

Evidence-Based Approach: A Comprehensive Framework for Building Summative Assessments

This resource outlines the core components of an evidence-based approach to summative assessment development and accompanying recommended steps. State and Local Education Agencies may benefit from this framework, as it provides guidance and recommended steps about each of the following core components: (1) Evidence-Based Approach; (2) Content; (3) Measurement Theory of Action; (4) Item Types; (5) Item Specifications; (6) Blueprint; (7) Plan and Schedule for Item Development; (8) Administration Guidelines; and (9) Documentation.

EVIDENCE-BASED APPROACH: A comprehensive framework for building summative assessments

CORE COMPONENTS	RECOMMENDED STEPS
<p>Evidence-Based Approach</p> <ul style="list-style-type: none"> • builds a logical, coherent argument for test use • incorporates both learning and measurement theory • makes explicit the links between content and items • provides particular types of evidence/documentation for building a validity argument • supports comparability of test forms across students (for the adaptive assessments) and over time. 	<p>Identify experts with a significant prior knowledge base about</p> <ul style="list-style-type: none"> • content (e.g., ELA, math, science) • how students learn and develop expertise in this domain • how different item types can be used strategically to measure what students know and can do in this domain
<p>Content</p> <ul style="list-style-type: none"> • unpacks" the standards to provide the level of specificity needed to guide test developers • specifies which content is eligible for assessment on each measure • defines intended content emphases and grade-specific priorities for assessment • describes indicators of progress toward college and career readiness at each grade • ensures that learning expectations for students at each grade are based on the full range of the standards 	<p>Unpack the standards for assessment</p> <ul style="list-style-type: none"> • analyze language, structure, and content of the standards to clarify intent • define which standards will be assessed at each grade on summative tests

CORE COMPONENTS	RECOMMENDED STEPS
<p>Measurement Theory of Action</p> <ul style="list-style-type: none"> linked to evidence-based approach, i.e., building logical argument for test use for intended purpose explains theoretical connection between standards and assessment methods, i.e., understanding of how expertise or competence in a content domain develops and how different levels of expertise can be measured describes how the critical knowledge and skills embedded in the standards at each grade can accurately and effectively be measured and how levels of achievement for each standard will be differentiated defines how progress toward college and career readiness will be measured by the item types planned 	<ul style="list-style-type: none"> Describe the intended measurement model or theory of action Specify how different levels of achievement/expertise will be measured
<p>Item types (e.g., open ended, selected response, short answer, extended answer, technology-supported constructed response, essay, presentation, demonstration, production, performance task or event)</p> <ul style="list-style-type: none"> describes the item types that are developmentally appropriate for students in tested grades and most effective for measuring the full range of content in the standards, including those standards that have been challenging to measure via traditional item types uses evidence-based approach to explicitly link each item type to a particular standard or cluster of standards and ensure fit to the measurement theory of action considers different types of responses, ranging from making a check mark to designating an answer orally or in writing, completing a project, or performing a task calls for the development of item templates (aka item shells or prototypes) for each of the item types enables development of strategies for maximizing accessibility for special student populations 	<ul style="list-style-type: none"> Determine which item types best meet current needs Determine which item types will be used to measure specific standards or groups of standards Determine who will develop templates for each item type Oversee (or conduct) development of templates for each item type

CORE COMPONENTS	RECOMMENDED STEPS
<p>Item Specifications</p> <ul style="list-style-type: none"> bring consistency and quality assurance to the ways in which items are developed from templates <ul style="list-style-type: none"> take into consideration options for presentation, formatting, and administration help to ensure that all subsequent development by vendors, teachers, expert panels, and/or state representatives in diverse locations use the same set of guidelines describe the important criteria or dimensions for each item type that are needed to effectively measure different standards or groups of standards guide selection of associated stimuli (e.g., passages, graphics) include allowable strategies/adaptations for developing item types that are maximally accessible to special student populations 	<ul style="list-style-type: none"> Review research-supported options for presentation, formatting, and administration and choose the most appropriate, effective, and efficient options For each item type (and hence all items developed from that template), specify desired level(s) of complexity of text (e.g., lexile range, length) <ul style="list-style-type: none"> preferred format type of student response seeking to elicit (e.g., oral, selected) number of response options requirements for associated stimuli Explore research-supported strategies for ensuring item types are maximally accessible to special student populations and define allowable adaptations
<p>Blueprint</p> <ul style="list-style-type: none"> describes the overall design for each test or item pool defines the test or item pool breadth, depth, and length/size seeks to ensure that the combination of item types prescribed will provide a comprehensive and coherent picture of what students know and can do in relation to the standards for that grade 	<ul style="list-style-type: none"> State the purpose of the assessment and how results are intended to be used Determine balance of representation for each test or item pool <ul style="list-style-type: none"> numbers of each item type percentages of items for each standard or cluster of standards levels of cognitive demand (DOK) to be assessed Ensure that combination of items or tasks measure intended range of standards at each grade Weigh trade-offs between longer test (for full coverage of the standards and to ensure sufficient reliability) and burden to students and schools, and reach decision about appropriate test length

CORE COMPONENTS	RECOMMENDED STEPS
<p>Plan and Schedule for Item Development</p> <ul style="list-style-type: none"> ensures development of sufficient numbers of the right types of items with the right specifications to meet blueprint needs sets development targets (i.e., number of new items needed at each grade to meet blueprint needs) based on inventory of items in preliminary pool specifies who will be responsible for item development (e.g., teachers, content and measurement specialists, representatives from IHEs and the workplace, and contractors) provides concrete plan and time line for getting the work done calls for an evidence-based approach to item development to ensure that each item is strongly linked to the content intended to be assessed through the measurement theory of action 	<ul style="list-style-type: none"> Develop a Request for Proposal (RFP) for item development or in identifying and recruiting the appropriate teams of teachers/specialists to complete development work Ensure that the RFP and/or development protocol calls for an evidence-based approach and holds developers to high standards for quality Develop time line for development that allows sufficient time for training, multiple rounds of review by diverse audiences, cognitive interviews with students, small pilot tests, field testing, and post-field-test performance review Set criteria for judging appropriateness and quality of items and evaluate all items emerging from developers Place all acceptable items in a preliminary pool and take inventory of number and types of items in this pool Set reasonable development targets based on findings from inventory, allowing for loss of items following additional rounds of review
<p>Administration Guidelines</p> <ul style="list-style-type: none"> prescribes test administration practices and policies to support test users and ensure standardization where appropriate 	<ul style="list-style-type: none"> Develop guidelines for test administration (e.g., allowable accommodations, translations, calculator use, paper-pencil option)
<p>Documentation</p> <ul style="list-style-type: none"> ensures transparency and supports claims of validity of assessment system 	<ul style="list-style-type: none"> Document all decisions made and steps taken during the framework development process



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