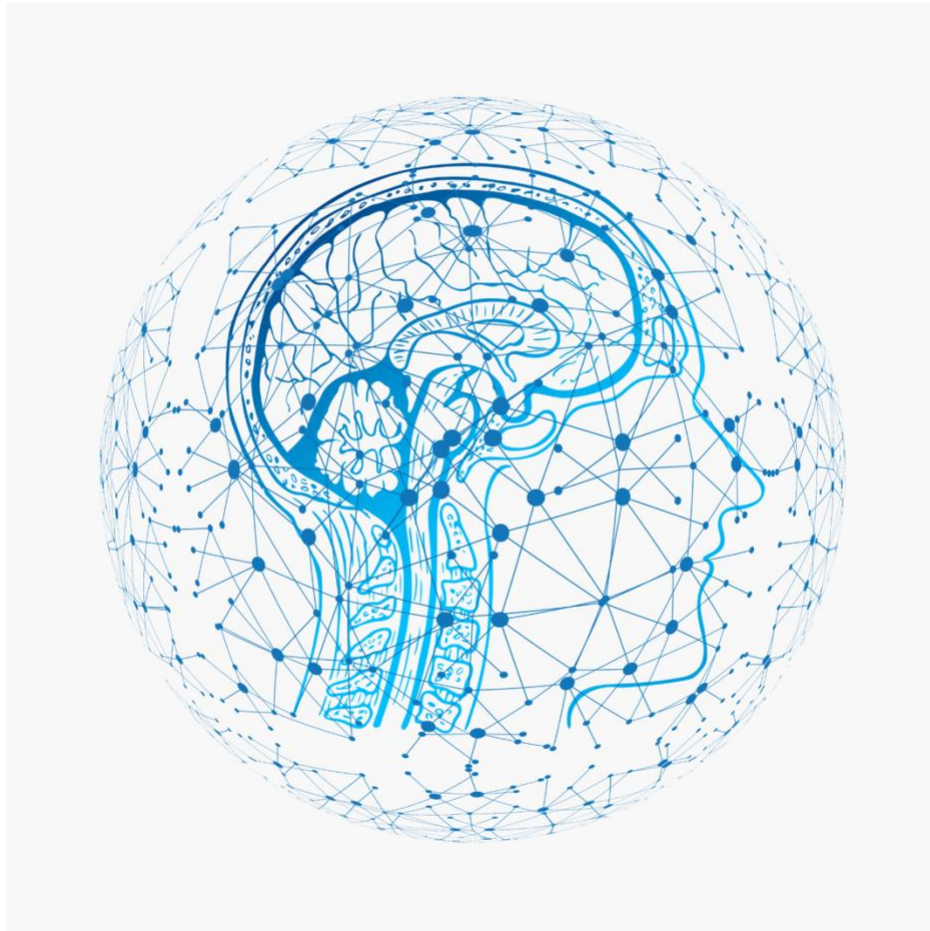


**Authentic Dual Language Learning: It's All About the Brain**  
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## **What is Authentic Bilingualism?**

What is Authentic Bilingualism? The concept, based on the definition of language and a myriad of brain studies, is complex.

Language is the “internal brain neural networking system” (nature) and the external intentional interactive development (nurture) informed by experiences, interaction, culture and the environment to first develop, organize then employ complex systems of communication. Language uses logical structures and real-world references to process, convey and assign meaning to thought and manage and resolve obscurity. (GILD) Authentic bilingualism is the ability to think, assign meaning and communicate proficiently and effectively in two languages.

Neuroscience studies, which focus on authentic dual language development, simultaneously from birth or sequentially during school and adulthood, illustrate how the brain develops and functions using a ‘bilingual brain map’ for immediate as well as life-long learning. However, depending on how, when and the context within which dual language learning occurs the brain architecture for language configures differently. Neuro research examining both simultaneous and sequential authentic bilingualism reveals important differences in brain and dual language development which has instructional implications. Since the goal of Biliteracy is to read and write effectively and proficiently in two languages, educators and parents need to understand these subtle neural distinctions to design educational programs that advance authentic Biliteracy and Bilingualism’s mission.

### **BILINGUALISM AND BILITERACY**

Bilingualism is based on neural plasticity, which facilitates automatic speech sound recognition in two languages. Brain research results indicate that learners developing two languages simultaneously have overlapping neural activation areas and an intertwined phonological system. The intertwined system, which includes neural representations for speech sounds of both languages, is constantly ‘on’. This is true for infants born hearing two languages at the same time or adults who learn a second language in an authentic context. These learners tap an integrated phonological system with overlapping neural activation areas or the same neurological basis for both languages. The outcome is ‘balanced bilingualism’. (1) This allows them to acquire two languages without inhibiting the development of either language. According to The National Academy of Sciences, ‘Promising Futures’ (2017) teaching and learning dual languages simultaneously is optimal for enhancing the neurological foundation to increase vocabulary as well as reading, writing and comprehension (2). As noted by Dr. Laura Ann Pettito, during several fMRI studies, “DLLs who acquire two languages from birth and learn to read in both languages, consistently outperform both monolingual and sequential bilingual learners on the state standardized reading achievement assessment in 3rd grade.” (3)

Contrastingly, DLLs who develop additional languages (L2) within a classroom environment rely on two separate language systems activated by context, quality and quantity of input. Sequential dual language learners modify the neural circuitry already

developed in both the right and left-brain regions for language control. (4) These students utilize two areas of the brain instead of one during the L2 acquisition process. Regardless, sequential DLLs can achieve 'balanced or authentic' bilingualism if certain programmatic and instructional protocols are followed.

### **PROGRAMMATIC ASPECTS LANGUAGE AND LITERACY**

Simultaneous language learners arrive in the classroom with the ability to access two languages while sequential language learners initially navigate their primary language and acquire the second in school. Understanding the different neurological underpinnings of each student group provides educators a unique opportunity to design new language education programs and approaches that foster authentic bilingual and biliteracy.

#### **Program Goals**

The goal for DLLs is to attain full dual language proficiency, comprehension and cognition through reading, writing, speaking and listening 'neurologically' in two languages.

#### **Assessment and Student Profiles**

In order to determine the discreet level of dual language proficiency, a valid and reliable language assessment must be administered, in both languages to both student groups. Once the reading, writing, speaking and listening results in each language is documented, an instructional approach that align with either 'simultaneous or sequential' bilingual program goals can be determined. The assessment results, coupled with in-depth student profiles, distributed to teachers six weeks prior to the beginning of school, can inform initial lesson planning based on an understanding of the linguistic and academic strengths and challenges of individual students as well as the classroom as a whole. Educators are prepared, day one!

### **Instruction QUALITY AND QUANTITY**

Neurological language structures are formed initially in the womb. All children are born with a predisposition for language/s which must be intentionally nurtured at home and in school. Language is pivotal to learning, cognition and comprehension. Therefore, how language is taught needs to be based on how the brain acquires and uses language either simultaneously or sequentially. What do we know? Language must be explicitly taught. Successful dual language programs include an emphasis on the quantity and quality of language used daily in the home, classroom and school. For simultaneous as well as sequential DLLs the amount and type of exposure to both languages is key to building a solid foundation for biliterate proficiency.

Initially, all students need to hear the discreet difference between two language sound systems or the unique articulation of sound/s. At the same time, students need to acquire expansive vocabularies in both languages; identify objects and visual images attributed to

these words, organize grammatical structures in each language, use words and concepts in sentences. Dual language development must focus on learning grade-level content vocabulary in two languages. Content aligned to standards and the dual language levels necessary to support conceptual comprehension is the vehicle for dual language learners to master the language/s and academic knowledge at each grade level and thus attain authentic bilingualism and biliteracy.

A whole school approach in developing linguistic, reading and cognitive skills is recommended. When the entire school is engaged in the overall mission of bilingualism and biliteracy, all educators commit to establishing the goal, organize the instruction and attend the professional training needed to ensure the program is effectively implemented. Collaborating teams, which include all educators, allow them to work together drawing on one another's expertise, monitor progress and suggest changes in a non-threatening environment. Additionally, by working in unison, schools have an opportunity to reimagine education based on brain development such as grouping 5 to 9 yr. old learners in cohorts as opposed to strict grade-level configurations. This instructional approach offers maximum levels of cross-grade expertise for planning and teaching, instructional flexibility and increased exposure for student language interaction.

Parents are key in dual language development for both simultaneous and sequential learners. Simultaneous DLLs begin learning two languages at home by listening and interacting with their parents or primary caregivers in their respective language. Educators can sustain and build on the child's bilingual approach to learning by providing academic content instruction daily in both languages at school. Parents are encouraged to continue the same linguistic interactions with their student at home.

Sequential language learners enter school understanding their primary language and acquire their second language through quality, well-structured, evidence-based and now brain science informed, dual language programs designed for school and home. School based programs need to provide grade-level academic content aligned to state standards, in both languages taught by highly skilled educators trained in dual language development. Parents are encouraged to interact with their learner in the primary language at home while teachers facilitate academic content instruction in the student's primary as well as second language, equally.

Consequently, accountability systems need to change to measure at a deeper and more nuanced level a dual language learners' growth and progress in learning two languages, either simultaneously or sequentially, while mastering conceptual knowledge in each language. New language and content assessments and accountability systems that account for a dual language approach to learning could reveal outstanding results not captured in current measurement systems.

Learning is a life-long process. It doesn't end at the completion of a school year, grade or course. The brain is curious, constantly absorbing new information, analyzing, problem solving, thinking, and comprehending new information. It is time to tap our students'

greatest asset- dual language development and let it shine through authentic bilingualism and biliteracy.

Teach the way the brain learns!

For information how to plan and implement a dual language program with outstanding results, contact: **[kathleenleos@gmail.com](mailto:kathleenleos@gmail.com) or call 202-731-0391**

## References:

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