

Some Thoughts on English Language Proficiency Standards to Academic Content Standards Alignment

**H. Gary Cook, Ph.D.
Wisconsin Center for Education Research
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Overview/Purpose

Federal law, as specified in The No Child Left Behind Act (NCLB), requires states to include ELL students in state assessments and assess students' language proficiency with valid, reliable assessments in the areas of oral language and reading and writing skills (§1111(b)(7)), more specifically comprehension, speaking, listening, reading and writing (§3121(d)(1)). These assessments must also assist in students' attainment of the state's academic achievement standards (§3121(d)(2)). Said differently, these assessments are to be designed to assess "Academic English." As a result, there needs to be a relationship between English language proficiency standards and a state's academic content standards.

Federal non-regulatory guidance related to this issue states the following:

B-3. What is the relationship between English language proficiency standards, English language proficiency annual measurable achievement objectives, and English language proficiency assessment?

English language proficiency standards must, at a minimum, be *linked* [highlighting not in original] to the State academic content and achievement standards. States are encouraged, but not required, to *align* [highlighting not in original] English language proficiency standards with academic content and achievement standards. Annual measurable achievement objectives for English language proficiency serve as targets for achievement of the English language proficiency standards. English language proficiency assessments must be aligned with English language proficiency standards and provide a means of demonstrating progress towards meeting the English language proficiency annual measurable achievement objectives. (U.S. Department of Education, Office of English Language Acquisition, February 2003, pp.9, 10).

Notice the italicized, highlighted words in the text above. English language proficiency standards and a state's academic content standards must, at a minimum be linked. The implied gold standard is alignment. But just what does linking language proficiency standards to academic content standards mean? Likewise, what does alignment mean? The goal of this paper is to propose criteria for linking and aligning language proficiency standards to academic content standards.

Background

During the late 1970s early 1980s, second language acquisition researchers debated whether learning languages involved a unitary or multidimensional set of skills and abilities (Bachman and Palmer, 1981, 1982; Oller, 1979). In response to Oller's (1979) claim that language was a unitary construct, Cummins (1979) offered the idea that at least two constructs were associated with language learning in schools:

basic interpersonal communication skills (BICS) and cognitive academic language proficiency (CALP). The conceptualization of BICS/CALP has proved very useful in teaching students whose native language is not English in U.S. schools. Since Cummins' introduction he has expanded this idea suggesting that students require different lengths of time to attain BICS and CALP with CALP taking longer to acquire (see Cummins 1984, 1999).

A related concept to CALP is content-based language instruction. Much work has been done in content-based language instruction, especially in North American and British business and university settings (see Brinton, et al 1989 and 2003). Brinton (1989) defines content-based instruction as “the integration of particular content with language-teaching aims” (p.2). Most content-based texts and instructional materials have been developed for adult second language learners. There is a paucity of materials and research examining content-based language instruction in elementary and secondary schools—specifically content-based language instruction that deals with academic English, i.e., the English language features needed and expected in elementary and secondary public school settings.

Scarcella (2003) recognized this deficit and offers a conceptual framework for “Academic English.” Scarcella argues that Academic English is a different *register* from ordinary (i.e., colloquial) English, where register is defined as a “constellation of linguistic features that are used in particular situational contexts” (p.9). Register differences between colloquial and academic English are seen in three dimensions according to Scarcella: linguistically, cognitively and socioculturally. Figure 1 displays these dimensions.

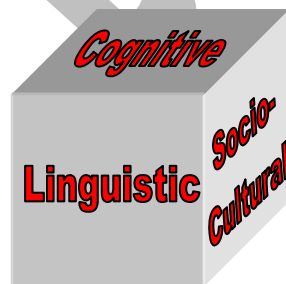


Figure 1: Scarcella's Register dimensions

The linguistic component deals with traditional linguistic elements associated with learning another language: phonological, lexical, grammatical, and sociolinguistic. The cognitive dimension refers with higher order thinking, strategic competence, and metalinguistic awareness. The sociocultural dimension relates to the norms, values, beliefs, attitudes and practices of language within cultural settings—in this case primary and secondary schools. Scarcella argues that language teaching needs to address all of these dimensions to adequately prepare ELL students for the language demands of the classroom.

Gottlieb (2006) characterizes Cummins' BICS/CALP notion as social versus academic language functions. Gottlieb suggests that ELL students need a level of "Academic English Language Proficiency" before or potentially in concert with displaying academic achievement. That is, in order to display the commensurate academic content knowledge, ELL students require facility in Academic English. In her work with the WIDA Consortium, she supported the development of English language proficiency standards based upon Academic English. On WIDA's website, we see the following:

The WIDA Consortium's English Language Proficiency Standards for English Language Learners (ELLs) in Pre-Kindergarten through Grade 12 encompass:

- * Social and Instructional language usage
- * the language of Language Arts
- * the language of Mathematics
- * the language of Science
- * the language of Social Studies

The WIDA ELP Standards are designed as a curriculum planning and assessment preparation tool. They help educators determine children's English language proficiency levels and how to appropriately challenge them in reaching higher levels.

Retrieved July 3, 2007 from <http://www.wida.us/standards/elp.aspx>

The WIDA Consortium is not the only entity incorporating Academic English into English language proficiency standards. The English Language Development Assessment (ELDA) from the Council of Chief State School Officers indicates that it was developed based on academic English.

ELDA has been specifically designed to assess the construct of "academic English." ELDA items and prompts are written in the language of the classroom and of the academic subjects, and do not require skills in or knowledge of content in those subjects.

Retrieved July 3, 2007 from <http://www.ccsso.org/content/pdfs/ELDAbrochure.pdf>

Some states (in addition to WIDA or ELDA) have designed their English language proficiency standards to incorporate Academic English. For example, see Wyoming's English language proficiency standards (<http://www.k12.wy.us/FP/title3.asp>).

Alignment Methods

The alignment of assessment systems to state standards (test-to-standards alignment) has gained prominence in recent years. The No Child Left Behind Act of 2001 (NCLB) requires alignment of state assessments to state standards. The notion of alignment is not new. Alignment is and has been a mechanism for assuring a test's content validity. In years past, however, alignment was often evaluated in a very ad hoc fashion. Typically, alignment activity was conducted during a test's item review. Content experts reviewed assessment items and determined if items matched test specifications, test framework documents, or standards. The primary purpose in this type of alignment was to assure that a test item matched a specification, framework or standard. Researchers have argued that there is more to alignment than just matching (see La Marca, et al, 2001; Webb 1997, 2002; and Rothman, et al, 2002). Alignment refers not only to matching items to standards but also to ascertaining the breadth and the cognitive depth of items relative to standards.

A variety of alignment strategies and methodologies exist (see CCSSO, 2002 & 2007). One of the most prominent methods used today is that created by Dr. Norman Webb of the Wisconsin Center for Educational Research. The Webb approach to alignment evaluates item match, cognitive complexity or depth and breadth of coverage. Each alignment component (match, depth, breadth) has associated statistics.

To evaluate match, the statistic Categorical Concurrence is used. Categorical Concurrence refers to the average number of items raters assign to specific standards or curricular goals. Raters select specific standards, goals or objectives that match each individual test item on rated tests. The number of coded items are averaged across all raters and reported as Categorical Concurrence. Think of this statistic as a proxy for average numbers of items raters believe address a specific standard or objective. With this methodology, items can address more than one standard, and raters are allowed to code accordingly.

To evaluate depth, raters judge the Depth of Knowledge (DOK) of standards, goals and/or objectives and the DOK of test items. Depth of knowledge can be defined in a variety of ways. Webb argues that,

Standards vary on the complexity of what students are expected to know and do. Some standards simply expect students to reproduce a fact or complete a sequence of steps while others expect students to reason, extend their thinking, synthesize information from multiple sources, and produce significant work over time. Alignment on depth-of-knowledge is achieved when the assessment and standards agree on the cognitive level students are expected to demonstrate and are asked to perform. (Webb, 2001).

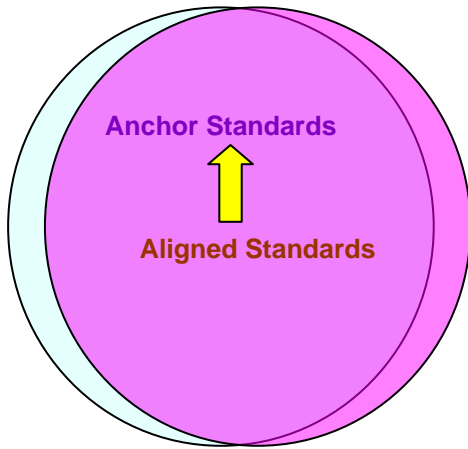
Webb identifies four DOK levels. They are as follows:

Level 1 Recall and Reproduction,
Level 2 Skills and Concepts,
Level 3 Strategic Thinking, and
Level 4 Extended Thinking.

The final component analyzed in a Webb alignment is breadth. Two statistics are associated with breadth: Range and Balance. The Range “criterion is met if a comparable span of knowledge expected of students by a standard is the same as, or corresponds to, the span of knowledge that students need in order to correctly answer the assessment items/activities” (Webb, 2001). If test items are identified with most, if not all, relevant objectives in a standard, then it is said that there is good Range. In essence, Range examines whether all objectives within a goal or standard are adequately covered. The second statistic examining breadth is Balance. Balance refers to the “degree to which one objective is given emphasis on the assessment is comparable to the emphasis given to the other objectives within a standard” (Webb, 2001).

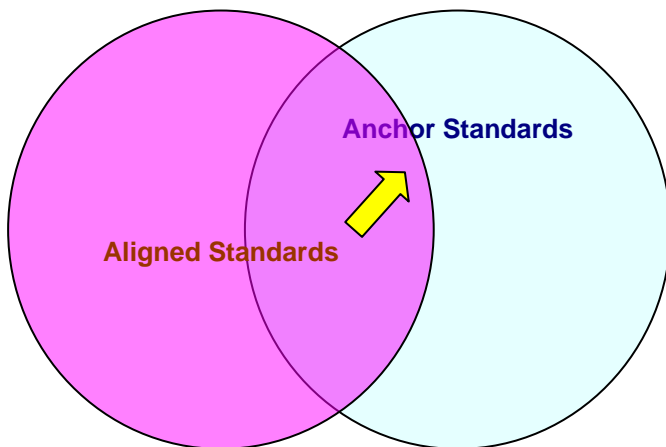
Webb alignments focus on state tests and state academic content standards, usually in the areas of reading and mathematics. Federal linking or alignment guidance described above differs. Instead of examining tests-to-standards (i.e., Webb’s approach), requirements suggest conducting standards-to-standards investigations, be they linking or alignment. A variety of procedures have been developed to “align” curriculum in education (Anderson, 2002). A very prominent example is the Surveys of Enacted Curriculum (Porter and Smithson, 2001 and Blank, 2002). With this approach, researchers examine relationships between standards, instructional practices, and assessments. The power of this approach is to unveil how standards-based, assessment evaluated systems are realized in the classroom. This approach is very comprehensive and informative. It does not solely focus on examining two sets of standards per se. Undoubtedly, it could be adapted to accomplish this. Another approach to examine standard-to-standard relationships has been applied to sets of standards using a modified version of the Webb alignment procedure (Cook, 2005). With this method, Cook aligned a state’s academic framework to a district’s learning targets. The goal of this alignment was to communicate the association between the district’s standards and the state’s standards for assessment. The district’s learning targets were developed to support the state’s assessment framework, as such good alignment was anticipated between these two sets of student expectations. Close correspondence, however, might not always be the expectation in a standard-to-standard alignment. This distinction is highlighted by the figures below.

Figure 1: Standard-to-Standard Alignment of Highly Similar Constructs



In Figure 1, the anchor standards are defined as expectations that one aligns to, e.g., state standards/assessment frameworks, and aligned standards are expectations to be aligned, e.g., learning targets. For example, one might align one set of mathematics standards at 4th grade to another set of mathematics standards at 4th grade. A high degree of overlap (i.e., match, depth and breadth) would represent good alignment. Note, however, that Figure 1 portrays alignment between highly similar constructs—in our example 4th grade mathematics. Would this be the expected alignment between associated constructs, say between elementary, mathematics academic language and 4th grade mathematics content? Probably not. Continuing this line of reasoning, alignment between language proficiency standards and academic content standards is best reflected in Figure 2. Were Figure 1 the target, why have different standards?

Figure 2: Standard-to-Standard Alignment of Associated Constructs



The distinction between academic content standard-to-standard alignment and English language proficiency standard-to-standard alignment is what is being compared. In content alignment, subject matter expectations are being compared. In an English language proficiency alignment, content register (i.e., academic language) relationships are being compared. The register used in subject areas like mathematics, science or language arts are subsets of the content domain.

Federal guidance identifies two notions related to academic content and language proficiency standards alignment: link and align. We interpret the term “alignment” mentioned in federal guidance to be that reflected by Figure 2. That is, strong alignment between English language proficiency standards and academic content standards **ARE NOT** one-to-one correspondences. What then does alignment mean?

Cummins’ research suggests that CALP (Academic English) is acquired at a different rate than basic interpersonal English and requires specific, targeted instructional support. Scarcella’s framework identifies the need to incorporate linguistic, cognitive, and sociolinguistic features when teaching or researching Academic English, and Gottlieb suggests that Academic English language proficiency is necessary for academic achievement. Using all of these elements, we suggest the following alignment criteria.

First, a state’s English language proficiency standards must be, at a minimum, linked to its academic content standards. **BY LINKED, WE MEAN THAT AT LEAST ONE ALIGNED CONTENT STANDARD IN EACH ASSESSED SUBJECT MUST BE REPRESENTED IN THE ENGLISH LANGUAGE PROFICIENCY STANDARDS.** An example will help clarify this criterion. Table 1 displays elements of the National Council of Teachers of Mathematics (NCTM) standards. Let us assume that Table 1 reflects a state’s mathematics standards at a particular grade. To be appropriately linked, linguistic elements (i.e., phonological, lexical, grammatical, sociolinguistic) associated with Number Operations, Algebra, Geometry, Measurement, and Data Analysis and Probability would need to be reflected in the English language proficiency standards for speaking, listening, reading or writing. A language proficiency standard requiring students to orally describe groups of and/or sequences of objects, figures or numbers would be consistent with Number and Operations. Another standard might have students read a graph or figure representing numeric relationships. This standard could be linked to Algebra and possibly Data Analysis and Probability. Linking assures that register elements associated with the language of mathematics are included in language proficiency standards.

Table 1: NCTM Standards

Standards	Goals
Number and Operations	<ol style="list-style-type: none"> 1. Understand numbers, ways of representing numbers, relationships among numbers, and number systems; 2. Understand meanings of operations and how they relate to one another; 3. Compute fluently and make reasonable estimates;

Standards	Goals
Algebra	<ol style="list-style-type: none"> 1. Understand patterns, relations, and functions; 2. Represent and analyze mathematical situations and structures using algebraic symbols; 3. Use mathematical models to represent and understand quantitative relationships; 4. Analyze change in various contexts;
Geometry	<ol style="list-style-type: none"> 1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships; 2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems; 3. Apply transformations and use symmetry to analyze mathematical situations; 4. Use visualization, spatial reasoning, and geometric modeling to solve problems;
Measurement	<ol style="list-style-type: none"> 1. Understand measurable attributes of objects and the units, systems, and processes of measurement; 2. Apply appropriate techniques, tools, and formulas to determine measurements;
Data Analysis and Probability	<ol style="list-style-type: none"> 1. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them; 2. Select and use appropriate statistical methods to analyze data; 3. Develop and evaluate inferences and predictions that are based on data; 4. Understand and apply basic concepts of probability;

Recall that federal guidance states that linking is a minimum criterion. Alignment is encouraged.

ALIGNMENT, IN OUR CONCEPTUALIZATION, IS THE COMBINATION OF LINKING AND CORRESPONDENCE. Table 2 shows this relationship. Linking describes the match between standards. Correspondence includes depth and breadth. For depth, we adopt a criterion of 40%. That is, 40% of linked English language proficiency standards should be at or above the Depth of Knowledge (DOK) level of the content standards to reflect strong cognitive correspondence between standards. The DOK criterion associates with Scarcella’s cognitive dimension, including higher-order thinking, strategic competence, and metalinguistic awareness. A 40% DOK criterion establishes challenging but attainable expectations.

Table 2: English Language Proficiency to Academic Content Standard Standard-to-Standard Alignment Criteria

Scope		Criterion	
Alignment	Link	Match	At least one aligned content standard across skill domains, as agreed upon by a majority of raters
	Correspondence	Depth	At least a 40% DOK across skill domains
		Breadth	At least moderate Coverage of goals across domains where: Limited ≤ 1 goal aligned for each standard, Moderate > 1 goal aligned for each standard, Strong = a majority of goals aligned for each standard

The second aspect of Correspondence is breadth. The breadth criterion is related to the number of goals within a standard that are aligned. In Table 1, we see there are 3 goals for Number and Operations, 4 goals for Algebra, 4 goals for geometry, 2 goals for Measurement, and 4 goals for Data Analysis and Probability. Moderate breadth would mean that more than goal in the math standards is associated with the language proficiency standards. Strong breadth would mean a majority of a state's content goals within a content standard have corollary English language proficiency expectations. As with the DOK criterion, this is an aggressive but obtainable expectation.

For adequate alignment, we suggest that a state's English language proficiency standards should meet the linking criterion, the DOK criterion, and have moderate or greater breadth of coverage. Were language proficiency standards to have this degree of alignment, we believe greater attention would be given to Academic English in the classroom and on language proficiency assessments. Given Gottlieb's conviction that Academic English language proficiency is a precursor to academic achievement, good alignment would promote students' progress in English, which could directly affect annual measurable achievement objective (AMAO) goals. This type of alignment would move states toward best practice in language instruction and assessment.

Need for Research

Gottlieb and Scarcella indicate that research in the area of Academic English in primary and secondary schools is in its infancy. The linking and alignment ideas offered in this paper are just a beginning. In our experience, we believe that the linking and alignment criteria mentioned herein are reasonable, but that belief is anecdotal not empirical. Research on this alignment methodology—and others that may prove better—is needed. Scarcella (2003) writes, “[I]earning academic English is probably one of the surest, most reliable ways of attain socio-economic success in the United States today” p.i). I hope this paper begins a discussion on the meaning and scope of Academic English language proficiency alignment. This discussion could promote our understanding of Academic English and how we design language proficiency standards and assessments to help ELLs acquire Academic English language proficiency.

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