

## WestEd's Item-to-Standards Alignment Studies

Rigorous academic content standards can serve as critical levers for improving student achievement by signaling goals, focusing instruction, and establishing common learning expectations. Standards-based assessments, in turn, allow parents, educators, and policymakers to track progress against those expectations and identify learners who need additional support. The credibility of this system rests on evidence of alignment between assessments and standards. WestEd helps assessment programs gather this evidence through independent, objective alignment analyses carried out by seasoned assessment experts. Our alignment studies are designed with two key aims in mind: (1) satisfying rigorous evidence requirements, such as federal peer review guidelines; and (2) providing meaningful and practicable feedback that contributes to the quality of educational assessments.

### WestEd's Experience and Expertise

WestEd has conducted alignment studies for more than 25 states and national organizations, many in fulfillment of federal peer review requirements. In particular, WestEd has completed several item-to-standards alignment studies for English language arts, mathematics, science, and social studies assessments. WestEd has performed these studies for summative, interim, formative, and alternate assessments.

### WestEd's Approach

*Alignment* refers to the match between the expectations for student learning, as defined by the content standards, and the assessments used to measure student attainment of those standards. WestEd's approach to evaluating alignment has been refined over time, with its foundations in the work of Norman Webb (1997, 2002, 2007).<sup>1</sup> Our methodology includes analyses at the item and item-pool levels. Trained alignment specialists provide independent judgments about the relationships between individual items and relevant content standards. Our studies typically address two fundamental research questions:

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<sup>1</sup> Webb, N. L. (1997). *Research monograph number 6: Criteria for alignment of expectations and assessments in mathematics and science education*. Washington, DC: Council of Chief State School Officers (CCSSO); Webb, N. L. (2002). *Alignment study in language arts, mathematics, science, and social studies of state standards and assessments for four states*. Washington, DC: CCSSO; Webb, N. L. (2007). Issues related to judging the alignment of curriculum standards and assessments. *Applied Measurement in Education*, 20(1), 7–25.

- To what degree are assessment items aligned to content standards for a given grade in terms of content and depth of knowledge (DOK)?
- Overall, which areas of content standards are addressed by assessment items, and where are there gaps in coverage?

Alignment studies generally proceed in two steps—item-level analyses and item-pool-level analyses—described below.

### **Item-Level Analyses**

Individual items are evaluated for alignment to content standards for categorical concurrence, which measures the strength of the relationship between each assessment item and one or more standards. Items are also evaluated for alignment to DOK expectations—that is, the degree of cognitive complexity of the standards that is required of students as they learn the concepts and skills covered by the standards.

### **Item-Pool-Level Analyses**

After the items are evaluated, WestEd’s alignment specialists determine the range of content and cognitive complexity for the item pools. This process is critical to determine the extent to which the items, overall, address the full breadth and depth of the eligible content standards. At the item-pool level, the breadth of content coverage summarizes the degree to which the items, overall, assess the breadth of content covered by the standards, while the range of DOK summarizes the degree to which the items, overall, assess a range of cognitive complexity levels.

### **Item-Quality Review**

As a separate analysis, WestEd also evaluates the item quality of each item. Our alignment specialists review items using three criteria: item structural quality, item content quality, and item fairness. For item structural quality, we determine if items meet or exceed industry standards, checking for characteristics such as language conventions, accuracy, and clarity. For item content quality, we determine if the items are developmentally appropriate for the target grade or grade band, and decide if they assess critical and valuable content that is expected to be part of classroom instruction. For item fairness, we evaluate the items for issues of bias and sensitivity, as well as determine if they meet or exceed industry standards of accessibility for all students. Finally, WestEd assigns an overall item-quality rating for each item based on the individual ratings of the three criteria described above.

## Alignment Study Team Training

Prior to evaluating alignment between items and content standards, WestEd conducts a thorough review of the standards, and the alignment specialists are trained in the use of the alignment protocol to ensure consistency of expectations. Before making any alignment judgments, the specialists review a small subset of items. This is to ensure that they can apply the alignment protocol independently and accurately, as well as use the criteria consistently to assign ratings across items. The specialists also develop decision rules to ensure the rating process is standardized and applied consistently across grades and content areas. After training, the project lead monitors the alignment ratings and associated justifications to make certain the specialists continue to use the study protocols properly.

## Final Report

Each alignment study report is tailored to meet the needs and expectations of the client. A report includes all categorical concurrence and DOK ratings for each item, along with the breadth of content coverage and range of DOK for the full item pool. We provide summaries by content area and by grade at the item and item-pool levels, along with a description of the methodology, training procedures, and all criteria and decision rules used by the specialists. Finally, WestEd creates detailed spreadsheets listing the ratings and comments for individual items, as well as the content standards that do not align with any items.