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Bilingualism as a resource for foreign language learning of language minority students? Empirical evidence from a longitudinal study during primary and secondary school in Germany

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ABSTRACT

This study investigates the effect of bilingualism on the achievement in English as a foreign language from elementary to secondary school. Using longitudinal data of 1032 German students from sixth to eighth grade, we examined if speaking both a minority language at home and the instruction language presents an advantageous condition for English foreign language development. Controlling for confounded background characteristics, the regression analyses revealed that, although a significant advantage of bilingualism is found in elementary school, it disappears as students proceed into secondary school, yielding differential gains for the language minority and monolingual groups. Moreover, the level of exposure to the minority language plays an important role for the English achievement development for bilingual students as they proceed into secondary school.

1. Introduction

There is a growing population of students with immigrant background in schools in many western countries. The academic development of these students tends to vary from their monolingual peers (Stanat & Christensen, 2006). While some students with immigrant backgrounds follow trajectories parallel to those of native students, most lag behind their native peers, with the achievement gap across subjects widening, as students advance through school (Han, 2012; Mancilla-Martinez & Lesaux, 2011). In Germany, there is clear evidence that a particularly wide cross-sectional achievement gap in educational outcomes exists for first generation immigrant students as well as those who primarily speak a minority language other than German in the home (Stanat, Rauch, & Segeritz, 2010). However, there is conflicting evidence concerning longitudinal outcomes of students who speak a minority language at home, and if minority language students' trajectories are similar to those of their German monolingual peers (Neumann, Becker, & Maaz, 2013).

Despite discrepancies in academic outcomes, some students with immigrant backgrounds, namely those who speak both a minority language and the majority language of the classroom, have resources that may positively impact certain areas of their academic achievement, specifically their foreign language learning. Bilingualism is associated with unique patterns of cognitive and linguistic processes that differ from those of monolinguals and possibly foster foreign language learning. Accordingly, bilingual students have been shown to have an advantage in learning an additional language (e.g. Brohy, 2001; Cenoz & Valencia, 1994; Maluch, Kempert, Neumann, & Stanat, 2015; Sanz, 2000). However, it is often assumed that these advantages are only found under specific circumstances, for example, when both languages are supported in formal instructional environments (e.g., bilingual education; Cenoz, 2003; Jessner, 1999). It remains unclear if these advantages in foreign language learning also apply to bilingual language minority students (e.g., whose majority language is taught in the school [L2] while speaking a minority language at home [L1]) and how the patterns of foreign language (L3) development differ between bilingual and monolingual students over time.

1.1. Cognitive and linguistic consequences of bilingualism

Numerous investigations have shown that bilingualism is positively related to various cognitive functions, namely heightened levels of executive functions - the interrelated process of inhibition, attentional control and working memory (for review, see Adesope, Lavin, Thompson, & Ungerleider, 2010; Barac, Bialystok, Castro, & Sanschez, 2014; Bialystok, 2009; Hamers & Blanc, 2000). These cognitive functions have been found to be enhanced in bilingual children, especially those with balanced proficiencies (Barac, Bialystok, Castro, & Sanchez, 2014; Martin-Rhee & Bialystok, 2008). Throughout elementary school, bilingual children seem to retain this heightened level of executive functions

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when compared with their monolingual classmates (Barik & Swain, 1976; Hakuta & Diaz, 1985), and this advantage continues into young adulthood (Bialystok, 2006a).

In addition to advantages in general cognitive functions, bilingualism seems to be positively associated with linguistic processes, namely aspects of metalinguistic awareness (Thomas, 1988), defined as "[…] the ability to focus attention on language as an object in itself or to think abstractly about language […]" (Jessner, 2006, p.42). Most metalinguistic skills appear parallel with literacy development (Homer, 2009) – with some metalinguistic skills (i.e. phonological awareness) appearing earlier (Bialystok, 2006b). Studies investigating metalinguistic skills have found that bilinguals have advantages on several metalinguistic tasks, such as applying morphological rules to unfamiliar forms (e.g., Barac & Bialystok, 2012) or judging grammatically correct but semantically inaccurate sentences, as well as separating a word from its referent (Ben-Zeev, 1977; Ianco-Worrall, 1972; for review, see Bialystok, 2006b). Heightened metalinguistic skills in bilingual children emerge early, and they retain this advantage throughout elementary school (Bialystok, 1986). Proficiency in both languages has been shown to moderate the development of these skills (Bialystok, Peets, & Moreno, 2012), while variability in findings are also associated with the use of the two languages as well as instructional context (Barac et al., 2014).

A possible explanation for these advantages might be that bilinguals are experienced language learners. Bilinguals are equipped with contrasting linguistic knowledge about two languages, compelling them to compare and analyze the structural aspects of language earlier and in more advanced ways than monolinguals (Bruck & Genesee, 1995). Additionally, bilingualism requires the individual to coordinate two language systems including to attend to relevant features of linguistic in- and output (Bialystok, 2009; Sanz, 2012). This kind of training leads to cognitive advantages in executive functions which may be relevant in two major components of metalinguistic tasks: analyzing and attending (linguistic) information (Bialystok, 2001). As a result of extended experiences with two languages and heighten levels of metalinguistic awareness bilingualism presents an advantageous condition for L3 learning. Indeed, several studies have identified metalinguistic awareness as a significant predictor for children learning a second language (Dufva & Voeten, 1999; Zhang & Koda, 2013) as well as for bilingual children learning a third language (Rauch, Naumann, & Jude, 2011).

1.2. Moderating factors of bilingualism on foreign language learning

Despite the aforementioned benefits, which may help bilinguals in language learning, it is widely acknowledged that not all types of bilingualism lead to advantages (Bialystok, 2001). Jessner (1999) postulates that for bilinguals to develop cognitive and linguistic advantages, both languages should be formally supported in the education system leading to balanced bilingual profiles (i.e., Lambert's (1973) additive context). This is not normally the case for bilingualism due to immigration. For language minority students, who often come from homes with fewer sociocultural resources (Stanat & Christensen, 2006), the majority language is normally fostered in school, while the minority language is not (Cenoz, 2003). This can result in unbalanced language competencies between each of their respective languages (compared with children in bilingual education programs) and enormous heterogeneity in their linguistic profiles (Genesee & Lindholm-Leary, 2012).

One major source of this variability, which has direct influence on the development of the minority L1, is exposure to that language (Oller, Pearson, & Cobo-Lewis, 2007). The mode and frequency of a minority language that parents use to interact with their children can vary greatly (De Houwer, 2007; Mancilla-Martinez & Lesaux, 2011; Pearson, 2007), and it should have direct and reciprocating effects on bilingual language development (i.e., the input-proficiency-use cycle, Pearson, 2007). The exposure to the minority language can have significant consequences on proficiency and, in turn, bilingual cognitive and linguistic development including L3 achievement. Furthermore, it may also be assumed that in the case of L3 learning a bilingual advantage is rather prominent at the beginning of this process (i.e., in primary school). The differences in metalinguistic skills and knowledge between bilingual and monolingual children may decline over time because L3 instruction in the classroom also imparts metalinguistic knowledge to monolingual children.

1.3. Bilingualism and foreign language learning: empirical findings

Almost all research to date examining the relationship between bilingualism and L3 learning is cross-sectional. Based on the few studies that examine bilingualism and metalinguistic skills longitudinally (Bialystok, 1986; Bialystok et al., 2012), it can be hypothesized that bilingual children, in contexts where all three languages are supported with explicit language learning (i.e., bilingual immersion programs with additional L3 instruction), would continue to show advantages in their L3 skills in secondary school compared to monolingual students. Indeed, this has been found to be the case in several cross-sectional studies across samples varying in setting and age (Abu-Rabia & Sanitsky, 2010; Brohy, 2001; Cenoz & Valencia, 1994; Sanz, 2000). However, with regard to other forms of bilingualism, namely that of language minority students, there is conflicting empirical evidence regarding the possible benefits of bilingualism on L3 development.

Exploring possible advantages for language minority students in L3 learning, Maluch et al. (2015) investigated a sample of sixth-grade bilingual and monolingual students learning English as a L3 in Germany. Despite significant language group differences (Arabic-German, Chinese-German, Polish-German, and Turkish- German), the cross-sectional analysis revealed a general positive trend for the bilingual groups after controlling for confounding sociocultural background factors and general cognitive abilities. Similarly, with a German national representative sample of 11,000 ninth graders, a heterogeneous group of language minority students outperformed their monolingual peers on measures of English as L3 (listening comprehension, grammar, reading and text writing skills), controlling for important cognitive and family characteristics (Hesse, Göbel, & Hartig, 2008).

In contrast, Sanders and Meijers (1995) examining Turkish-Dutch and Arabic-Dutch fifth and sixth graders, found no differences between the language minority and monolingual groups. Based on a sample matched for cognitive abilities and socio-economic status (SES), the language minority groups did not differ from their Dutch monolingual peers in a variety of English language skills (grammatical judgment, spontaneous language use, word comprehension, and word recognition). This mirrors the lack of group differences in English L3 outcomes between 13- and 14-year-old Dutch language minority learners and monolinguals reported by Van Gelderen et al. (2003), as well as between Turkish-German and German monolingual students in the same age-group (Rauch, Jurecka, & Hesse, 2010).

The only longitudinal study that, to our knowledge, investigated third language learning in bilinguals (Bérubé & Marinova-Todd, 2012) does not resolve the aforementioned studies' contrasting results. Examining a sample of heterogeneous language minority students and monolingual students in English (L2)/French (L3) immersion from the beginning and end of the fourth grade, the authors found no significant advantage neither for the 20 alphabetic language minority students (i.e. Africans, Croatian, & Vietnamese) nor 17 syllabic language minority students (i.e. Cantonese, Japanese, & Mandarin) compared to 57 English monolingual students on task of listening and reading comprehension. The authors did not find any significant interactions between group and time, indicating not only the lack of differences in L3 learning outcomes between the two bilingual and monolingual groups, but the similar growth patterns between the groups over time. In the analyses, however, background characteristics (i.e. SES or parental education) were not taken into account. A potential reason for this discrepancy