

## Textbook Alignment With Washington State Learning Standards: Summary of OSPI's Review—Revised

In 2006, the Legislature directed the Washington State Institute for Public Policy (Institute) to “identify possible barriers to student success or possible causes of the lack of success” on the Washington Assessment of Student Learning (WASL).<sup>1</sup>

*Curriculum alignment*, defined as the congruence among instructional materials, practices, and assessments, is a necessary ingredient of student success on the WASL. Without alignment, students face a potential barrier. Therefore, the Institute is investigating ways to analyze the extent to which curricula, instruction, and assessments are aligned.

**This report summarizes the history of efforts to align the curriculum in Washington and presents results from a data analysis of reading and mathematics textbooks in Washington.**<sup>2</sup>

**Exhibit 1** illustrates a model of student achievement developed by the Office of Superintendent of Public Instruction (OSPI).<sup>3</sup> In this model, student achievement lies at the nexus of three interrelated activities: curriculum development, classroom instruction, and assessment.

- In Washington, the *curriculum* is established by individual school districts based on statewide learning standards: the Essential Academic Learning Requirements (EALRs) and Grade Level Expectations (GLEs).
- *Instruction* refers to implementation of the prescribed curriculum—that is, to classroom activities.

<sup>1</sup> SSB 6618, Chapter 352, Laws of 2006.

<sup>2</sup> OSPI, *Washington State Instructional Materials Review: K–12 Mathematics and Reading Core/Comprehensive Materials* (hereinafter, *Instructional Materials Review: Reading*) <[http://www.k12.wa.us/curriculumInstruct/pubdocs/K12InstructionalMaterialsReview/K-12\\_InstMatRev\\_Reading.pdf](http://www.k12.wa.us/curriculumInstruct/pubdocs/K12InstructionalMaterialsReview/K-12_InstMatRev_Reading.pdf)>; OSPI, *Washington State Instructional Materials Review: K–10 Mathematics Core/Comprehensive Materials* (hereinafter, *Instructional Materials Review: Mathematics*) <<http://www.k12.wa.us/CurriculumInstruct/Mathematics/pubdocs/2006K-10MathematicsInstructionalMaterialsReviewReport.pdf>>.

<sup>3</sup> OSPI, *K–10 Grade Level Expectations, Writing*, p. 7 <<http://www.k12.wa.us/CurriculumInstruct/writing/pubdocs/EALRwritingfinal.pdf>>.

### Summary

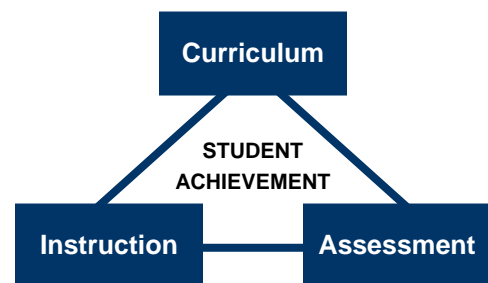
**This report summarizes an examination of reading and mathematics textbook alignment commissioned by the Office of Superintendent of Public Instruction in 2005 and 2006.**

It is important to note that textbooks form only one component of the curriculum; consequently, textbook alignment is but one component of curriculum alignment.

Several conclusions may be drawn from the analysis.

- Textbook alignment is less consistent across grade levels for reading compared with math.
  - Fewer than 50 percent of ratings for 1st-, 4th-, 8th-, and 10th-grade reading textbooks were scored as strongly or adequately aligned.
  - Alignment of math textbooks to Grade Level Expectations (GLEs) is weaker at higher grade levels.
  - By the 10th grade, slightly more than 50 percent of textbook scores for math were strongly or adequately aligned in each grade.
- *Assessment* is the measurement of student proficiency in the curriculum. The WASL, for example, is intended to measure a student's mastery of state learning standards.<sup>4</sup>

**Exhibit 1  
Curriculum Alignment**



<sup>4</sup> OSPI, *K–10 Grade Level Expectations, Reading*, p. 1 <<http://www.k12.wa.us/curriculumInstruct/reading/pubdocs/ReadingEALR-GLE.pdf>>.

This report considers the degree of alignment between instructional materials—reading and mathematics textbooks—and statewide learning standards. It does not consider whether assessments such as the WASL are aligned with learning standards or classroom instruction.

**EFFORTS TO ALIGN THE CURRICULUM**

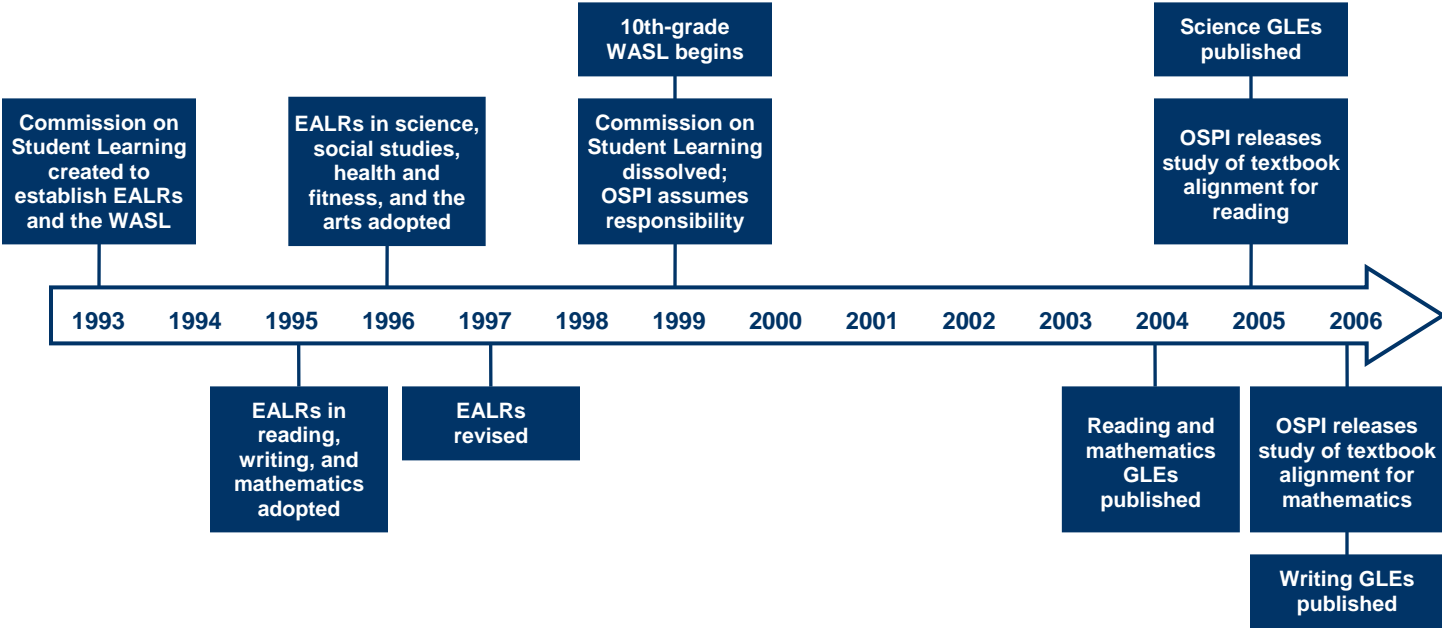
**Exhibit 2** depicts key dates in the effort to align instructional curricula with learning standards in Washington State. The Legislature enacted the Basic Education Act in 1993. Among other things, the Act created the Commission on Student Learning and charged it with establishing statewide learning standards and a corresponding assessment system.<sup>5</sup> To that end, Essential Academic Learning Requirements (EALRs) for reading, writing, mathematics, and communications were adopted in 1995 and for science, social studies, health and fitness, and the arts in 1996. “The EALRs describe the learning standards for grades K–10 at three benchmark levels: elementary, middle, and high school.”<sup>6</sup> These EALRs were subsequently revised in 1997.

The Commission on Student Learning was dissolved in 1999, whereupon OSPI assumed responsibility for statewide learning standards and assessments via the Academic Achievement and Accountability (A+) Commission. Also in 1999, the 10th-Grade WASL was first administered to students on a voluntary basis.<sup>7</sup> In 2005, the A+ Commission was dissolved and its duties transferred to the State Board of Education.<sup>8</sup>

Detailed learning standards for each grade level—known as Grade Level Expectations (GLEs)—were first published for reading and math in 2004, for science in 2005, and for writing and communication in 2006.<sup>9</sup> In 2005, OSPI released a study investigating the degree of alignment between reading textbooks and reading GLEs; a corresponding study of math textbooks was released the following year.

The following sections summarize the textbook alignment studies. We begin with a discussion of the rubric used to score textbooks.

*Exhibit 2*  
**Milestones: Washington State Efforts to Align Curriculum With State Learning Standards**



<sup>5</sup> RCW 28A.150.210.

<sup>6</sup> <[http://www.k12.wa.us/CurriculumInstruct/EALR\\_GLE.aspx](http://www.k12.wa.us/CurriculumInstruct/EALR_GLE.aspx)>

<sup>7</sup> Grade 4 assessments in reading, writing, and math were operational in 1997 and Grade 7 assessments in 1998.

<sup>8</sup> ESSB 5732, Chapter 497, Laws of 2005.

<sup>9</sup> <<http://www.k12.wa.us/CurriculumInstruct/pubdocs/GLEtimeline2006.doc>>

## SCORING TEXTBOOK ALIGNMENT

OSPI's study of instructional materials in reading and mathematics analyzed the degree to which textbooks are aligned with content-area GLEs. Each GLE includes a statement of *cognitive demand* and the *content* or process to be learned. OSPI asked textbook publishers who participated in the study to provide specific citations for excerpts corresponding to specific learning requirements. Content-area specialists and teachers recruited by OSPI then scored the degree of alignment between these excerpts and GLEs using the following 4-point scale:

- *Strong or full alignment.* Both content and cognitive demand are aligned.
- *Adequate alignment.* All content and some cognitive demands are aligned.
- *Partial alignment.* Content but not cognitive demand is aligned.
- *No alignment.* Neither content nor cognitive demand is aligned.<sup>10</sup>

The study used a common metric to report results. The OSPI report includes the following example: “[I]n the K–10 Reading GLEs there are 217 GLEs for K–6. If each grade level of a K–6 reading program is reviewed by three reviewers, there would be 651 scores for the program. For each of the 651 scores there are four possible ratings (Fully, Adequately, Partially, or Not Aligned). So, if a program received 286 scores with a rating of Adequately Aligned, then that would generate an alignment score of  $(286/651) \times (100)$  rounded up to 44% Adequately Aligned.”<sup>11</sup>

For the purposes of this report, we collapse the 4-point scale into two categories: strongly or adequately aligned, and partially or not aligned. This approach is designed to simplify the presentation while remaining faithful to OSPI's analysis.

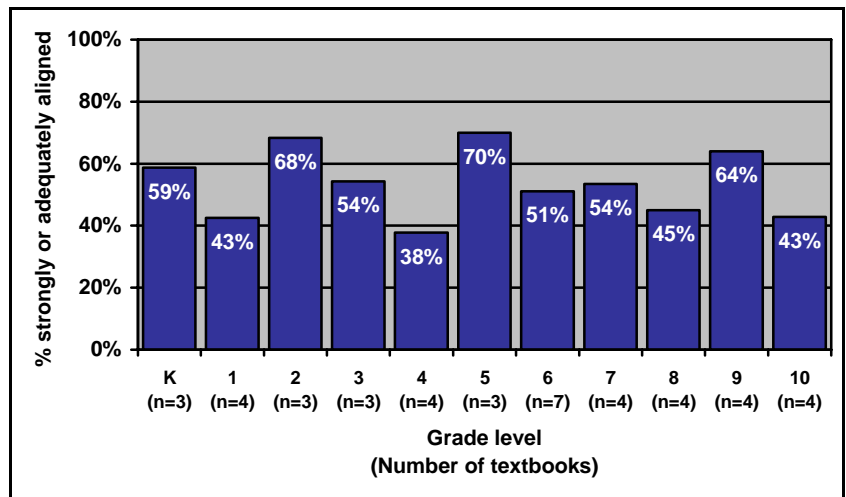
<sup>10</sup> *Instructional Materials Review: Mathematics*, p. 9. For a more detailed discussion of coding procedures, see *Instructional Materials Review: Mathematics*, p. 131, and *Instructional Materials Review: Reading*, pp. 8–10.

<sup>11</sup> *Instructional Materials Review: Reading*, p. 13.

## RESULTS: DEGREE OF TEXTBOOK ALIGNMENT

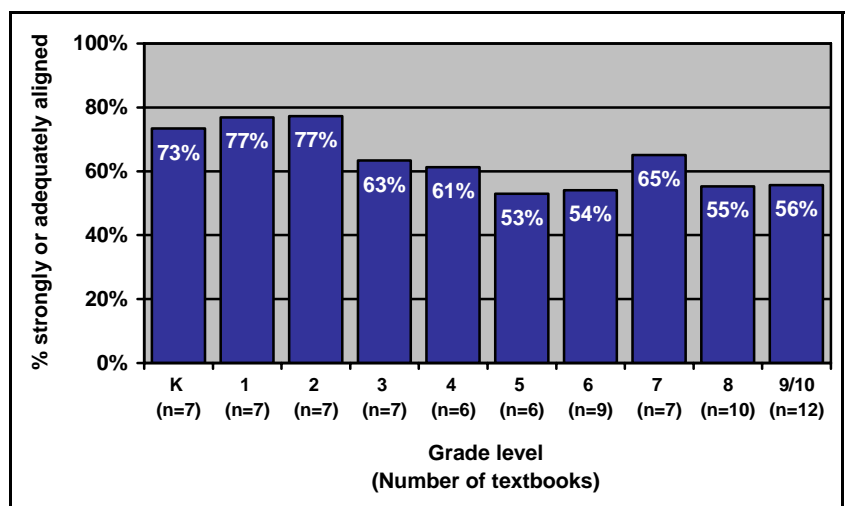
**Exhibits 3 and 4** summarize the results of OSPI's analysis of grade-level reading and mathematics textbook alignment, respectively. To demonstrate how the results are interpreted, consider the alignment of 1st-grade reading and math textbooks. Fewer than half of reviewer ratings across four 1st-grade reading textbooks—43 percent—were at the “strongly or adequately aligned” level, compared with 77 percent of reviewer ratings across seven 1st-grade math textbooks.

**Exhibit 3**  
Strong or Adequate Textbook Alignment to Reading GLEs by Grade Level



Source: OSPI, *Washington State Instructional Materials Review: K–12 Mathematics and Reading Core/Comprehensive Materials*, January 2005, pp. 155–66.

**Exhibit 4**  
Strong or Adequate Textbook Alignment to Math GLEs by Grade Level



Source: OSPI, *Washington State Instructional Materials Review: K–10 Mathematics Core/Comprehensive Materials*, January 2006, pp. 57–66.

## CONCLUSIONS AND LIMITATIONS

Several conclusions may be drawn from the analysis.

- **The degree of textbook alignment fluctuates across grade levels more for reading than for math.**
- **There is an inverse relationship between textbook alignment and grade level for math**—that is, the alignment of math textbooks to GLEs is less extensive at higher grade levels.
- Nevertheless, **more than 50 percent of textbook ratings for math were strongly or adequately aligned in each grade level.**
- Conversely, **fewer than 50 percent of ratings for 1st-, 4th-, 8th-, and 10th-grade reading textbooks were strongly or adequately aligned.**

It is important to note some limitations of the analysis of textbook alignment.

- Textbooks form only one component of the curriculum; consequently, textbook alignment is only one component of curriculum alignment.
- It is unknown whether a particular textbook was used or, if used, which sections of it were taught.
- The data provide only a “snapshot” of textbook alignment: newer or older editions may be more or less closely aligned with state learning standards.
- Similarly, the sample of textbooks that OSPI included in its analyses is not comprehensive, as not all textbook publishers participated in the study. Omitted textbooks may be more or less closely aligned with learning standards than sampled textbooks.
- Textbooks are not written specifically to align with Washington State’s learning standards, so OSPI did not expect full alignment.

### RECOMMENDATION:

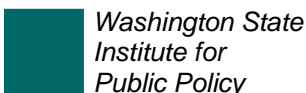
Curriculum alignment—defined as the congruence among state learning standards, classroom instruction, and assessments—is essential for promoting student success on the WASL. As such, **we recommend that the Legislature consider pursuing an analysis of curriculum alignment in Washington schools.**

Currently, 24 states (including Oregon, Idaho, and Montana) have implemented the **Surveys of Enacted Curriculum**, a comprehensive survey of instructional practices and content administered to math, science, and English/language arts teachers. The resulting data permit researchers and educators to analyze the degree of alignment between classroom instruction, state standards, and assessments.

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