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ADVANCING LINGUISTIC AND CONTENT LITERACY FOR BILINGUAL LEARNERS: A FRAMEWORK FOR ACADEMIC SUCCESS

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**Advancing Linguistic and Content Literacy for Bilingual Learners: A Framework
for Academic Success**

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Abstract

As our population becomes increasingly more diverse with a continuously rising number of bilingual learners in formal school settings, it is vital to support bilingual learners' language and academic development. However, teaching bilingual learners English has taken precedence over content area instruction. Thus, the focus has shifted from content area instruction to primarily second language instruction. This article presents a framework that takes into account the elements of the principles of learning, learner appropriate pedagogy, contextual interaction theory, student language (L1/L2) proficiency level, and a learner-centered environment that can lead to the successful achievement of content literacy for bilingual learners. The framework illustrates both the theory and practical applications that are essential to help bilingual learners achieve linguistic and cognitive success. Effective, comprehensive and appropriate pedagogy for bilingual learners is explained. Also, culturally relevant instruction and supportive classroom environments that reflect bilingual learners' culture, heritage, and language are examined. Consequently, opportunities for cooperative learning, social interactions, and culturally responsive teaching are necessary components in the goal of helping bilingual learners attain the content literacy needed to succeed in today's global market.

Introduction

The concept of bilingualism is complex and multidimensional. To be “bilingual” can have an array of implications. People may think that because they can speak another language in a conversational context at home they are *bilingual*. Other people may claim to be *bilingual* if they can read storybooks in a second language. Are these two people incorrect to think that they are *bilingual*? This depends how one defines being *bilingual* and what the expectations are of their level of *bilingualism*. Many people may be able to speak more than one language but may not be able to function academically in more than one language.

The goal is to develop bilingual learners who are developing full literacy skills in two languages, their native language and English. Jim Cummins argues that proficiency in language involves layers of skills and knowledge (2000). This distinguishes the difference between the socially demanding language which involves everyday interactions and the academic English needed for cognitively demanding language which involves more complex structures. The focus is on developing bilingual learners who can not only speak two languages but perform tasks of academic rigor in both languages. The intent of this article is to gain a deeper understanding for how the bilingual learner develops knowledge, language, and content literacy in the school environment and to make a connection between the theory and its implications for practice.

Framework for Developing Content Literacy for Bilingual Learners

The learning principles, second language acquisition, and stages of language proficiency need be used to frame the appropriate setting for the development of content literacy for bilingual learners. When a teacher is in the pre-planning stage of a lesson or unit for bilingual learners, consideration needs to be given to how students learn content and language, and teachers also need to think about the stage of language development. This framework takes into

account all these elements along with the importance of using the appropriate pedagogy (methods used for teaching) and setting a learner-centered environment.

Learning across content areas, i.e., math, social studies, science requires students to attain and utilize reading and writing strategies to develop and gain knowledge. This process is referred to as *content literacy*. Constructing knowledge involves more than simply obtaining information; it entails a strong acquisition of content literacy (Alvermann & Phelps, 1998; Huang & Mullinix, 2002). The development and acquisition of content literacy is even more challenging for bilingual learners, regardless of the bilingual program they may participate in school. An effective approach to building strong content literacy skills is by actively involving students in their learning. Bilingual learners need to be exposed to the challenging content mainstream students (non-ELLs) are learning. Using this framework to structure instruction will assist teachers as they plan to effectively teach content literacy to bilingual learners.

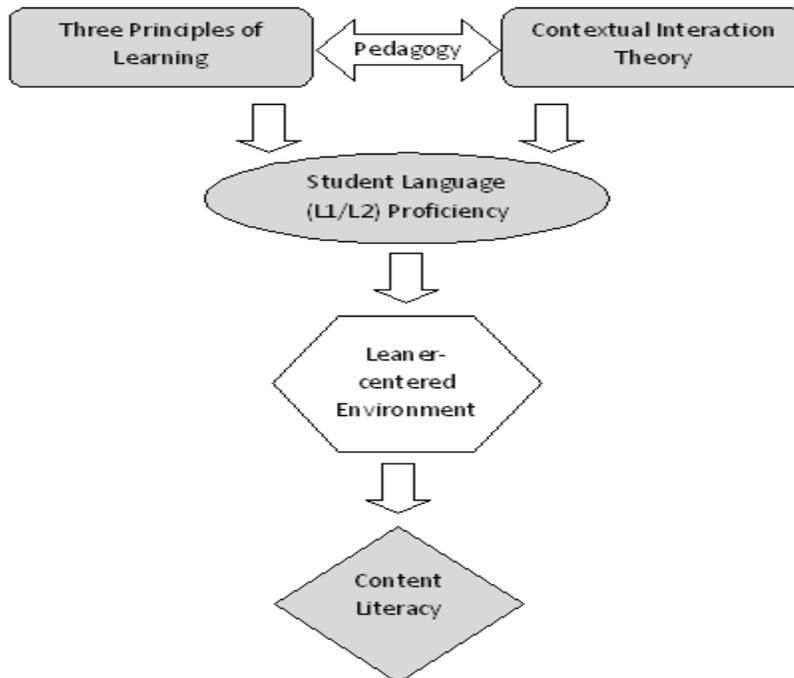


Figure 1. Framework for teaching bilingual learners new content literacy

The Framework for teaching bilingual learners new content literacy provides a visual of how the elements of the principles of learning, appropriate pedagogy, contextual interaction theory, student language (L1/L2) proficiency level, and a learner-centered environment can lead to the development of content literacy for a bilingual learner. Each of these five elements contributes to the evolution of content literacy in a specific way; therefore, they do not work in isolation. In other words, a teacher cannot only refer to the three principles of learning and expect for bilingual learners to effectively develop content literacy.

Three Key Principles of Learning

For the purpose of this article, we are going to focus on three major principles of learning presented by the National Research Council (2000) which are (1) Learning Principle #1: All students attend school with preconceived notions of how the world works; (2) Learning Principle #2: In order for students to develop the ability to make inquiries, they must have developed basic factual knowledge and the ability to manipulate that knowledge; and (3) Learning Principle #3: Students need to take a metacognitive approach to their learning so that they can become life-long learners.

Learning Principle #1

The first principle is grounded on the idea that all students come to school with their own personal understanding of how the world functions, their *home knowledge*. Students bring experiences from home and their community that they will use to construct new knowledge in a more formal setting. Gonzalez, Moll, and Amanti (2005) refer to these home experiences as the *funds of knowledge*. The funds of knowledge are students' everyday life experiences such as interactions with family, community members, watching parents work, etc...that should be used as a stepping stone to school practices. This principle is founded on the idea that if the student's

prior knowledge and understanding of the world is not stimulated, then new knowledge may not be truly learned but only memorized for short-term retrieval.

For example, think of situations when students are taught language arts vocabulary words by listing the words and having students find definitions using their textbook, dictionary, selected website, or other resource. The teacher may lead class discussions on these vocabulary words; however, since it is teacher-led, the students do not have a chance to make their own connections between their experiences and/or *home knowledge* and the new words. Therefore, in order to prepare for the vocabulary test, the students memorize the provided definitions of the vocabulary words and may perform well on the test. Yet, when students encounter the same words in different contexts or at a later time, they cannot recall the definitions. This occurs because students simply gained superficial knowledge of the words and did not make long-term connections between what they already understood of the concept to the new knowledge.

Learning Principle #2

The second learning principle explains how important it is for bilingual learners to have a strong grasp on foundational knowledge before they can begin to manipulate the information for higher order thinking (HOT) and tasks. Bilingual learners need to acquire a strong knowledge base of the new concept and skills within the context of the knowledge, i.e. community, animal groups, estimation, etc... and properly store the new information in memory so that it can easily be recalled and used during a HOT task or assignment. This HOT task or assignment can be designed within the context of the new knowledge or out of context to add complexity to the task. Figure 2 describes the process of principle of learning #2.

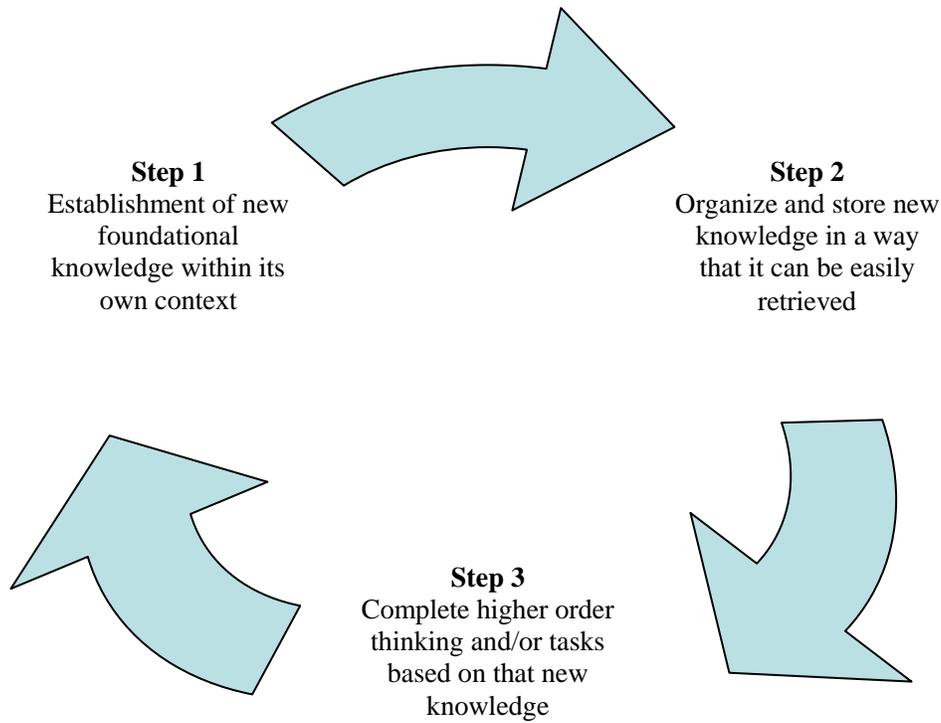


Figure 2. *Process of Principle of Learning #2*

For example, when a first grade class of bilingual students is learning about measurement during math class, all the basic knowledge associated with measurement, i.e. inches, centimeters, length, width, etc... need to be strongly developed and properly stored in memory within the context of mathematical measurement. Once students have a stable foundation on the concept of measurement, then the teacher can and should ask students to perform higher-order thinking tasks. For example, after students can demonstrate their basic knowledge of measurement by being able to successfully measure the length of a classroom object, i.e. student desk using the different traditional and non-traditional units, they are ready to perform HOT tasks. An example of a HOT task can include creating their own measurement system using non-traditional units to construct a drawing of their dream playground.

Learning Principle #3

The third learning principle centers on the importance for students to take a metacognitive approach to their learning. As a result of developing metacognitive skills, students develop ownership over their learning. This ownership helps students become life-long, independent learners. Metacognition is, simply put, *thinking about your thinking*. Metacognition occurs when students takes deliberate control over their learning, planning, and execution of learning through the use of learning strategies. Additionally, students examine the progress of their learning by looking for opportunities for improvement, and finally make any necessary adjustments to the learning strategies (Brown, Bransford, Ferrara, & Campione, 1983).

For example, one instructional strategy that initiates the metacognitive process and is widely used in today’s classrooms is the K-W-L chart created by Ogle (1986). The K-W-L chart helps students make connections with their prior knowledge by first writing down all that they already *KNOW* about the new content. Students then set goals to what they *WANT* to learn as they begin studying the new information. Finally, students reflect on what they *LEARNED* (one of the first stages of metacognition). See Figure 3 for an example of how the K-W-L chart can be used when third grade bilingual students learn about the Solar System.

<p>What I KNOW</p> <p>K</p> <p><i>completed before the lesson/unit</i></p>	<p>What I WANT to know</p> <p>W</p> <p><i>completed before the lesson/unit</i></p>	<p>What I LEARNED</p> <p>L</p> <p><i>completed after the lesson/unit</i></p>
<ul style="list-style-type: none"> • there are planets • the sun • some planets have moons • rockets go to space • NASA sends people to space 	<ul style="list-style-type: none"> • Do plants live on the other planets? • Can people live on the moon? • Why does one planet have rings? • How hot is the sun? 	<ul style="list-style-type: none"> • The Earth is the only planet with life. • The sun’s real color is white. • The temperature of the sun is 5,778 Kelvin • As of today, people can’t live on the moon.

Figure 3. *Example of K-W-L chart on the Solar System*

Although the K-W-L chart can be used to begin the metacognitive process, most teachers do not focus on that skill. The K-W-L chart has been used mainly to help students make connections to prior knowledge. However, the K-W-L chart is an effective start in helping students think about their learning and reflect on how their prior experiences and knowledge can construct new knowledge.

Although these three learning principles apply to all students it is especially important for teachers of bilingual learners to have a good grasp of them and apply them to planning and delivering instruction. Teachers need to recognize the alignment between these principles and language acquisition theories so that new knowledge can be more effectively developed and understood.

Effective Pedagogy Supportive of Principles of Learning

Teachers should be aware of what is referred to as culturally relevant teaching. Culturally relevant teaching is a prevalent theme in the literature. Ooka Pang (2001) describes this as “an approach to instruction that responds to the sociocultural context and seeks to integrate cultural content of the learner in shaping an effective learning environment” (p. 192). She contends that there is often a disconnect between the classroom experience and the learner’s expectations of those contexts; therefore, she maintains that to be culturally responsive teachers must first make connections with the students and question how they perceive both the instruction and the classroom context.

As teachers are looking to maximize learning for culturally diverse students, they should teach in culturally responsive ways (Irvine & Armento, 2001). Teachers should align planning, instruction, monitoring of student progress, and grouping structures both reflective and characteristic of a culturally responsive curriculum. Students should be able to see their culture

in the context of the classroom. This will give them a sense of belonging, understanding, and reality. As they begin to feel a part of the new school culture, they will actively engage.

The focus of instruction should move from rote memorization to an understanding and analysis of purpose and meaning (Moll, 1988). Thus, a hands-on approach is much more effective for bilingual learners. Consequently, student centered instruction encompasses a number of pedagogical techniques such as the following: (1) being provided content that is culturally relevant; (2) learning problem solving as a life-long skill; and (3) collaborating and engaging with peers during the learning. Additionally, students must be exposed to comprehensible input in order to understand the new information. With this understanding we will further explore the theories that support the fusion of home and school experiences.

Contextual Interaction Theory

The Contextual Interaction Theory is based on five empirically grounded principles: *linguistic threshold, dimensions of language proficiency, common underlying proficiency, second language acquisition, and student status*. These five principles illustrate how student input factors interact with instructional practice. What bilingual learners bring with them to the classroom fuses with what teachers use to approach the content and deliver instruction. That is the interaction between the context of the home and that of the school. In addition, the five principles of the Contextual Interaction Theory help explain how bilingual learners reach English language proficiency, academic achievement, and psychosocial adjustment (California State Department of Education, 1982).

Principle One: Linguistic Threshold

Cummins' (1976) Threshold Theory explains that there is a particular threshold that determines if the level of proficiency in both languages will produce positive academic

development and achievement. When one is a balanced bilingual, academically proficient in both languages, then positive academic and cognitive effects have been reported. For bilingual learners the degree to which proficiencies in both L1 and L2 are developed is positively associated with academic achievement (Collier & Thomas, 2004).

Principle Two: Dimensions of Language Proficiency

Language proficiency is the skill to effectively utilize language for both academic practices and basic communicative tasks. Cummins (1984) identifies two key dimensions of language proficiency: basic interpersonal communicative skills (BICS) and cognitive academic language proficiency (CALP). BICS are those language skills that are acquired easily through daily living, and it takes 2-3 years to develop. CALP, on the other hand, would be language proficiency learned in an academic setting, i.e., skills learned in a classroom. CALP develops within 5-7 years (Cummins, 1981). One of the most important differences between BICS and CALP is that BICS are *cognitively undemanding* and CALP skills are *cognitively demanding*.

Principle Three: Common Underlying Proficiency (CUP)

Cummins (1981) constructed the language development model known as the Common Underlying Proficiency (CUP) Model. This model describes how children acquire competency in L1 and L2. The CUP, also referred to as the "One Balloon" theory, supports the idea that instruction in the L1 will assist and, in the long run, benefit the student in acquiring competency in the L2. Therefore, the CUP Theory implies that there is just one central location (hence, the "One Balloon" theory) in the brain for processing language. Therefore, experiences with both languages promote development of proficiency in both L1 and L2. CUP supports the idea of transfer of knowledge and skills within languages, since all the information is stored in the same location of the brain.

Principle Four: Second Language Acquisition

Stephen Krashen (1982) developed a cognitivists/innatists theory for second language acquisition that consists of five hypotheses: Acquisition-Learning Hypothesis, Natural Order Hypothesis, Comprehensible Input Hypothesis, Monitor Hypothesis, and the Affective Filter Hypothesis. These hypotheses are not presented in a particular sequence. Each can explain a different dimension of language development. However, together these five hypotheses explain how people progress through the multidimensional levels of second language acquisition.

Krashen concludes that the key to second language acquisition is not the quantity of L2 exposure, but the quality of L2 instruction. That is, when a teacher is aware of the bilingual learner's second language development, the focus goes from a *more L2 coverage* approach to *more appropriate L2* experience. All in all, acquisition of basic communicative competency in L2 is a result of comprehensible L2 input and an accommodating affective environment.

Principle Five: Student Status

Student status centers on the performance expectations people put on themselves and others and the results of these expectations. For example, when a teacher has low academic expectations of a student, then the student will more than likely perform to that expectation, and vice versa. When teachers treat students differently, due to race, ethnicity, language diversity, etc...the students' results will also vary. Even if the teacher delivers the same curriculum to a group of students, the results will be based on how the students are treated. Additionally, people's expectations of themselves and others are partly based on status characteristics such as age, language, achievement, race, and so on. This perceived status of students affects the interactions between school administrators, teachers, and students and among the students themselves. The different interactions and expectations can have an affect on educational

outcomes. Therefore, it is critical for the school environment to be supportive and set high expectations for all students, especially the bilingual learners since their status can be much more complex involving differences such as culture, language, age, (many bilingual learners are placed in lower grade levels when they first enroll in schools) economic status, and ethnicity.

Effective Pedagogy Supportive of Language Acquisition Theories

We must be certain to maintain comprehensive pedagogy that supports the theoretical views of language acquisition. Padrón and Waxman (1999) propose five effective instructional practices that support language acquisition, development, and knowledge. These research-based instructional practices are the following: (1) culturally responsive teaching; (2) cooperative learning; (3) instructional conversation; (4) cognitively guided instruction; and (5) technology-enriched instruction. Most importantly, education needs to be meaningful and responsive to students' needs, as well as, linguistically and culturally appropriate (Tharp, 1997).

Using *culturally responsive instruction*, bilingual learners will benefit from a classroom environment where teachers have the goal of expanding learning through building on the languages and cultures that children bring with them (Barrera, Quiroa, & Valdivia, 2003; Slavin & Cheung, 2005). This is important to help children feel successful. Additionally, allowing children ownership of the curriculum by integrating their experiences and prior knowledge empowers students (Au, 1998). Consequently, this will determine the way children will respond to new experiences, interpret events, and reality in the classroom. Additionally, River and Zehler (1991) emphasize that “culturally responsive instruction improves the acquisition and retention of new knowledge,... improves self confidence and self-esteem and... increases the transfer of school-taught knowledge to real-life situations.”

Cooperative learning is another strategy that benefits the language acquisition of bilingual learners. Cooperative grouping: (1) provides opportunities for students to communicate with each other; (2) enhances instructional conversations; (3) decreases anxiety; (4) develops social, academic, and communication skills; (5) enhances self-confidence and self-esteem through both individual contributions and achievement of group goals; (6) improves individual and group relations by helping individuals learn to clarify, assist, and challenge each other's ideas; and (7) develops proficiency in English by providing students with rich language experiences that integrate speaking, listening, reading, and writing (Calderon, 1991; Christian, 1995; Rivera and Zehler, 1991).

We are in a new era of education which focuses on facilitating knowledge instead of delivering knowledge (Padrón & Waxman, 1999). Researchers in the area of socially mediated instructional techniques such as Johnson and Johnson (1991, p.292) note that the implementation of cooperative learning involves “the instructional use of small groups so that students work together to maximize their own and each other's learning.” As such, when grouping, we must provide explicit opportunities for peer interaction and engagement. Using bilingual pairs facilitates this in the classroom. Students can be placed in bilingual pairs based on language and/or academic ability. Pairs can consist of native and non-native speakers or a more proficient speaker of the language with and a less proficient speaker of the language. You may also have a student who is more fluent in one language with a student who is more fluent in another language paired for specific instructional purposes. These pairs can be interchanged for various instructional purposes at different times throughout the day.

By placing students in bilingual pairs, we continue to maximize their learning. According to Faltis (1993), second language learners showed increased participation when they

found themselves with other non-native speakers as opposed to being with native English speakers. Additionally, research supports student collaboration as an instructional technique and encourages bilingual peer tutoring. Cooperative learning is important strategy with deep influences on students' language development and helps provide the necessary scaffolding for students.

Instructional conversation is another effective strategy for bilingual learners. The instructional conversation is an extended discourse between the teacher and students. This strategy emphasizes instructional dialogue with teachers and classmates (Duran, Dugan, & Weffer, 1997). A major benefit of instructional conversation is the opportunity for extended discourse, an important principle of second language learning (Christian, 1995). For example, if students in language arts class are learning about the elements of literature, a focused conversation between peers and teachers geared toward learning new vocabulary to clearly describe and exemplify the elements of literature would be occurring. These instructional conversations benefit bilingual learners as they are reformulating previous concepts and attaching new vocabulary to them. Additionally, it will help the teacher who will have a clear indication of the level of social and academic second language development the student has acquired.

Cognitively guided instruction is another instructional pedagogy that positively affects bilingual learner's language development. This strategy emphasizes the development of learning strategies and teaches techniques and approaches that foster students' metacognition and cognitive monitoring of their own learning. It is asserted that as students learn to effectively use these cognitive strategies, they will succeed. (Padrón & Knight, 1989; Waxman, Padrón & Knight, 1991). An example of cognitively guided instruction is reciprocal teaching, a procedure

in which students are instructed in the following four comprehension-monitoring strategies (1) summarizing; (2) self-questioning; (3) clarifying; and (4) predicting.

Technology-enriched instruction is another effective pedagogy for bilingual learners. This helps connect learning in the classroom to real-life situation, creating a meaningful context for teaching and learning (Means & Olsen, 1994). Examples include the use of web-based picture libraries, multimedia, digitized books, computer networks, and telecommunications. Through internet and other technologies, students can assess information in their native language as well as in their second language.

The instructional approaches described above focus on a student-centered model of classroom instruction. This is aligned to what Glickman (1998, p.52) terms as “democratic pedagogy, which respects the students’ own desire to know, to discuss, to problem solve, and to explore individually and with others, rather than learning that is dictated, determined, and answered by the teacher.” These all-encompassing student centered instructional strategies are research-based and effective for both the language acquisition and academic learning of bilingual learners.

Learner-Centered Environment Reflective of Students’ Culture

Culture is a framework for our lives and provides a paradigm to guide our behavior, find meaning in events, interpret the past and set aspirations. Psychologist Jermone Bruner (1990) says that when a child enters into a group, he/she does so as a participant of a public process where meanings are shared. By participating the child learns the ways of the group. Learning makes the child a member of a group. These “ways of the group” are what we call culture.

As social human beings, we all belong to a group, and all groups have culture. Culture is a part of each individual because it is a part of society (Geertz, 2000). Culture guides children's

behavior and actions. It is of inherent importance to value and respect the culture that bilingual learners bring with them. In doing so, teachers need to be aware of the varied linguistic and cultural backgrounds that students bring to school by reflecting on both their approaches to content and their delivery of instruction.

It is imperative that we provide an optimal learner-centered classroom environment that will break down barriers and increase success. Bilingual learners must be immersed in effective, explicit, and comprehensible input that is closely aligned to the understanding of how students acquire language and knowledge. Because student's interactions with their families and their communities are primarily in their native language, bilingual learners' native language needs to be acknowledged, validated, supported, and extended upon in the classroom. By capitalizing on this wealth of knowledge gained from home experiences and interactions with their family, connections can be established with the students. Additionally, this can be used as a means for planning effective, culturally relevant instruction for the success and achievement of bilingual learners.

Materials that reflect the lives and experiences of the children in the class must be used along with any state-adopted materials (Au, 1993). As children engage with their classroom environment, children begin to internalize, assimilate and understand a variety of processes and procedures that help them thrive. These classroom experiences should focus on tangible, manipulative, and hands-on activities. As children are exposed to positive and engaging communication they begin to make connections with symbols and representations. As these become more and more familiar to children, they begin to develop a sense of security and confidence both in their ability and in their potential. Once children feel secure and able to

function in a classroom, they will connect and expand socially, emotionally, and intellectually. This underpins the fundamental principles of constructivism.

Implications for Successful Bilingual-Biliteracy Development in Content Areas

In order to learn in two languages, bilingual learners need time to process the information received. Therefore, there is a ‘process of transfer’ that must take place. This process of transfer is dynamic and should allow students the opportunity to actively engage with the concepts. As students use their prior knowledge and prior experiences to interact and reformulate concepts into newly expanded or elaborated concepts, they are also attaching new vocabulary to it. During this crucial period of learning, it is important to immerse students in a consistent use of language in order for them to own the new information, the new vocabulary, and the academic language tied to this newly acquired knowledge.

Consequently, teachers must not switch languages while teaching. Concurrent translation has always been discouraged in bilingual programs to avoid students tuning out, to provide effective language modeling, and to protect the status of the other language in the bilingual classroom (Legaretta, 1977; Irujo, 1998). Therefore, if students know that the teacher will translate for them, they will wait for the explanation in the familiar language. This will deter them from focusing on the new language and thus, stifle the learning of the new language. Additionally, consistency in the use of the language of instruction is crucial for bilingual learners. Translations are not permissible and instead other techniques can be used to expand and reformulate their conceptual knowledge. These opportunities can be through the use of thematic units, books, storytelling, concrete examples, manipulatives, sensory and visual/graphic representations.

Once language determinations for the specific content areas have been made, it is important that teachers exercise unwavering consistency in their use of the language of instruction. We must not de-emphasize the importance of a language by providing translations in another. These both lower the expectations and quality of language input and output.

To develop the *other* language, it is important to incorporate a language transfer time in the daily routine. This period of time should provide the students the opportunity to develop vocabulary, academic language and to facilitate the learning in both languages. For example, if the lesson is delivered in English, then the transfer activity needs to be conducted in the other language or vice versa. This phase can be carried on anytime during the day after the lesson is taught, or two or three days later when the students have acquired the concept. This activity should *not* be delivered at the same time of the instruction. The lesson should be taught using only *one* language.

It is important to emphasize that this should not be a type of reteach, repeat or translation, but instead an engagement with vocabulary tied to the newly formulated concept in the *other* language. As students encounter high level, complex, content-specific vocabulary, they need time to process and assimilate the new information into their existing schema as discussed in learning principle #1. Vocabulary is a key factor in second language learner's comprehension (Garcia, 1991; Saville-Troike, 1984) and understanding of new concepts. These opportunities for vocabulary growth are essential for academic learning. Transfer is illustrated in the following Figure 4:

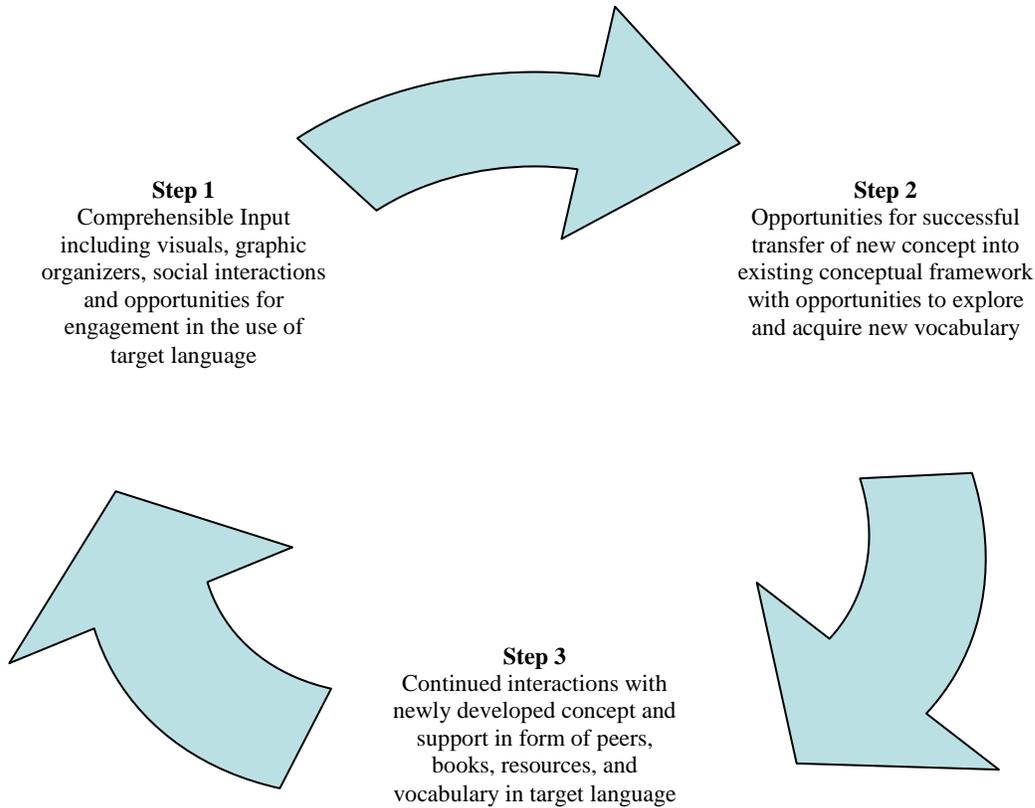


Figure 4. The Transfer Process

Additionally, research has demonstrated that second language learners may comprehend more than they are able to communicate orally in their second language (Garcia, 1991; Moll & Diaz, 1987) and they must be given time to develop it. Growth and development in academic language is supported by effective pedagogy that focuses on consistency of language in content areas and opportunities for effective transfer of concepts. It further supports bilingual learners' cognitive, intellectual, and linguistic growth as proficient bilingual/biliterates. Consequently, the more opportunities to learn language and content in rich, integrated settings, the more successful they will be (Flores, Cousin, & Diaz, 1998).

It is essential to support bilingual learners' language and academic development. The elements of the principles of learning, appropriate pedagogy, contextual interaction theory, student language (L1/L2) proficiency level, and a learner-centered environment can lead to the successful achievement of content literacy for bilingual learners. The framework illustrates both the theory and practical applications that will assist bilingual learners to achieve content literacy. Moreover, through the implementation of effective, strategic and appropriate pedagogy involving opportunities for cooperative engagement and culturally responsive teaching, bilingual learners will achieve both the linguistic and cognitive success necessary to compete and succeed in an increasingly global market.

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