



3

Mastery of the Assessment Language and Reading Outcomes

Many children of immigrants face a language barrier at school – they speak a different language at home than the language of instruction, which is also the language of their PISA test. Immigrant students with lower levels of performance in PISA tend to speak another language at home. Greater exposure to and the mastery of the assessment language is associated with better performance. Policies which promote this enhanced exposure are likely to help bridge the gap between immigrant and non-immigrant students.



INTRODUCTION

The fact that many immigrant children arrive speaking a main language different from that of the destination country is undoubtedly the most significant barrier to development of good reading skills in the host-country language. Even for immigrant students born in the country or who arrived at an early age, exposure to the language of the country of residence may not be as extensive as it is for non-immigrant students, among other reasons because the language mostly spoken at home may not be the host-country language.

The objective of this chapter is to more closely examine the issue of language proficiency among immigrant students and its link to reading outcomes in PISA. In an assessment such as PISA, the reading performance of immigrant students will often be a function both of language proficiency and of skill level with respect to the types of tasks being assessed. However, the two cannot be easily disentangled and language proficiency can be said to determine the ability of persons assessed to mobilise the skills which they possess in the accomplishment of reading tasks.

There are several factors which can affect language proficiency. Among these are the age at arrival, the analysis of which is explored in Chapter 4. The other main determinants explored in this chapter relate to the amount of exposure to the assessment language in different environments, in particular exposure to that language at home and at school.

The objective is to examine the extent to which exposure to the assessment language is related to proficiency in that language. Does greater exposure to the assessment language, for example through use at home, improve performance in PISA? Does it reduce the observed difference between immigrant and non-immigrant students? How relevant is exposure to the assessment language at school, for example through attendance at pre-primary school or indeed schools where most students' mother tongue is the language of the host-country? To what extent does extensive exposure to a different language matter, compared to parental education, for example?

WHAT FACTORS AFFECT LANGUAGE PROFICIENCY?

Migrants' lower language proficiency in the assessment language is partly explained by their lower exposure to the assessment language. For first-generation immigrants whose native language is different from the language of assessment used in PISA, the first factor that influences exposure is the amount of time immigrants have lived in the host-country; generally the earlier the arrival, the better the reading outcome. This question is pursued further in Chapter 4.

LANGUAGE EXPOSURE AT HOME

For many immigrants, the language of the country of migration is not their native language. This is a truism that typifies the challenges faced by immigrants in their adopted countries. If they must sometimes deal with a second (or third) language in their work or daily dealings with others in the country of residence, the home environment is one where the comfort and familiarity of a language they master well can be enjoyed. Even if both spouses of an immigrant household are able to speak the language of the host-country, they will normally not speak it to each other. Their children, therefore, are likely to learn the language of their parents as their first language and to be exposed to the language of the host-country only through older siblings, relatives or friends, the media (television and Internet) or school attendance.

This in itself might lead one to expect lower performance levels on the part of persons who speak mostly a foreign language at home. Moreover, over the past 20 years, the means (electronic) to maintain contact with the language, culture and way of life of the country of origin at very low cost have expanded tremendously, so that the presence and use of the assessment language in the home may well be even less frequent than in the past.

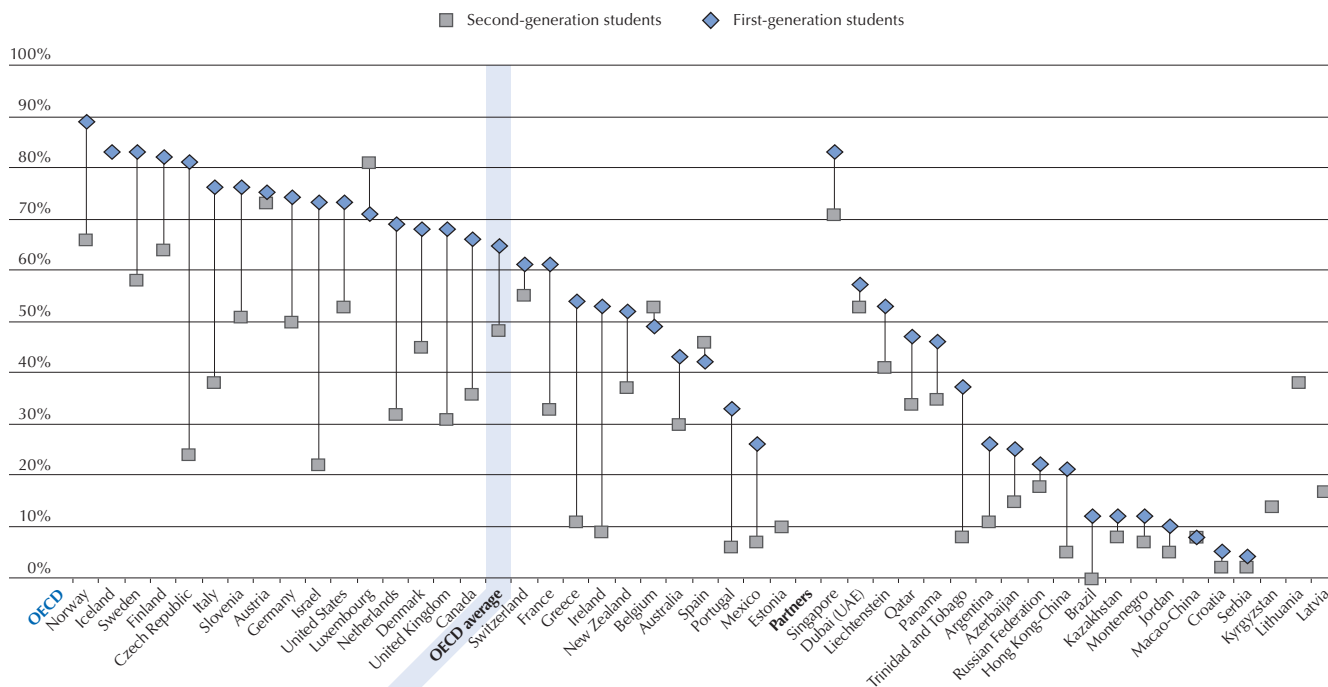
Almost two thirds of first-generation immigrants in OECD countries do not speak the language of the test assessment at home (Figure 3.1). In northern European countries like Norway, Iceland, Sweden and Finland, the percentage of first-generation immigrants not speaking the test language at home increases to over 80%. Only in a few OECD countries (Belgium, Australia, Spain, Portugal and Mexico) is the percentage of first-generation immigrants who do not speak the test language at home lower than 50%.

In partner countries, the situation is different: 72% of first-generation immigrants on average speak the test language at home, but there is some heterogeneity. In several partner countries, like Serbia, Croatia or Macao-China, the percentage is even higher than 90%. A notable exception is Singapore, where the percentage of first-generation immigrants speaking the test language at home is only 17%.

Second-generation immigrants tend to speak the test language at home to a greater extent than first-generation migrants. One reason for this is that the parents of many second-generation students themselves arrived in the country when they were quite young and speak the language of the host-country as their main language (Table 1.2). The share of second-generation students who do not speak the test language at home in OECD countries is on average 25 percentage points lower than that of first-generation students. In the Czech Republic, Israel, Ireland and Greece, the share is even over 40 percentage points lower. The few exceptions where the



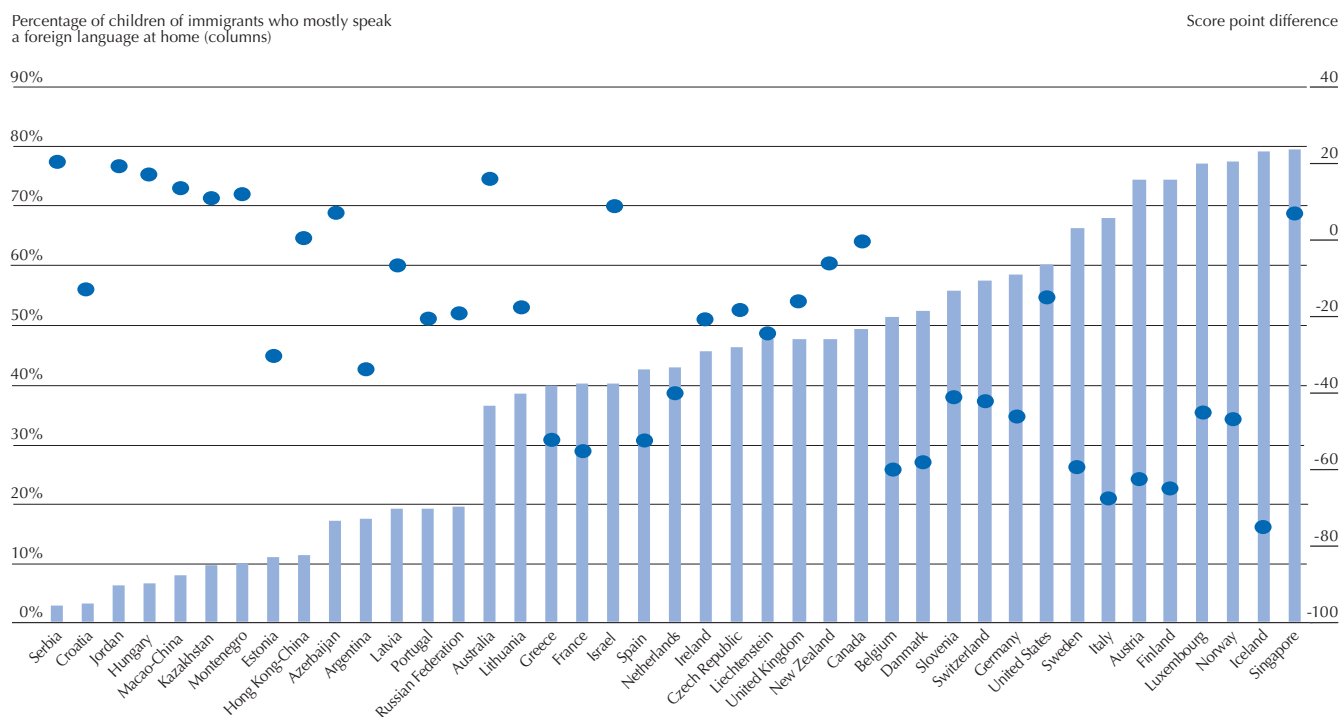
Figure 3.1
Share of students who speak a language different from the test language at home, by migration status



Countries are ranked in descending order of the share of students from the first generation who do not speak the test language.

Source: Table B3.1.

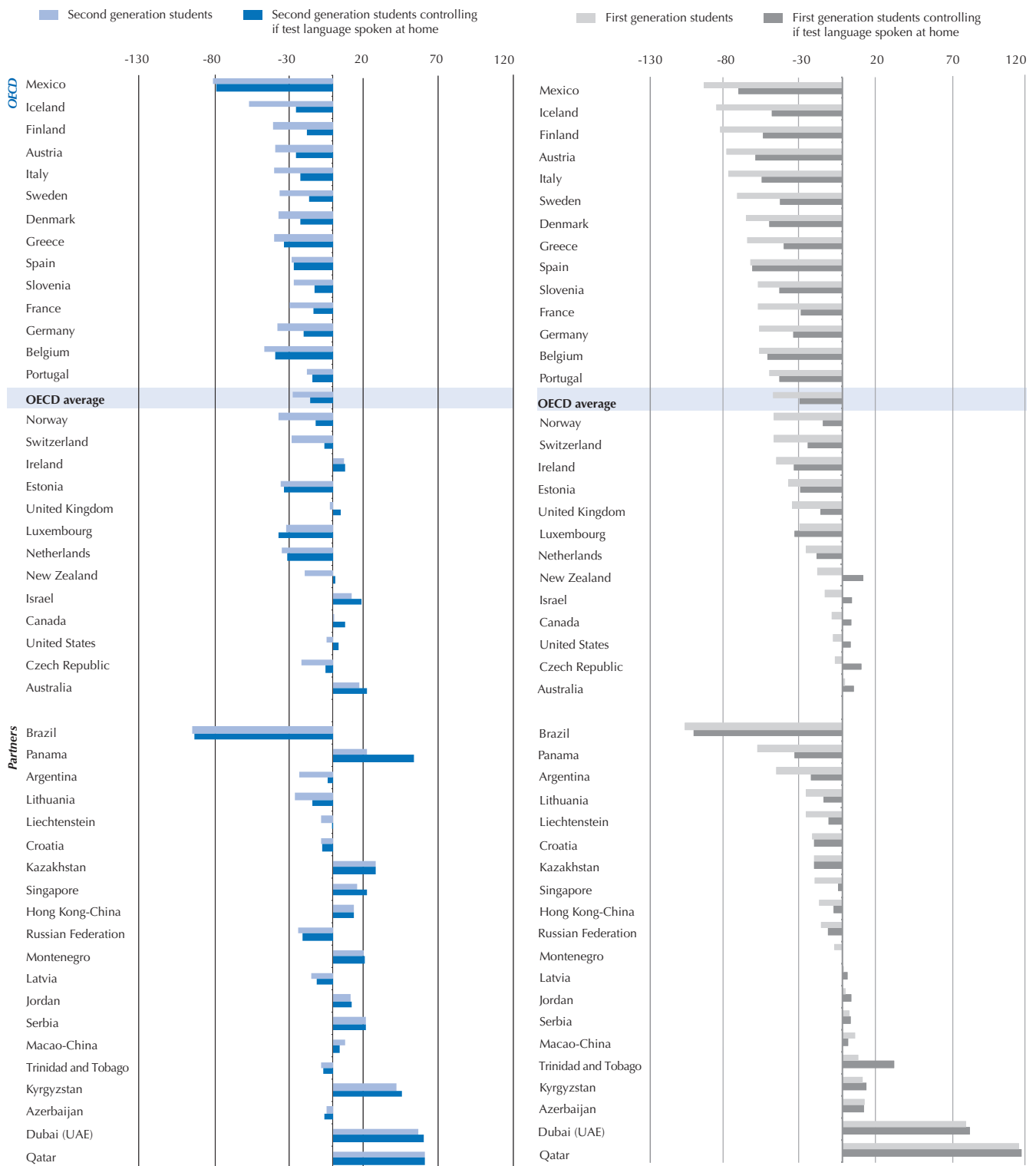
Figure 3.2
Relationship between the share of students who speak a language different from the test language at home and score differential



Countries are ranked in ascending order of the share of students who speak a language different from the test language at home.

Source: Tables B2.1a and B3.1.

Figure 3.3
Differential score controlling (and not controlling) if the test language is spoken at home, by migration status



Note: Differential test score for first- and second-generation immigrant, controlling for parental education and controlling (or not controlling) for test language spoken at home.

Countries are ranked in ascending order of the score point difference among first-generation students, without controlling if test language is spoken at home.

Source: Tables B3.2 and B3.3.



proportion of second-generation students not speaking the test language at home is higher than that of first-generation students are Spain, Belgium and Luxembourg, probably because first- and second-generation students belong to different migration waves. For partner countries, second-generation immigrants also tend to speak the test language at home to a greater extent. On average, 81% of second-generation immigrants speak the test language at home, 9 percentage points higher than for first-generation immigrants.

The importance of language exposure for PISA reading scores is evident from Figure 3.2, which shows for each country the percentage of students mostly speaking a language at home other than the language of instruction and the score difference between immigrant students (first- and second-generation combined) and children of the native-born.

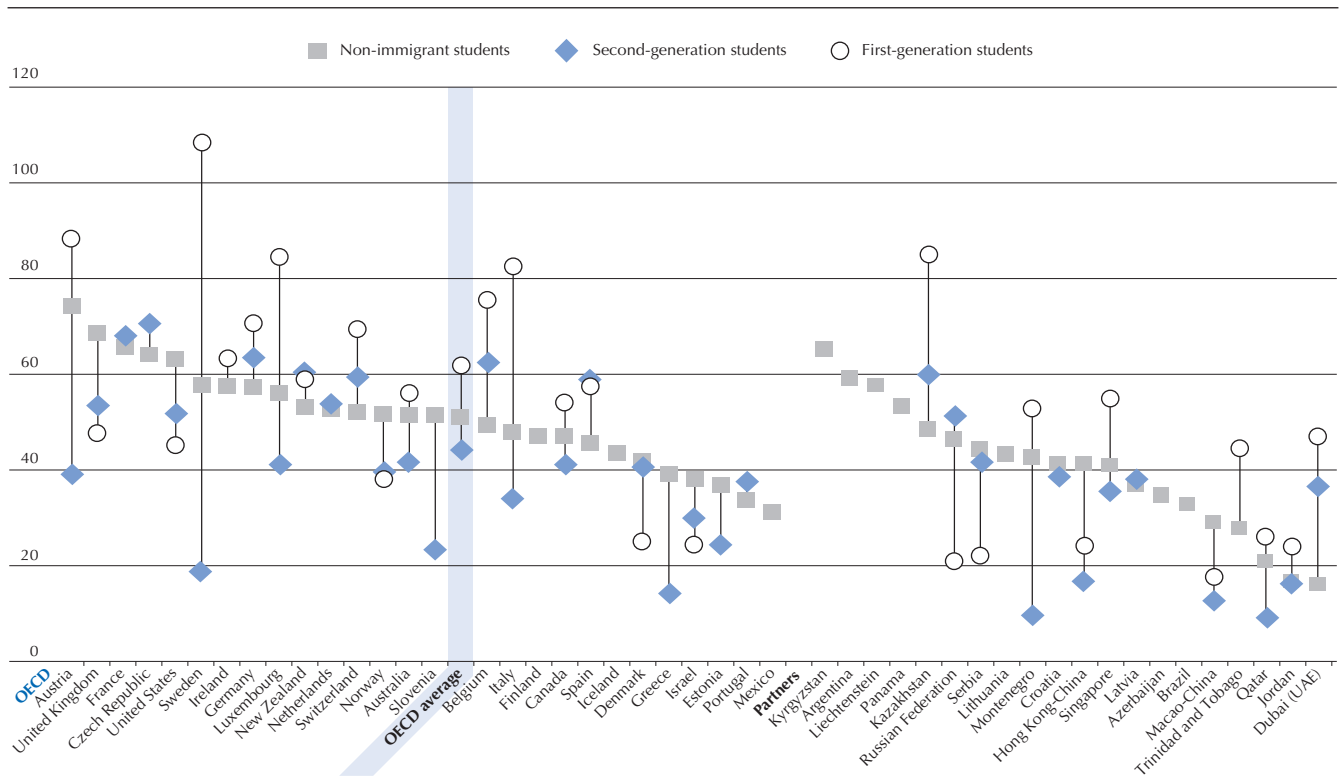
The difference in PISA reading performance between students who do not speak the assessment language at home and the children of the native-born is massive, averaging over 50 points for first-generation students and 35 points for second-generation in OECD countries. Nothing illustrates as clearly as this the paramount importance of language for the integration of the immigrant students.

In fact, exposure to the test language at home gives a substantial advantage in language proficiency for first- and second-generation students (Figure 3.3). On average, a second-generation student in an OECD country has a reading score 27 points higher if he speaks the test language at home and a first-generation student a reading score 30 points higher.

Exposure to the test language at home can be seen to have significant impacts on reading scores (Figure 3.3). Reading score differences for both first- and second-generation students compared to non-immigrant students are substantially reduced after controlling for the language spoken at home. On average in the OECD, the score is reduced by 11 points for second-generation (a 42% reduction) and by 18 points for first-generation immigrants (a 38% reduction).

In some countries like New Zealand, Israel, Canada, United States, the Czech Republic and Australia, the score difference for first-generation students even becomes positive, implying that migrants have higher reading scores than natives after controlling for whether or not the test language is spoken at home. This highlights the importance of exposure to the assessment language at home. Admittedly policy cannot expect to impose what language should be spoken in the home environment, but it can act to increase the exposure of immigrant students in the school or para-school environment, for example, through enhanced language learning for immigrant students as well as their parents or by “open school” programmes during the summer months.

■ Figure 3.4 ■
Reading score advantage if having over 100 books at home, by migration status, controlling for parental education and language at home



Note: OLS coefficients of a variable indicating if the household has over 100 books. Separate regressions for immigrant and non-immigrants. Countries are ranked in descending order of the reading score advantage if having over 100 books at home among non-immigrant students. Source: Table B3.5.



Other factors in the home environment may act to improve the reading skills of the children, such as the availability of reading materials like books and newspapers, which is one of the strongest factors related to good reading outcomes. Both non-immigrant and first- and second-generation immigrants have higher reading scores if there are more books in the home and this remains true even after controlling for parental education and language spoken at home (Figure 3.4). On average, a first-generation immigrant in the OECD has a score 61 points higher if his household possesses over 100 books. This premium also exists for second-generation students (45 points) and for non-immigrant students (51 points).

In some countries, first-generation students tend to reap higher benefits from the availability of reading materials at home than non-immigrant students, but this is not the case everywhere, for reasons which are easily discernible (Figure 3.4).

LANGUAGE EXPOSURE AT SCHOOL

Early entry into formal education can be beneficial to immigrant students, not only because they enter the formal education system per se but also because they can increase their exposure to the host-country language. The analysis in this section is limited to immigrant students born in the country, because most of those born abroad will not have attended pre-primary schooling in the host country.

Figure 3.5 shows the score premium of attending pre-primary schooling for one year or more, for non-immigrant and second-generation students.

Attendance in pre-primary education is clearly linked with higher reading scores at age 15. On average in the OECD, a second-generation student who has attended pre-primary education has a reading score 23 points higher than one who did not attend pre-primary schooling (Table B3.4a). The premium for attending pre-primary schooling is even higher for immigrants in Italy (a score 50 points higher), Portugal (37 points higher) and Germany (32 points higher). Non-immigrant students who attended pre-primary schooling also have a higher score (27 points difference).

For students in partner countries, attendance in pre-primary education is also associated with higher scores. Immigrant students who attended pre-primary education have scores 30 points higher than those who did not. Non-immigrant students in partner countries have a similar average benefit from attending pre-primary education (31 points).

Attendance at pre-primary remains strong and significant after controlling for parental education, migration status and whether a foreign language is spoken at home (Table B3.4b). The average difference in OECD after controlling for these characteristics is over 20 points higher scores (around half a year of formal schooling). For Germany and Italy, the advantage is around 34 points, for France around 34 points, for Israel around 50 points and for Belgium almost 70 points. The effect, however, does not seem significantly more advantageous for second-generation immigrants than for non-immigrants (Table B3.4b).¹

A higher concentration in schools of students who do not speak the test language at home is related to worse outcomes for both non-immigrant and immigrant students.

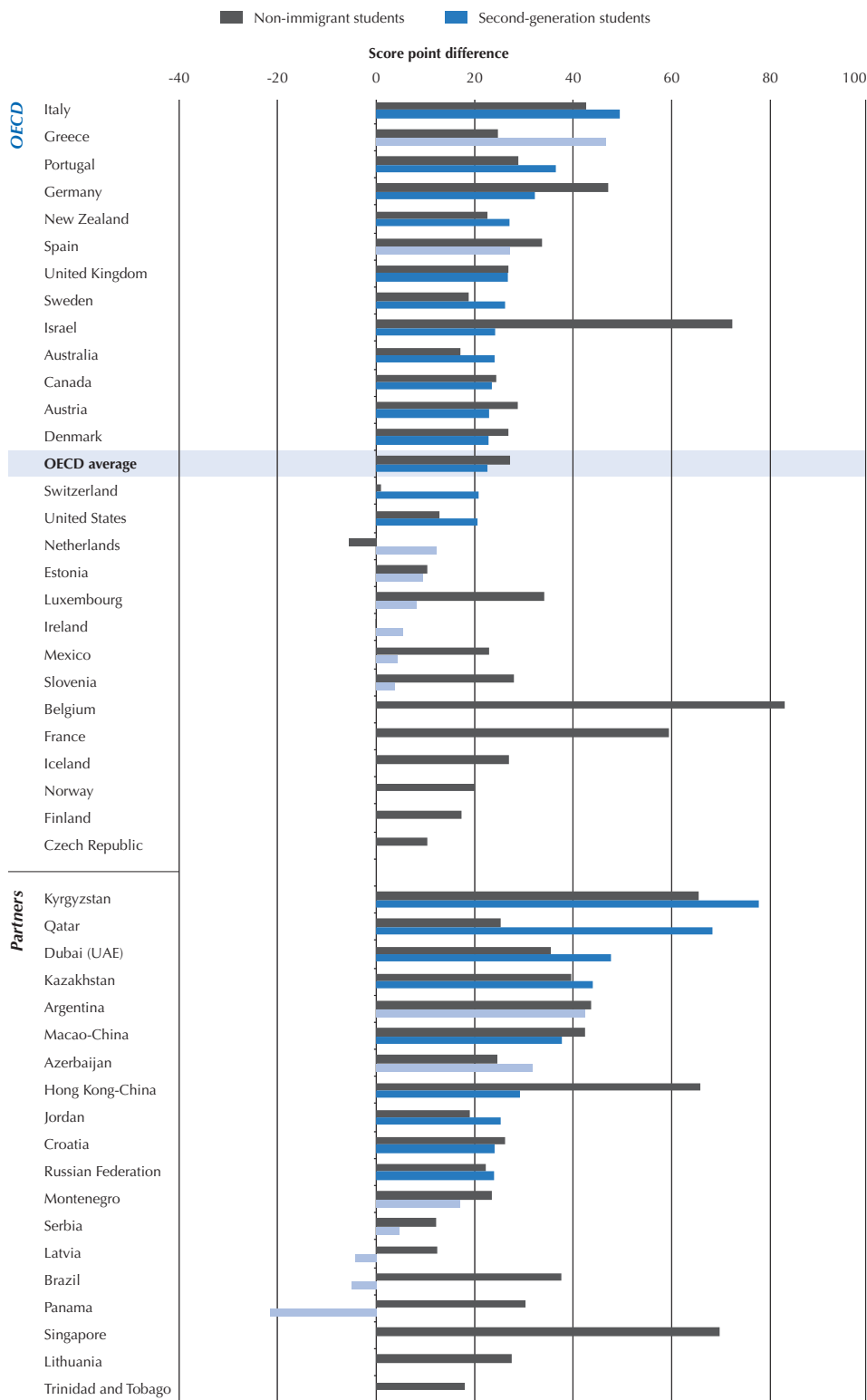
As is well known, immigrants tend to concentrate in certain neighbourhoods. The impact of this concentration on immigrant educational and labour market outcomes is a question of some interest and will be considered with respect to reading outcomes more generally in Chapter 5. This chapter looks at how individual reading outcomes vary according to the percentage of immigrants in schools who speak another language at home.² As noted above, reading outcomes are not as good on average if students speak another language at home, but there may also be a collective effect due to the grouping of such students in the same schools. Students learn from each other and a lower overall level of language proficiency in the school environment may hamper peer-influenced learning. In order to study the effect of concentration of those students, the share of individuals not speaking the test language at the school level is computed from the individual responses to the language spoken at home.³ A detailed analysis of the effects of concentration in the school, in particular relating to other types of disadvantage, can be found in a separate chapter.

The percentage of students in a school mostly speaking another language at home varies significantly according to whether the student is of immigrant origin or not. Non-immigrant students attend mostly schools where there is a low prevalence of students who do not speak the test language at home. On average in the OECD, over 74% of non-immigrant students attend schools where less than 10% of the students mostly speak another language at home (Table B3.6). Only 6% of non-immigrants attend schools where more than 40% of the students mostly speak another language at home. In partner countries also, over 75% of non-immigrant students attend schools with a low percentage of students not speaking the test language (less than 10% of students).

First- and second-generation students tend to attend schools with a higher proportion of students who mostly do not speak the test language at home. In the OECD, around 62% of second-generation students and 64% of first-generation students are in schools where more than 10% of students do not speak the test language at home (see Figure 3.7). In partner countries, first- and second-generation students are less concentrated in schools with a high proportion of students not speaking the test language at home. Around 32% of second-generation students and 36% of first-generation students attend schools with a percentage of students not speaking the test language at home higher than 10%. A detailed distribution for each country can be found in Table B3.6.



Figure 3.5
Differential score if attending pre-primary school for at least one year, non-immigrants and second-generation immigrants



Note: Lighter shades indicate non-significant differences.

Countries are ranked in descending order of the score point difference among second-generation students if they attended pre-primary school for at least one year.

Source: Table B3.4a.

The percentage of students in schools that generally do not speak the test language at home is negatively correlated with language outcomes for non-immigrants as well as second- and first-generation students. Reading scores of non-immigrants, and first- and second-generation students are highest when it is uncommon for students to speak another language at home, that is, from 0% to under 10%. The scores decline as the concentration of foreign-language speakers increases (Figure 3.6).

■ Figure 3.6 ■

Reading scores by percentage of students in school who do not speak test language, by migration status

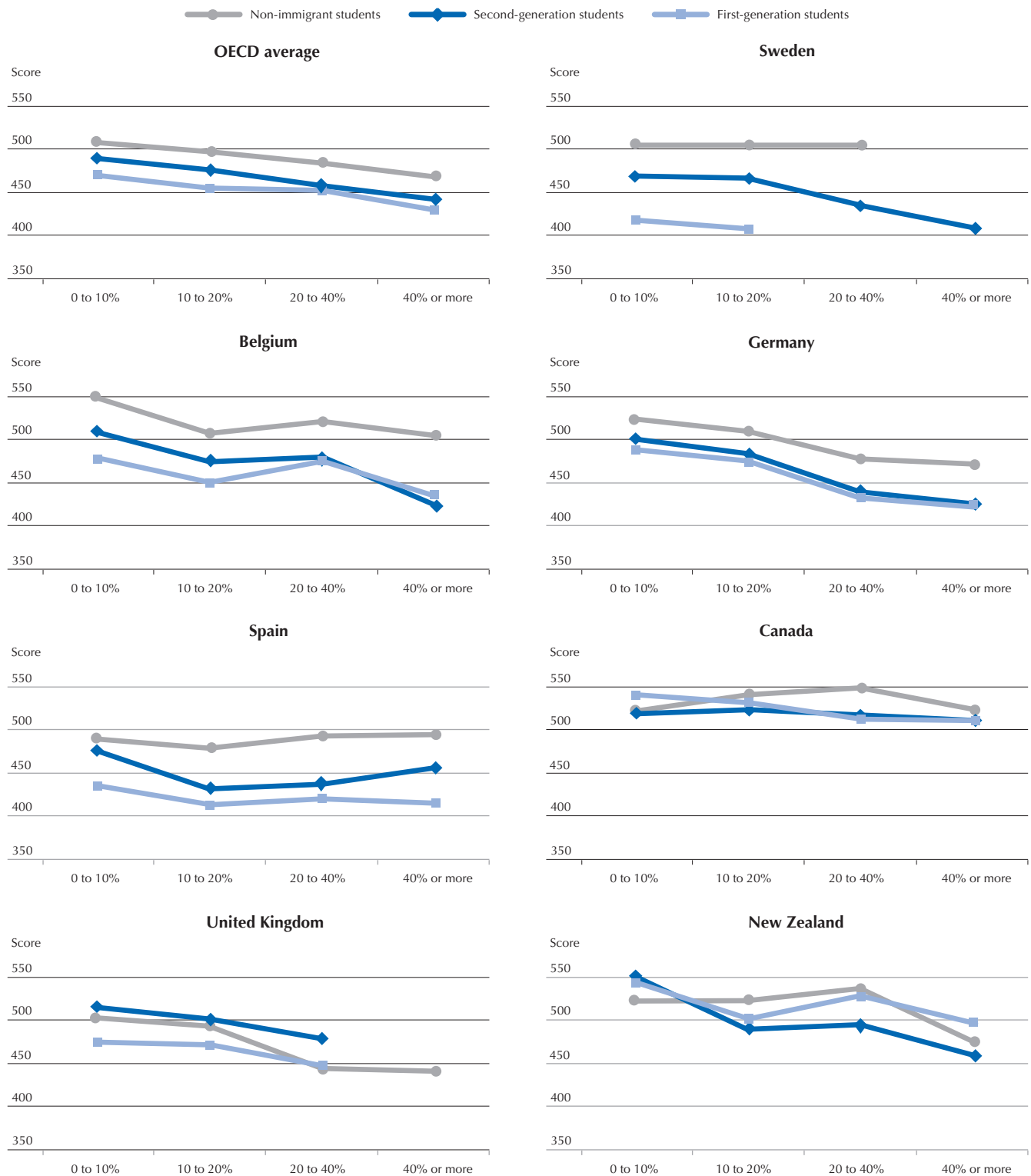




Figure 3.6
Reading scores by percentage of students in school who do not speak test language, by migration status (continued)

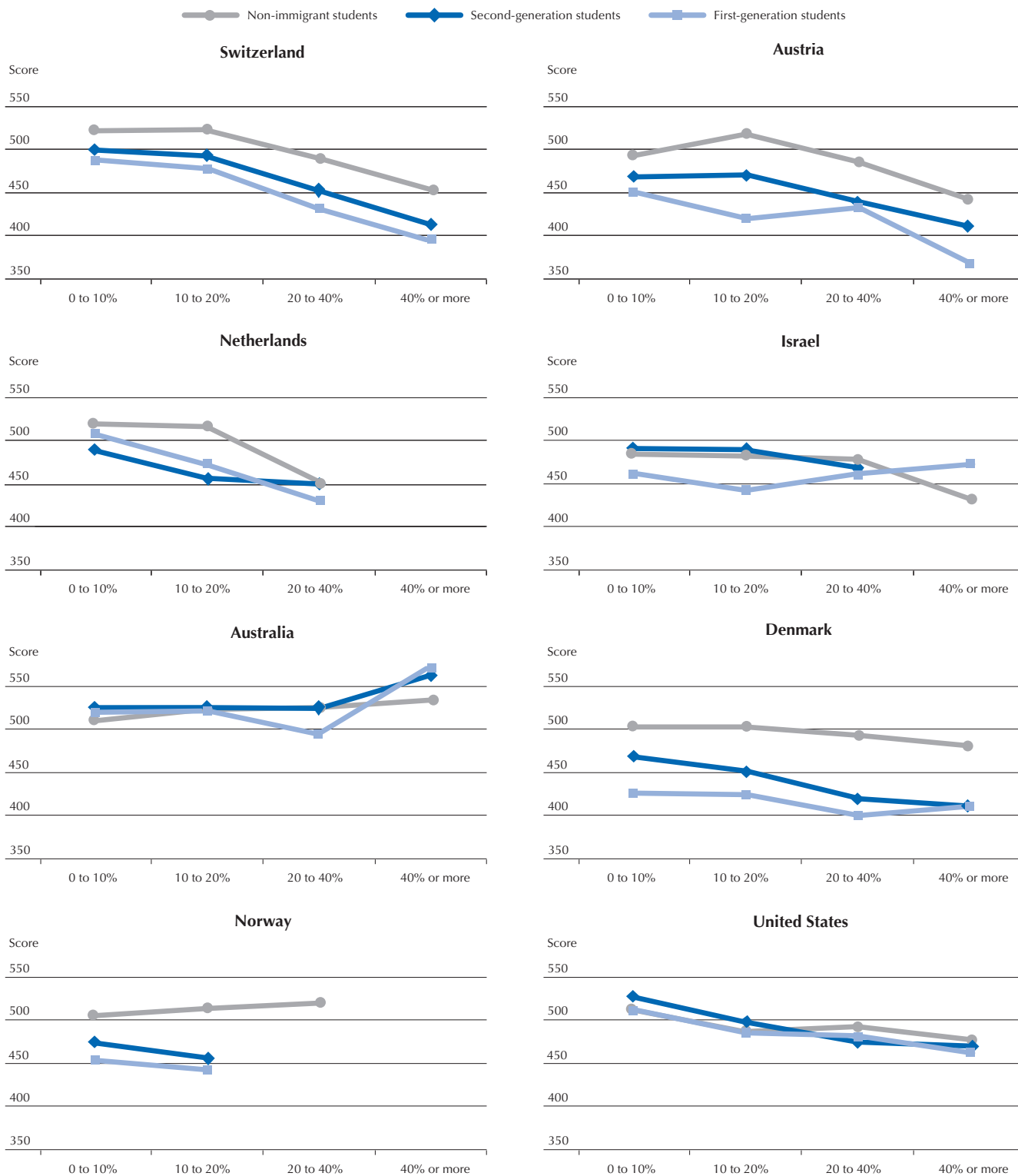
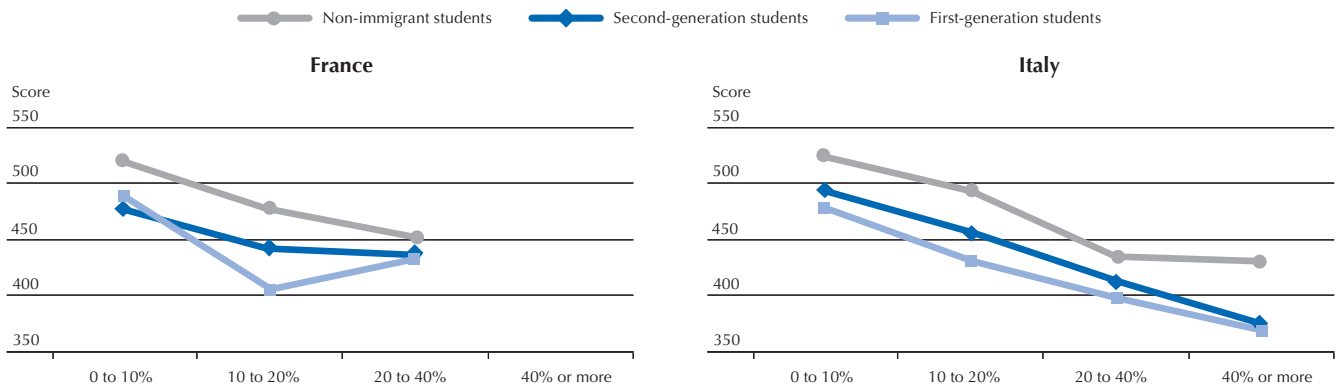


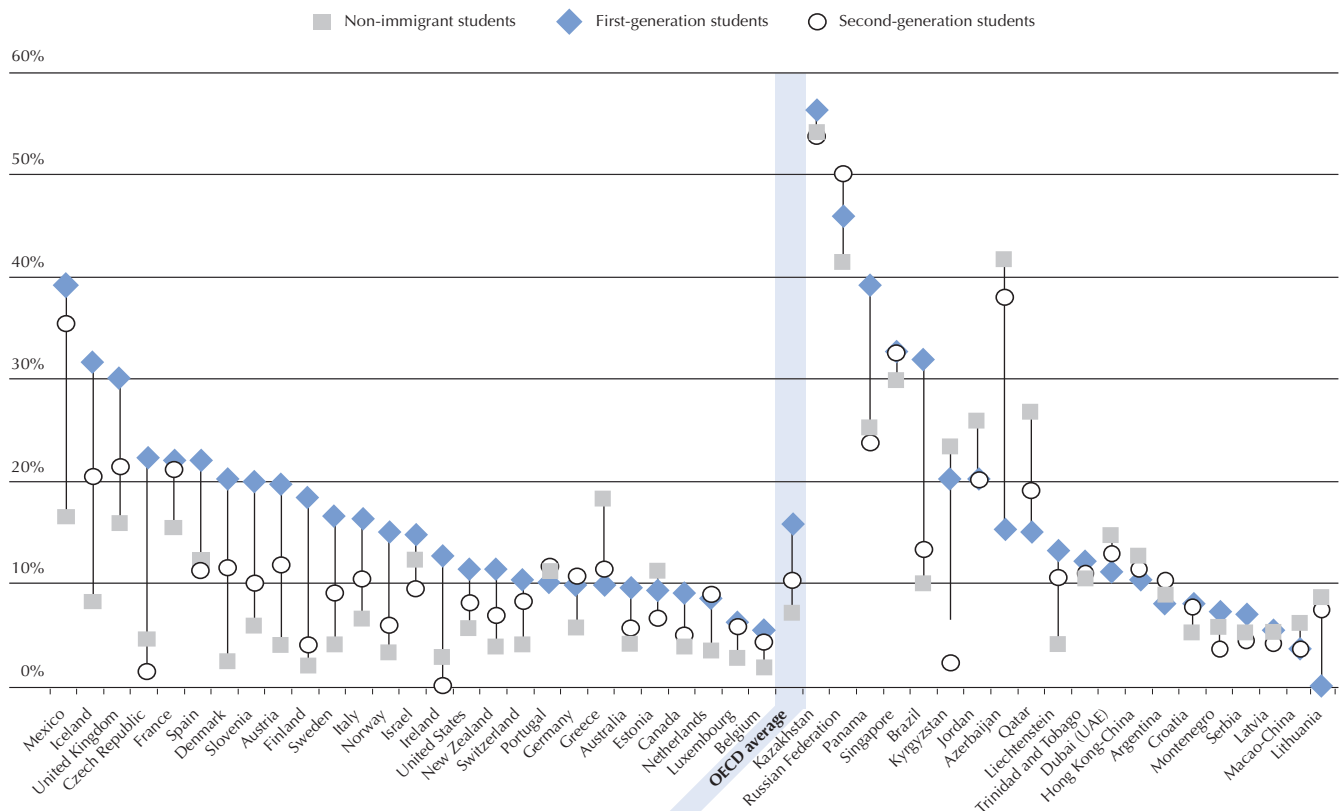
Figure 3.6
Reading scores by percentage of students in school who do not speak test language, by migration status (continued)



Note: For each line, when an intermediate data point did not exist because the sample was too small, it was estimated as the average between the two points to avoid a break in the lines reported here; this same logic however was not applied to the extremes.

Source: Table B3.7.

Figure 3.7
Share of students attending test language remedial classes, by migration status



Countries are ranked in descending order of the share of first-generation students attending test language remedial classes.

Source: Table 3.9.



The effect of concentration, however, is not the same for first- and second-generation students or even non-immigrant students. The reading score penalty associated with concentration is higher for first- and second-generation students than for non-immigrants. The lowest scores for non-immigrants, second- and first-generation students are observed when the concentration of pupils not speaking the test language at home is the highest (40% or plus). The results for each country can be found in Figure 3.6. Results for certain countries, such as Australia, Canada and Israel, suggest that it is not language concentration per se which is problematic; in these countries reading outcomes for immigrant students in schools where there are a high percentage of students mostly speaking another language at home are as high as in schools where foreign-language speakers are less frequent. As will be seen in Chapter 5, other determinants of outcomes play a more systematic role.

The negative association between the proportion of students in a school who do not speak the test language and lower reading proficiency is substantial. The negative correlation, however, declines if one controls for parental education, language spoken at home and migration status (Table B3.8).

First- and second-generation immigrants are more likely to attend remedial language classes

Since first- and second-generation students have lower reading scores than their non-immigrant peers, it is not surprising to find that they attend more support courses. Figure 3.7 shows the share of students who attend remedial classes in the test language. In OECD countries, around 16% of all first-generation students and 10% of second-generation students attended remedial classes (compared to 7% for non-immigrant students). Given the large reading outcome gaps between immigrant and non-immigrant students, these differences are surprisingly small. However, remedial classes are intended to be exceptions; in schools where the overall reading level of students is weak, remedial help may be required for almost all students, which may well imply that regular classes take on a remedial role. In most countries, immigrant students are more likely to attend language support courses. Exceptions are Greece and Portugal, where migrants despite having lower language skills are less likely to attend support courses.

Is attending this type of programme beneficial to poor performing students? Addressing this question would require a measure of performance both before and after receiving remedial support, to be able to determine its causal impact. Because remedial support is given to individuals with low performance, a direct comparison of performance between those who received and those who did not receive support would tend to show lower outcomes for the former.

SUMMARY AND CONCLUSIONS

The language proficiency of immigrant students depends on a number of factors. This chapter highlights the importance of exposure to the assessment language both at home and at school. Speaking the test language at home is strongly associated with better reading outcomes among immigrant students. A sizeable proportion of the difference in reading outcomes between immigrant and non-immigrant students is due to this factor alone.

Exposure to the assessment language in school at an earlier age is also beneficial for language proficiency. Pre-primary school attendance is strongly associated with higher reading skills at age 15 among immigrant students. However, many immigrant students attend schools where a high percentage of students speak another language at home. Since these students have less-favourable reading outcomes, on average, immigrant students will not benefit significantly from exposure to the assessment language at school. While policy measures to modify language behaviour are impractical, the objective of increasing exposure to the host-country language can be achieved in other ways.

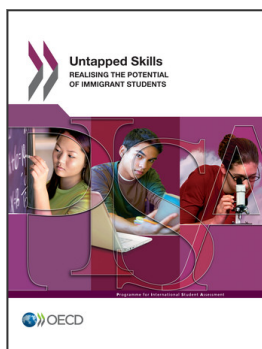
Immigrants should be encouraged to enrol their children in early education. If many countries already have special language programmes for immigrant children, they do not appear to be sufficient to guarantee good reading levels in the host-country language. Children may be able to learn foreign languages quickly, but one cannot rely on that ability to ensure adequate reading levels. Measures to reinforce language programmes for children of immigrants and to increase their effectiveness would be beneficial throughout the years of schooling. Open-school policies that offer access to schools, tutors and reading materials during the summer months are another avenue for increasing exposure. Parents also need to be sensitised to the benefits of home exposure to media in the prevailing language.

People who have a good mastery of the language of instruction and are able to read well in that language are better equipped to participate in the society and economy of the country. This is a benefit not only to the individual but to the society, as well. Countries thus have an interest in funding language-learning for all adults who have been admitted for settlement and who wish to improve their language knowledge and proficiency. Canada and Sweden, among other countries, provide free language tuition to all adult permanent residents. Such measures undoubtedly contribute to better language proficiency among immigrant parents, which can only be beneficial to their children.



Notes

1. However, this counterintuitive result seems to be sample-size related, since pooling over OECD countries shows an additional benefit of some 23 points for those speaking another language at home but no significant additional benefit for those who speak the test language.
2. The percentage is measured for students participating in the PISA assessment, which covers only 15-year-olds. This may not be entirely representative of all students in the school. In addition, schools with fewer than 20 sampled students responding on the language-spoken-at-home questions are excluded from the analysis.
3. This variable should be a good proxy of the first language of the students. Alternatively, a variable at the school level could be used, where the principal declares the share of 15-year-old students that do not speak the test language as first language. While the results do not differ significantly, the variable is not available for some several countries and it might have greater measuring error than the variable constructed from the individual responses. For this reason, the results presented here correspond to the constructed variable at the school level from individual responses.



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