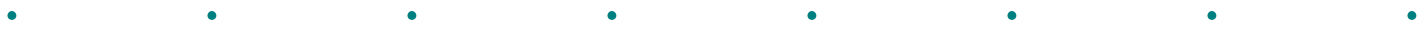




# Horizontal and Vertical Alignment



Betsy Case, Ph.D.

Sasha Zucker

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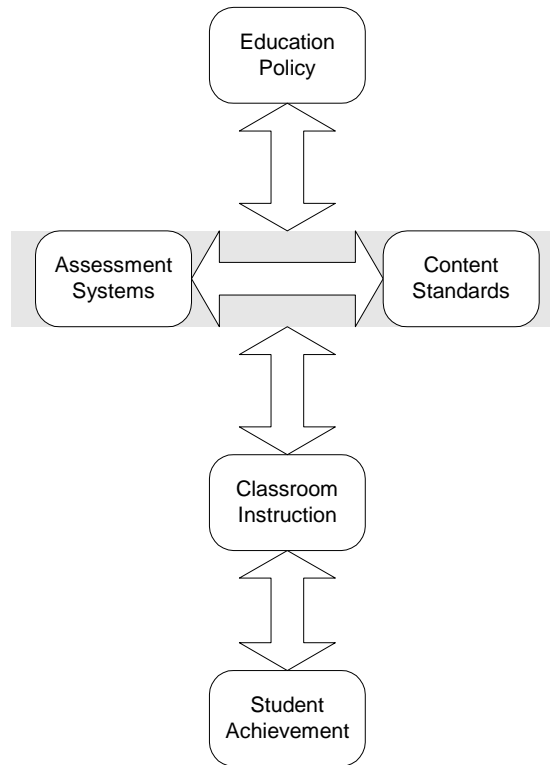
# Horizontal and Vertical Alignment

## Introduction

Alignment is typically understood as the agreement between a set of content standards and an assessment used to measure those standards. By establishing content standards, stakeholders in an education system determine what students are expected to know and be able to do at each grade level. Educators are then expected to instruct the students using curricula that follow the academic standards. Ultimately, assessments are used to hold the students and teachers accountable to the standards.

With the enactment of the *No Child Left Behind Act* of 2001 (NCLB), each state is required to administer standardized achievement tests to its students. These tests must align with the standards for reading/English language arts (ELA), mathematics, and science. The data collected from these tests are used by policymakers to evaluate and improve districts and individual schools. Because of the high stakes associated with accountability assessments, policymakers have placed increasing emphasis on ensuring that the assessments match the standards. Moreover, NCLB explicitly requires alignment between standards and accountability assessments.

The emphasis on alignment brought about by NCLB has caused researchers to consider other ways of bringing coherence to education systems. Recently, the concept of alignment has been applied beyond standards and assessment. Educational researchers have begun to distinguish between *horizontal alignment* and *vertical alignment* (see Figure 1). An understanding of these two types of alignment will allow policymakers to strengthen the overall education system.



**Figure 1. Horizontal and vertical alignment within an education system (based on Webb, 1997b).**

### Horizontal Alignment

The definition of horizontal alignment is not a particularly new concept in the study of assessment (Bloom, Madaus, Hastings, 1981; Impara, 2001; Tyler, 1949; Webb, 1999). Horizontal alignment is the degree to which an assessment matches the corresponding content standards for a subject area at a particular grade level (Porter, 2002; Webb, 1997a; Webb, 1997b). In response to the requirements of NCLB, the methods for demonstrating the alignment between assessments and standards have grown more sophisticated. Assessments must match the breadth and depth of the standards to be considered strongly aligned.

There are many reasons for ensuring horizontal alignment. When strongly aligned, standards and assessments bring clarity to the education system by providing a coherent set of expectations for students and educators. The assessments concretely represent the standards, providing a target upon which teachers can focus their instruction and students can focus their studies. Using classroom instruction that follows the standards, teachers can effectively prepare their students for the accountability assessments.



## Horizontal and Vertical Alignment

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Alignment to the standards also ensures that the assessment is a trustworthy source of data. A study of an assessment's degree of alignment to the standards can serve as evidence of validity. A valid assessment produces data that can be interpreted as demonstrating a student's achievement in the subject area which the assessment covers (AERA, APA, and NCME, 1999; Ananda, 2003; Impara, 2001; Resnick, Rothman, Slattery, and Vranek, 2003; Webb, 1997b). Alignment can also increase an assessment's reliability, the capability of producing consistent measurements of student achievement.

### Vertical Alignment

Standards and assessments represent only one part of an education system. Other parts of the education system include curricula, textbook content, the opinions of stakeholders (such as parents), classroom instruction, and student achievement outcomes (La Marca, Redfield, Winter, Bailey, and Despriet, 2000; Porter, 2002; Webb, 1997b). All of these parts play various roles at different levels of an education system. However, all of these parts share the common goal of educating students so that they become successful citizens. Hence, education researchers have begun discussing whether the overall education system can be strengthened by aligning these different parts. Vertical alignment is the alignment of different parts of an entire education system.

Vertical alignment can occur at broad or specific levels of an education system. A key example of vertical alignment has already been discussed. When standards-based accountability tests are established, teachers plan classroom instruction in a way that follows the standards (Porter, 2002; Webb, 1997b). The standards and assessments themselves must be vertically aligned with one another so that they reflect the logical, consistent order for teaching the content in a subject area from one grade level to the next. The accountability assessment results provide feedback about the strength of the education system. This data can be used by policymakers to evaluate the different levels of the education system and to make changes for improvement accordingly. These changes bring the education system into closer alignment so that its parts function in parallel toward their common goal. Ultimately, rigorous standards serve as the main force for the vertical alignment of an education system (Ananda, 2003; Anderson, 2002; Porter, 2002; Webb, 1997a; Webb, 1997b).

### Conclusion

These two understandings of alignment convey the complex nature of any education system. The importance of horizontal alignment is more widely understood as it concerns the high-profile relationship between standards and

assessments. However, other parts of the education system are directly or indirectly affected by standards and assessments. By considering vertical alignment as well, policymakers take into account the many aspects of an education system that have a bearing on student achievement. Ultimately, improving student achievement depends on both horizontal and vertical alignment in an educational system.

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