Content-Based Instruction (CBI): Towards the integration of both content and language in content courses

Instrucción Basada en Contenido (IBC): Hacia la Integración del Contenido y el Idioma en Cursos de Contenido

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Resumen

Esta revisión de literatura examina las diferentes investigaciones empíricas sobre la orientación de las prácticas pedagógicas de docentes basadas en el contenido en niveles de educación primaria, secundaria y universitaria en diferentes contextos académicos. Para lograr el objetivo de esta revisión, los investigadores consultaron la investigación empírica disponible en artículos publicados. Se revisaron trece artículos de investigación empírica. De estos, dos artículos se enfocaban en la investigación empírica llevada a cabo en el nivel elemental, cinco eran sobre investigaciones empíricas llevadas a cabo en el nivel secundario y seis en el nivel universitario. Los resultados muestran que, independientemente del nivel de la escuela, lugar y contexto, los maestros que aplican la instrucción basada en el contenido tienen una fuerte orientación al contenido mientras que la atención a la lengua es casi inexistente. Basándose en estos resultados, se podría decir que los maestros no están logrando alcanzar un equilibrio entre contenido y lenguaje en los cursos basados en contenido. Es necesario lograr un balance en este tipo de cursos según lo sugerido por los investigadores de una segunda lengua debido a las oportunidades que este enfoque ofrece para que estudiantes de una segunda lengua puedan corregir su producción oral y escrita, evitar incorrecciones morfológicas y sintácticas en la lengua, así como desarrollar la precisión en

su vocabulario y gramática. Se vuelve necesario un llamado para contrarrestar lo que está ocurriendo en cursos basados en contenidos.

Abstract

This literature review examines the different empirical researches on the orientation of content-based teachers' pedagogical practices across elementary, secondary and university levels from different school contexts. To attain the objective of this review, the researcher consulted empirical research available in published articles. Thirteen empirical research articles were reviewed. Out of these, two articles were about empirical research carried out at the elementary level, five were about empirical research carried out at the secondary level and six at the university level. The results showed that, independently of the school level, place and context, content-based teachers hold a strong orientation to content while attention to language is almost non-existent. Based on these results, it can be said that teachers are falling short on balancing content and language in CBI courses. Balance is necessary in CBI courses as suggested by L2 researchers due to the opportunities it provides for students to correct their oral and written language production, avoid morphological and syntactic inaccuracies in the target language as well as to develop precision in their vocabulary and grammar. A call for counterbalancing what is actually happening in content-based courses becomes necessary.

Introduction

Content-based courses have contributed, theoretically, empirically and psychologically to the overall development of L2 proficiency and academic skills of learners (Pica, 2002). Research findings in Content-Based Instruction (CBI) and second language (L2) learning have revealed that learners participating in this type of courses are able to communicate effectively in the target language. However, their grammatical accuracy is lower when compared to that of native speakers of the target language (Ranta & Lyster, 2007; Swain, 1996). Moreover, research in different CBI contexts (Lyster, 2007; Swain, 1996; Hoare & Kong, 2008; Södegard, 2008) has revealed that the orientation of pedagogical practices of CBI teachers in these types of contexts might have had a negative impact on students' L2 development. One of the most common teaching practices that has been reported as generating a negative impact on students' language development is the little attention to language (Arias & Izquierdo, 2015). For example, it was found that "a great deal of attention is paid to the students' understanding of content and little time is left to focus on language" (Burger & Chrétien, 2001, p. 98). This might explain CBI students' low grammatical accuracy.

Research reports that little or no attention to language hinders students' language progress. So far, research findings on CBI teachers' pedagogical practices that might hinder students' language development have been reported, as expected, separately. Nonetheless, one might wonder if these teaching practices are similar or different across the different education contexts: elementary, secondary and undergraduate levels.

This review study compared the orientation of CBI teachers' pedagogical practices that have been reported as hindering CBI students' language progress across three different educational levels: elementary, secondary and undergraduate levels.

The research question that was formulated for this study is the following:

What is the orientation of the instructional practices of teachers teaching Content-Based courses in elementary, secondary and tertiary educational levels across different contexts?

In order to answer the research questions, a review study was conducted. The organization of this paper is as follows: section one reviews theoretical and empirical evidence on Content-Based Instruction. Basically, this section presents information related to the definition of CBI, benefits CBI provides to students participating in this type of instruction as well as CBI strengths

and shortcomings. Section two presents the design and the context of this study. Section three presents the results, and section four presents the discussions of this review.

Theoretical Framework

Definition of Content-based Instruction

The vast array of research yielding empirical evidence on the effectiveness of CBI (Lyster, 2007); the pressure on educational systems to provide education that helps students develop the skills to function competently in a L2 at international contexts (Dalton-Puffer, 2007) as well as the (CBI) flexibility to adapt to the needs of local communities (Lyster, 2007) have made this L2 learning option innovative enough as to catch attention of governments, education authorities and all language practitioners. In search of a definition, two standpoints are essential.

Some researchers (Day-Shapson, 2001; Bostwick, 2001) agree that CBI refers to educational settings in which the target language is used to deliver subject content in a natural and meaningful way, just simulating the way learners learned their first language (L1). Fernández (2009) indicates that "In CBI, content teaching puts the emphasis on communicating information, not on the language used" (p. 13). Other researchers (Schleppegrell, Achugar & Orteíza, 2004; Burger-Chrétien, 2001; Corrales & Maloof, 2009; Snow, Met & Genesee, 1989) define CBI as a combination of disciplinary and language learning. In other words, "subject matter is used at least some of the time as a means for providing second language learners with enriched opportunities for processing and negotiating the target language through content" (Lyster, 2007, p. 1). These two positions defining CBI vary in the degree of emphasis put on either language or content. This difference between the two positions has caused some tensions and even conflicts (Dalton-Puffer, 2007).

Psychological/Pedagogical Foundations of CBI

It has been found that learners participating in the different CBI programs are benefitted pedagogically, socially and psychologically (Tedick & Cammarata, 2012; Bae, 2007; Lazaruk, 2007). The most important benefits are academic achievement, first language literacy, and additive bilingualism, among others. Regarding academic achievement, researchers agree that immersion students experience no delay in their academic achievement when compared to peers exposed to *mainstream programs* in which subject matter learning takes place in the L1 (Tedick & Cammarata, 2012; Ranta & Lyster, 2007; Bostwick, 2001). Additionally, learners studying in immersion programs develop L1 literacy on par with learners attending to *mainstream programs* (Corrales & Maloof, 2009; Bae, 2007; Genesee, 2007; Lightbown, 2007; Bostwick, 2001; McDonald, 1997).

Concerning social benefits, Lyster (2007) and Lazaruk (2007) claim that immersion students develop additive rather than subtractive bilingualism. Additive bilingualism is the ability of students to function proficiently in both their L1 and L2 (Genesee, 2001). Lyster (2007) has reported another social benefit: "students perceive less social distance between themselves and native speakers, and develop more positive attitudes towards the second language and its native speakers" (p. 13). Lazaruk (2007) adds that bilingual children are highly sensitive to verbal and no-verbal cues, and pay more attention to their listeners' need. Lastly, CBI programs yield cognitive benefits too. In a study of intelligence in bilingual and monolingual children carried out by Peal and Lambert (1962), they concluded that bilingual children show more mental flexibility, superiority in concept formation and diversified thinking (as cited in Lazaruk, 2007, p. 617). Research has also shown that CBI learners have as many (and in some instances even more) benefits as students exposed to traditional L2 teaching classrooms (Corrales & Maloof, 2009, p. 17), as confirmed by the strengths shown in the coming section.

Strengths of Content-Based Instruction

Students participating in CBI programs outperform students in traditional ones in a good number of aspects of the language: they develop high level of fluency, proficiency and vocabulary; CBI students develop native-like proficiency in receptive skills. To begin with, learners participating in immersion programs "develop high levels of communicative fluency" (Swain, 1996, p. 531) as well as functional proficiency in the target language (Day & Shapson, 2001;

Burger, 1989). Bostwick (2001) shares this view: "students are able to communicate their thoughts" (p. 296). Lyster (2007) is even more emphatic claiming that immersion students are relatively fluent and effective communicators. Moreover, Knell *et al*. (2007) found that learners enrolled in an early English immersion programme in a Chinese primary school scored higher than non-immersion learners "on the English word recognition, vocabulary, and oral language measures" (p. 408). Research in one-way and two-way immersion programs focused on linguistic benefits have yielded similar results (Bae, 2007; Potowski, 2004; Bostwick, 2001).

Regarding receptive skills, immersion students are on par with non-immersion ones. In a study conducted in bilingual education of children in Japan, Bostwick (2001) concluded that the listening comprehension skill was the students' strongest skill. Similarly, Burger and Chrétien (2001) state that research on the effectiveness of CBI has consistently shown that students make gains in their L2 receptive skills: listening and reading. Snow and Brinton (1988) also reported language gains in reading among students participating in an adjunct course at the University of California Los Angeles. On the whole, CBI programs help learners to improve different aspects of the target language; nonetheless, there is still room for improvement, as the different shortcomings, to be soon discussed, attest.

Shortcomings of Content-Based Instruction

CBI is not the panacea for all language problems. Limitations such as not target-like productive skills, morphological and syntactic inaccuracies, vocabulary problems among others are the subject matter in here. Södegard (2008) highlights that the productive skills of immersion students are not on a par with their receptive skills. Ranta and Lyster (2007) add that the oral and written production skills of French students in Canadian immersion programs, "while comparable to French speakers of the same age" (p. 142) remain non-targetlike. Swain (1996) is even more emphatic about the immersion students' problems: "their spoken and written use of the target language often contains morphological and syntactic inaccuracies, lacks precision in vocabulary use" (p. 531). Moreover, Ranta and Lyster (2007) report that immersion students are "nonidiomatic in their lexical choices and pragmatic expressions" (p. 143).

Even more, Lightbown (2007) states that a major difference between one way and dual-immersion programs is that, in one-way immersion, students are deprived from the opportunity to learn the target language that is "typical of the group's age" (p. 16). It has also been found that there are major gaps in immersion students' oral and written grammar. Thus, oral and written grammar have been identified as of paramount importance if education in immersion contexts is to be improved (Day-Shapson, 2001). Similarly, Spezzini (2005), Ranta and Lyster (2007) and Bae (2007) report inconsistencies in immersion students' grammatical accuracy.

Thus, if CBI is to keep evolving and improving, then, knowing about the shortcomings is not enough; instead, research and teachers need to take a closer look at the sources of the L2 learning shortcoming, so that suggestions for improvement can be proposed.

Shortcoming Sources and Pedagogical Suggestions

Various and different CBI shortcomings sources have been reported, such as teachers' pedagogical orientation where teachers pay more attention to meaning than form, lack of interaction with native speakers of the target language, and lack of feedback, among others. In several studies conducted in immersion programs in Canada (Lyster, 2007; Swain, 1996), it was found that, in CBI contexts, teachers tend to place more emphasis on the subject matter content while neglecting the linguistic features, and, in doing so, teaching falls short in maximizing L2 learning (Lyster, 2007). Likewise, Cummings (1998) claims that problematic qualities of writing of French as an L2 in French immersion programs are due to "lack of interaction with native Francophone students" (as cited in Bae, 2007, p. 301).

Similarly, Lightbown (2007) states that students in both second and FL learning situations "have limited exposure to proficient speakers" (p. 15). Furthermore, the teacher is commonly the only proficient speaker of the target language (Tarone & Swain as cited in Lightbown, 2007, p. 16). Moreover, Swain (1996) reports that, in immersion classrooms, the teacher is the main source of input which becomes a serious problem when, in his discourse, the teachers does not use "the fully functional range of particular linguistics features" (p. 531).

Besides, Allen *et al*. (1990) reported that "the corrective feedback students received from the teacher was infrequent and confusing" (as cited in Ranta & Lyster, 2007, p. 144). In visits to immersion classrooms, Swain (1996) confirms Allen's *et al*. finding "only 19 % of the grammatical

errors students made were corrected, while the remainder were ignored" (p. 536). Likewise, in a study focused on the role of subject matter content in L2 learning, Pica (2002) found out that "the majority of students' nontarget utterances were unaddressed in any direct way" (pp. 8-9). Finally, Swain (1999) also reported that immersion students she observed did not get enough opportunities for using the target language.

Through a literature review, this study has the purpose of comparing and examining the orientation of teachers' pedagogical practices in content-based courses across different levels and contexts. Thus, the research question is:

What is the orientation of the instructional practices of teachers teaching Content-Based courses in elementary, secondary and tertiary educational levels across different contexts?

Methodology

To answer the research questions, a review of empirical research results was carried out. This study was based on empirical studies published in articles from worldwide well-known journals. All of the articles used in these studies were published in these journals: *AILA Review*, *JICB*, *The Canadian Modern Language Review*, *The Modern Language Journal*, *International Journal or Education and Research*.

Material

The articles used in this study were published from 1996 to 2016. The original idea was to use articles published from 2007 to 2017. However, due to the researcher's limited access to empirical studies articles in elementary school contexts, in the end, the decision was made to include the only two studies available for the elementary school contexts (1999 & 1996). This decision opens the possibility to include findings from years going back to 1996 in secondary and university levels.

First, a compilation of as many available articles as possible was necessary. The criteria to select these articles, at this stage, was only one: empirical research articles examining teachers' teaching practices in CBI contexts; the total number of articles compiled was 50 articles. After this compilation, a classification stage was necessary. In this stage, the researcher classified these 50 articles in two categories: category one was about articles that inform about CBI orientation of

teachers' pedagogical practices during content-based instruction lessons. The second category was about articles that inform about other aspects of CBI that were not related to the orientation of teachers' pedagogical practices.

The total number of articles under category one was thirteen and under category two was 37. For the purpose of this study, only the articles under category one (thirteen articles) were useful as they were directly related to the research questions of this study. Then, the researcher proceeded to classify these thirteen articles under three categories. In category one were the articles about research that were carried out at CBI elementary levels; under category two were the articles that were carried out at CBI secondary levels; and in category three articles at university levels. Out of these articles, two were about lessons in elementary level, five about secondary level and six about university levels.

Procedures

In each of these articles, the result section was consulted and paragraphs or sentences that inform about the predominant orientation of teachers' pedagogical practices were extracted and inserted in a matrix. The results are presented in the next section.

Results

In this section, the results derived from the review of the research articles from elementary, secondary and university levels will be presented first in tabular form followed by an explanation of data shown in the Table 1.

Table 1. Results of the Orientation of CBI Teachers' Pedagogical Practices from the reviewed articles

Level	Number or Research Articles Consulted	Content Oriented	Language Oriented
Elementary Level	2	2	0
Secondary Level	5	4	1
University Level	6	5	1
	Total= 13	Total= 11	Total= 2

Source: Own elaboration

Out of the thirteen researches consulted in the articles, eleven of them reported teachers' orientation to content and only two reported orientation to language features. See details below.

Elementary Level

From the articles reviewed at the elementary levels, two out of two reported that the pedagogical orientation of CBI teachers was focused on content as attested by the excerpt extracted from the articles.

1) "There was considerable content teaching that occurred where little or no attention was paid to the accuracy of students' target language use" (Swain, 1999, p. 47).

2) "Our observation in immersion classrooms suggest that there is a lot of content teaching that occurs where little or no attention is paid to students' target language use" (Swain, 1996, p. 530).

Secondary Level

The results obtained from the articles at the level of secondary schools reveal very similar results. From the five articles reviewed, four of them reported that teachers focused on content during CBI lessons and only one reported the teacher's attention to both content and language. We insert the excerpts below.

1) "The more complex content-related language used in Lessons 2A&B, contrasting with the extensive practising of known non-academic language in Lesson 1" (Kong & Hoare, 2011, p. 321).

2) "Throughout the lesson, there is no focus on specific language forms. The new English which the class acquires appears to be incidental, unplanned and unexploited rather than drawn purposely from the content" (Hoare, 2010, p. 82).

3) "Lesson 1 exhibits a strong focus on content…Lesson 2 is also content-focused…Lesson 3 is similar to Lesson 2 in terms of content focus…Lessons… 4 give very little focus to language forms explicitly" (Kong, 2009, p. 237).

4) "We found that teachers had few strategies for working with grade-level texts in ways that could provide ELLs [English Language Learners] with access to the meanings expressed in the history texts" (Schleppegrell *et al.*, 2004, p. 76).

5) "Very little explicit attention was paid overtly to text structures and vocabulary that students read, heard or were asked to produce" (Duff, 2001, p. 121).

University Level

Regarding the university level, from the six articles reviewed, results in five of them reported teachers' orientation to content, while only one reported the teacher's pedagogical orientation to both content and language.

1) "The results of the analysis of 401 class episodes showed that the observed teachers did not systematically integrate language attention through content learning" (Arias & Izquierdo, 2015, p. 209).

2) "The lecturers expected their students to accomplish complex physics meanings with language but they do not seem to think it is their job to teach this language" (Airey, 2012, p. 74).

3) "overall, language is surely seen as secondary in importance to content, we are certainly still a long way away from a balance between language and content objectives" (Costa, p. 42).

4) "This means that the experts in the field to some extent shared their conceptions of (good)language use with their students, and in this sense integrated language to the content classes, even if learning English was not an official aim" (Hynninen, 2012, p. 23).

5) "In the present study, more such activities focusing on form might have improved the performance of those students" (Rodgers, 2006, p. 384).

6) "Many of the students' nontarget utterances appeared in long texts without any teacher intervention at all" (Pica, 2002, pp. 14-15).

Considering this, the results of this review show that CBI teachers have a strong orientation to content and an almost non-existent language orientation.

Discussion

The focus of the present study was the pedagogical orientation of ESL teachers teaching content-based courses. This is important in SLA, since it was found that an exclusive focus on content leads to problems in students' language development (Lyster, 2007; Swain, 1999). Moreover, a balanced integration of content and language in CBI leads students to a more successful language learning than an exclusive focus on either content or language (Lyster, 2007; Schleppegrell *et al*., 2004). Our research question was: *What is the orientation of the instructional practices of teachers teaching Content-Based courses in elementary, secondary and tertiary educational levels across different contexts?*

In the current study, we found that teachers were strongly oriented to meaning, so we cannot assume that students are having enough opportunities to improve aspects of language such as form, function, discourse or sociolinguistic within the rich content-oriented contexts they are exposed to. Although L2 researchers (Ranta & Lyster, 2007; Lyster & Mori, 2006; Swain, 1996) clearly state that a balance of meaning and language is necessary to help students correct their oral and written language production, avoid morphological and syntactic inaccuracies in the target language, as well as to develop precision in their vocabulary and grammar, this review showed that teachers are falling short in achieving this meaning-language balance.

In order to attain this balance, CB teachers need to counter-balance what is currently happening in their classrooms. In order to counterbalance, teachers can make use of Lyster and Mori's (2006) counter-balance hypothesis:

> Instructional activities and interactional feedback that act as a counterbalance to the predominant communicative orientation of a given classroom setting will be more facilitative of interlanguage restructuring than instructional activities and interactional feedback that are congruent with the predominant communicative orientation (Lyster & Mori, 2006, p. 294).

Lyster and Mori (2006) explain that the counterbalance hypothesis can be applied in two different contexts: "the effort extended to shift attentional focus from form to meaning in a form-oriented context and from meaning to form in a meaning-oriented context" (p. 294). Hence, according to this hypothesis, counterbalance means that, in the case of CBI contexts where the focus is on content, teachers need to shift students' attention from content to language. This is predicted to help students to make changes in their actual language use (Lyster & Mori, 2006). One way to achieve counterbalance is by form-focused instruction (Lyster, 2007).

According to Spada (1997), form-focused instruction refers to "any pedagogical effort, which is used to draw the learners' attention to language form either implicitly or explicitly" (as cited in Lyster, 2007, p. 43). Form-focused instruction can be implemented in a proactive and reactive fashion. In a proactive way, a teacher pre-plans activities to direct students' attention to the target language feature the teacher wants them to notice. In a reactive way, a teacher directs students' attention to language features in an unplanned and spontaneous way (Lyster, 2007).

Conclusion

This review of the literature aimed at finding out if CBI teachers favoured a meaning or a language orientation across the different educational levels: elementary, secondary, and university levels. Most of the time, teachers were only concerned with the content of the lessons they were teaching, say, meaning oriented. This review has just touched the tip of the iceberg, empirical research is needed across the different education levels and with different contexts and clientele where CBI is being implemented all over the world, so that CBI teachers can make a more informed decision on how best take advantage of this ideal context to help their students reach their fullest potential as language learners.

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