BILINGUAL EDUCATION AND CONTENT AND LANGUAGE INTEGRATED LEARNING (CLIL):

Research and its classroom implications

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CLIL programs have demonstrated their effectiveness in promoting second language skills at no cost to students' proficiency in the dominant school language. Students' bilingual abilities can be enhanced when teachers encourage them to look for connections between their two languages.

The term bilingual education refers to an organized and planned program that uses two (or more) languages of instruction. The central defining feature of bilingual programs is that the languages are used to teach subject matter content rather than just the languages themselves. Within the European context, the term Content and Language Integrated Learning (CLIL), is frequently used to refer to bilingual programs that typically teach one or more subjects through a second language, usually for less than 50 percent of the instructional time. Bilingual instruction can be implemented at any grade or age level, ranging from pre-school through university. Bilingual education can be traced back to Greek and Roman times and currently a large majority of countries throughout the world offer some form of bilingual education either in public or private school settings (Baker, 2001; Cummins & Hornberger, 2008; Harris & Ó Duibhir, 2011).

The goals of bilingual programs vary widely across contexts. Some programs aim to promote bilingualism and biliteracy among students from the majority social group (e.g., Spanish speakers in Spain) by using a second language (e.g., English) as a partial medium of instruction. A prominent example of this type of *enrichment bilingual* program can be found in Canadian French immersion programs where French is used as a medium of instruction for much of the school day in the early grades of school in order to enable the majority group of English-L1 speakers to acquire fluency in French. These programs have been implemented across Canada since the 1960s and have been extensively evaluated through research.

Other programs are directed at students from linguistic minority groups with the goal of enabling them to maintain their home languages and also develop strong skills in the majority language of the society. In the United States, for example, *maintenance bilingual programs* use both Spanish and English to develop bilingualism and biliteracy among Spanish-L1 students. In other cases, the focus of policy-makers is to revive and normalize languages that are perceived to be threatened by a dominant societal language. Bilingual programs operating in Catalonia and the Basque Autonomous Community in Spain fall into this category.

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Some programs include both majority and minority group students in the same program. For example, *dual language programs* in the United States frequently include both Spanish-L1 and English-L1 students in the same bilingual program with the goal of developing strong skills in both languages among both groups.

In many contexts where bilingual programs have been implemented, parents and teachers have initially had concerns about the effects of teaching students through a second language. For example, in a bilingual program that spends 50% or the time through Spanish and 50% of the time through English, Spanish language instruction is reduced by half. Will this reduced instruction through Spanish result in less learning of Spanish? There have also been concerns about the learning of subject matter content taught through the weaker language. If students' knowledge of English, for example, is minimal when they start the bilingual program, how can they acquire curriculum content that is taught through English?

Fortunately, extensive research conducted on the outcomes of bilingual education in contexts around the world show clearly that these concerns are unfounded. This research has shown that well-implemented bilingual programs are highly effective in developing strong second language (L2) skills at no cost either to students' abilities in the dominant language or their knowledge of curriculum content taught through the L2 (Cummins & Hornberger, 2008; Huguet, Lasagabaster, & Vila, 2008).

In this paper, I discuss three major aspects of bilingual programs: (1) What are the academic outcomes of bilingual programs with respect to students' performance in both languages and in content subjects? (2) How do we explain the fact that students in bilingual programs perform as well in the majority language despite considerably reduced instructional time through that language? (3) What instructional directions show most promise for increasing the benefits of bilingual education for all students?

Definitions

Bilingual education	Refers to the use of two (or more) languages of instruction at some point in a student's school career. Each language is used as a medium of instruction to teach subject matter content rather than just the language itself.
Second language (L2) immersion	A form of planned bilingual education that uses L2 for more than 50% of the instructional time for at least one year of instruction.
Content and Language Integrated Learning (CLIL)	A form of planned bilingual education that uses L2 for less than 50% of instructional time for at least one year of instruction.

Outcomes of bilingual programs

A finding common to all forms of bilingual education is that spending instructional time through two languages entails no long-term negative effects on students' academic development in the majority language. This pattern emerges among both majority and minority language students, across widely varying sociolinguistic and sociopolitical contexts, and in bilingual programs with very different organizational structures.

Types of Bilingual Education

Enrichment versus remedial programs
Enrichment programs aim to enrich students' educational experience by strongly promoting bilingualism and biliteracy. *Remedial programs*, by contrast, aim to remediate or compensate for minority students' lack of proficiency in the school language and typically use students' L1 only on a short-term basis.

Maintenance versus transitional programs
Maintenance programs aim to help minority students maintain and develop their proficiency in their home language while *transitional programs* are designed as a temporary bridge to instruction exclusively through the dominant language of the school and society.

Students in bilingual programs also perform considerably better in the target or second language than students who are taught this language only as a school subject. This pattern can be illustrated by the findings of Canadian French immersion programs. Lambert and Tucker (1972), who carried out the first major evaluation of a French immersion program in the Montreal area, reported that by grade 4 it was no longer possible to use the same French test to compare students in the immersion program with those in the French-as-a-second language program (30 minutes per day of French taught as a subject) because the differences in proficiency were so great.

However, the positive findings regarding the growth of proficiency in the target language need to be qualified because receptive skills (listening and reading) tend to be much better developed than productive skills (speaking and writing) (see Gallardo del Puerto and Martínez Adrián, this issue). In the case of French immersion, by grade 6 students are close to the level of native French speakers in understanding and reading French but there are significant gaps between them and native speakers in spoken and written French. The gap is particularly evident with respect to accuracy of grammar and range of vocabulary knowledge and use.

These gaps are clearly related to the restricted input that students receive in French. There is typically minimal contact or interaction with French speakers outside the school context and very few students read for pleasure in French. After the initial grades, reading in French tends to be primarily textbook reading, which is typically not particularly engaging for students. Thus, there are few opportunities for students to extend their exposure to French and expand their knowledge of vocabulary and grammar. Writing also tends to be carried out only within the school context and applied to academic tasks that are often not highly engaging for students.

In other bilingual educational contexts where there is greater exposure to the target language, better outcomes might be observed with respect to productive use of the language. This is particularly the case where English is the target language as a result of the prominence of English in popular culture (movies, music,

etc.) which is likely to result in greater motivation to learn the language as well as greater informal exposure to the language.

Research carried out on CLIL programs in the European context reports similarly positive outcomes with respect to both achievement in the target languages and absence of any negative effects on students' academic development in their L1 (Dalton-Puffer, 2007; Lasagabaster & Ruiz de Zarobe, 2010; Lorenzo, Casal, & Moore. 2010; Gallardo del Puerto & Martínez Adrián, this issue; Reilly, this issue). Bruton (2011) has criticized some of this research on the grounds that the comparison of CLIL and non-CLIL groups may have entailed selection bias because students from higher socioeconomic backgrounds and with better initial English skills were more likely to have enrolled in CLIL programs. He also points out that the presence of native-speaker classroom assistants in the CLIL programs but not in the non-CLIL programs further invalidates the comparison. Finally, he raises concern that CLIL programs may be fostering a certain educational elitism with students who do not enter CLIL programs reduced to a second-class status, at least as far as language instruction is concerned.

Bruton's (2011) concerns about the dangers of creating elite cohorts within schools echo similar concerns that have been raised at various stages in relation to French immersion programs in Canada. These concerns merit serious consideration but they are addressed somewhat by the evaluation of the Bilingual Education Project (BEP) implemented initially in forty-four primary schools in Spain by the Ministry of Education and the British Council (Dobson, Murillo & Johnstone, 2010). As discussed by Reilly (this issue), the BEP adopted a whole school approach in which all students in the grade levels where BEP was being implemented received instruction through both languages. This ensured that all students in the school had the same opportunity, regardless of socio-economic or other circumstances. All schools were in the state system and reflected a wide range of socioeconomic backgrounds. Approximately 40% of the instruction was carried out through English.

What Groups of Students Participate in Bilingual Programs?

- *Students from the dominant or majority social group.* The goal is to enable students to develop bilingual and biliteracy skills.
- *Students from nationally-recognized minority or indigenous groups.* Typically these programs are intended to either maintain or revitalize the minority language.
- *Students who come from immigrant communities.* Most of these programs are transitional and remedial in nature with the primary goal of supporting students' academic development in the majority language.
- *Students who are deaf or hard-of-hearing.* These programs use a natural sign language as a medium of instruction together with the dominant language of the society, frequently with a focus on the written form of this language.

The BEP did not carry out widespread comparisons of academic performance between BEP and non-BEP schools. However, the sixteen separate research studies it conducted provide a detailed account of students' progress and how students, parents, teachers and school administrators perceived the program. The overall conclusion of the evaluation with respect to student attainment is as follows:

> Taking all of this together, we discern a strongly positive picture and conclude that the majority of students are gaining much from their bilingual education. They are reaching commendable levels of attainment, in their everyday classroom performance (Studies 1 & 3), their spoken English (Study 6), their written English (Study 7), their written Spanish (Study 8), and also in the [Cambridge International General Certificate of Secondary Education] examination (Study 9) (p. 142).

The one direct comparison between BEP and non-BEP students focused on Spanish writing and involved secondary level students who had participated in BEP at the primary level. The results indicated stronger L1 writing performance for students who had participated in BEP:

> The performance of the students in the BEP groups was clearly stronger than that of those in the non-BEP groups. It would be reasonable to conclude that the BEP experience has not been detrimental to the Spanish of the students involved and that indeed there are grounds for considering that it may have been beneficial when compared with non-BEP students (p. 79).

In conclusion, the findings of research into CLIL in the European context are highly consistent with the broader set of international findings on bilingual education. Students generally perform significantly better in the minority (target) language than those taught in traditional second language programs and this enhanced proficiency in L2 is attained at no cost to L1 or mastery of subject matter content.

The role of cross-linguistic transfer

The fact that students who receive less instruction through the majority language perform at least as well as similar students who have received most of their instruction through that language suggests that transfer across languages is occurring within bilingual programs. This *interdependence hypothesis* (Cummins, 1979) is supported by a wide range of research showing strong correlations across languages among students who are becoming bilingual and biliterate.

In concrete terms, what the interdependence hypothesis means is that in, for example, a Spanish-English bilingual program in Spain, English instruction that develops English reading and writing skills is not just developing English skills, it is also developing a

deeper conceptual and linguistic proficiency that is strongly related to the development of literacy in the majority language (Spanish). In other words, although the surface aspects (e.g., pronunciation, fluency, etc.) of different languages are clearly separate, there is an underlying conceptual ability, or knowledge base, that is common across languages. This common underlying proficiency makes possible the transfer of concepts, literacy skills, and learning strategies from one language to another. Research demonstrates that this pattern is evident even for languages that are dissimilar (e.g., American Sign Language and English, Basque and Spanish, English and Chinese) (e.g., Chuang, Joshi and Dixon, 2012). The transfer of skills, strategies, and knowledge explains why spending instructional time through a minority language entails no adverse consequences for the development of the majority language.

We can identity four major types of cross-linguistic transfer:

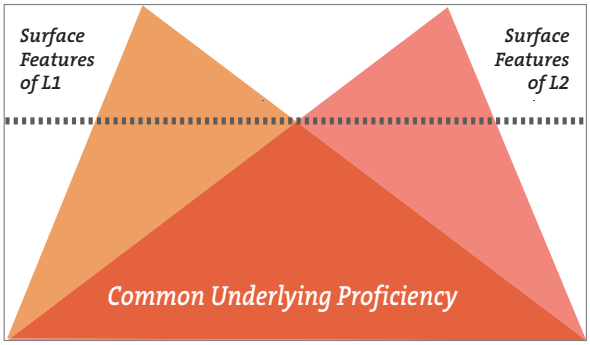
- Transfer of conceptual elements (e.g., understanding the concept of photosynthesis);
- Transfer of specific linguistic elements (knowledge of the meaning of *photo* in *photosynthesis*);
- Transfer of phonological awareness —the knowledge that words are composed of distinct sounds.
- Transfer of learning strategies (e.g., strategies for acquiring vocabulary, organizing knowledge, mnemonic devices, etc.).

Summary

There is remarkable consistency in the outcomes of bilingual programs implemented for both majority and minority language students in many parts of the world. The findings of thousands of research studies conducted under widely varying sociolinguistic conditions show that well-implemented bilingual programs promote strong oral and written language skills in the minority or target language at no cost to students' proficiency in the majority language. As a means of teaching second languages (e.g., English in Spain), bilingual programs produce levels of proficiency that are far superior to those typically obtained in more traditional second language programs that teach the language only as a school subject. However, as noted by Gallardo del Puerto and Martínez Adrián (this issue), there are still significant gaps in target language proficiency between students in bilingual and CLIL programs as compared to native speakers of the language.

This absence of any negative effects on students' proficiency in the dominant school language can be explained by the fact that literacy-related skills and knowledge can be transferred across languages. Thus, if students have learned how to tell the time in one language, they already know that there are sixty seconds in a minute and 60 minutes in an hour and don't need to be re-taught this information in the other. They obviously need the vocabulary in the other language to express this knowledge but the concepts are already there. Similarly, students who have been taught the concept of *photosynthesis* in one language don't need to be taught this concept all over again in the other language. However, students' understanding of the concept can be reinforced by reviewing it in the other language.

The Dual Iceberg representation of bilingual proficiency



From an instructional perspective, an important implication of the research on cross-linguistic transfer is that learning efficiencies can be achieved if teachers explicitly draw their students' attention to similarities and differences between their languages and reinforce effective learning strategies in a coordinated way across languages. This instructional implication represents a change from some of the early assumptions within bilingual education. Initially, in programs such as the French immersion programs in Canada, teachers were advised to maintain a rigid separation between the two languages in order to avoid interference between them. This erroneous belief is now changing. The benefits of teaching for cross-linguistic transfer across languages far outweigh any short-term interference that might occur. These benefits include greater awareness of similarities and differences in the two languages, deeper understanding of curriculum content as a result of reinforcement across languages, and the ability for students to showcase their growing identities as bilinguals who can use two languages in socially and intellectually powerful ways.

References

Baker, C. (2001). *Foundations of bilingual education and bilingualism*. 3rd Edition. Clevedon, England: Multilingual Matters.

Bruton, A. (2011). "Are the differences between CLIL and non-CLIL groups in Andalusia due to CLIL?". A reply to Lorenzo, Casal and Moore (2010). *Applied Linguistics, 32,* 236-241.

Chuang, H-K., Malatesha, J., and Dixon, L. Q. (2012). "Ninth-grade adolescents' cross-language transfer of reading ability: Evidence from Taiwanese". *Journal of Literacy Research, 44*, 97-119.

Cummins, J. (1979). "Linguistic interdependence and the educational development of bilingual children". *Review of Educational Research*, *49*, 222-251.

Cummins, J., and Hornberger, N. H. (eds.). (2008). *Encyclopedia of Language and Education,* 2nd Edition, Volume 5: *Bilingual Education.* New York: Springer Science + Business Media LLC.

Dalton-Puffer, C. (2007). *Discourse in Content and Language Integrated (CLIL) Classrooms*. John Benjamins.

teachers' forum

As they learn a second language within a bilingual program, students are constantly making connections between their two languages. Among the ways that teachers can nurture this learning strategy and make it more efficient are the following:

- Draw students' attention to cognate relationships across languages. English and Spanish, for example, share an extensive common vocabulary due to the influence of Latin (and Greek) on both languages (e.g., *encounter — encontrar*).
- Expand students' language awareness by explaining to them some basic realities about the nature of the English language; for example, the English words that have cognate relationships with Spanish tend to be used in more formal or literate contexts but they have synonyms that tend to be used in everyday face-to-face situations (e.g., *meet — encounter*).
- Coordinate the teaching of reading, writing, and content across both languages in order to facilitate transfer. For example, principles of effective writing (e.g., paragraph formation) are very similar across Spanish and English and can be reinforced when taught first in one language and revisited in the other. Similarly, reading strategies (e.g., predicting what might happen in a text) can be reinforced across languages.
- Provide explicit corrective feedback to students that highlights differences between their L1 and L2 in grammatical structures and conventions (e.g., question formation in written language), pronunciation, spelling, etc.
- Engage students in cross-linguistic projects such as the production and web-publication of dual-language stories. Examples of this instructional strategy are the Dual Language Showcase [http://www.thornwoodps.ca/dual/index.htm] in the Canadian context, and the Scoil Mhuire website [http://www.conventprimaryroscommon.ie/gallery/G07.html] in the Irish context.
- Use the Internet to initiate joint projects with partner classes who share the languages being taught in the bilingual program (e.g., English-L1 and Spanish-L1 students in a Spanish-English dual language program in the United States). Students could carry out research or inquiry into social or scientific phenomena that are relevant to their lives and the school curriculum and publish their findings in both languages on the school web site that would be accessible to parents and others who might be interested.

Dobson, A., Pérez Murillo, M. D., and Johnstone, R., (2010). *Bilingual Education Project Spain Evaluation Report: Findings of the independent evaluation of the Bilingual Education Project Ministry of Education (Spain) and British Council (Spain).* Madrid: Ministry of Education (Spain) and British Council (Spain) (available at http://www.britishcouncil.org/spain/sites/default/files/pdfs/bep-ingles.pdf).

Harris, J., and Ó Duibhir, P. (2011). *Effective language teaching: a synthesis of research*. Dublin: National Council for Curriculum and Assessment.

Huguet, A., Lasagabaster, D., and Vila, I. (2008). "Bilingual education in Spain: Present realities and future challenges". In J. Cummins and N. H. Hornberger (eds.), *Encyclopedia of Language and Education,* 2nd Edition, Volume 5: *Bilingual Education.* (225-237). New York: Springer Science + Business Media LLC.

Lambert, W. E., and Tucker, G. R. (1972). *Bilingual education of children. The St. Lambert experiment*. Rowley, MA: Newbury House.

Lasagabaster, D., and Ruiz de Zarobe, Y. (eds.). (2010). *CLIL in Spain: Implementation, Results and Teacher Training.* Cambridge: Cambridge Scholars Publishing.

Lorenzo, F., Casal, S., and Moore, P. (2010). "The effects of content and language integrated learning in European education: Key findings from the Andalusian sections evaluation project". *Applied Linguistics*, 31, 418-442. ■

para saber más

- Ada, A. F., y Baker, C. (2001). *Guía para padres y maestros de niños bilingües*. Bristol: Multilingual Matters.
- Baker, C. (2011). *Foundations of bilingual education and bilingualism* (5th ed.). Bristol: Multilingual Matters.
- Ó'Duibhir, P., and Cummins, J. (2012). *Towards an integrated language curriculum in early childhood and primary education (3-12 years)*. Research report number 16. Dublin: National Council for Curriculum and Assessment. Available at: http://www.ncca.ie/en/Curriculum_and_Assessment/Early_Childhood_and_Primary_Education/Primary_School_Curriculum/Language_Curriculum_Research_Reports_/

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