

Language Proficiency and the Integration of Immigrant Students in the Education System

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Abstract

The integration of immigrant students in the education system is an important concern in most countries around the world. Several lines of research on this issue focus on the role of language, often distinguishing between students' family language, typically referred to as *first language (L1)*, and the school language, typically referred to as *second language (L2)*. Past research has clearly shown that immigrant students' level of proficiency in L2 affects their school success, yet the role of L1 proficiency is less clear. In addition, the question whether bilingual or monolingual instruction is more effective in supporting immigrant students is largely unresolved. Current investigations aim at overcoming limitations of prior research by employing longitudinal designs, by controlling relevant third variables, and by conducting randomized field trials. Promising avenues for future research include developing more clear-cut conceptual and operational definitions of core constructs, analyzing potentially important moderators of effects, determining the role quality of language input and instruction play for proficiency development and school success, and analyzing the associations between proficiency development in L1 and L2 with various aspects of integration.

INTRODUCTION

Over the past decades, immigration movements around the globe have reached a historic peak, and there is no reason to expect that the numbers will decrease in the foreseeable future. International immigration can pose many opportunities but also substantial challenges to the individual immigrants as well as to the countries where they take up residence (hereafter referred to as *country of residence*). One of the most important challenges is the integration of immigrant students in the education system, as educational achievement and attainment are key determinants of success in the labor market and participation in society more generally. Educational success, in turn, requires language skills that allow students to engage in the institutional learning opportunities the country of residence has to offer.

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The linguistic situation of many immigrants and their offspring is unique. They often speak another language at home than the one used in schools and their proficiency in the school language is often limited. The question, then, is how the education system should respond to this specific situation to ensure that immigrant students will succeed even if they start out with limited proficiency in the language of instruction. This question entails various aspects and is much more complex than it appears. Although researchers from a number of disciplines have addressed some of the key questions, we are still at the beginning of understanding the role language and different approaches to language support play in the integration of immigrant students.

This essay addresses central research issues related to language use and proficiency of immigrant students. We adopt an educational perspective and concentrate on questions that are relevant for students' success in the school system, with most of the research focusing on determinants of proficiency in the language of instruction as a key determinant of educational success. The essay describes what we already know and in which directions research should move in order to improve a knowledge base that may help to enhance educational opportunities for immigrant students.

FOUNDATIONAL RESEARCH

Several lines of foundational research are relevant for exploring the role of language for the integration of immigrant students in the education system. This research stems from various disciplines, most prominently psychology, education, sociology, and economics. Broadly speaking, it includes studies on children and adolescents who have acquired a language in their family that is different from the language used in school. Although the age at which they start learning the two languages and the degree of proficiency they have reached vary tremendously, the family language of these students is typically referred to as *first language (L1)* and the school language as *second language (L2)*. In some studies, the terms *language minority* or (within English speaking countries) *English Language Learners (ELL)* are used as descriptors of these students. Research on bilingualism, in contrast, does not distinguish between a first language and a second language but focuses on persons who speak at least two languages. Yet, again, the age at which they learned these languages and the degree to which they are proficient in each of the languages vary considerably.

One line of foundational research focuses on the role of L2 in immigrant students' educational success. The evidence provided by these studies, among them several large-scale-assessment studies measuring competencies and skills of children and adolescents around the globe (OECD, 2012),

is quite clear: on average, students with an immigrant background are less proficient in the language of instruction than their peers from native families, and students with limited proficiency in the language of instruction are likely to struggle in school. Studies show that oral skills in L2 significantly predict immigrant students' achievement not only in reading but also in other subject domains including mathematics (for a meta-analysis, see Prevoo, Malda, Mesman, & Van IJzendoorn, 2015). L2 proficiency also affects the transition of immigrant students in differentiated school systems, with limited proficiency resulting in transitions to lower tracks, for instance at the transition from primary school to secondary school in Germany (Gresch & Becker, 2010).

A second line of research aims at identifying factors that predict immigrants' L2-acquisition. Chiswick and Miller (2001) suggested a framework that distinguishes three general determinants of language proficiency: exposure, incentives/motivation, and efficiency (see also Esser, 2006). *Exposure* refers to how long and how intensively an immigrant has been exposed to a language. The notion of *incentives or motivation* refers to a broad range of factors that may cause people to learn or not learn a language, such as anticipated economic returns and costs of learning the language, intention to stay in the country of residence, or intention to return to the country of origin. *Efficiency*, finally, pertains to factors that make it more or less difficult to learn a given language, including the age of the learner or the degree to which the language is similar to the respective L1.

Immigrant students often have limited exposure to L2 and they therefore lack opportunities for learning this language. Indicators of exposure studies have explored include the number of years a person has lived in the country of residence and the extent to which a person speaks the language at home. Supporting the so-called time-on-task hypothesis, the findings clearly show that these variables are significant predictors of immigrants' proficiency in L2, suggesting that the degree of exposure does, in fact, affect children's L2-acquisition (Duursma *et al.*, 2007; Scheele, Leseman, & Mayo, 2010). In line with the language competition as well as the time-on-task hypothesis, moreover, using L1 at home seems to decrease exposure to L2, resulting in a negative association between L1 use and L2 proficiency. There is evidence from a number of representative samples that the other two factors in the model (incentives/motivation and efficiency) play a significant role as well (Chiswick & Miller, 2001; Van Tubergen & Kalmijn, 2009), yet most of the relevant studies focused on adults in traditional immigration countries, such as the United States, Canada, or Australia. Although the full model has yet to be tested for other populations, the results of a recent analysis indicate that it applies to children and adolescents in European countries as

well (Van Tubergen & Mentjox, 2014). However, this study focused on L1 proficiency and would have to be replicated for L2.

In a third line of research, the focus is on one specific determinant of L2 proficiency, namely, students' proficiency in L1. On the basis of the assumption that conceptual and metalinguistic knowledge acquired in L1 can be used in other languages as well, the long-standing transfer hypothesis (Cummins, 1979) posits that a good command of L1 should make subsequent language learning in L2 (as well as in additional languages) easier. In fact, foundational research on language transfer has accumulated substantial evidence for cross-linguistic associations of literacy skills and its precursors: a considerable number of studies demonstrated that phonological awareness, basic reading skills, and reading comprehension in L1 are positively related to L2 reading (Durgunoğlu, Nagy, & Hancin-Bhatt, 1993; Lindsey, Manis, & Bailey, 2003; Proctor, August, Carlo, & Snow, 2006). Although the majority of these investigations used data from Spanish-speaking children in the United States, some studies were also carried out in other countries, such as the Netherlands (Verhoeven, 2007). Owing to a lack of formal L1 instruction, however, language minority children do not necessarily become literate in this language. This raises the question if L2 reading skills also benefit from oral L1 skills. There is some evidence that this is the case, as the findings of a meta-analysis suggest (Prevoo *et al.*, 2015). Yet, many of the primary studies neglected to control for potential confounds. An exception is a recent study on Turkish- and Russian-speaking adolescents in Germany that took into account key third variables, such as socioeconomic background and general cognitive ability, and corroborated the hypothesis that L1 oral skills predict L2 reading comprehension (Edele & Stanat, 2015).

The fourth line of research explores bilingualism and its effects (*see The Impact of Bilingualism on Cognition (Psychology)*, Ellen Bialystok). This research clearly shows that people can become proficient in more than one language. Although bilingual children and adolescents tend to have weaker verbal skills than monolinguals in each of the two languages (Bialystok, Craik, & Luk, 2012), their vocabulary may be larger overall. In addition, the research evidence supports the assumption that bilingual students have more advanced metalinguistic awareness than monolingual students. This seems to make learning a third language easier for them, at least when both L1 and L2 are official languages and used in the country's schools, such as Basque and Spanish in the Basque Country, Spain (Cenoz, 2003), whereas the results of studies exploring the prediction for immigrant students are mixed (Maluch, Kempert, Neumann, & Stanat, 2015; Van Gelderen *et al.*, 2003). The most frequently demonstrated effect of bilingualism, however, is that individuals speaking two languages tend to perform better on tasks that require attentional control, such as tasks involving distractions. Yet, the

relevance of this effect for educational success is largely unclear (see the following section).

A fifth line of research, finally, concerns the support immigrant students need to become proficient in the language of instruction and to succeed in school. For a long time, the discussion focused on the role L1 should play in these efforts. Most of the studies were carried out in North America and compared bilingual programs that provide significant parts of the instruction in L1 (typically in a transitional approach with a gradual shift from mostly using L1 to mostly using L2) with monolingual programs that use (almost) exclusively L2 in instruction. Several literature reviews and meta-analyses report advantages for the bilingual programs (Greene, 1998; Reljić, Ferring, & Martin, 2015; Rolstad, Mahoney, & Glass, 2008; Slavin & Cheung, 2005), whereas Rossell and colleagues conclude that the effect does not hold (Rossell & Baker, 1996; Rossell & Kuder, 2005). These contradictory findings are largely due to substantial shortcomings that most studies on the issue have, such as a lack of control groups or questionable comparability of treatment and control groups. A more recent synthesis focused on investigations employing randomization or matching to ensure comparability of students in the different treatment conditions and revealed a small advantage for bilingual instruction (Cheung & Slavin, 2012). Yet, the authors of the review point out that the only randomized field trial that followed students over several years found no effect (see the following paragraphs).

CUTTING-EDGE RESEARCH

Research on the role of language use and proficiency for educational success of immigrant students is often interested in causal relationships. Owing to methodological limitations of past studies, however, it is largely impossible to draw conclusions about causes and effects, such as for the association between proficiency in L1 and proficiency in L2. Cutting-edge research aims at overcoming these limitations by employing longitudinal designs and by controlling relevant third variables. In the case of intervention studies exploring the effectiveness of language support, moreover, randomized assignment to an experimental group and a control group ensures that observed between-group differences after the intervention can be attributed to the treatment.

Studies on the relevance of L2 for educational success of immigrant students and on determinants of L2 proficiency increasingly use designs with repeated measurements. To establish that transfer effects occur, for instance, it is necessary to show that language skills in L1 predict language skills in L2 measured at a later point in time. Ideally, multiple measurements are

employed that allow for estimations of growth patterns. A few authors carried out longitudinal analyses and reported findings that are in line with the transfer hypothesis (e.g., Leseman, Scheele, Mayo, & Messer, 2009 for a sample of immigrant preschoolers in the Netherlands; Lindsey *et al.*, 2003 for a sample of Spanish-speaking children in the United States).

To compare the effectiveness of monolingual (English only) and bilingual (English and Spanish) programs, a US-American study randomly assigned Hispanic students at preschool age to the two types of instruction within each of the participating schools and measured their language skills repeatedly over the course of several years (Slavin, Madden, Calderon, Chamberlain, & Hennessy, 2011). Analyses controlling for prior achievement showed that the children receiving monolingual support were more proficient in English than the children receiving bilingual support in first grade. By the time students reached second grade, however, this difference had disappeared and the groups remained comparable in their English proficiency throughout third and fourth grades. This finding contradicts the conclusion of previous research suggesting that bilingual programs promote L2 acquisition more effectively than monolingual programs. In their research synthesis, Cheung and Slavin (2012, p. 26) therefore come to the overall conclusion that “quality of instruction is more important than language of instruction.”

Another trend in research on the association between language and educational success of immigrant students is an increased focus on processes or mechanisms. This trend is most apparent in studies on the transfer issue. In the past, research on language transfer typically analyzed the relationship between isolated aspects of language proficiency, such as reading comprehension in L1 and L2. An increasing number of investigations now adopt a more general approach. On the basis of theoretical models of reading, for example, studies assess various components in both languages to determine which of them transfer and account for the association between reading comprehension in L1 and L2. Proctor *et al.* (2006) used the *Simple View of Reading* (Hoover & Gough, 1990) as a framework for analyzing the effects of decoding skills and oral language proficiency in L1 (Spanish) and L2 English on L2 reading comprehension of fourth grade students in the United States. They found that alphabetic knowledge (an aspect of decoding) and vocabulary knowledge (an aspect of oral language) in L1 predicted reading comprehension in L2 above and beyond decoding skills and oral language proficiency in L2. The study also showed that the fluent readers in L2 were the students who profited the most from their vocabulary knowledge in L1. The transfer effects were small, however, suggesting that the relevance of L1 proficiency for reading development in L2 is limited.

Research on effects of L1 on L2 has also begun to explore different mechanisms simultaneously in order to estimate their relative impact. One of the most intriguing questions is how transfer and language competition influence L2 acquisition, as their effects should operate in opposite directions. While the transfer hypothesis predicts positive effects of L1 proficiency on L2 proficiency, the language competition hypothesis suggests that a frequent use of L1 should promote L1 acquisition but reduce L2 use and hence L2 acquisition. After most studies in the past focused on one of these mechanisms, researchers have now begun to explore them simultaneously. A longitudinal study carried out in the Netherlands assessed several aspects of L1 and L2 proficiency in a group of children (age 3–6) from Turkish- or Tarifit-Berber-speaking immigrant families. In addition, the authors measured the extent to which the children were exposed to L1 and L2 in their home environment. Not surprisingly, the findings indicate that a frequent use of a language has positive effects on proficiency in this language (positive same-language effect of language use on language proficiency). Moreover, the study revealed a negative cross-language relationship between language use and language proficiency. The authors interpret this pattern of findings as support for the language competition hypothesis. At the same time, however, the study also provided evidence for transfer effects: higher levels of L1 proficiency were associated with larger gains in L2 vocabulary and reading comprehension, even after controlling for potential confounds, such as basic cognitive ability and prior language skills in L2. For language support, the authors conclude that promoting L1 may have positive effects not only on L1 development but also on L2 acquisition owing to transfer effects. To counter language competition effects, however, they argue that opportunities for L2 acquisition need to be intensified as well (Leseman *et al.*, 2009; see also Scheele *et al.*, 2010).

KEY ISSUES FOR FUTURE RESEARCH

Future studies should address the shortcomings of past research and continue to focus on current lines of inquiry that seem particularly promising. In addition, it seems worthwhile to broaden the view on integration and explore how different aspects of integration relate to use of and proficiency development in L1 and L2.

As described earlier, current research often suffers from methodological shortcomings that severely limit the interpretability of findings. In addition to a lack of longitudinal data and a failure to control for potential confounds, studies sometimes use self-report measures of language proficiency (Berry, Phinney, Sam, & Vedder, 2006; Chiswick & Miller, 2001; Mouw & Xie, 1999; Van Tubergen & Mentjox, 2014). This is most frequently the case in

studies with large samples. In fact, there seems to be a trade-off between quality of language-proficiency indicators and generalizability of findings: Investigations employing language tests are typically small scale and limited in the generalizability of their results. In contrast, large-scale studies with more generalizable results usually use self-reports of language proficiency. Analyses with self-report indicators, however, often yield different results than analyses with objectively tested language skills, as a study with data from a large, nationwide sample of immigrant adolescents in Germany demonstrates (Edele, Seuring, Kristen, & Stanat, 2015). Future investigations, including large-scale studies, should therefore employ language tests or at least establish that the self-report (or other alternative) measures they use are valid.

Future research should also aim at overcoming conceptual limitations by defining and operationalizing important constructs more clearly and consistently. As pointed out earlier, the conceptual and operational definitions of such concepts as first language, second language, and bilingualism vary considerably across studies. For example, it is often unclear at what age students started to acquire L1 and L2, to what extent they use these languages in everyday lives, whether and to what extent one of the two languages is dominant, and how proficient students are in the two languages. At the very least, studies should routinely report these and other characteristics that could potentially moderate effects. The goal should be to accumulate a research basis on issues such as transfer, language competition, and language support that can be summarized with meta-analytic techniques. This requires clear definitions of the concepts and information on potential moderators.

Another potential moderator to which future research should pay more attention is the specific combination of languages that studies investigate. One important aspect is the degree of similarity between L1 and L2 that may influence transfer and other processes of L2-acquisition as well as the effects of bilingualism on linguistic and cognitive outcomes (Barac & Bialystok, 2012; Edele & Stanat, 2015; Pasquarella, Chen, Gottardo, & Geva, 2015). A large share of the relevant research has focused on US samples with Spanish as L1 and English as L2. Comparing results for different combinations of languages and language groups would allow researchers to determine whether observed effects are specific to these combinations or universal.

In research on determinants of L2 acquisition, it would be promising to test the model suggested by Chiswick and Miller (2001) more comprehensively for children and adolescents. Most importantly, the model should be extended by distinguishing between quantity and quality of language exposure. To ensure that their children will learn the language used in school, immigrant parents sometimes speak L2 at home, even if they themselves are not fluent in this language. This raises the question of relative effects that

quantity and quality of exposure may have on L2 development. Longitudinal research on differential language environments of children in the United States (Hart & Risley, 1995; Weizman & Snow, 2001) suggests that language development is affected not only by the quantity but also by the quality of the language parents use with their children (such as variability of vocabulary). Similar analyses are needed in settings where more than one language is spoken. Among other things, research should determine whether L2 development profits more from relatively low-quality input in L2 or from relatively high-quality input in L1.

In research exploring the impact of L1 on L2, it would be important to estimate more precisely the net effects of transfer on the one hand and of time-on-task or language competition on the other hand. In addition, studies should explore more systematically the role of possible moderators, such as students' basic cognitive abilities and relevant features of the respective language combinations. In addition, the widely held assumption that transfer will occur only if a certain threshold of L1 proficiency has been reached should be tested with suitable study designs (Edele & Stanat, 2015; Prevoo *et al.*, 2015).

In a similar vein, it would be important for research on bilingualism to further determine how fluent students have to be in the two languages for positive effects of bilingualism to occur. Most importantly, the extent to which the cognitive advantages of bilinguals affect educational success should be analyzed. Past research was mainly carried out in laboratory settings with rather confined cognitive tasks, and it is largely unclear whether the observed differences between monolingual and bilingual students play out in school-related learning. One of the few studies examining this question for a sample of Turkish-speaking immigrant children in Germany suggests that this may not be the case (Kempert, Saalbach, & Hardy, 2011). In addition, the implications of research on bilingualism for language support need to be specified. The generalizability of studies on bilingual education is often limited owing to selection bias (Slavin & Cheung, 2005). It is therefore unclear whether all students can profit from this approach or the effects depend on other factors, such as students' general cognitive ability (aptitude \times treatment interaction). In addition, more research on this issue with samples from other regions would help to determine whether the findings from North American studies also apply to other language groups and contexts.

As Cheung and Slavin (2012) point out, moreover, a key issue for future research on support for children from immigrant families is quality of instruction. Although the relative effectiveness of bilingual and monolingual approaches for educational success has not been fully determined, at this point it seems that the importance of the language of instruction *per se* may have been overrated. Instead, the effectiveness of bilingual

and monolingual approaches most likely depends on the quality of their conceptualization and implementation. A conceptually elaborated approach that was designed in the United States to help language minority students gain access to the curriculum content in all subjects and, at the same time, to develop their language skills in L2 is the *Sheltered Instruction Observation Protocol (SIOP)*; Short, Echevarría, & Richards-Tutor, 2011). It involves a number of techniques, such as providing comprehensive reviews of key vocabulary and giving students the opportunity to clarify key concepts in their L1. Although some analyses, which also focus on language minority students in the United States, suggest that the SIOP approach can be effective, the findings are inconsistent (Echevarría, Richards-Tutor, Canges, & Francis, 2011) and well-controlled studies are lacking. Thus, again, studies on the effectiveness of support for immigrant students are needed that employ well-controlled designs and include measures of quality.

Yet, the integration of immigrant students in the education system is even more complex than the foci of current research suggest. Structural and cultural integration, such as educational success and proficiency in the language of instruction, clearly are of prime relevance, but social and identity-related integration are vital as well. Importantly, these different aspects of integration are interrelated and most likely associated with language use and proficiency. The *Theory of Segmented Assimilation*, for example, argues that proficiency in the L1 can provide access to social capital of the ethnic group, which may help to prevent students from adapting to marginalized groups and from failing in school (Portes & Zhou, 1993). Although it is still unclear whether the assumptions of the Theory of Segmented Assimilation hold and, if so, under which conditions the predicted patterns are likely to occur, the general line of reasoning is a good example for a broadened view on the roles language may have in the integration of immigrant students in the education system. A promising avenue for future research would be to analyze the associations among proficiency development in L1 and L2 as well as different aspects of integration over time to provide a more complete picture of factors and processes influencing immigrant students' educational success.

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Petra Stanat is the director of the German Institute for Educational Quality Improvement (IQB) and professor of educational psychology at the Humboldt-Universität zu Berlin. The IQB is in charge of the national monitoring system of student achievement in Germany. Petra Stanat obtained her PhD in social and personality psychology at the University of Massachusetts at Amherst in 1998 and completed her Habilitation in Education at the Freie Universität Berlin, Germany, in 2005. Her research focuses on questions related to ethnic and social disparities in education, determinants of immigrant students' educational success, second-language teaching and learning, as well as educational quality and monitoring. She has received several research grants from the German Science Foundation and the German Federal Ministry of Education and Research and has published her findings

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