



# Significance of Prior Knowledge Activation:

## A Close Look at a Bilingual Kindergarten Student's Response to a Poem

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### Abstract

This manuscript examines a kindergarten bilingual (Spanish/English) student's responses to a poem during a two-day writer's workshop. A detailed description of the student's illustrated initial response to the poem is compared with the student's later response after the vocabulary embedded in the poem was discussed. The importance of considering students' sociocultural backgrounds and activating their prior knowledge as essential parts of instruction is stressed.

When students come to school, they bring their linguistic and sociocultural backgrounds and the experiences they have been exposed to outside the classroom. When they participate in instructional activities, students' backgrounds and experiences impact the way they perceive texts. For this reason, instructional approaches, wherein learning is conceptualized as a social process, have placed a central focus on valuing students' experiences (Vygotsky, 1978). Within this frame, learning is socially constructed through interaction with people and the social environment, and requires the formation of meaningful connections between students' previous experiences and sociocultural backgrounds and the new knowledge that is being taught. In order for this to consistently occur during instruction, both teachers and students need to cultivate such connections. Consequently, the activation of prior knowledge has become an integral part of most contemporary instructional approaches.

Prior knowledge is structured, tacit, or explicit knowledge an individual possesses that "contains conceptual and metacognitive knowledge components" (Dochy, De Rijdt, & Dyck, 2002, p. 267). Prior or background knowledge is grounded in the schema theory. This theory contends that the knowledge or schema already stored in our memory structures the ways in which new information, such as an unfamiliar reading passage, can be comprehended, interpreted, and integrated into our mind (Anderson & Pearson,

1984). Therefore, new learning is impacted and shaped by students' pre-existing, relevant schema. Moreover, their retention of new learning requires connecting it with this older knowledge in salient ways. It does not matter if students' existing knowledge was obtained from experiences outside school or from instruction in school (Marzano, 2004); it provides the necessary foundation for new learning.

### Detecting and Connecting with Prior Knowledge

Activating prior knowledge at the start of instruction has the objective of bridging the gap between what students already know and new concepts or topics about to be addressed in the classroom. Initially, accessing and assessing the students' prior knowledge provides teachers useful measures of what students know and what they have misconceptions about (Alvermann, Phelps, & Ridgeway Gillis, 2010). Subsequently, connecting instruction with prior knowledge is one of the most important factors in promoting students' comprehension, since it stimulates the students' interest in the new knowledge and prepares their brains to form new cognitive connections between what they already know and their new learning. In the same way, the students' linguistic background and cultural experiences, as reflected in their prior knowledge, can be used to foster understanding and opportunities to make meaningful associations. However, the essential moment-to-moment negotiations between teacher and students that build such connections require a great deal of quick, high-level thinking by teachers

during instruction. Teachers need to instantaneously integrate social and cultural awareness, verbal and visual creativity, and sometimes difficult interpretations of students' intended meanings.

### Assessing and Integrating English Language Learners' Background Knowledge

Working with English Language Learners (ELLs) requires teachers' awareness of not only the students' prior knowledge, but of the linguistic demands a lesson requires from students. Thus, it is important for teachers of ELLs to know specific strategies to address these demands and thereby assist ELLs in simultaneously learning content and English language skills. The SIOP Model (Echevarria, Vogt, & Short, 2008), which is supported by Georgia's Department of Education as an approach to ELL education, includes many such strategies. One of the most important strategies for making a lesson's content more comprehensible is pre-discussion of key vocabulary in order that students can move beyond decoding individual words and take in the content of the larger lesson. As a means to this end, it is recommended that teachers use graphic representations and illustrations to introduce vocabulary words and help ELLs understand new content. However, to do this well, the visuals must make sense within students' existing schema based in their cultural, linguistic, and experiential backgrounds. As the following example demonstrates, sometimes the process of using graphics and illustrations to assess and activate students' existing knowledge can reveal unanticipated connections by the students, and a resultant necessity for teachers to explicitly build new understandings and schema as alternatives to what students already know.

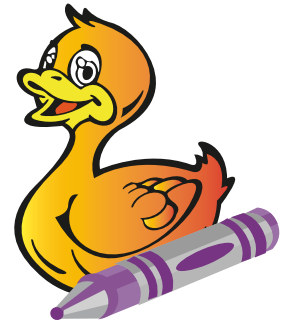
### A Close Look at a Bilingual Kindergarten Student's Response to a Poem

An example of the impact of an ELLs' linguistic and sociocultural background on their interpretation of a text is outlined in this classroom vignette extracted from an informal kindergarten classroom observation. The teacher was developing her class's visualization skills by asking them to describe and illustrate their mental images of particular concepts or schema (Miller, 2002, 2012). Her chosen strategy was to read a poem and then ask students to respond by illustrating the mental images they visualized while listening to the poem.

[Note that this approach is a bit reminiscent of McConnell's (1992) Talking Drawings strategy, which was later developed by Paquette, Fello, and Jalongo (2007). However, in Talking Drawings, students are presented with a topic, asked to visualize their prior knowledge about the topic, and then draw that mental image – a guess of what is to come – all before hearing or reading a text (usually expository) regarding the topic.]

In the case under examination here, Ms. Furlong (pseudonym), a public school teacher in a small town in southern New Mexico, taught a dual-language (Spanish/English) kindergarten class wherein students were instructed in English and Spanish during alternating weeks. During an English language week, she presented to her students the poem *Ducks on a Winter Night* by Georgia Heard (1997). She used a lesson structure suggested by Miller (2002, 2012), as part of a two-day writer's workshop activity. The poem reads:

Ducks asleep  
On the bank of the pond  
Tuck their bills  
Into feathery quills  
Making their own beds  
To keep warm in



The poem itself provides several opportunities for teaching both vocabulary and visualization, but it also contains possibilities for misinterpretation, some of which even Ms. Furlong

may have not realized when starting the lesson. Miller (2012) emphasizes the importance of students' schema as a focal point in this strategy. In Miller's example, she noted that while teaching this lesson in her own classroom, one of her students thought that the "quills" in the poem referred to porcupine quills. Similarly, when Ms. Furlong asked her students to illustrate their interpretations of the poem, one Latino, predominantly Spanish speaking student, drew and described the following:



"bills" as dollar bills

"bank" as financial

His picture was a clear indication of his pre-existing knowledge, but also his limited understanding of crucial English-language vocabulary: "bank" and "bills." His hometown, located along the Rio Grande and surrounded by irrigated fields of pecan trees and cotton, does not have ponds with "banks" around them. Moreover, the distinction between the general category of birds' beaks and the specific subcategory

of aquatic birds' "bills" is likely not to be part of his experience at home or at school. This is especially unlikely since in everyday Spanish both beaks and bills are referred to by the same noun: picos. In this way, the natural / outdoor interpretations were not apparent to the student. Instead, the presence of the two English words, "bank" and "bills", close to each other in the same poem, both of which have business-oriented meanings, clearly facilitated a financial, rather than a wildlife interpretation. Thus, it is no surprise that he understood "bills" in its more commonly used sense, as dollar bills, and expected that those bills were connected to a commercial bank, such as is likely frequented by his parents.

Afterward, the teacher led an extended discussion and analysis of the poem, using visual representations to explain the poet's intended interpretations of the vocabulary. She demonstrated how to choose amongst these alternatives on the basis of the context of the poem. Subsequently, the same student produced another, substantially different, and more accurate representation of the poem:



ducks' "bills" tucked in for sleep "bank" as the edge of a body

This example clearly illustrates one of the crucial benefits of assessing and activating students' prior knowledge early in any instructional activity: the diagnosis of misconceptions and possible linguistic, cultural, and experiential barriers and gaps that might prevent students from fully understanding texts (Bruner, 1986; Vygotsky, 1978). Ms. Furlong used the students' initial drawings as formative assessments that informed her about her students' vocabulary knowledge and previous experiences. She then built new schema that both connected and contrasted with their background knowledge in order to allow them to fully understand the meaning of the poem. Such pre-assessments are crucial for teachers to clarify and connect with students' background knowledge and then construct understandings of new concepts in relationship with what students already know.

## Closing Thoughts

In summary, activating and connecting with students' prior knowledge is crucial in order to optimize their learning. Research has shown that the most meaningful learning takes place when students are provided with opportunities and assistance to connect and compare new knowledge with their background experiences and skills (their existing schema).

As discussed in this article, incorporating the students' prior knowledge and background experiences facilitates students' engagement and prepares their brains to connect new knowledge with their background experiences. In the same fashion, it is necessary to consider the impact of the students' (especially ELLs) socio-cultural and linguistic backgrounds to facilitate their participation in the classroom. Developing the ability to assess and build upon students' prior knowledge before and during instruction provides teachers with the opportunity to construct learning upon the stable foundation of what students already know (Bruner, 1986; Vygotsky, 1978) and to interconnect topics so as to reinforce students' understandings.

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