

# ***El giro pedagógico en la investigación sobre la transferencia interlingüística: Repensando las hipótesis de interdependencia y del umbral lingüístico***

## ***The pedagogical turn in the research on cross-language transfer: Re-thinking the Language Interdependence and the Language Threshold Hypotheses***

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DOI: 10.17398/1988-8430.23.1.201

Recibido el 20 de octubre de 2014  
Aprobado el 11 de noviembre de 2015

**Resumen.** Este artículo contrapone los dos posicionamientos opuestos que encontramos en la literatura sobre las hipótesis de interdependencia y la del umbral lingüístico en el campo de la adquisición de segundas lenguas y la enseñanza de lenguas extranjeras. El artículo resume primero la interpretación ortodoxa de estos dos conceptos, junto con sus consecuencias prácticas y teóricas. Después se describe el rasgo más distintivo del modelo alternativo de Jim Cummins: su énfasis en la dimensión pedagógica y en el impacto que ésta tiene en la transferencia interlingüística. Según este modelo alternativo, la naturaleza y la calidad de la exposición a la L2 (no el tiempo de exposición o el nivel L2 del estudiante) sería el factor más determinante en el grado de transferencia conseguida. Esta dimensión pedagógica se expone mediante tres niveles de análisis diferentes, a los que acompañan dos estudios concretos que aportan evidencia empírica. En la última sección se introduce la hipótesis de un Umbral pedagógico como un desarrollo lógico de las ideas ya expuestas.

**Palabras clave:** transferencia interlingüística; hipótesis de interdependencia lingüística; hipótesis del umbral lingüístico; adquisición de segundas lenguas; enseñanza de lenguas extranjeras; didáctica de la lengua.

**Abstract:** This article dwells on the opposing alignments that can be found in the literature on the Linguistic Interdependence (LIH) and Linguistic Threshold (LTH) hypotheses, in the field of second language acquisition and foreign language education. First, the prevailing, orthodox rendition of these two concepts is

examined briefly, together with its theoretical and practical consequences. After this, the most distinctive characteristic of Jim Cummins's alternative framework is described, i.e., its emphasis on the *pedagogical dimension* and on its impact on cross-language transfer. According to this view, the quality and nature of the exposure to L2 (not time-exposure or student L2 level) would be the most significant factor vis-à-vis the degree of language transfer generated. This pedagogical dimension is explained in terms of three different levels of analysis, and two concrete studies are described, as experimental evidence. In the last section, a Pedagogical Threshold Hypothesis is finally presented as a logical development of the ideas exposed.

**Keywords:** cross-language transfer; linguistic interdependence hypothesis; linguistic threshold hypothesis; second language acquisition; foreign language education; language pedagogy.

# 1. Introduction

In the field of second language acquisition and foreign language education, cross-language transfer has generally been conceptualized through the Linguistic Interdependence hypothesis (LIH) and the Linguistic Threshold hypothesis (LTH) (Chuang, Joshi and Dixon, 2012; Figueredo, 2006; Jimenez, Siegel, O'Shanahan and Mazabel, 2012; Nikolov and Csapo, 2010; Sotoca-Sienes, 2014; Simon-Cerejido and Gutierrez-Clellen, 2009; Vandergrift, 2006; Yamashita, 2007, among others). The LIH argues that linguistic abilities displayed in one language may be transferred to the use of a different one as long as certain conditions are met (Cummins, 2005a; Huget-Canalis, 2009). This thesis is normally accompanied by the LTH, which assumes that L2 level (either in a second or a foreign language) is the most important single enabling/disabling condition for this kind of transfer to occur, i.e., that a L2 language threshold must be attained before cross-language transfer can take place. As a result, the LTH and the LIH are frequently considered inseparable, and the LIH made dependent on student L2 language level.

This understanding may safely be seen as the orthodox interpretation of the LIH and LTH, and is normally complemented by two additional assumptions: (1) the *time-on-task* or maximum exposure hypothesis, which argues that time exposure is the most important single factor for improving language level and, thus, also for cross-language transfer to take place (e.g. Porter, 1990); and (2) the belief that cross-language transfer occurs, and should be assessed, only in relation to reading, writing, speaking, and listening skills. Together, these ideas greatly influence the theory and practice of L2 education (including trends in the policy), and they have characterized the theoretical and methodological underpinnings of most of the research on the LTH and the LIH. For example, Chuang, Joshi and

Dixon (2012) and Jiménez, Siegel, O’Shanahan and Mazabel (2012) recently investigated and confirmed the impact of L1 reading proficiency on L2 reading, hence of cross-lingual transfer in relation to reading. Likewise, Nikolov and Csapo (2010: 315) analyzed how cross-linguistic transfer occurred across different skills (reading, listening and writing) and concluded that “relationships between L2 skills proved to be stronger than those between L1 and L2 as well as between L1 skills”. Yamashita (2007) also ascertained L1 – L2 reading transfer but found no language threshold beyond which transfer intensified. And finally, Vandergrift (2006) detected traces of positive transfer in relation to the listening skill.

This article is partly conceived as a reaction against the orthodox interpretation of the LIH and the LTH, as displayed by the studies above. It is motivated by the impression that, blinded by the LTH and by its emphasis on the importance of L2 level (and on time exposure being the best way to improve it), most theoretical and applied approaches to the LIH have given little or no credit to the *pedagogical dimension*—i.e., to the quality and nature of the exposures to L2. This dimension includes the instructional variables which language teachers may take into account to improve their practice. I will argue that lack of attention to the pedagogical dimension has become translated into the implicit belief that cross-linguistic transfer is independent from (or not affected by) the quality and nature of instruction, as is betrayed by the fact that none of the above studies focus on pedagogy as a significant factor for cross-language transfer. Alderson (1984: 5) summarized this position back in 1984 by suggesting that “if there is a strong transfer of reading strategies from one language to the next [i.e., if the LIH is proven right], then one might most efficiently teach reading strategies in the first language, and expect them to transfer *automatically* to the foreign language” (original emphasis). He made no mention to how language teaching should take place, or to the way L2 teachers should respond to the sociocultural and interactional variables in the classroom. This tendency contains today, and as a result, the area of SL and FL

teaching has for the most part remained disconnected from the LIH and the LTH, and failed to integrate them as significant concepts for its theory and its practice. As Horberger and Link (2012: 267) have recently reminded us, “Cummins’s (1979) groundbreaking proposal of the developmental interdependence and threshold hypotheses laid the theoretical ground for what remains a central tenet in scholarship on bilingualism (if not, sadly, in educational practice)”.

Indeed, diametrically opposed to this orthodox stand (and thus representative of the alternative which I wish to investigate) Jim Cummins (2000: 39) put forward the idea that the LIH by itself “does not imply [...] that transfer of literacy and academic language knowledge will happen *automatically*; there is usually also a need for formal instruction in the target language to realize the benefits of cross-linguistic transfer”. When read together, Alderson’s and Cummins’s words illustrate in a very clear manner the opposing postures which can be found in LIH and LTH research. More recently, Cummins’s growing focus on the pedagogical dimension resulted in the claim that instructors could actually *teach for transfer* (Cummins, 2007; 2012), i.e., that certain language pedagogies promoted interdependence and cross-language transfer more than others. This line of reasoning has started to produce evidence through experiments conducted by Cummins himself (Cummins et. al 2005) or by other researchers inspired by his findings, like Creese and Blackledge (2010), Huguet-Canalis (2009), Moore (2013), Hornberger and Link (2014), or He (2011), who contrasted L1 (Chinese) and L2 (English) pedagogies used in Hong Kong secondary schools to evaluate their potential to generate cross-linguistic transfer.

In line with the results yielded by these studies, this article will conclude that the quality and nature of L2 exposure affords the most significant factor for cross-linguistic transfer, and furthermore that the negative impact on language transfer assigned to low L2 levels and/or low magnitudes of L2 exposure can be overcome if L2 teachers reach a certain threshold of pedagogical adequacy in their language lessons.

This perspective implies a *Pedagogical Threshold Hypothesis* (PTH) that questions the privileged role that two quantitative variables like the LTH and the time-on-task assumption have played in the research on cross-linguistic transfer.

## **2. Cummins's pedagogical interpretation of cross-language transfer**

Let me start by quoting Cummins (1980: 122) original definition of the LIH, which he has used from then on:

*To the extent that instruction in L<sub>x</sub> is effective in promoting proficiency in L<sub>x</sub>, transfer of this proficiency to L<sub>y</sub> will occur provided there is adequate exposure to L<sub>y</sub> (either in school or environment) and adequate motivation to learn L<sub>y</sub>.*

Cummins' early research, published during the late 1970s and early 1980s, incorporated many of the theoretical developments which his work would unfold during the next three decades, and hence anticipates the theoretical shifts which ended up placing his approach in radical opposition to the orthodox framework. By articulating the theoretical nucleus of Cummins's (1980) hypothesis, this article wishes to identify in an abstract form the main conceptual elements in his design.

### **2.1. From L1 - L2 Transfer to L<sub>x</sub> – L<sub>y</sub> Transfer**

Actually, the first point worth addressing is that Cummins's (1980) rendition of the LIH dispensed of the L1 and L2 dichotomy altogether by substituting the abstract L<sub>x</sub>/L<sub>y</sub> opposition in its stead. He did so despite the fact that most of his research had been, and still is, conducted in SL education contexts, as afforded for example by the societies of Canada and the United States. The only way to understand this decision is to complement it with a hypothesis which Cummins

(1979a) developed in parallel to the LIH, and which endorsed the existence of *different areas of common underlying proficiency* (CUP). This thesis was significant for affirming a dynamics of reciprocal enrichment, related to specific areas of proficiency, between the different languages that students were exposed to, no matter which these were (Cummins, 1980: 131; Riches and Genesee, 2006: 65). These premises ended up organizing themselves into the following argument: given the evidence of underlying linguistic strategies for determined areas of language proficiency, these common strategies could be exercised and improved through instruction in any given language (L1, L2, L3...). In other words: provided that some conditions were respected—i.e., adequate motivation and adequate exposure—, students' L2 would benefit from instruction in L1, and vice versa.

Apart from lending itself to many significant developments, this understanding of the LIH and the different areas of CUP built a solid argument against the *time-on-task* or *maximum exposure hypothesis* (Rossel and Baker, 1996), which still determines most of the decisions having to do with language policy. From the moment when it postulated that adequate instruction in L1 could also promote ability in certain areas of L2 proficiency, and vice versa, more flexible articulations between L2 time exposure and L2 ability could be devised, as the reader will have the chance to see below.

## **2.2. From Language Skills to Common Underlying Proficiencies**

In addition, Cummins found reasons not to conceive the traditional language skills as the *locus* where cross-transfer took place. Deep below the surface of language skills and determining them throughout, Cummins (1980: 112) originally identified two different areas of *common underlying proficiency* (CUP), which he called BICS and CALP:

I prefer to use the term ‘cognitive/academic language proficiency’ (CALP) [...] to refer to the dimension of language proficiency that is related to literacy skills. BICS [Basic Interpersonal Communicative Skills] refers to cognitively undemanding manifestations of language proficiency in interpersonal situations.

CALP and BICS consisted of separate sets of linguistic competencies or abilities that remained active in, and determined learning and development of, any given language which students were exposed to (Cummins, 1991). As a result, transfer was conceived as a phenomenon which always remained internal and restricted to each of these specific areas of proficiency; in other words, there were two distinct linguistic frameworks in relation to which cross-language transfer occurred.

Research on the areas of CUP has evolved, however, and while it remains true that CALP allows for more obvious transfer than BICS, since “at deeper levels of conceptual and academic functioning there is considerable overlap or interdependence across languages. Conceptual knowledge developed in one language helps to make input in the other language comprehensible” (Cummins, 2000: 39)—research led especially by Gonzalez (1989) and Cummins et al. (1984) soon convinced Cummins of the possibility that conversational fluency might also undergo transfer as long as certain pedagogical provisos were observed. Yet not even then was the matter definitively settled. In Cummins (2005) the BICS/CALP distinction was broken into five more specific types: transfer of conceptual elements, of meta-cognitive and metalinguistic strategies, of pragmatic aspects of language use, of specific linguistic elements, and of phonological awareness. And even more recently, Cummins, Brown, and Sayers (2007: 50) added a new area of common proficiency, the knowledge of which could also transfer from one language to another. I am referring to *discrete language skills*, which involved “the learning of rule-governed aspects of language (including phonology, grammar,



and spelling) where acquisition of the general case permits generalization to other instances by that particular rule”. Insofar as it did not deal with the the transfer of cognitive skills as much as with the knowledge of concrete linguistic aspects, this kind of transfer would be partly contingent on the degree of similarity between the languages involved (Riches and Genesee, 2006: 66; Ringbom, 2007). At the end of the day, listening, speaking, reading and writing skills should be dealt with as external manifestations through which cross-language transfer (or interdependence) in either CALP, BICS, or discrete language skills may or may not manifest itself, but not as the actual meaningful agents of transfer.

### **2.3. A qualitative focus on cross-language transfer: the Pedagogical Adequacy of Language Instruction**

Cummins’s (1980) original formulation of the LIH included two provisos—adequate exposure and adequate motivation—which any language educational situation had to respect if cross-linguistic transfer was to take place. Through these two conditions, Cummins’s entire framework for language education not only opened itself up to the pedagogical dimension (since adequate exposure and motivation are factors which the teachers can control), but it actually implied that the quality and nature of language instruction might be the major determinant for cross-linguistic transfer. In turn, this idea involved downplaying the relevance of the other two quantitative factors which the orthodox reading of the LIH and the LTH had traditionally focused on: L2 student level and time exposure to L2. Undoubtedly, providing criticism of the time-on-task or maximum exposure hypothesis may be regarded as Cummins’s main battlefield. As it has already been said, this hypothesis affirms that there is a “direct relation between the amount of time spent through English [L2] instruction and academic development in English [L2]” (2000: 188), an idea which still figures as a commonsense assumption among many language educators and researchers and within concrete educational

policies. The fact that Cummins so firmly opposed the time-on-task hypothesis already suggests that the quantitative aspects of exposure were not the most significant ones vis-à-vis language transfer—though it would be ridiculous not to acknowledge that certain minimum exposure is required for learning and language transfer to occur. Quantitative exposure is a necessary yet insufficient requirement, and by no means the most important.

From a historical perspective, the relative impact of time exposure on cross-language transfer was borne out by, for example, Verhoeven (1991), Ramírez (1992), Thomas and Collier (1995), Kraschen (1996), and Reyes (2001). All these studies showed that students who had received adequate pedagogical instruction in their L1 and L2 developed higher L2 academic proficiency than other individuals who had been more exposed, time-wise, to the L2. In the case of Verhoeven (1991) and Ramírez (1992), for example, “transfer across languages of conceptual knowledge and academic skills (such as learning and reading strategies) compensate[d] for the reduced instructional time through the majority language” (Cummins, 2000: 186). Within the US context, Ramírez (1992) and Reyes (2001) showed that Latino students who, apart from their English lessons, received sustained academic instruction in Spanish (their minority L1) ended up developing better academic skills in English than other minority-language students who had been directly, or quickly, removed to mainstream English classrooms (as happens with immersion, or early exit, programs) and who thus received all, or nearly all, their instruction in their L2. There had thus been an “inverse relation between exposure to English [L2] instruction and English achievement for Latino students”, Ramírez (1992) concluded (cited in Cummins, 2000: 198). Students who had been more exposed to English had not necessarily displayed the highest level of English proficiency. In line with this idea, Krashen (2014: 192) made the point that “controlled studies consistently show that children in properly organized bilingual classes acquire at least as much English as those

in all-English classes and usually acquire more”, hence showing the relative significance of the time-on-task variable.

### **3. Teaching for cross-linguistic transfer**

It is essential now for this article to settle how adequate exposure (either in school or the environment) and adequate motivation are to be understood if language teachers are to turn their L2 classrooms (both SL and FL) into transfer-friendly contexts. This section will address this issue from three different levels of analysis, each of which was developed by Cummins as an organic development of the others. The argument will move from the general to the concrete, and questions will be used to introduce each specific level of inquiry. First I will discuss the more abstract pedagogical principles; second, how these principles become adapted to L2 language education; and third, how these L2 principles finally turn into practical strategies for the L2 classroom. The first level of pedagogical inquiry can be introduced through the following question.

#### **3.1. Which general principles provide the adequacy of exposure needed to enhance language transfer?**

Interestingly enough, Cummins’s first response to this question was to resort directly to the mainstream of contemporary psychological and pedagogical thought (Cummins, 2000; 2012; Cummins, Brown, and Sayers, 2007). This gesture merits analysis, since it runs against the tendency generally displayed by SL and FL education. It implies that, rather than embracing “specific approaches, methods, procedures, and techniques,” all of which derive from “theories about the nature of language and language learning” (Richards and Rodgers, 1986: 16), Cummins engages socio-constructivist and transformative frameworks elaborated by Vygotsky, Dewey, Freire, and many others after them. His writings continually

dialogue with North-American critical pedagogues, as well as educational innovative projects such as the *multiliteracies project*, advanced by the New London Group. Common to all these pedagogical frameworks is the insistence on the need for instruction to offer students the opportunity to build on their own experiences and cognitive schemata to attain the academic goals. The integration of affect and cognitive engagement is central to all of them, which means that this integration works independently of any specific area of learning. Thus, instead of conceiving SL and FL education as detached from mainstream pedagogies—as is normally done on account of the distinctness of their common goal (mastering a L2) vis-à-vis the aims of other areas of knowledge—, Cummins’s suggestion is that SL/FL language instructors should better devote all their imagination and intelligence to satisfying the general demands put forward by Social-constructivist and transformative pedagogies, since this general focus would also fulfill the specific preconditions for activating cross-linguistic transfer. In line with this argument, Genesee and Riches (2006: 140) also suggested that “a comprehensive and coherent plan for [L2] instruction calls for more than specific techniques and methods, be they interactive or direct in nature. Educators need comprehensive frameworks for planning and delivering a whole curriculum”. The next sections will show how this idea may become translated into practice.

### **3.2. How can these general pedagogical principles lead to specific principles for L2 language pedagogy?**

The answer to this question (which introduces the second level of pedagogical analysis) is no other than by engaging students both affectively and cognitively during the L2 learning process (Cummins, Brown, Sayers, 2007: 216-223; Cummins, 2012). This would involve the paradoxical operation of having to respect and affirm students’ familiar cognitive and experiential schemata—which includes their L1 and culture—as well as the need to negotiate a careful transition that

enabled them to move beyond it, so as to generate new knowledge and acquire new skills and competencies in a L2. According to Cummins (1984; 2000; 2007; 2012), simultaneous with the latter development, the students' identity would become both affirmed and expanded as they began to understand the wider social picture they form part of, the action steps needed to become better educated individuals inside this social environment, and also more capable of transforming it.

Indeed, one of Cummins's most important merits lies in how he adapted general pedagogical orientations to the particular context of SL education, to come up with the principles listed below. They should be conceived along a continuum (- / +), the more positive versions of which would show a better adoption of this pedagogical framework:

- *The extent to which students' language and cultural background are affirmed and promoted within the school [...];*
- *The extent to which culturally diverse communities are encouraged to participate as partners in their children's education and to contribute the 'funds of knowledge' that exist in their communities to this educational partnership [...].*
- *The extent to which instruction promotes intrinsic motivation on the part of students to use language actively in order to generate their own knowledge, create literature and art, and act on social realities that affect their lives [...].*
- *The extent to which professionals involved in assessment become advocates for students by focusing primarily on the ways in which students' academic difficulty is a function of interactions within the school context rather than legitimizing the location of the 'problem' within students (Cummins, 2000: 47).*

While Cummins adapted socio-constructivist and transformative guidelines to SL education, these principles also lend themselves to being implemented in the FL setting (Dressler and Kamil, 2006; Cummins, 2012). The vital challenge, in this case, would be for teachers to carefully shape the students' transition from their own L1 and L1 culture to the FL so that—unlike what is normally the case—this process would not involve a severe linguistic and cultural break in

the students' cognitive and affective background. Fully adhering to Cummins's framework in FL education would imply the need to dissolve the foreignness of students' FL in relation to their own cultural, experiential, and linguistic capital. In order to do so, teachers should create classroom opportunities that enable students to use all their L1 wealth and culture in their learning of the FL, as they speak or write about themselves.

### **3.3. How can these specific principles for L2 education be realized in concrete SL/FL classroom practices?**

The final level of pedagogical analysis involves asking how L2 instructors can actually *teach for transfer*. Cummins (2007; 2012) offered a wide array of strategies as a response, all of which implied bilingual forms of language instruction. Through them, the students' L1 was creatively imbedded in the L2 classroom dynamics. The convenience of including the students' L1 as a language of instruction in SL and FL contexts has been rightly alluded to as one of the most significant instruction factors to be derived from Cummins's framework (Riches and Genesee, 2006: 65-67; Genesee and Riches, 2006: 126-127; Hornberger, 2014; Moore, 2013). "There has been little consideration of which aspects of L1 development interact with the medium of instruction," Cummins (2000: 79) claimed. However, it had already been posed by researchers before him. More recently, Moore (2013) and Morata and Coyle (2012) tried to define the best possible balance between L1 and L2 use in FL educational contexts. Moore's (2013: 251) functional perspective concluded that "any attempt to influence L1 use in the L2 classroom must take into account that L1 use arises naturally and productively in L2/bilingual discourse". In line with Macaro (2001), Morata and Coyle (2012) also reviewed L1 use in L2 classrooms, together with teachers' justification for this use, and concluded the need for L2 education research to come round to a set of principles for optimal use of L1 and L2 in classrooms, and not discard L1 use automatically.

Unlike these approaches, Cummins's attitude to L1 inclusion in L2 education can only be appreciated properly within the wider pedagogical framework which I have presented above. In his case, the need to incorporate the pupils' L1 in L2 education followed coherently from the fact that students' cognitive and cultural schemata were originally rendered in their L1. Thus, one of the ways for SL and FL contexts to meet the pedagogical conditions presented by socio-constructivism was by explicitly allowing students' L1 to become the linguistic foundation on which to build their L2 learning. This idea runs against dominant assumptions in L2 education, ones which place all the emphasis on quantitative time-exposure to L2, at the cost of ignoring qualitative pedagogical variables. In contrast, Cummins's (2007, 2012) model for *teaching for transfer* intended precisely to facilitate cross-linguistic connections by actually bringing together both languages inside the classroom and by making instructors encourage their overlapping, interdependence and combination through concrete practices. "Among the bilingual instructional strategies that promote two-way transfer of concepts and language skills across languages," Cummins (2012: 1981) stated,

*are focus on metacognitive understandings of the connections and contrasts between student's languages (e.g., cognate relationships), uses of translation (e.g., creation of dual language books for classroom and web publication), development of students' awareness of the functions of code switching in communicating meaning, researching issues in L1 for projects that will be written up in L2 (or L1 and L2), etc.*

In addition to enhancing meta-linguistic awareness (one of the most obvious advantages of this model of L2 education), these strategies impacted positively on motivation and on the adequacy of the L2 exposure, the two preconditions for activating cross-linguistic transfer mentioned in Cummins (1980). In fact, Cummins et al. (2005) and Creese and Blackledge (2010) reviewed two experimental

situations which took place in two SL contexts. In these experimental situations, the fact that students could draw on their L1 allowed them to produce richer and more cognitively-demanding oral/written interventions which were actually appealing and interesting for them and their peers—even if, later on, they were asked to translate them fully into the target L2. As a result, positive elements of their identity as capable and intelligent individuals were reinforced (Cummins, 2007: 235). Not only did these bilingual forms of L2 teaching cater for an easier integration of content and language (in line with Content and Language Integrated Learning developments) but they also allowed students to speak and write about their own lives and experiences in ways that were meaningful and didn't sound childish or foolish to them. For it is frequently the case, in L2 classrooms (and especially in FL contexts), that there is a manifest mismatch between the students' basic L2 level and their cognitive development, i.e., between what they can actually say in their L2 and what they know themselves to be capable of thinking and expressing in their L1 (August, Hakuta, and Pompa, 1994; Gibbons, 2009). Bilingual forms of instruction partially compensate and narrow this mismatch.

Likewise, Cummins et al. (2005) discussed a case study in which three English language learners of diverse levels of L2 and L1 (Urdu) literacy were able to participate and succeed in a Grade 7 social studies unit, thanks to the fact that the class methodology allowed them to draw on their L1 literacy and culture. The following transfer-friendly practice was adopted: L2 learners engaged in rich L1 conversation through which the three of them were allowed to discuss how to best translate their experiences into a dual language book, written both in Urdu and English. Speaking and writing skills were carefully articulated for the activity to include BICS and CALP. Results showed positive signs of transfer. For example, when the students were asked to reflect on their learning experience (Cummins, 2007: 235-236), their ideas revealed a high degree of metalinguistic awareness. Milha's case was especially remarkable. She had only arrived in Canada 3 months before the beginning of the experiment



and consequently had very basic L2 skills. Had it not been for this pedagogical orientation, she would have been “severely limited by her minimal knowledge of English.” However, insofar as “her home language, in which all her experience prior to immigration was encoded, became once again a tool for learning, [...] she was enabled to express *herself* in ways that few L2 learners experience”. By resorting to their L1 literacy, these three students were able to understand, become interested, and engage cognitively and affectively in this workshop from the social studies unit, and this engagement ended up becoming the real engine driving their L2 learning forward. This example proved that, with the aid of transfer-friendly practices, cross-linguistic transfer need not be conditioned by student L2 level or time exposure to L2, as it is normally believed.

These ideas connect coherently with the main conclusion drawn from Creese and Blackledge (2010), who presented two studies inspired by Cummins’s framework. Following suit from García (2007: xii), *translanguaging* was this time the term used to describe a special form of L1/L2 integration achieved in two *complementary schools* in the United Kingdom, where Gujarati and Chinese were used alongside English. Creese and Blackledge (2010) theorized their study in terms of the *language ecology* paradigm (Hornberger, 2002), which argues the case for fluid manifestations of bilingualism, focused on emergent and developmental bilingualism. The similarities with the sociocultural and transformative approach, however, are obvious enough, since both insist on the need for L2 instruction to be flexible and to accommodate a wide array of bilingual interchanges. From their vantage point, the kind of L1/L2 code switching analyzed by Creese and Blackledge (2010) did not only bear witness to an original discourse practice within a given language community (*heteroglossia* theory), but it should also be appreciated for its inherent pedagogical potential. L1/L2 code switching allowed language interdependence to manifest itself in the form of active language transfer, and thus implied valid pedagogical and linguistic transitional forms which paved the way for consistent bilingualism. Hornberger and Link

(2012: 267) have recently theorized translanguaging and the development continua in similar terms by analyzing this and other examples. In the case studied by Creese and Blackledge (2010), the teachers' flexible approach to language pedagogy allowed the students and parents to practise various forms of bilingual communication that were similar to those described in Cummins (2007: 112), such as “use of bilingual label quests, repetition, and translation across languages; [or] ability to engage audiences through translanguaging and heteroglossia”. Furthermore, they did so independently of L2 level. At the same time as translanguaging made the completion of certain functional goals possible, the meaningfulness and interest raised by these tasks acted, in turn, as a source of motivation for students to progress through their L2 education.

We can conclude that Cummins et al. (2005) and Creese and Blackledge (2010) prove that adequate exposure and motivation—the two factors which Cummins (1980) originally presented as the preconditions for cross-language transfer—may be also understood as a result of the teachers' ability to make the L2 educational context comply with the general principles expressed by contemporary pedagogical thought. Nevertheless, while Cummins (2007) and Creese and Blackledge (2010) presented specific strategies through which these principles might be realized, this does not mean they are the only ones. Nor should these strategies be treated in isolation from the general educational principles from which they derive, as if they comprised, by themselves, a method which was suitable under all circumstances, and regardless of contextual variables. Rather, the principles of socio-cultural and transformative pedagogies should be conceived as a resource from which well-informed teachers may creatively derive their own set of practices to activate and promote cross-linguistic transfer through a careful integration of L1 and L2 languages and cultures.

#### 4. Conclusion and future developments: the Pedagogical Threshold Hypothesis

I have already shown how, more than twenty years ago and in the face of contradictory research on the LTH, Bosser (1991: 57) affirmed that, “assuming that a threshold exists, it is not likely that it can be defined in absolute terms”. Throughout this article, I have endeavored to illustrate that a pedagogical turn has taken place in the research on cross-language transfer, concerning the meaning of the LIH and LTH. The LIH and the LTH have ended up being defined in a *relative* frame of mind, through a theoretical shift which I have taken to be synonymous with bringing to full circle the *pedagogical turn* that, in my opinion, Cummins initiated more than thirty years ago in the field of language education. After having discussed the orthodox conceptions that understand the LIH and LTH in relation to fixed L2 levels or magnitudes of time exposure, this article has ended up affirming that the LIH and LTH concepts underwent a twist in the hands of Jim Cummins, who unveiled their *pedagogical dependence*. According to his framework, degree of cross-language transfer depends mostly on the quality and nature of L2 exposure, i.e., on the pedagogical orientation embraced by language instructors in relation to the particular variables that shape their concrete educational context. The most significant factor in this regard was the degree to which language instruction fulfilled the general principles of socio-constructivism and transformative pedagogies, since this would be the best way to attain adequate levels of exposure and motivation referred to in Cummins (1980). The last part of the article has presented concrete language strategies—“focus on metacognitive understandings of the connections and contrasts between student’s languages, translation, development of students’ awareness of the functions of code switching in communicating meaning, researching issues in L1 for projects that will be written up in L2 (or L1 and L2),” (Cummins, 2012: 1981), etc.— through which L2 education satisfied these conditions and, accordingly, enabled and encouraged language transfer. L1 inclusion as a vehicle of instruction acted as a necessary

condition, one which had to be complemented with the correct pedagogical orientation that allowed L2 learners in SL or FL contexts to speak and write about their lives and cultures.

By elucidating this framework, I have not attempted to endorse Cummins's views so much as to insist on the pedagogical turn which he got well under way but, most possibly, did not complete. This is left for the whole community of language educators and researchers to do. As a humble contribution in this direction, I want to conclude this article by deriving a corollary on the relationship between the LIH and the LTH. This corollary is not present as such in Cummins's work, but it represents a logical development from the arguments given so far. I consider it necessary to better direct the scope of future research in the field.

On the basis of the combined evidence provided by Verhoeven (1991) and Ramírez (1992) on the time on task hypothesis, and by Cummins (2007) and Creese and Blackledge (2010) on teaching for transfer, it may be suggested that pedagogical adequacy would always have a positive impact on cross-linguistic transfer, and accordingly that pedagogical factors afford the single most determinant factor for L1 – L2 transfer. As a result, it is worth hypothesizing the existence of a *threshold of pedagogical adequacy* (TPA), depending on which higher or lower values of time-exposure to L2, and/or of L2 level in any given area of linguistic CUP, would impact differently on the intensity of cross-language transfer. For this TPA to be experimentally demonstrated, transfer would have to be analyzed as an effect of the three variables discussed previously: (1) L2 student level in any given area of CUP at the time of the experiment, (2) time exposure to L2, and (3) pedagogical adequacy, which should be understood in terms of the three levels revealed in the previous section. For example: Do the language tasks conform to social constructivist and transformative paradigms? Do students engage in them? Are students allowed to draw on their L1 and L1 cultures in the process of completing these activities? Are students allowed to strengthen their metacognitive

understanding of the connections and contrasts existing between their L1 and L2? These could be some of the specific items into which the pedagogical variable could be broken down in order to conduct this analysis. Different experimental situations should be studied to register the impact of these three variables on language transfer. Finally, in accordance with Cummins's framework, L1 – L2 transfer would have to be assessed in these situations by means of tasks which focused either on CALP, BICS or discrete language skills, and the means of assessing transfer would have to change from one pedagogical situation to another, to ensure coherence with the orientation adopted in each case.

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