

INSPIRING LEARNING ENVIRONMENTS FOR DUAL LANGUAGE LEARNERS

“When a flower doesn’t bloom, you fix the environment in which it grows, not the flower.”

Alexander der Heijer

Classroom Design for Optimal Dual Language Learning



Does the environment within which learning occurs impact students throughout their lifetime?

YES! Brain Science underscores the power learning environments have on a students’ eagerness and prowess to learn. Informed educators realize that in addition to specific instructional strategies and stimulating content, the context within which learning transpires also influences learning. How the ‘teaching and learning space’ is designed and organized determines the learners’ ability to process information, acquire knowledge and execute.

Brain development requires a setting that offers stability, predictability, consistency, repetition, flexibility, collaboration, exploration, experimentation, choice, active participation and challenge. The learning space needs to be welcoming, warm, natural, safe and accepting to allow students the opportunity to acquire and apply language and knowledge. “Language acquisition

depends on the linguistic environment of the student and specifically on language input provided through learner-adult communication and interaction” (Tomasello, 2003) (1).

Empirical research states: ALL learning is filtered through a social/emotional neuro-lens as well as experiences and the environment. (2) Beginning with early learning in the home to more formal instruction in the classroom, learning is enhanced by thoughtful and intentional spatial organization which encompasses and expresses its purpose. “Knowledge is acquired through rich physical and social interaction with the environment” (Barsalou, 2008) (3). This interactive exchange relies on a variety of modalities: auditory, visual, sensory, linguistic, and movement which solidifies knowledge by strengthening the neural networks that organize and support learning.

What does an optimal educational setting include?

Historically, typical classrooms, especially in Middle and High School, were desks organized in rows, facing front in a ‘lecture-listen’ format. Most modern classrooms are eliminating this approach to ‘teaching and learning’ for any age student. However, do we understand, why?

Brain development or connecting intricate neurons for thinking and functioning occurs in phases. First the brain’s sensory areas form, followed by language and ultimately cognition. The entire development process spans pre-birth to age 25. The neurological process which produces complex thinking or executive function skills occurs in the upper portion of the brain (Prefrontal Cortex) between the ages of 8-25, and is the last neurological area to mature. Developing learners who are strong readers and creative thinkers requires expertise, time and purposed learning spaces that foster student planning, interaction, flexibility, acceptance, tolerance, risk-taking, informed decision-making, reasoning, analysis, exploration, experimentation, effective communication and delayed immediate gratification to achieve long-term goals.

Additionally, acquiring these attributes are contingent upon building a solid language foundation. The added benefit of dual language development increases each executive function skill critical to navigate a complex society. (4) In order to fully develop multiple languages and executive function skills, simultaneously, new interactive ‘teaching and learning’ environments must be envisioned, designed and operationalized.

What does the ideal 21st century classroom include? According to education neuroscience optimal language and executive function learning settings include the following:



OPTIMAL EDUCATIONAL ENVIRONMENTS

BRAIN BASED CLASSROOMS

Flexible	Stable
Predictable	Consistent
Welcoming	Repetitive
Warm	Challenging
Natural	Experimental
Accepting	Exploratory
Collaborative	Inviting
Open Spaces	Interactive

Studies conducted by design neuroscientist, Dr. Peter Barrett, University of Salford, UK, name six neuro-architectural design elements that significantly impact all student learning.

Color – providing an ample amount of visual stimulation through basic [color](#) on walls, floors and furniture: warmer for younger students and cooler for older students.

Choice – quality of the [furniture in the classroom](#), providing “interesting” and ergonomic tables and chairs for pupils to develop a sense of ownership “This is our classroom!”

Connection – quick access to classrooms and connections with other spaces; wide and clear pathways.

Complexity – greater building area and interior decor that catches attention, in balance with orderliness.

Flexibility – classrooms that accommodate pupils without crowding, furniture that can be rearranged for a variety of activities and teaching approaches.

Light – quality and quantity of natural light, and degree of control with the level of lighting (5).

Essentially, an optimal learning space for ANY age student, is open, nurturing yet challenging. Researchers recommend a minimalist approach with soft natural lighting, uncluttered walls, movable tables and comfortable chairs and cushions, access to outdoor spaces, plants, minimal décor, carpets with materials and supplies that encourage students to learn ‘how to learn’ and apply their knowledge. Spatial arrangements that facilitate maximum linguistic and academic interaction with teachers, adults and peers using sensory input, exploration, movement, language and multiple language development, reading, writing and technology, expedite the learning process.

Ideally, educators assigned to any grade level provide students “hands-on experiential learning using real world events with activities that reflect a students’ life experiences. Curriculum across all content areas is

integrated and aligned with the language and content concepts and standards for each grade and language level. Assessment strategies (output) reflect instructional input. In short, educational spaces that foster “active student involvement and accountability through.....

- Collaboration
- Creation of an enriching experience
- Feeling comfortable to participate
- Focus
- In-class feedback
- Opportunity to engage
- Physical movement
- Real-life scenarios
- Repeated exposure to the material through multiple means
- Stimulation” (6)..... reinforce brain-based learning!

The changes outlined briefly in this article may be difficult for current educational institutions to implement. However, the 21st century student and the challenges they encounter daily, require educators to examine not only what content is offered but the context within which it is delivered.

Start by imagining a ‘theater’ black box or empty venue and then begin by staging it with an understanding of the audience—the student, content requirements, language demands and the academic goal. By designing optimal learning spaces for the brain to acquire knowledge, we Teach the Way the Brain Learns!

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CITATIONS

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