

WebbAlign™

The WebbAlign alignment process was developed by Dr. Norman Webb at the Wisconsin Center for Education Research (WCER) in cooperation with the Council of Chief School Officers (CCSSO) and funded by the National Science Foundation (NSF) and the United States Department of Education (USDE). This process has been used to analyze curriculum standards and assessments in over 25 states to meet, or to prepare to meet, the Title I compliance as required by the USDE. WebbAlign has also been used by many commercial vendors to provide evidence of alignment of an assessment with a particular set of standards and to inform test improvement. The alignment process applies for any set of standards, including Common Core State Standards (CCSS) and Next Generation Science Standards (NGSS), and a corresponding assessment.

The Importance of Alignment

Alignment is a prerequisite condition for making valid inferences about students' attainment of course objectives based on assessment results. Because alignment is a property of the relationship between an assessment and a set of standards, if alignment is found to be less than desired, then alignment can be improved by changing either the assessments or the set of standards. Consequently, alignment study results can contribute to validation of a program and/or can inform program improvements.

Details on the Alignment of Standards and Assessments

The term alignment is used in a variety of ways in the field of education and beyond. In this context, alignment is defined as “the degree to which expectations and assessments are in agreement and serve in conjunction with one another to guide an education system toward students learning what they are expected to know and do” (Webb, 1997). The four main criteria of alignment are listed below. These criteria were developed with input from the National Institute for Science Education (NISE), the CCSSO, state curriculum supervisors, and other assessment experts.

- 1. Categorical Concurrence** (Category or Content Topic)
- 2. Depth-of-Knowledge Consistency** (Depth)
- 3. Range-of-Knowledge Correspondence** (Breadth)
- 4. Balance of Representation** (Emphasis)

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Assessments and standards that satisfy the alignment conditions are considered to have satisfied an important condition for validity. Through the WebbAlign process, independent content experts evaluate the degree that assessments and course objectives satisfy acceptable levels on the four criteria listed on the previous page. The acceptable levels we have used when conducting alignment studies for states seeking to meet the requirements for No Child Left Behind legislation are:

1. **Categorical Concurrence:** Six or more items for each standard or main reporting category;
2. **DOK Consistency:** At least half of the items with the same Depth of Knowledge (DOK) level as the level of the corresponding objective;
3. **Range-of-Knowledge Correspondence:** At least half of the subtopics under each reporting category has one or more corresponding assessment item; and
4. **Balance of Representation:** The assessment items are evenly distributed among the tested subtopics.

The WebbAlign Process

A trained team of reviewers (typically five or six per content area) conduct the alignment analysis. The reviewers are content area experts and have extensive training and experience with the DOK framework as well as the WebbAlign process. Data are entered into an online tool called the Web Alignment Tool version 2 (WATv2) (<http://watv2.wceruw.org/>). Exact agreement among reviewers is desirable, but not necessary since results will be averaged among the total number of reviewers. The WATv2 reports on statistical agreement through pairwise comparison and intraclass correlation. The review process is summarized below:

1. Reviewers analyze the assessable standards and assign DOK to each standard through a consensus process. (Note that DOK levels have been assigned for many CCSS).
2. Reviewers analyze each assessment item, assigning a) a DOK and b) a corresponding standard.
3. Reviewers enter their data into the WATv2. They may include comments and source-of-challenge issues as needed.
4. Data are analyzed to determine alignment and used to write a comprehensive report that includes summaries of the levels of alignment according to the four alignment criteria as well as information about how to improve alignment if and where necessary. All raw data and comments are included in appendices.

The time required to conduct an alignment study depends on the number of standards, the number of assessments, and the number of items in each assessment.