Interdisciplinary biliteracy: Leveraging biliteracy development for all bilingual learners

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In the U.S., bilingualism is becoming the norm, as it is around the world, and bilingual students represent a very significant segment of schools’ demographics. Among all U.S. students, 11% are classified by the school system as English learners (Batalova and McHugh, 2010; Gandara and Escamilla, 2017; NCES, 2017). There is an urgency to develop effective approaches to teach bilingual learners that address students’ linguistic and cultural diversity while providing the opportunity to develop bilingualism and biliteracy. Interdisciplinary biliteracy is a way to leverage students’ bilingualism and validate their linguistic and cultural backgrounds as resources for learning.

**Disciplinary Literacy**

Shanahan and Shanahan (2012) defined disciplinary literacy as related to the specifics of reading, writing, and communicating in a discipline. That is, developing disciplinary literacy requires focusing on the ways of thinking, the skills, and the tools that are used by experts in the disciplines. However, more meaningful ways of learning derive from learning across content areas as opposed to learning about each content area in isolation. This can be achieved through an interdisciplinary curriculum. Farrar and Al-Qattan (2010) explain.

Classrooms that are designed to reflect an interdisciplinary perspective allow for a variety of teaching and learning venues that accommodate learners in individual work, small group work, and whole class instruction. The architecture guides a flow of activities that support the linguistic, psychological, cognitive, social, and critical functions of language and literacy.

Developing disciplinary literacy also requires that students understand and effectively use the specific forms of oral and written communication that vary from subject to subject. From a practitioner’s perspective, Conley (2012) discusses a series of principles to develop disciplinary literacy: a) create opportunities for collaboration through interdisciplinary curricular
language units of exploratory learning; b) provide students with multiple opportunities for practice of the four language domains (listening, speaking, reading, and writing); c) focus student attention on words and patterns as they read and write about or discuss content they are learning; d) teach students to become critical thinkers by evaluating each other's contributions about particular content or evidence presented on their investigations (Musanti and Mercuri, 2016).

A curriculum that is interdisciplinary in nature presents content, skills, thinking processes, and assessments through exploring connections among the disciplines. This interdisciplinary approach accelerates the developing of biliteracy in dual-language programs.

**Defining Biliteracy**

When bilingual students develop literacy skills in either of their two languages, this development positively contributes to the growth of their literacy skills in the other language (Manyak, 2006; Reyes, 2012). Recent research has shown the strong and fluid relationship between bilinguals' individual languages and how they dynamically use them in different contexts, including the school and classroom context. This understanding challenges the strict separation of languages that is still reinforced as the result of monolingual language ideologies that perpetuate English as the main language for instruction (García, 2014). Biliteracy development should become the norm for teaching, learning, and assessing students' achievement.

This is only possible if all stakeholders (administrators, teachers, families, students, and the community) embrace a holistic and dynamic view of biliteracy development, acknowledging bilingual learners' new and complex linguistic repertoire is a product of the continuum of two languages that intersect in multiple dimensions (García, 2009; Durkin, 2003; Hornberger, 2004). Biliteracy is an ongoing, flexible, and dynamic process that bilinguals experience as they engage in using both languages to communicate, make meaning from printed text, and represent their knowledge in multiple ways. It is important that bilingual teachers understand that biliteracy skills do not develop in unison and that students' trajectories through biliteracy development differ depending, among other sociocultural and psychological factors, on their experiences and opportunities to use and interact with languages (Bauer and Gort, 2012).

In practice, well-implemented dual-language programs strive to provide teachers and students with opportunities for biliteracy to develop through intentional planning and hybrid spaces where languages are strategically used. This allows students to better understand how their languages are similar or different and to reach high levels of academic achievement. Drawing from the notion of the zone of proximal development (Vygostky, 1978) and the gradual release of responsibility model (Pearson and Gallagher, 1983), initial explicit instruction that...
establishes comparisons across languages, scaffold language, and conceptual transfer are important to move students from depending on the teacher to make those connections to being able to do it on their own. With this in mind, cross-linguistic opportunities in phonology, morphology, syntax, and grammar pragmatics should happen every day, when possible, to facilitate the transfer of skills. Several researchers and practitioners have discussed the concept of transfer and label it in different ways, from “the bridge” (Beeman and Urwo, 2013) to contrastive analysis, metalanguage (Escamilla et al., 2014), and metalinguistic awareness (Mercuri, Musanti, and Rodríguez, forthcoming). Metalinguistic awareness is strategic and intentional discussion that happens in hybrid preplanned spaces where students have the opportunity to analyze language structures in both minority and majority languages side by side at the phonology, morphology, grammar, syntax, semantics, and pragmatics levels. This type of activity is exploratory in nature, and the teacher functions as the moderator of the discussion while the students discuss the language structures or vocabulary provided for comparison.

Interdisciplinary Biliteracy

Interdisciplinary biliteracy is a dynamic and holistic process in which literacy practices are intertwined and enacted across content areas. That means that in the process of planning, teaching, and learning interdisciplinary units of inquiry, literacy skills are developed through language intersection, affording students the opportunity to draw from their complex and whole linguistic repertoire in English and the minority language. In the context of a balanced literacy approach, teachers working with bilingual learners create spaces to establish cross-linguistic connections, to develop metalinguistic awareness, and to use both languages as resources for learning. Drawing from content-based instruction and the gradual release of responsibility model for literacy instruction, an interdisciplinary biliteracy approach includes:

• Planning for biliteracy where languages are used to access and produce knowledge in multiple directions based on students’ competencies;
• Teaching reading and writing in the dominant and target languages with scaffolds;
• Providing spaces for oral language development where the two languages could be used to deepen understanding of content;
• Discussing similarities and differences between the linguistic features of the languages of instruction strategically;
• Using language, learning about language, and talking about language (Halliday, 1981).

The following figure shows the intersecting nature of the development of biliteracy. The interdisciplinary biliteracy perspective grows from the understanding of biliteracy as a multidirectional and holistic process in which reading and writing are used to access and produce knowledge within and across the two languages of instruction and metalinguistic connections are strategically designed to facilitate language transfer, skills development, and content learning across the two languages of instruction.

Figure 1.1. Learning content through literacy and interdisciplinary and cross-linguistic connections

One pedagogical framework that opens space for cross-linguistic connection and the development of metalinguistic awareness is the preview-view-review structure. This is a three-step structure that facilitates language learning and supports language transfer. In the first step, preview, concepts are introduced and discussed in the minority language; in the second step, view, students work with those concepts in the target language; and in the third step, review, students review the concepts in the minority language to summarize, clarify, and ask questions (Mercuri, 2015; Freeman, Freeman, and Mercuri, 2018).

Interdisciplinary Biliteracy in the First Grade

As we enter Ms. Yadira’s first-grade dual-language classroom, we are welcomed by a rambunctious group of young students interested in learning about maps. Yadira has been teaching for several years and has a deep understanding of the importance of integration. Like any other bilingual teacher in a dual-language context, Yadira capitalizes on the students’ dominant language as a tool for teaching and learning. For social studies, Yadira has intentionally planned to use the two languages in order to strategically create opportunities for biliteracy to develop. Below are a series of linguistic scaffolds Yadira uses to provide opportunities for her students’ interdisciplinary biliteracy development through a conscious implementation of the preview-view-review structure during a series of lessons.

The preview: Even though Yadira plans with her grade-level team, she sets aside time to plan a mini-lesson in Spanish—the preview—in order to build students’ background knowledge so they will be successful during the social studies lesson that, by program model, is offered in English—the view. During the preview, she plans for literacy approaches such as a picture walk to help her record concepts, including students’ contributions, on a graphic organizer for future use. The purpose of this graphic organizer is twofold: a) to collect ideas about the topic of study and b) to target Spanish academic-language development through the introduction and discussion of key terms and pictures to enhance comprehension. The preview ends with a brief review of nouns, as most of the terms discussed are nouns. Strategically, Yadira plans this activity to later come back and complete the graph with the English vocabulary through cross-linguistic connections during the English lesson.

The view: For biliteracy to develop, language, literacy, and content should be intertwined in every lesson with the necessary scaffolds to make input comprehensible for emergent bilingual students. Yadira demonstrates literacy-content integration by doing an interactive read-aloud of the book Getting Around Town. While this is a social studies lesson, she also includes book-handling strategies, and concepts of print are discussed or reviewed during the reading about maps. In addition, text-to-self and text-to-world connections are drawn. To assure that students make connections across the two languages of instruction at the content academic level, Yadira selects different pages of the reading for discussing key vocabulary in English as she and her students complete the side-by-side content-specific vocabulary graphic organizer initiated during...
After the vocabulary has been discussed, the class focuses on contextualized word studies and oral and written conventions by revisiting the concept of nouns reviewed during Spanish time and identifying nouns in the English text. Yadira helps students divide the new vocabulary into categories and supports them in drawing interlinguistic connections by discovering that nouns are categorized similarly in both Spanish and English.

After the read-aloud, students move to their small groups to analyze different types of maps. Yadira helps the class write a collaborative expository text on how maps help people find places or provide different information, such as weather maps. Students discuss with their partners in either English or Spanish; the text is written in English since the teacher is the scribe and models for students the English discourse patterns. The possibility provided to students to use both of their languages to access, discuss, or demonstrate knowledge, with teacher support or independently, is a signature of the interdisciplinary biliteracy we propose.

The review: Furthermore, since Yadira wants to extend her students’ understanding of plurals, she addresses plurals using examples of the nouns ending in /s/ in both Spanish and English from the co-constructed graphic organizer. During this activity, the discussion happens in Spanish. The students, guided by their teacher, discuss similarities and differences between plurals with /s/ in English and Spanish. For example: “map/maps and mapa/mapsas”.

As they discuss these terms, Yadira asks students to come to the front of the class and highlight the patterns that they have discovered with their partners about these words. This thoughtful planning for strategic integration of English and Spanish to support biliteracy development in a social studies lesson illustrates one possible approach to design instruction in an interdisciplinary manner; purposefully creating spaces where teachers can engage students in talking about languages in meaningful ways. Research has demonstrated that students transfer information and skills bidirectionally as they emerge as readers and writers (Bauer and Gort, 2012; Escamilla et al, 2014). Across the elementary grades, teachers can create supportive learning experiences in which students can read, write, and represent knowledge in different ways across disciplines and using their whole linguistic repertoire.

References available at www.languagemagazine.com/references_interdisciplinary_biliteracy

Dr. Mercuri is an Educational Consultant and published author in the areas of second language acquisition, dual language education and curriculum integration for biliteracy development. Dr. Mercuri presents at national and international conferences and provides professional development on academic biliteracy, language transfer and strategies to support emergent bilinguals across the curriculum.

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