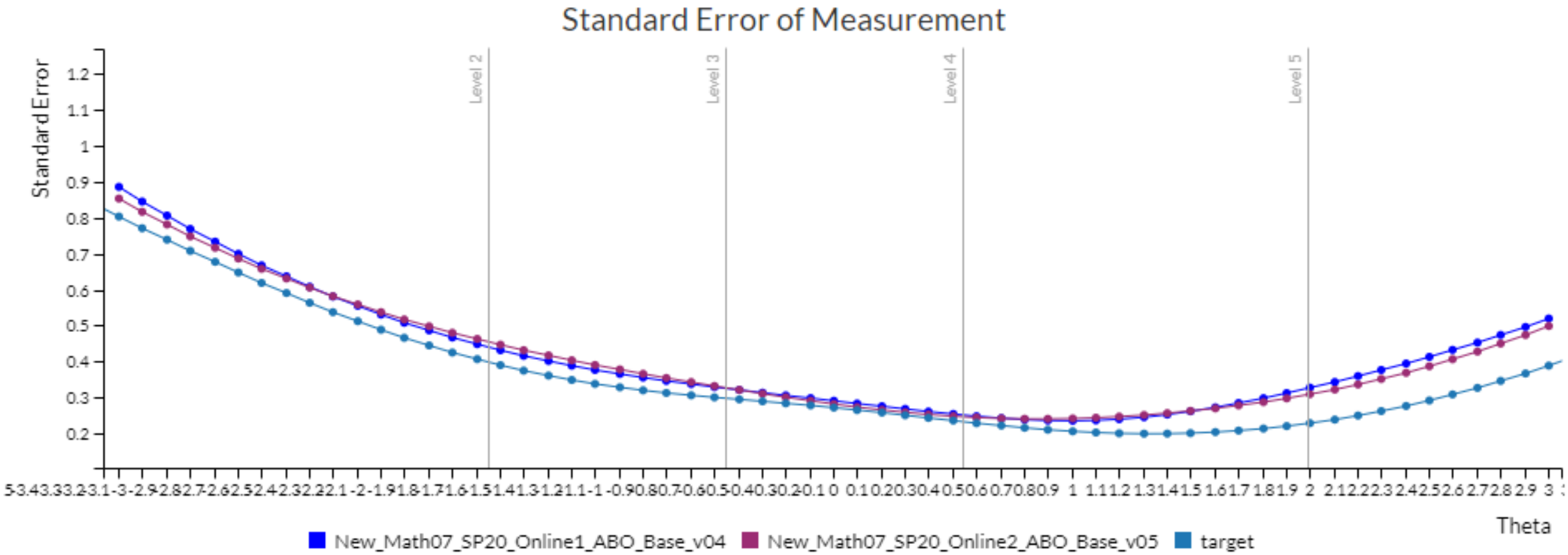
Math Grade 7 Form 1, Form 2, and Target CSEM

Map | Filter | Validate | Compare

TN8 Preview

Return To List | Curve Options

Display blueprint curves | Display cut scores | TCC % | TCC | TIC | SEM



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