

Kansas Assessment Program

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Institute, the University of Kansas

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Overview

- The role of test development within a balanced assessment system—both assessments of learning and assessments for learning.
- The involvement of Kansas BOE members, Kansas educators and students, and KU staff in the test development process.
- The many roles of psychometricians in the test development process.

Balanced Assessment Program

Gives educators multiple sources of data at different levels and intervals so that they can make strong instructional decisions and document progress and growth over time.

Kansas Assessment Program

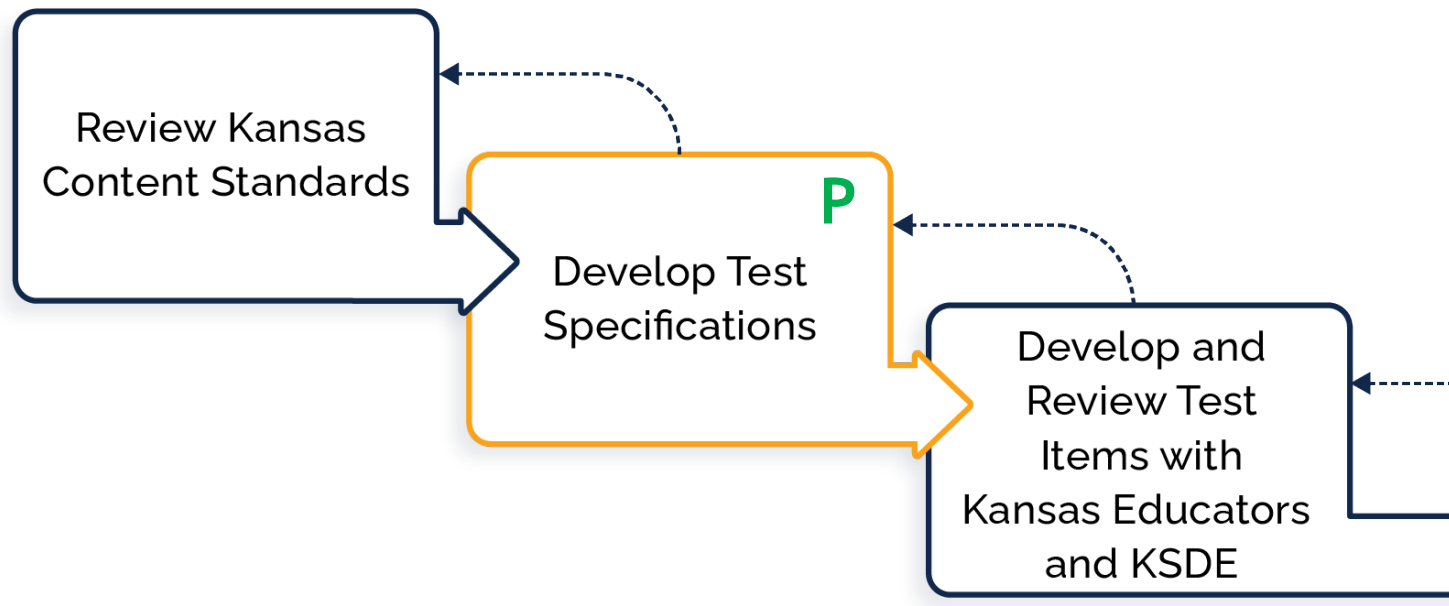
Summative
Assessments

Interim
Assessments

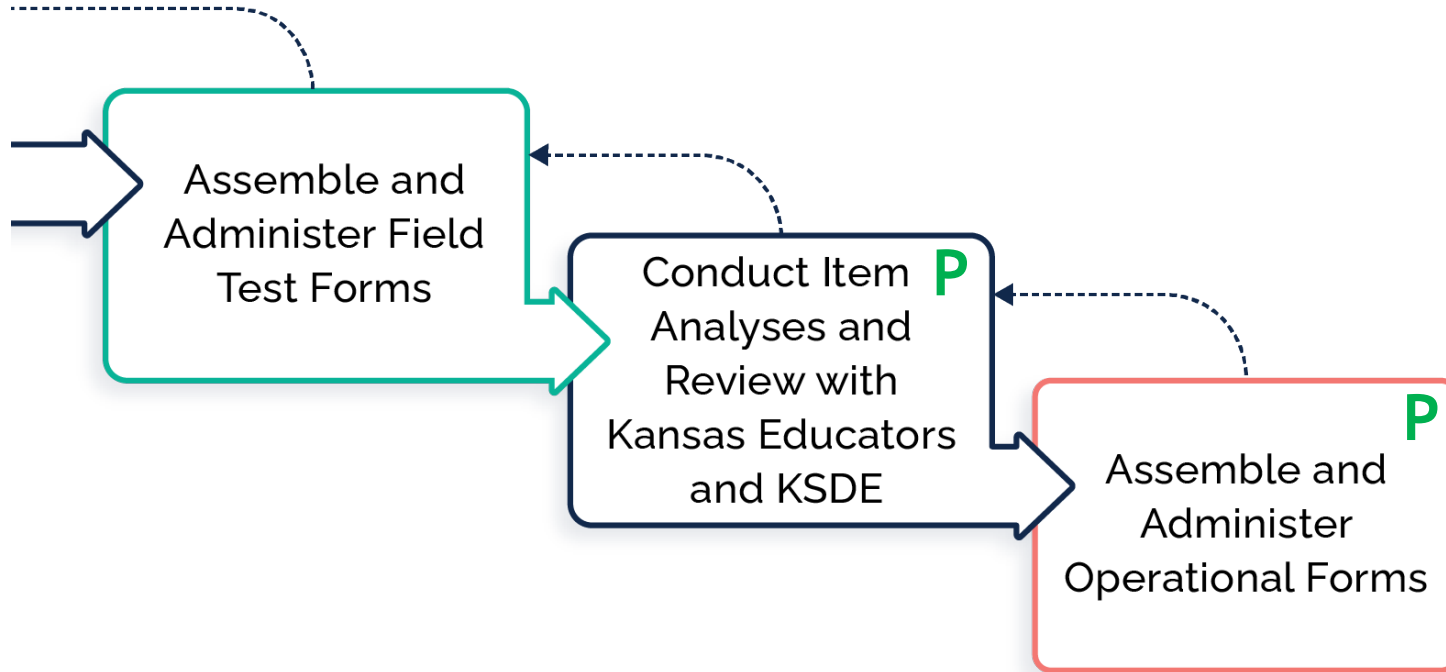
Focused
Interims

Mini-Tests

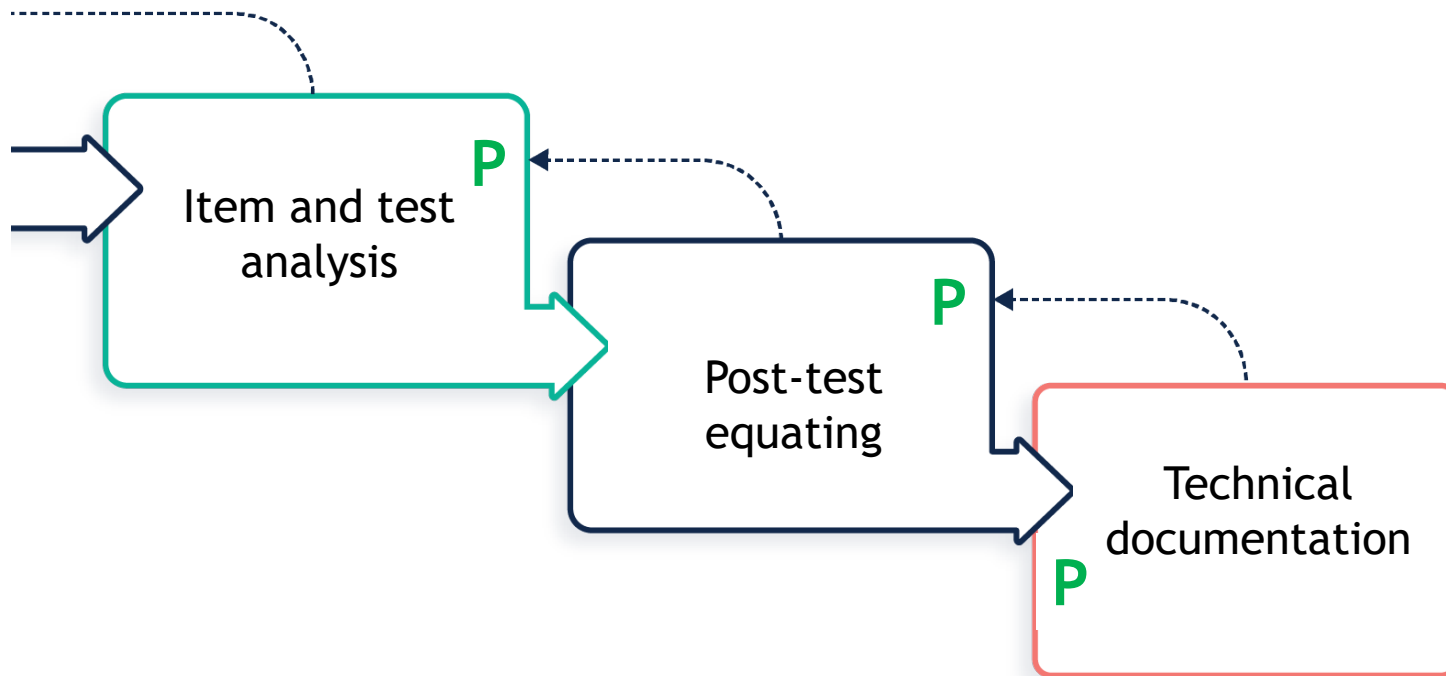
Test Development Process, Part I



Test Development Process, Part II



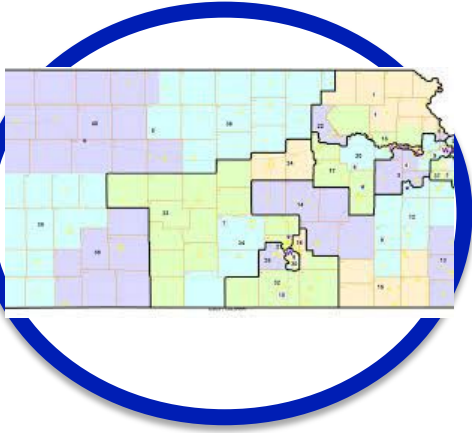
Post Test Development Process



Involvement of Kansas Educators

Kansas educators, representing each of the 10 Board districts, review and assist the process at many points. They review and provide feedback...

- To improve stimulus material (i.e., passages in reading, phenomena in science);
- To improve test questions and answer choices;
- To mitigate potential bias and enhance fairness;
- On item statistics following field testing to suggest which items should move forward as operational.



What Is a Psychometrician?

A psychometrician is a scientist who applies statistical modeling to test data to:

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- ensure test specifications support inferences about student performance levels
- assess item difficulty and correlation with the subject matter and infer statistical item quality
- maximize statistical quality of tests at time of assembly
- perform statistical quality control analyses
- equate test forms to maintain score continuity
- create technical documentation necessary to meet federally mandated peer review

Developing Test Specifications

- Goal: to get the best evidence possible based on the testing constraints. Ensure depth and breadth of Kansas standards are adequately covered.
- Who: Developed collaboratively with KSDE subject matter experts.
 - Psychometricians provide input on test length to ensure a reliable results.
 - Psychometricians identify the number of items needed to report reliable subscores.

Item Development

- To ensure quality, items are developed through a rigorous, multistep process
 - Items writers are highly trained, subject matter experts
 - Each item goes through multiple rounds of internal and external review
 - Specific reviews include validating content and ensuring fairness and lack of bias

Field Test Data Processing by Psychometricians

- Item analysis
 - Calculate item difficulty and item discrimination
 - Conduct distractor analysis for identifying attractive distractor or mis-key
 - Conduct DIF analysis for identifying item that could lead to fairness issue
- Flag items if item analysis results indicate items might have some issues such fairness issues or double keys

Psychometric Review of Operational Forms

Psychometricians evaluate the operational forms to ensure...

- Forms include items with a wide range of item difficulties and with a moderate level of test difficulty;
- Items with negative or very low correlations, or extremely low or high item difficulties, are not selected; and
- Average item correlations are high enough to differentiate students at different performance levels.

Questions?