

RESEARCH SUMMARY

The International Baccalaureate bilingual diploma: Global trends, pathways, and predictors of attainment

Summary developed by the IB Research department based on an article published in the *International Journal of Educational Research* by

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Introduction

The ability to communicate in more than one language is essential in our global, interconnected society. Population mobility, political and economic interdependence, and knowledge dissemination are all recognized as aspects of globalization and all have a role in creating the need for a bilingual/multilingual population (IMF 2000). Language acquisition and the ability to communicate in more than one language are touchstones of the International Baccalaureate's (IB) philosophy surrounding the development of intercultural perspectives. The International Baccalaureate recognizes the variety of languages used by IB students and teachers and the growing need for multilingual proficiency. This study explores global patterns and pathways of attainment of the bilingual diploma, and it examines the factors that play a role in this attainment to provide insights into why some students choose to pursue the bilingual diploma.

Background

The International Baccalaureate is a non-profit educational foundation, motivated by its mission to “develop inquiring, knowledgeable, and caring young people who help create a better and more peaceful world through intercultural understanding and respect” (IBO, n.d.). The organization currently works with more than 4,000 schools in 145 countries to develop and offer four challenging programmes to more than one million students aged 3 to 19 years.

The Diploma Programme (DP), for students aged 16 to 19, is an academically challenging and balanced programme of education, which prepares students for success at university and life beyond. The DP is currently offered in more than 2,500 schools, both public and private, in 140 countries.

In addition to regular internal assessments, at the end of the programme DP students take written examinations for each of their courses, which are marked by external IB examiners. The grades awarded for each exam range from 1 (lowest) to 7 (highest). Students can also be awarded up to three additional points for their combined results on theory of knowledge and the extended essay. Therefore, the highest total score that a DP student can be awarded is 45 points. The diploma is awarded to students who earn at least 24 points, subject to certain minimum levels of performance across the whole programme and satisfactory participation in creativity, activity and service (CAS).

With the successful completion of these diploma requirements, DP students receive a “standard diploma” (SD). At the time of analysis (prior to 2013, when new requirements were applied), a “bilingual diploma” (BD) was awarded instead of the standard diploma when one or more of the following additional criteria were met (IBO 2011):

- the completion of two languages A1 (selected from group 1—Studies in language and literature)
- the completion of a language A1 together with a language A2 (selected from group 2—Language acquisition)
- the completion of one of the subjects from group 3 (Individuals and societies) or group 4 (Experimental sciences) in a language other than the candidate's language A1
- the completion of an extended essay in a group 3 or 4 subject, written in a language other than the candidate's language A1.

The language A2 courses that were phased out in 2012 were designed for students who had high levels of competence (native or near-native speakers) in the target language. These courses included the study of

both language and literature, and were available at higher and standard level (IBO 2011).

Research design

The purposes of this study were:

1. to explore global trends in the award of bilingual diplomas between 2007-2012,
2. to identify main pathways and language options that lead to the award of bilingual diplomas, and
3. to analyze the relationship between a student's native language, their academic achievement, and the award of the BD.

The research questions addressed in this study are as follows.

1. What trends existed in the award of BDs between 2007 and 2012, both worldwide and in individual countries?
2. What is the proportion of students that earn bilingual diplomas through each pathway?
3. What are the most common languages that bilingual diploma-earners study?
4. What is the relationship between a student's language, their academic variables and the award of the BD?

To explore these questions, global student exam data were retrieved from IBIS, the data system maintained by the IB. To address research questions 1 and 4, a sample including 239,396 diploma earners from 139 countries (which was all diploma earners recorded in IBIS between 2007 and 2012) was used. In this sample (sample 1), 69% of students (n=164,462) were awarded SDs and 31% (n=74,934) were awarded BDs. To address research questions 2 and 3, a subsample of BD earners was used, which included students for whom all language exam data was available (n=68,170).

Findings

Global trends in the award of bilingual diplomas

Results indicate that, worldwide, the number of BDs and the number of SDs increased similarly, by approximately 59% between 2007 and 2012 (Figure 1).

The countries recording the highest number of BDs are presented in Table 1. The results show a wide variation in the proportion of BDs awarded by country. While a substantial proportion of the BDs (48%) are earned in these 12 countries, the countries with the highest proportion of students earning BDs (as opposed to SDs) are from countries with much smaller overall DP enrollments. The countries in which more than 90% of all diplomas were BDs are presented in Table 2.

Country	Number of BDs awarded	Percent out of total diplomas
Sweden	3,975	85.1%
United Kingdom	3,908	20.0%
Argentina	3,686	88.8%
Germany	3,262	76.3%
Poland	2,957	87.9%
Malaysia	2,885	80.0%
Switzerland	2,767	52.7%
Mexico	2,624	58.9%
China	2,579	54.9%
Greece	2,514	87.8%
Canada	2,478	14.5%
United States	2,193	3.0%

Table 1. Top 12 countries by the number of BDs awarded, 2007-2012

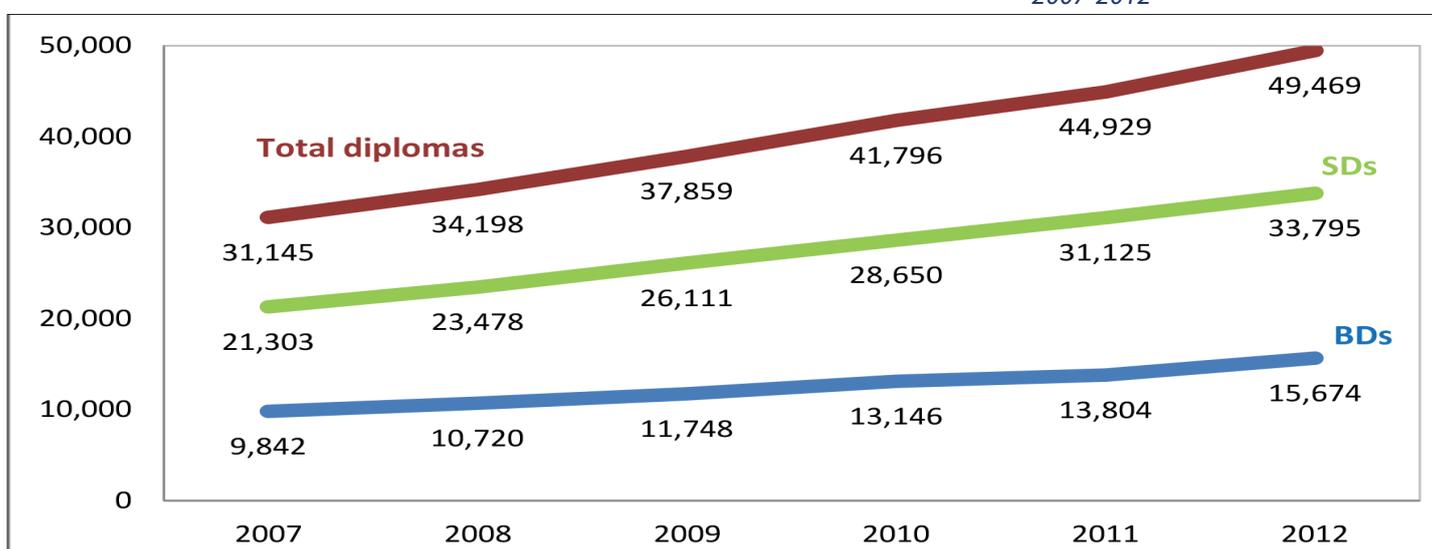


Figure 1. Diplomas awarded worldwide by year

Country	BDs awarded	
	Frequency	Percent out of total Diplomas
Senegal	112	100%
Paraguay	80	100%
Dominican Republic	57	100%
Nicaragua	57	100%
Georgia	32	100%
Lithuania	339	100%
Macedonia	110	96%
Uruguay	726	96%
Bosnia and Herzegovina	502	95%
Bolivia	60	92%
Honduras	89	92%
Latvia	216	91%
Slovenia	356	91%

Table 2. Countries with the highest proportion of BDs awarded, 2007-2012

Sweden

Sweden was the country with the highest number of total BDs awarded between 2007 and 2012 (n=3,975). Each year there was a slight variation in the number of BDs and SDs awarded (Figure 2). However, the proportion of BDs was consistently higher than the percent of SDs. The majority of BD earners (83%) in this country were native Swedish speakers, followed by native English speakers (5.5%) and native Arabic speakers (1.4%). In the SD group, 59% of students were native English speakers while 13% were native Swedish speakers and 2% were native Dutch speakers.

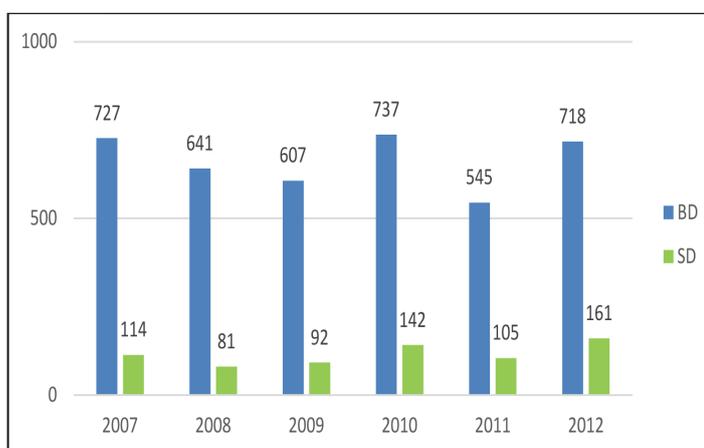


Figure 2. Diplomas awarded in Sweden, 2007-2012

The United States

Among the top 12 countries, the fewest BDs were awarded in the United States, which also recorded one

of the lowest proportions of BDs among all countries (3%). However, the number of BDs increased by 70% between 2007 and 2012, while the number of SDs increased by 38% (Figure 3). The most frequent native languages in the BD group were English (41%), Spanish (17%), and French (6%). Among SD earners, the vast majority of students had English as a native language (93%), followed by Spanish (1.4%), and Mandarin (1%).

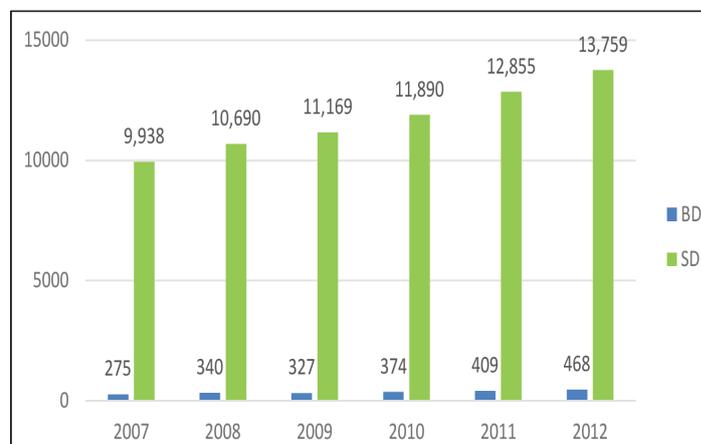


Figure 3. Diplomas awarded in the United States, 2007-2012

Pathways and language pairings

Table 3 shows the number of students who earned the BD through each available pathway. The most common pathway for earning the BD is through a “group 3 or group 4 subject taken in a language other than language A1”, with a large majority of all BD earners having met this criterion (80%). These four pathways are not mutually exclusive; a student could complete multiple pathways simultaneously. The most common overlap was between the “A1 and A2” and the “A1 and group 3/4” pathways (38%), followed closely by “A1 and group 3/4” and “A1 and EE in group 3/4” pathways (37%).

Pathway	Students	
	Frequency	%
Total BD earners (2007-2012) included for analysis*	68,170	100%
Two languages A1	4,285	6%
Language A1 taken together with a language A2	38,774	57%
Group 3 or group 4 subject taken in a language other than language A1	54,483	80%
Extended essay (EE) in a group 3 or group 4 subject written in a language other than language A1	26,200	38%

*Note. Student records with less than seven exams were removed from the dataset for the purpose of the analysis in this section.

Table 3. Number and percentage of students earning the BD by pathway

The most common pair of languages for the “two languages A1” pathway was English-Spanish, followed by English-German and English-Portuguese. For the “A1

and A2" pathway, the most frequent pair of languages was Spanish-English, with Spanish being the A1 language and English the A2 language. German-English was the second most popular language pairing, followed by English-French. Within the "A1 and group 3/4" pathway, the most frequent pair of languages was Spanish-English, followed by German-English, and then Chinese-English. Finally, in the "A1 and EE in group 3/4" pathway, English-Spanish, English-German, and English-Polish were the most frequent language pairings.

Predictors of the BD attainment

The logistic regression model included seven predictors, as shown in Table 4. The model significantly predicted whether a student earned a BD, $\chi^2(7) = 140141.852$, $p < .001$. With Nagelkerke $R^2 = .62$, the model explained an impressive 62% of variance.

Predictors	Values
DP total points	Cumulative points earned in the DP; the range in this sample is 24 to 45
Student gender	0 = male, 1 = female
Student's native language	0 = English, 1 = Not English
School type	0 = Public, 1 = Private
Host country	0 = US, 1 = Not US
Language of the majority in the host country	0 = English, 1 = Not English
Official language of the school	0 = single, 1 = multiple

Table 4. Logistic regression – predictors of BD award

While all predictors were significant, the most powerful effect is explained by the language variables and the host country. Thus, a student's native language is the strongest predictor of earning a BD. Non-native English speaking students are 17.7 times more likely than native English speaking students to earn a BD. Moreover, students from schools outside of the US are 3.5 times more likely to earn a BD than students from the US. Students studying in countries where English is not the native language of the majority are 2.7 times more likely to earn a BD than students from countries where the majority of the population speaks English. The likelihood of earning a BD is 2.7 times higher for students from schools with multiple official languages compared to students from schools with one official language. Students from private schools are 32% more likely to earn the BD than those from public schools. Finally, academic achievement and gender were also significant, although with a smaller effect. The likelihood of earning the BD increases by 4% as DP total points increase with one unit, and female students are 4% more likely to earn the BD than male students.

Conclusion

This study offers a descriptive overview of global trends, pathways and language pairs, and reveals some of the factors that contribute to the award of the BD. These findings could be relevant to the bilingual education research community and will inform future programme and policy development in the IB.

With the increase in demand for bilingual and multi-lingual world citizens (Graddol 2006), the IB's bilingual diploma can serve as a vehicle for students in public and private schools to access a variety of language courses that foster mother tongue maintenance and second language development, which otherwise might not be available to them. Given its widespread acceptance, the IB Diploma Programme enables schools and educators worldwide to provide a rigorous bilingual and multilingual curriculum (Mayer 2012).

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The journal article can be accessed at: <http://www.sciencedirect.com/science/article/pii/S0883035514000949>. For more information on this study or other IB research, please email research@ibo.org.

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