

Is the acquisition of multiple languages a challenge?

¿Es la adquisición de múltiples lenguas un reto?

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Abstract

The interest in multilingualism and multilingual acquisition has rapidly increased in the last decades, which mirrors the reality worldwide. The present article provides an overview of research on multilingual acquisition, with a focus on psycholinguistic factors, and highlights the unique features of multilingual learners as compared to monolingual ones acquiring their first foreign language. The complex processes involved in multilingual acquisition, as well as different models that account for such complexity, are also described. The increasing contact between different languages in a globalized world motivates a shift of paradigms. Thus, it has become evident that language acquisition models need to explain the processes that inevitably take place due to the interactions among the languages that are part of the learners' linguistic repertoire. Such new paradigms that have emerged in SLA research could also be incorporated in the teaching of foreign languages, which could help learners in their learning process.

Key words: multicompetence, multilingual acquisition, multilingual lexicon, multilingualism.

Resumen

El interés por el multilingüismo y la adquisición multilingüe ha aumentado considerablemente en las últimas décadas, lo que refleja la realidad a nivel mundial. El presente artículo ofrece una visión general de la investigación sobre la adquisición multilingüe, con un enfoque en factores psicolingüísticos destacando las características únicas de los aprendices multilingües en comparación con los monolingües que adquieren su primera lengua extranjera. También se describen los complejos procesos involucrados en la adquisición multilingüe, así como los diferentes modelos que explican dicha

complejidad. El creciente contacto entre las diferentes lenguas en un mundo globalizado motiva un cambio de paradigma. De este modo, se ha puesto de manifiesto que los modelos de adquisición del lenguaje tienen que explicar los procesos que inevitablemente ocurren debido a las interacciones entre las lenguas que conforman el repertorio lingüístico de los aprendices. Estos nuevos paradigmas que han surgido en la investigación de segundas lenguas podrían también ser incorporados en la enseñanza de lenguas extranjeras, lo que podría ayudar a los aprendices en su proceso de adquisición.

Palabras clave: multicompetencia, adquisición multilingüe, léxico multilingüe, multilingüismo.

1. INTRODUCTION

The study of multilingual acquisition, defined as “the consecutive and simultaneous acquisition of three or more languages” (Cenoz, 2000: 39) and later by the same author as “the acquisition of languages other than the first or second” (Cenoz, 2005: 1) has attracted much interest in the area of language acquisition in the last two decades. This can be explained through a number of reasons, which are all related to the increased number of languages that people currently know. Nowadays, being monolingual is the exception and, what is more, having a good command of more than two languages is by no means an uncommon situation; it is indeed a frequent achievement to a great amount of people around the world (De Angelis, 2007). Therefore, as Hufeisen (2005) suggests, studies on language acquisition need to go beyond the acquisition of the first foreign language to mark the end of an era in which theoreticians have been working on models that only account for the acquisition of two languages, hardly reflecting the reality of language learners today.

As several research studies point out, this increase in the number of languages known by the same individual is the consequence of several facts. On the one hand, it might be due to the spread of English all around the world for international communication owing to the historical, political, economic and technological development that has been taking place in the last decades (e.g. Grosjean, 1992; Cook, 1995, Cenoz & Genesee, 1998; Jessner, 1999; Cenoz, 2005). On the other hand, it might also be due to the mobility of the world population and the recognition of the autochthonous minority languages in some European regions, such as Galicia, Frisia, the Basque Country, Brittany, Wales, Ireland or Catalonia, among others (Cenoz, 1997, 2005), which makes speakers increase their linguistic repertoires.

Views towards multilingualism and the relationship between the different languages that are part of the learners' repertoire have changed throughout the years. Research in the 1960s, following the Contrastive Analysis Framework, described the influence of previously acquired languages as interference or negative transfer¹. Most scholars agreed on the fact that contact with more than one language could result in cognitive and linguistic problems. Other studies on multilingual acquisition, which started with Pearl and Lambert's (1962) study but which were not fully developed until the late 1990s, have acknowledged advantages of bilingual speakers over monolinguals when acquiring an additional language (see Cenoz, 2003). These advantages are mainly due to the learning strategies that bilinguals have, as well as to the skills they have developed to compensate for the lack of knowledge -e.g. language switches, foreignizings, literal translations, approximations, descriptions, word coinages (Poulisse, Bongaerts & Kellerman 1987)-, to their metalinguistic awareness, their communicative sensibility, and also to the fact that they have a wider linguistic repertoire that they can use as a basis when acquiring an additional language (Nayak, Hansen, Krueger & McLaughlin, 1990; Baker, 1996; Jessner, 1999, 2006, 2008; Hufesein, 2000; Herdina & Jessner, 2002; Cenoz, 2005).

The present paper, therefore, describes the unique features of multilingual learners as compared to monolingual or bilingual learners. It starts by discussing the complex processes that are involved in multilingual acquisition, followed by the account of several models that have tried to explain such complexity. The paper continues with a few words on the multilingual lexicon and the multilingual speech production process, so as to understand how the multilingual mind operates and how it might differ from a monolingual or bilingual mind. It will be finally argued that these ideas coming from multilingual acquisition research should be incorporated in educational practices.

2 THE COMPLEX FACTORS INVOLVED IN MULTILINGUAL ACQUISITION

Multilingual acquisition² has often been considered as a variation of fields such as bilingualism and Second Language Acquisition (SLA). Nevertheless, nowadays, as discussed by several scholars such as De Angelis and Selinker (2001), Cenoz (2003, 2013), and De Angelis (2007), Third Language Acquisition (TLA) or the acquisition of additional languages has become a recognised field by itself. Additionally, as the field of multilingual acquisition is a much more recent field than SLA, there are still many issues in multilingual

¹ See Celaya (1992) for an overview of the conceptualization of language transfer in the different periods.

² The terms 'multilingual acquisition', 'third language acquisition' and 'additional language acquisition' are used interchangeably with no difference in meaning.

contexts that need to be explored, due to the fact that the language acquisition process becomes more complex. The studies on multilingual acquisition have concluded that polyglots or multilingual learners are different from L2 learners and that, therefore, they should not be compared to them (see e.g. Cook, 2008); in short, “there is something special about having more than two languages” (De Bot & Jaensch, 2015: 130). In the same line, multilinguals should not be conceived as multiple monolinguals in one, so as not to consider multilingual speakers as incompetent speakers in each of their languages (Jessner, 2008b).

With the increase in the number of languages that multilingual acquisition presupposes, the complexity of language learning becomes more evident when compared to the acquisition of a second language. Although TLA shares some features with SLA, there are also some important differences between them. Multilingual acquisition is more complex and diverse than SLA. A great part of the complexity of multilingual acquisition relies on the different directional relations that can appear when the learner has knowledge of more than two languages. That is, L2 learners, as discussed in Cenoz, Hufeisen and Jessner (2001), have only two systems that can influence each other ($L1 \leftrightarrow L2$), *substratum transfer* (Odlin, 1989) –i.e. transfer from L1 to L2- being the one that has been most widely investigated. In multilingual acquisition, other directional relations can take place –i.e. the L3 can influence and be influenced both by the L1 ($L1 \leftrightarrow L3$) and the L2 ($L2 \leftrightarrow L3$), giving rise to the phenomenon of Interlanguage Transfer (ILT) (De Angelis & Selinker, 2001). It is also worth mentioning that in TLA, apart from the one-to-one association typically found when the learner has knowledge of only two languages, a many-to-one association is possible –i.e. combined crosslinguistic influence (CLI) (De Angelis, 2007). It should be noticed, though, that identifying and separating these multiple sources of influence is methodologically challenging.

The study of CLI, thus, has been at the heart of multilingual studies, which have examined the interplay between all the languages that are part of the learner’s linguistic repertoire and analysed the different factors that condition the selection of the source of transfer (e.g. Williams & Hammarberg, 1998; De Angelis & Selinker, 2001; Ringbom, 2007; Bardel & Falk, 2007; Falk & Bardel, 2011; Rothman, 2010, 2011, 2015). In this way, the study of CLI in multilinguals, as discussed by de Angelis (2007), offers the possibility to re-examine the hypotheses that had been formulated for L1 influence in light of subsequent languages and, thus, confirm or refute them. The set of new studies on CLI in multilingual contexts allows the exploration of new dimensions and of new language directionalities that can only be explored when more than two languages are present in the mind of the learner.

This is so as “the impact of the [...] L1 in learning or using a [...] L2 is fundamentally (qualitatively) different from the impact of the L1 and L2 on learning an L3” (De Bot & Jaensch, 2015: 130).

3 CURRENT MODELS OF MULTILINGUAL ACQUISITION

Several models developed from a psycholinguistic perspective have been put forward to describe the varied and complex factors involved in the process of multilingual acquisition. The ones that seem to have had a huge impact in the field, as they efficiently identify different relevant issues in the language acquisition process, are the *Factor Model* (Hufeisen, 2005), the *Polyglot Speaking Model* (Williams & Hammarberg, 1997, 1998; Hammarberg, 2001), the *Dynamic Model of Multilingualism (DMM)* (Herdina & Jessner, 2000, 2002), and the *Multicompetence Framework* (Cook, 1991, 1992, 1997, 1999, 2002, 2003, 2008). These models tackle different aspects of multilingual acquisition and complement one another to describe the features and processes involved in multilingual acquisition.

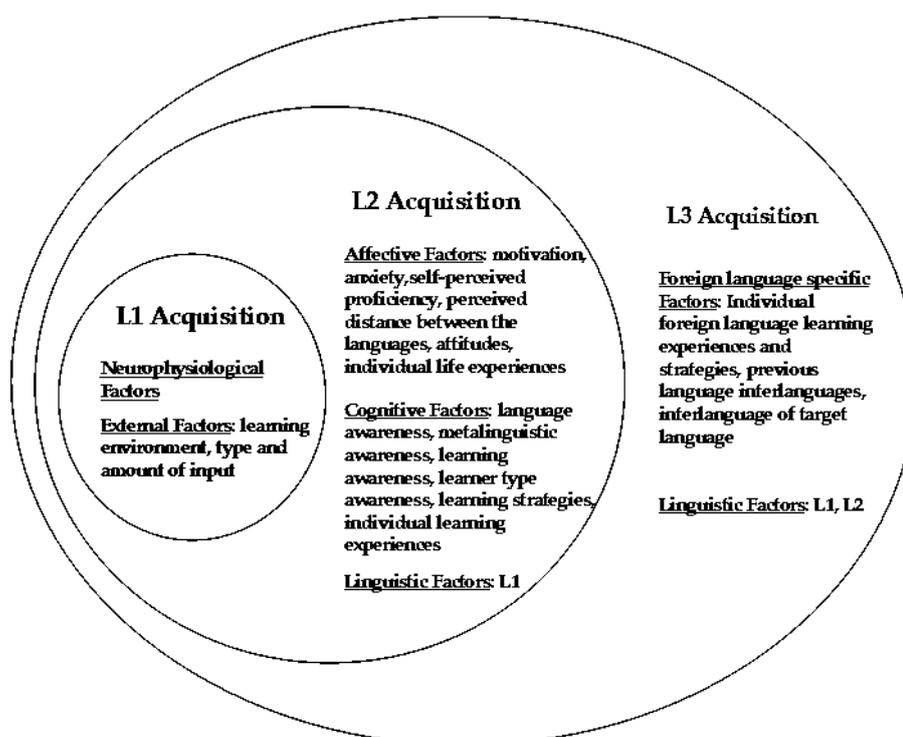
a. The factor model

In her *Factor Model*, Hufeisen (2005) attempts to identify the different factors that play an important role in the language acquisition process. She claims that there exist several factors that start influencing the language learning process as more languages are incorporated in the learners' linguistic repertoire, as can be seen in Figure 1 below. These factors explain why TLA cannot be subsumed under SLA.

While the factors that play a decisive role during the acquisition of the L1 are neurophysiologic factors and the input from the environment, in learning the first foreign language other elements come into play: affective factors -such as motivation, anxiety, self-perceived language proficiency, perceived distance between the languages, attitudes, and individual life experiences-, cognitive factors -such as language awareness, metalinguistic awareness and learning strategies-, as well as the influence from the L1. The addition of another foreign language causes further complexity, since other components become decisive influences in the process of language acquisition. These are individual learner factors, such as age, life experience and learning experiences, which might also play a role in the acquisition of the first foreign language; and other factors that start having an influence on the acquisition of the second foreign language, such as specific experiences in learning foreign languages, learning and communication strategies, as well as the influence that the knowledge of the previous acquired languages -i.e. the L1 and the first foreign language- can have on the acquisition of a new language.

The language acquisition process becomes more complex as more languages are incorporated in the linguistic repertoire, since more relations among the different languages are established and other factors come into play. One of the latter that adds to this complexity of multilingual acquisition is the linguistic factor –i.e. L1 and L2 CLI- which becomes the main and direct influence in TLA. Moreover, it is clear that both L1 and L2 acquisition are comprised within L3 acquisition, and, thus, can exert a great impact on the latter, which means that all previously learnt languages can affect the language currently being acquired. Additionally, while the L2 learner is a complete beginner in the process of acquiring the L2, the L3 learner has previous experience in acquiring an additional language; that is, the learner might have already acquired individual learning strategies, and might also have discovered his or her learner style.

Figure 1- Factor Model (adapted from Hufeisen, 2005: 38)



b. The Polyglot Speaking Model

The *Polyglot Speaking Model* by Williams and Hammarberg (1997, 1998) and Hammarberg (2001) sets out to identify the specific functions that each language has in the multilingual learner's repertoire. By observing Sarah Williams' language learning process over approximately two years, the authors found out that the influence of some of the

languages she knew –i.e. Spanish, Italian and French- was minimal in her Swedish oral production-, but the influence of others –i.e. English and German- was considerable. Moreover, it was found that the type of influence exercised by English and German was different. Whereas L1 English was used for metalinguistic comments and was, thus, an external instrumental language, German worked as a source language (a default supplier language), that is, she resorted to German when she had not acquired a word in Swedish, and so she derived rules in Swedish from German ones. In addition, L1 English had a long-term influence on her L3 Swedish. The influence of L2 German, on the other hand, decreased as the learner obtained more proficiency in the L3. The L3 gradually took over of both instrumental and supplier functions.

This model is an excellent example of the importance of both CLI from the L1 and ILT and of the complex relations that are established in the learners' linguistic repertoire. However, it is also important to take into consideration that Williams and Hammarberg's (1997, 1998) and Hammarberg's (2001) studies and, thus, this model, are based on the analysis of the production of one single learner, also the co-author of the study and a linguist herself.

c. The Dynamic Model of Multilingualism

The focus of the *DMM* by Herdina and Jessner (2000, 2002), which applies the *Dynamic Systems Theory* (DST)³ to multilingual acquisition, is on general overall processes found in multilingual acquisition. This model presents multilingualism as a nonlinear and dynamic process of language development, in which the language systems that the speaker possesses influence those that are developing, as also emphasized by the models described above and in works by De Bot (2008, 2012), Larsen-Freeman and Cameron (2008) and Verspoor, Lowie and de Bot (2012).

According to this model, all types of language acquisition are part of a holistic and autodynamic system. In other words, each language in the multilingual system constitutes a part of the complete system and is not equivalent to the language of the monolingual speaker –in line with Cook's *Multicompetence Framework* (see below). The authors of the model also emphasize the idea that each of the languages of a multilingual speaker is simultaneously influenced by a number of variables, each of which affects all the others, as

³ The DST, known in sciences such as neurology and psychology, is presented as an adequate methodological tool to investigate multilingualism by the DMM, and it can be regarded as the first step in the use of this method in research on multilingualism (see Herdina & Jessner, 2002 and Jessner, 2008 for an extensive review of the topic).

well as itself⁴. The totality of factors that affect any of the languages is what the authors refer to as *Crosslinguistic Interaction* (CLIN) (Herdina and Jessner, 2000, 2002; Jessner, 2003, 2008), which is a wider concept than CLI, as it encompasses all the known transfer phenomena as well as the cognitive effects of multilingual development.

The notion of *Multilingual Language Proficiency* is also of importance within the model, and it is in agreement with Cummins' (1991) *Interdependence Hypothesis* and his idea of the *Common Underlying Proficiency* that is developed by bilinguals through contact with the different languages. According to this model, all languages, apart from having surface features –i.e. automatized conversational features, such as pronunciation or fluency–, contain elements (i.e. skills and metalinguistic knowledge), involved in cognitively demanding tasks, which are common to all languages and that are transferable one to the other. Accordingly, any change produced in one of the languages will affect the other; that is, the learning of elements from a language affects the whole system. In the *DMM*, the multilingual language proficiency is also characterized by the interaction between the different language systems and the *Multilingualism Factor*, which is based on the changes in language awareness and the development of language strategies through increased exposure to language acquisition. Language awareness has been considered as a crucial factor that contributes to the effects that bilingualism can have on L3 acquisition.

The followers of this model also support the idea that the process of language acquisition is influenced by several internal as well as external factors. Herdina and Jessner (2000, 2002) further argue that the influence of the different factors can only be partially anticipated, as they differ among individuals and they interact with one another. This idea points to the complexity of the language acquisition process, which is affected by a high number of components. This is the reason why disentangling the net of factors and, thus, fully understanding language acquisition is a difficult task.

d. The Multicompetence Framework

An important landmark in the last years has been the acceptance of Cook's *Multicompetence Framework* (1991, 1992, 1997, 1999, 2002, 2003, 2008), which refers to “the knowledge of two languages in one mind” (Cook, 2008: 17). This framework asserts that those who have knowledge of more than one language have a state of mind different from two monolingual states, as they have a different vocabulary network that combines two or more languages. That is, the linguistic competence of multilinguals is characterised

⁴ See Jessner, Megens and Graus (2016) for a recent account of the complexity of multilingual acquisition and the varied factors that affect CLI.

by increased metalinguistic awareness, greater creativity and cognitive flexibility, and more diversified mental abilities (Cook, 2008).

Cook's *Multicompetence Framework*, which draws on Grosjean's (1985, 1989, 1992, 1997, 1998, 2001, 2004) view of bilingualism, goes against the fractional view of bilingualism that supported that individuals have separate competencies for their two languages and that these competencies are similar to those that monolinguals have; accordingly, bilinguals are seen as two monolinguals within the same person. Both Grosjean and Cook suggest that a bilingual is not the sum of two monolinguals, but a specific speaker with a unique and complete linguistic system. According to this view, and also in line with the *DMM*, the mind of a bilingual should be conceived as a whole whose competencies in the two languages are part of an intact system, that is, they are not separate entities. For this reason, the knowledge that a multilingual has of his L1 is different from the knowledge that a monolingual speaker has. This claim is supported, for instance, by Ewert's (2008) study, which looks for differences in L1 syntactic competence of Polish monolingual and Polish-French bilingual teenagers in a bilingual programme in Poland. Participants in the study had to rate 25 items that contained four versions of the same sentence from the most natural to the least natural-sounding one. The authors found out that bilinguals differed from their monolingual peers with regard to the frequency with which they chose the desired standard and the non-standard forms.

Cook has very pertinently argued that in SLA the language learner has been seen as a failure for not achieving the level of a native speaker; however, if the L2 learner's system is independent, it should not be measured against the native system (Cook, 1999). He insists on the fact that features of L2 learners –e.g. code-switching and lexical access errors– should not be considered as failures, but as evidence of the unique linguistic configuration of multilingual speakers. Multilinguals are not interested in mastering monolingual native-like norms, but they appropriate the language to suit their own interests. He claims that “ultimate attainment is a monolingual standard rather than an L2 standard” (Cook, 2002: 6). This common practice of assessing L2 performance or competence according to ideal monolingual norms is referred in the literature as the *monolingual bias* (Cook, 1997). It is for all these reasons that Cook prefers the term *L2 user* instead of *L2 learner* to counteract the implications that the term *L2 learner* has.

The *Multicompetence Framework* allows us to understand the reasons why multilinguals do not perform in the same way as monolingual speakers in all the languages they know (e.g. they usually code-switch), and, as Jarvis and Pavlenko (2008) point out, to theorise about the interaction of the different languages in the speaker's mind. As the mind of a

multilingual contains information from different languages, it is logical to assume that all this information might be integrated in the multilingual mind in some way or another and that influence from one language to another might occur.

4. THE MULTILINGUAL LEXICON AND THE MULTILINGUAL SPEECH PRODUCTION PROCESS

The mental lexicon is 'a memory system in which a vast number of words, accumulated in the course of time, has been stored' (Hulstijn, 2000: 210). While the first studies on the mental lexicon focused on the processing of the monolingual L1 lexicon, more recent studies have focused their attention on the bilingual and multilingual lexicon, since, as already pointed out, multilingualism is the norm worldwide in language learning. Therefore, studies on the mental lexicon need to account for phenomena such as code-switching, CLI, lexical errors and language loss (Ecke, 2001).

For some years, considerable research studies on the bilingual mental lexicon have been carried out in order to establish its organisation and development, as well as the relation that exists between the L1 and L2 lexicons, and the degree of separation and integration of the two systems. The connections that exist in the mental lexicon of bilinguals, as highlighted by Hufeisen (2005), become more complex for multilinguals, since two other criteria have been added: one or more languages and the degree of closeness that these new added languages has to the L1 and the other non-native languages. Furthermore, these new words can be associated with any of the languages in the learners' linguistic repertoire, or with all of them. Thus, what makes word production in multilinguals different is the configuration of their lexical networks, which is more complex as compared to that of monolinguals or bilinguals, as well as the number of possible sources and directions for transfer (Ecke, 2015).

Studies have fluctuated between those that state that the lexical knowledge from different languages is stored together, those which assert that it is kept separately, or those that posit that there is an overlap between the languages. Additionally, a question that has also been debated is to what extent the linguistic information is integrated. Hulstijn (2000) summarised the debate on similarities and differences between the L1 and L2 lexicons in four different hypotheses: 1) L1 and L2 words are stored together in a single store, 2) words are stored separately, 3) similar words, such as cognates, are stored in the same store whereas language-specific words are stored separately, and finally, 4) L1 and L2 words are stored in different subsets, which are stored in a common store.

Moreover, Pavičić (2008) has argued that the relationship between L1 and L2 words in the mental lexicon may vary from one speaker to the other, which means that each individual may use the organisational resources in the mental lexicon in a different way, depending on different factors, such as the way the word has been acquired, or the perception of similarity between the L1 and L2 words. Hufeisen (2005) claims that the learners' competence can also determine the access to a particular lexical item. That is, beginners will access new words in the L2 through the L1 and associate them to the same conceptual features. On the other hand, more advanced learners will connect new lexical entries more directly with the concept and less strongly with the L1 equivalent.

The first framework that accounted for the processes that occur in bilingual speakers is Green's (1986) model. It is proposed that the different languages in the bilingual mind can be activated to different levels. That is, they can be *selected* (language selected to be used), *active* (languages that can play some influence) or *dormant* (without any influence). This position is also taken by De Bot (1992), who applied Levelt's (1989) model of the monolingual speaker to the bilingual speaker, according to which the selected language is determined in the conceptualiser. However, due to a lack of knowledge in the selected language, another accessible language might be activated at the same time. Thus, the utterances are thought to be produced in parallel in all the steps of formulation; however, they might not be passed on to the articulator. In this way, the active language may interact with the selected language, leading to the appearance of language transfer.

Grosjean (1995, 1997, 2001) also referred to the level of activation as the *Language Mode Hypothesis*, according to which if a language is highly activated it can be more easily selected during production and, thus, be the source language in CLI. The speaker, thus, selects a language for communication (the *base language*), which is the most highly activated one as it governs language processing, and the other languages (the *guest languages*) remain less activated depending on their position on the *language mode continuum*, ranging from low activation to nearly total activation. This position might depend on several different factors, which include language proficiency, presence of monolinguals, degree of formality, and type of vocabulary needed, among others.

Dewaele (1998), for instance, makes reference to the level of activation to account for the origin of *lexical inventions* in French with traces of Dutch, French and English, and points out that the language with the highest level of activation is the one that provides the lexical information, and that learners do not have access to lemmas from languages that have a lower level of activation. A similar position is also taken by studies on word recognition (e.g. van Heuven, 2005), which are in favour of a bilingual model of word

recognition with an integrated lexicon, in which the two languages are never completely off-line, but always present some level of activation.

The models presented here have shown how the different languages in the learners' minds might be interrelated. Moreover, these models are useful in order to understand why and how the phenomenon of CLI occurs, and why some languages in the linguistic repertoire are preferred over others as the source language in transfer.

5. CONCLUDING REMARKS

Although multilingual acquisition is nothing new, it is nowadays becoming more widespread due to the introduction of foreign languages at an early age at school, as well as to the changing status of minority languages and the spread of English as a *lingua franca*. Therefore, scholars in the field of language acquisition have started to study the process of multilingual acquisition in the last decades. The studies have revealed that the process of acquiring an additional language becomes more complex as more languages are incorporated in the system, as more factors come into play and, thus, more relationships between the different languages are established. This has led scholars to assert that learners acquiring their first second language cannot be treated in the same way as those learning their second or subsequent additional languages. For multilinguals, their languages are always in contact; they influence and complement each other. Therefore, the idea that one language negatively interferes with another should be reconsidered.

It should also be noted that multilingualism should not be ignored in the educational system, as the interaction among different languages is becoming more and more important all around the world. The heterogeneity of the students has nowadays become a reality in the classroom, which is, with no doubt, a challenge for the teachers, who need to take into considerations the students' linguistic profiles to make them develop their linguistic skills. Multilingual education, therefore, presents more challenges than bilingual education owing to its complexity, which is related to the different forms of language teaching that might lead to multilingualism, as well as to different social environments, which might require different forms of multilingual education (Jessner, 2008b).

The prevailing ideas on multicompetence that have emerged from SLA research could be, thus, integrated into multilingual teaching. Traditionally, as pointed out by Jessner (2008b), language subjects are kept totally apart. As a consequence, teachers tend not to make use of the learners' knowledge of other languages in the classroom in order to avoid confusion. This idea from the 1960's is in complete opposition to the new findings in research. Therefore, following more recent ideas in language acquisition, a cross-language

approach in teaching, and a focus on similarities among the different languages that are part of the learners' repertoire could increase learners' linguistic awareness and, thus, help them in their language acquisition process.

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