

Language, Learning, and Content Instruction

WHAT DO YOU KNOW WHEN YOU KNOW A LANGUAGE?

Have you ever thought about what you know when you know a language? Most people's first reaction is to say, "You know how to speak, read, and write it." But you also know a great deal more. You know vocabulary and grammar. You know how to put words together so that someone will understand what you're trying to say. You know how to choose the right words and phrases to deal appropriately with a wide variety of circumstances and people. You know the idioms, the proverbs, and the common cultural references of the language.

You understand intended meaning based on intonation. The messages of single words like *really*, *oh*, and *interesting* change entirely depending on how they are voiced. Few native speakers would confuse the meaning of "Really?" with "Really!"

You know the order to place adjectives that modify a noun. You would never say anything like "the brick big red house." You recognize that certain words go together because of common usage. You say *heavy smoker* but *weighty matter*—and never *weighty smoker* or *heavy matter* (unless, of course, you're talking science).

You understand the subtle differences in meaning behind very close synonyms. Your choice of describing an acquaintance's appearance as *slim*, *thin*, or *skinny* or someone's behavior as *childlike* instead of *childish* has everything to do with your feelings of approval or disapproval.

You understand that certain words are group nouns and can't be individually counted. You say *three suitcases* but never *three luggages*. You know that prepositions can change the meaning of a phrase. You wouldn't confuse a sign that said *On Sale* with one that said *For Sale*.

Amazing, isn't it? You, as a fluent speaker of English, possess an enormous amount of language knowledge. That's because you learned English either as your first language or early in your childhood. Because you were immersed in an English language environment, you acquired oral language skills naturally

and easily, and probably have not given much thought to the subtleties of vocabulary and grammar.

Your years of schooling developed your written language skills and added polish to your oral skills. Your teacher training years focused on acquiring knowledge of the content you teach and methods to effectively teach it. Unlike teachers of English whose subject matter is the English language itself, your expertise lies in your knowledge of the math, science, or social studies you teach. Yet without the same preparation and depth of understanding about language and language acquisition as those teachers of English, you are expected to make your content comprehensible to the English language learners in your classes. To help you reach them and teach them, there are a few basic concepts about language that are important for you to know.

LANGUAGE AS A SOCIAL SKILL

Language is a social construct; the purpose of language is communication. Adult speakers of other languages who move to the United States first learn English to satisfy their basic needs. They often attend English language classes that teach “survival skills,” such as asking questions and reading newspaper want ads so that they can find their way around the neighborhood, rent an apartment, apply for a job, and register their children in school.

Children’s basic needs are less complex. Children need to make friends with other children. They need to communicate while they play together. They need to participate in the youth culture of sports, games, music, TV, videogames, movies, fads, and fashion. Young children whose native language is not English develop the language skills for these activities by becoming immersed in an English language–rich environment—school. There, for about six hours a day, they receive constant language input through which they learn the language to fulfill these needs and interests. It is a process of natural acquisition rather than any type of formal instruction. It bears many similarities to the process of first language development in young children.

The skills these English language learners are developing are called *Basic Interpersonal Communicative Skills*, or *BICS* for short. BICS is the language of everyday activities: the way we communicate with others in a social environment. Children learning English develop BICS with an apparent ease that often awes adult learners. In fact, in children, competent BICS takes only from six months to three years to acquire.

LANGUAGE AS AN ACADEMIC SKILL

Schools have traditionally judged the proficiency level of English language learners by assessing their oral language skills. This, however, can be a highly misleading indicator. The language that children need to succeed in school is

quite different from the oral language they use in social contexts. Even students who function at a high level in face-to-face social interaction may lack critical language skills for learning academic content. You may find yourself puzzled at this point. Don't you speak the same English inside your classroom as you do outside of it? The answer to that question is both *yes* and *no*.

On a surface level, it *is* the same. But what teachers ask students to do with language inside the classroom is much more complex than what students do with language outside in the real world. School is a place of high expectations and academic challenge. In the environment of the classroom, students are asked to engage in academic thinking skills that involve problem solving and critical thinking. Every dimension of learning requires students to demonstrate proficiency in using cognitive language skills. In a typical school day, students will use language to

- Participate in small group or whole class oral discussions about issues and ideas
- Give oral responses to the teacher's questions
- Listen to learn content from the teacher's spoken words (lower grades)
- Simultaneously listen, take notes, and process content (higher grades)
- Observe, interpret, and process science experiments, graphs, maps, videos, and other visual aids
- Read to gather information and build knowledge
- Write to complete homework assignments, projects, reports, and research

These classroom language skills are quite different from those used in social contexts. Social language, or BICS, involves such abilities as retelling events, describing experiences, narrating activities, offering personal opinions, all within the general give-and-take of conversation with family and friends.

The language of the classroom makes conceptual demands on language that are beyond the scope of BICS talk. In the classroom, students are asked to do things with language that are more abstract and cognitively complex. Academic assignments require students to use language to

compare	explain
contrast	analyze
list	discuss
define	infer
order	justify
classify	integrate
describe	evaluate
predict	deduce

Students must perform these functions in all the modalities of language—speaking, listening, reading, and writing. These classroom language skills are collectively known as *cognitive academic language proficiency*, or *CALP*.

UNDERSTANDING CALP

CALP and BICS, then, use language for different purposes. CALP is used in a classroom environment and deals with theory and concepts. BICS is used in a social environment and deals with the here-and-now of everyday life. The language of CALP is generally cognitively challenging (i.e., hard), while the language of BICS is generally cognitively unchallenging (i.e., easy).

There is a second factor that affects the difficulty of language for English language learners. Spoken and written language is difficult in isolation—that is, without any environmental clues to meaning. Words become clearer when they are surrounded or embedded in a background environment that serves to assist comprehension.

Cummins,¹ who contributed the concept of BICS and CALP, created a graphic (Figure 2.1) to aid in understanding what makes language easier or harder for English language learners. Difficulty is based on the relationship between the two factors: the cognitive demand of the task and the amount of available contextual support.

The first factor, the degree of cognitive challenge, is represented in Cummins's framework as basically easy or hard. The two quadrants across the top of Cummins's chart represent oral or written tasks that are cognitively undemanding—either largely social or simply academically easy. The two lower quadrants of the chart represent tasks that are cognitively demanding. These tasks are academically difficult, requiring higher levels of thought processing and language skills.

The second factor in Cummins's framework evaluates the amount of contextual support inherent in the task. Contextual supports offer clues to the meaning of words. The more spoken and written words are supported or embedded in context, the easier they are to understand. Spoken language can be given contextual support through facial expressions, gestures, body language, demonstrations, and visual cues from the physical environment. Written language can offer contextual support through pictures, graphs, charts, tables, and textbook aids. Oral and written tasks with these kinds of supports are called *context-embedded*. Tasks in which students have only the spoken or written words alone to work with are termed *context-reduced*.

The two quadrants on the left side of Cummins's chart represent tasks that are highly embedded and contextually supported. Tasks in the two quadrants

¹Cummins, J. *Bilingualism and Special Education: Issues in Assessment and Pedagogy*. (San Francisco, CA: College-Hill Press, 1984).

I Cognitively Undemanding + Context-embedded	II Cognitively Undemanding + Context-reduced
III Cognitively Demanding + Context-embedded	IV Cognitively Demanding + Context-reduced

FIGURE 2.1. Cummins's Framework for Evaluating Language Demand in Content Activities (Modified Format)

on the right side are context-reduced. Combining the two elements of cognitive challenge and contextual support, the quadrants move in difficulty from I to IV. English language learners will generally find Quadrant I tasks easy because they are low in cognitive demand and high in contextual support. Quadrant IV tasks are at the other extreme; these tasks will be difficult for ELLs because they are academically demanding and lack contextual support.

Actual examples of tasks in each of the four quadrants, as shown in Figure 2.2, will help clarify Cummins's chart. Face-to-face conversations fall into Quadrant I. The task of making conversation is social and therefore not particularly cognitively demanding. Contextual support for spoken words comes from watching the speaker's lips and observing facial expressions and body language. The task moves to Quadrant II when the same conversation takes place over the telephone. While the task is still social, the listener loses the speaker's contextual support and must rely completely on auditory input for comprehension.

The tasks illustrating Quadrants III and IV are similar. On the lower half of the chart, the tasks are cognitively challenging. English language learners (and other students as well) will find mathematical word problems that offer the contextual support of manipulatives, graphics, and/or pictures easier to solve than problems without these aids. Again, the difficulty is affected by how well the words are embedded in context.

<p style="text-align: center;">I</p> <p style="text-align: center;">Cognitively Undemanding + Context-embedded</p> <p style="text-align: center;">Example</p> <p style="text-align: center;">Engaging in face-to-face social conversation with peers</p>	<p style="text-align: center;">II</p> <p style="text-align: center;">Cognitively Undemanding + Context-reduced</p> <p style="text-align: center;">Example</p> <p style="text-align: center;">Engaging in social conversation on the telephone</p>
<p style="text-align: center;">III</p> <p style="text-align: center;">Cognitively Demanding + Context-embedded</p> <p style="text-align: center;">Example</p> <p style="text-align: center;">Solving math word problems using manipulatives and/or pictures</p>	<p style="text-align: center;">IV</p> <p style="text-align: center;">Cognitively Demanding + Context-reduced</p> <p style="text-align: center;">Example</p> <p style="text-align: center;">Solving math word problems without manipulatives and/or pictures</p>

FIGURE 2.2. Cummins's Framework with Examples of Tasks for Each Quadrant

Here is a list of additional examples of tasks in each of the quadrants. Can you figure out why each one is assigned to its particular quadrant?

Quadrant I

- Engaging in social conversation with peers
- Ordering dinner from a picture menu in a fast food restaurant
- Listening to a presentation about pet animals that includes pictures and video
- Participating in physical education classes

Quadrant II

- Getting information via the telephone
- Ordering dinner from a menu in a formal restaurant
- Listening to an audio presentation about caring for pets
- Reading a list of required school supplies

Quadrant III

- Solving simple math computation problems
- Solving math word problems using manipulatives and/or pictures
- Doing a science experiment by following a demonstration
- Understanding written text through pictures, graphics, and small group discussion
- Reading the illustrated (comic book) version of Shakespeare's *Romeo and Juliet*

Quadrant IV

- Solving math word problems without manipulatives and/or pictures
- Doing a science experiment by reading directions from a textbook
- Writing research reports on assigned topics in social studies
- Listening to a lecture on an unfamiliar topic
- Reading Shakespeare's *Romeo and Juliet* in its original format

Not every task can be neatly placed in a quadrant. Variables within a task itself or within a student's prior knowledge or experience can affect its placement on the chart. For example, the task of solving simple math computational problems listed under Quadrant III would have to be moved to Quadrant IV if a student's native language used a different system of notation for writing numerals.

An even more complex example is the Quadrant I entry, participating in physical education classes. Where this task is placed depends entirely on what is involved. It would remain a Quadrant I task if it involved *demonstrating* how to play a game or sport. It would become a Quadrant II task if the rules of play were only orally explained. It would move into the cognitively demanding quadrants if it involved discussions and/or readings about complex rules and regulations of play or about the history of a sport. Placing these tasks in either Quadrant III or Quadrant IV would depend upon the amount of available contextual support. Similarly, participation in physical education classes might also fall into Quadrant III or IV when they include learning about health and hygiene issues.

Tasks assigned as classwork and homework are typically cognitively demanding and often context-reduced (Quadrant IV). For students to experience

success with this type of schoolwork, their academic language skills, CALP, must be at or near grade level. English language learners haven't yet reached that level. Even ELLs with good academic language skills in their native language are still in the process of developing this proficiency in English. The more familiar content teachers are with the concept of CALP and how it develops, the better able they will be to help the English language learners in their classrooms. They will be able to select, plan, and use appropriate strategies that move content learning from Quadrant IV to Quadrant III.

LANGUAGE AND CONTENT TEACHING

Academic language skills are complex, cognitively demanding, and situation-specific. They take from five to seven years to reach full development because they are specific to the academic world. Unlike BICS, which are learned naturally from the environment, CALP is learned only in the classroom in a process that is long and complicated. Indeed, developing and refining the skills of CALP is one of the objectives underlying the elementary school curriculum.

How CALP Develops

The elementary school years can be viewed as a six-year course in developing academic language and thinking skills. In the primary grades, students learn the basic skills of language. Along with early reading and writing skills, they also begin to learn how to listen, how to observe, and how to think academically. Content learning in the primary grades is taught largely through visual, manipulative, and experiential means. Instruction is facilitated and context-embedded for all students.

English language learners and native speakers alike are going through a similar process of learning: They all enter kindergarten needing to learn the most basic academic skills of language. The primary grades of elementary school focus large blocks of time on developing the skills involved in reading and writing for all students, regardless of their language background.

The intermediate grades of elementary school involve students in language instruction that promotes higher levels of conceptual development and communicative ability. There is a shift in focus from *learning to read* to *reading to learn*. Students are now regularly required to think, talk, read, and write about content. They are given assignments that require them to engage in critical reading and literary criticism (also known as book reports); observations and write-ups of science experiments; research and reports on geography, economics, and culture in social studies; and complex calculations and word problems in math.

These experiences in the elementary school years constitute the foundation of academic language learning. Students are expected to build upon this

foundation as they move through middle school and high school. Their academic language ability becomes the medium through which they must demonstrate the attainment of specific content knowledge at higher and higher levels each year in their classes.

So how do English language learners entering U.S. schools fit into this plan? Those entering in the primary grade years have the easiest task for two reasons. First, for young children, school presents a natural language learning environment. Their BICS develop through daily immersion in the language-rich activities of the classroom. They acquire the oral skills of language in a seemingly effortless manner. The second factor easing the way for young ELLs is that primary grade content instruction is context-embedded for *all* students. Language skills development is just beginning. Because academic reading, writing, listening, and thinking skills are at such an early stage of development, all approaches to content learning must rely heavily on contextual supports.

The situation changes dramatically after the primary school years. By third grade, students are expected to have achieved a minimum level of academic language proficiency. This is the year of the shift: Third graders, while still learning to read, are now beginning to *use* their reading skills to learn.

English language learners entering the American school system face challenges to learning content that grow with each school year. Starting in third or fourth grade and increasing year by year through high school, expectations of knowledge and achievement for all students rise to successively higher levels. Students who must learn academic English language skills at the same time that they are expected to acquire content knowledge face a dauntingly demanding situation.

Teachers of math, science, social studies, and other content areas can ease the path for English language learners by utilizing strategies that will contextualize the content they teach—in other words, by moving instruction from Quadrant IV to Quadrant III. These strategies offer options and ideas to make better decisions about content teaching and assessment. They are the focus of Parts II and III of this book.