

## Exhibit 3: Official Languages and Languages of Instruction

Reported by National Research Coordinators

Country	Official Languages and Major Language Subgroups	Languages of Instruction for Mathematics and Science in the Fourth and Eighth Grades
Albania	Albanian is the official language.	Albanian is the language of instruction.
Armenia	Armenian is the official language.	Armenian is the language of instruction.
Australia	English is the official language. However, according to the 2016 Census, Australians speak over 200 languages, including over 50 actively spoken Australian Indigenous languages. About 21% of Australians speak a language other than English at home. The top 4 languages other than English are Mandarin (2.5%), Arabic (1.4%), Cantonese (1.2%), and Vietnamese (1.2%).	Most students receive mathematics and science instruction in English. Some schools provide bilingual instruction—in most cases, if the language of instruction is not English, it is a second or additional language, rather than a native language (although some schools deliver instruction in indigenous languages).
Austria	German is the official language. Hungarian, Croatian, and Slovenian are the official minority languages.	German is the language of instruction in almost all schools. Schools offering official minority languages as the language of instruction teach mathematics and science in the minority language. Bilingual schools or schools with a focus on a second language may offer instruction in both languages (e.g., English and German).
Azerbaijan	Azerbaijani is the official language. Azerbaijani and Russian are the major languages.	State schools provide instruction in either Azerbaijani or Russian. Parents choose a state school based on their preference and/or the language they speak at home. In Azerbaijani schools, students' native language is Azerbaijani. In Russian schools, students' native language may be a language other than Russian.
Bahrain	Arabic is the official language.	Arabic is the language of instruction in all government schools.
Belgium (Flemish)	Dutch is the official language in Flanders. French and German are the official languages in the other two language areas of Belgium.	Dutch is the language of instruction and the native language of the majority of children. In some Flemish municipalities near the regional language borders, primary instruction may be provided in French or German for students that speak French or German at home or whose parents are immigrants. Some secondary schools offer Content and Language Integrated Learning (CLIL) and teach mathematics and science in another language.
Bosnia and Herzegovina	Bosnian, Croatian, and Serbian are the official languages.	Generally, students receive mathematics and science instruction in their native language.
Bulgaria	Bulgarian is the official language.	Bulgarian is the only official language of instruction for all grades and subjects. However, in ISCED Level 3 language schools, the language of instruction in mathematics and science can be a different language (e.g. English, French, German, Russian, Spanish, or Italian).
Canada	English and French are the official languages.	In English language schools, students receive instruction in English. In francophone schools (i.e., schools in which students' first language is typically French), students receive instruction in French. In French Immersion schools, students may receive instruction in either English or French.
Chile	Spanish is the official language.	Spanish is the language of instruction. Spanish schools with a high percentage of indigenous students have special status and are expected to develop the necessary skills to preserve their language and knowledge of the history and culture of their people.
Chinese Taipei	No official language. Mandarin is often used at home and serves as the common language. Other native languages include Fukien, Hakka, and aboriginal languages.	Mandarin is the language of instruction for mathematics and science, with the exception of a few private schools that provide mathematics and science instruction in English.
Croatia	Croatian is the official language. Serbian, Italian, Hungarian, and Czech are minority language subgroups.	Croatian is the language of instruction in most schools (97%). National minorities can have their language, letter, and culture acknowledged within the school system in the form of 3 models for which each school can apply: (1) national minority school with a complete program in the language and letter of the minority; (2) school in which classes are presented in a dual way, with social science subjects in the minority language and all other subjects in Croatian; and (3) regular program presented in Croatian, with additional classes or activities each week to nurture the minority language and culture. Only students attending schools or classes under Model 1 receive mathematics and science instruction in the minority language.
Cyprus	Greek and Turkish are the official languages. English is spoken as a foreign language by the vast majority of the population.	Greek is the language of instruction in all public schools and some private schools. In many private schools, English is the language of instruction. Each school uses a particular language of instruction, regardless of whether the students in the school are native speakers. For example, all students in public primary or secondary schools are taught mathematics and science in Greek. In some private schools, mathematics and science instruction is presented in the language of schooling (i.e., English or French).

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Czech Republic	Czech is the official language.	Czech is the language of instruction.
Denmark	Danish is the official language.	Danish is the language of instruction for mathematics and science and technology in <i>Folkeskole</i> (primary and lower secondary education).
Egypt	Arabic is the official language. English, French, and German are second language subgroups.	Students receive mathematics and science instruction in their native language and in a second language.
England	English is the official language. In England's schools, over 25% of students are from an ethnic minority background and almost 1 in 5 students speak English as an Additional Language (EAL).	English is the language of instruction for mathematics and science. Through the National Curriculum, the Department for Education expects effective teaching and learning for EAL to take place within the curriculum: teachers are responsible for the needs of students whose first language is not English. Monitoring of progress should take account of the student's age, length of time in this country, previous educational experience, and ability in other languages. EAL students may take part in the national curriculum before developing communication skills in English. Teachers should plan teaching opportunities to help students with their English and should aim to provide the support students need to take part in all subjects.
Finland	Finnish (88%) and Swedish (5%) are the official languages.	Most schools are Finnish-speaking or Swedish-speaking and provide instruction in that language in all subjects.
France	French is the official language.	French is the language of instruction.
Georgia	Georgian is the official language of Georgia, and Abkhazian is the official language in the territory of Abkhazia (currently occupied by Russia).	Considering the multiethnic population of the country, comprising Azeri, Armenian, Russian, Abkhazian, and Ossetian communities, the law stipulates that students have the right to receive general education in their native language.
Germany	German is the official language.	In general, German is the language of instruction. Bilingual teaching is available in primary schools, secondary schools, schools with several education programs, and vocational schools. In recent years, bilingual teaching in primary schools and the use of foreign languages in MINT (mathematics, computer science, natural sciences, and technology) subjects have increased.
Hong Kong SAR	Chinese and English are the official languages. Cantonese and Putonghua are the major language subgroups.	Chinese is the language of instruction in most schools, but in some schools, instruction is provided in English.
Hungary	Hungarian is the official language. Minority language subgroups include German, Romanian, Slovene, Serb, and Croatian.	Hungarian is the official language of instruction, but there are a number of ethnic and national minority educational institutions that provide instruction in their own languages as a first or second language.
Iran, Islamic Rep. of	Farsi is the official language. Turkish and Arabic are the major language subgroups.	Farsi is the language of instruction.
Ireland	Irish and English are the official languages. According to the 2016 Census, 13% of the overall population is multilingual, speaking a language other than Irish or English at home. Polish is the most common additional language (2.8%), followed by French, Romanian, Lithuanian, and Spanish. On average, 3 children in every classroom speak a language other than English or Irish at home on a daily basis.	English is the language of instruction in the majority of primary schools (2,998). Irish is the language of instruction in 250 primary schools, including 150 <i>Gaelscoileanna</i> , where Irish is not a native language for the majority of the students, and 100 schools located in <i>Gaeltacht</i> areas, where varying percentages of the population speak Irish in the home (21.4%, according to the 2016 Census). At post-primary level, there are 672 wholly or predominantly English-medium schools and 50 schools in which Irish is the language of instruction for all students in all subjects.
Israel	Hebrew and Arabic are the official languages.	Hebrew is the language of instruction in the Hebrew-speaking sector's schools, and Arabic is the language of instruction in the Arabic-speaking sector's schools. Most students receive instruction in their native language, with the exception of newcomers or foreign students who enroll in regular schools (not designated for foreigners).
Italy	Italian is the official language. Recognized language minorities include Ladin and German (Province of Bolzano), Slovenian (Region of Friuli Venezia Giulia), and French (Region of Valle d'Aosta).	Italian is the language of instruction in most schools. Students of minority language groups can attend schools that provide instruction in Italian or in their minority language.
Japan	Japanese is the official language.	Japanese is the language of instruction.
Jordan	Arabic is the official language.	Arabic is the language of instruction.
Kazakhstan	Kazakh and Russian are the official languages.	Kazakh and Russian are the languages of instruction.
Korea, Rep. of	Korean is the official language.	Korean is the language of instruction.
Kosovo	Albanian and Serbian are the official languages. Bosnian and Turkish are major language subgroups.	Students receive instruction in their native language.
Kuwait	Arabic is the official language. English is a second major language.	Arabic is the language of instruction.

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Latvia	Latvian is the official language. Russian is the major language subgroup.	Students have the opportunity to study in 7 minority education programs (Russian, Polish, Hebrew, Ukrainian, Estonian, Lithuanian, and Belarussian). Many schools offer bilingual instruction, presenting instruction to students in both their native language and a second language.
Lebanon	Arabic (Modern Standard Arabic) is the official language. Informal Arabic is the major language subgroup (N.B. Arabic native language).	Arabic, English, and French are the languages of instruction for Grade 4; English and French are the languages of instruction for Grade 8.
Lithuania	Lithuanian is the official language. Polish and Russian are the major language subgroups.	Students receive instruction in their native language.
Malaysia	Malay is the official language.	The medium of instruction in Malaysian public schools is Malay. However, in the Chinese National-Type Schools and Tamil National-Type Schools, instruction is delivered in Chinese and Tamil respectively. Since 2016, selected schools that have participated in the Dual Language Program (DLP) provide instruction in English for the teaching of science and mathematics.
Malta	Maltese and English are the official languages.	English is the language of instruction. Currently, efforts are being made to provide mathematics assessment in both Maltese and English.
Montenegro	Montenegrin is the official language. Serbian, Bosnian, Croatian, and Albanian are minority language subgroups.	Students receive instruction in their native language.
Morocco	Arabic and Tamazight are the official languages.	Arabic is the language of instruction. Students begin learning French as a second language in primary school, and starting in 2019, mathematics and science instruction in Grades 7–9 will progressively be provided in French.
Netherlands	Dutch is the first official language. Frisian, the second official language, is spoken by more than 350,000 people in the northern province of Friesland.	Students receive instruction in their native language (Dutch) or also in Frisian in some schools.
New Zealand	The Māori language and New Zealand Sign Language are the official languages. English is the predominant spoken language and a de facto official language. According to the 2018 Census, the largest language subgroups are Māori (4.0%), Samoan (2.2%), and Northern Chinese, including Mandarin (2.0%).	Students may receive instruction in English, Māori, or Pacific languages. In 2019, 2.6% of the total school population received more than half their instruction in the Māori language and 1.7% in a Pacific language (most often Samoan). There is no official information on the language of instruction for individual subjects.
North Macedonia	Macedonian is the official language. Albanian, Turkish, Serbian, and Bosnian are minority language subgroups.	Students receive instruction in their native language.
Northern Ireland	English is the language of custom and practice. Irish and Ulster Scots are officially recognized minority languages.	English is the language of instruction in the vast majority of schools. In Irish-medium schools (providing for 1.4% of students), instruction is provided in Irish, with English as a separate subject.
Norway	Norwegian and Sami are the official languages. The majority language, Norwegian, has 2 distinct written varieties: Bokmål (Book Language) and Nynorsk (New Norwegian), which are linguistically similar enough to be regarded as written dialects, mutually completely intelligible. Nynorsk is mostly used in Western Norway as a written language (by roughly 10% of the population, or about half a million people). Bokmål is dominant in the rest of the country, and is used by close to 90% of the population.	Norwegian is the language of instruction in the vast majority of schools. In Sami schools, the language of instruction is Sami.
Oman	Arabic is the official language.	Arabic is the language of instruction in public schools and some private schools. English is the language of instruction for private bilingual schools.
Pakistan	Urdu and English are the official languages. Sindhi is a language subgroup.	Urdu, English, and Sindhi are the languages of instruction.
Philippines	Filipino is the national language. Filipino and English are the official languages.	A salient feature of the K–12 program is the Mother-Tongue Based Multilingual Education (MTB-MLE). Currently, the Department uses 19 languages, taught as subject areas and used as languages of instruction. English and Filipino are taught as subjects starting in Grade 1 and gradually introduced as languages of instruction in Grades 4–6. English is the language of instruction for Grade 4.
Poland	Polish is the official language.	Polish is the language of instruction. Establishing international classes is rare but possible with approval from the Minister of National Education.
Portugal	Portuguese is the official language.	Portuguese is the language of instruction.
Qatar	Arabic is the official language.	Arabic is the language of instruction. However, numbers, symbols, equations, and scientific terms are presented in English.

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Romania	Romanian is the official language. Hungarian is a language subgroup.	Romanian is the language of instruction in most schools. However, there are some schools that teach in another native language of the students (mostly Hungarian).
Russian Federation	Russian is the official language (80.9%). The other language subgroups are Tatar (3.87%), Bashkir (1.15%), Chuvash (1.05%), and Chechen (1.04%).	Russian is the language of instruction.
Saudi Arabia	Arabic is the official language. English is the major language subgroup.	Most students receive instruction in their native language, but some receive instruction in a second language.
Serbia	Serbian is the native language. There are 8 national minority languages: Albanian, Bosnian, Bulgarian, Hungarian, Romanian, Ruthenian, Slovak, and Croatian.	Serbian is the language of instruction for most children (94%). In some municipalities near the regional language borders, primary instruction may be provided in national minority languages. Minority language groups can have their language, letter, and culture acknowledged within the school system in either (1) mixed schools with classes taught in Serbian language and classes taught in the minority language exclusively, or (2) a national minority school with a complete program in the language and letter of the minority. Primary instruction is offered in the 8 national minority languages. Instruction for minority students can be organized in their native language if at least 15 students choose to enroll. According to data collected in 2017, most of students from national minority groups have received instruction in Hungarian (2.4%), Bosnian (2.4%), Albanian (0.9%), and Slovakian (0.5%).
Singapore	Malay, Chinese (Mandarin), Tamil, and English are the official languages. Malay is the national language of Singapore, as the Malays (13% of the resident population) are constitutionally recognized as the indigenous people of Singapore. Chinese (Mandarin) is recognized as the mother tongue language of the Chinese (74% of the resident population), while Tamil is spoken by the majority of Indians (9% of the resident population). English is the language of administration and education, and serves as a common language among the different racial and ethnic groups in Singapore. According to the Singapore 2015 General Household Survey, about 37% of the resident population ages 5 and older predominantly speak English.	English is the language of instruction, although about half of the students (45%) predominantly use a language other than the language of instruction at home. Singapore has a bilingual policy in school that encourages students to be proficient in both English and their own mother tongue language.
Slovak Republic	Slovak is the official language. Hungarian is the most prevalent national minority language, followed by Ukrainian and Ruthenian.	Slovak is the language of instruction, but instruction is also provided in minority languages or in English, German, French, or Bulgarian in bilingual primary schools. Generally, instruction in minority languages is provided at separate schools, although there are schools with joint administration that provide separate classes in the national language of instruction and minority languages of instruction.
South Africa	There are 11 official languages: isiZulu (home language for 24.6% of the population), isiXhosa (17%), Afrikaans (12.1%), Sepedi (9.5%), Setswana (8.8%), English (8.3%), Sesotho (8%), Xitsonga (4.2%), siSwati (2.6%), Tshivenda (2.4%), and isiNdebele (1.6%).	English and Afrikaans are the predominant languages of instruction. In Grades 1–3, children typically learn in their home language and then have the choice to switch in Grade 4, typically to either English or Afrikaans; a minority choose their home language.
Spain	Castilian Spanish is the official language. There are 4 additional co-official languages used in the different autonomous communities: Catalan, Galician, Valencian, and Basque.	Castilian is the language of instruction, except in regions with another official language. In these regions, schools use 2 official languages, in proportions determined by the regional educational authorities. Also, a growing number of schools have adopted a Content and Language Integrated Learning curriculum, in which some of the curriculum subjects are taught in a second language, usually English. In all schools, science may be provided in a second language, but mathematics must be taught in the students' native language.
Sweden	Swedish is the official language. Finnish, Yiddish, Menkieli, Romani, and Sami are official minority languages.	Swedish is the language of instruction. Some schools provide instruction in Sami, and some private schools provide instruction in English.
Turkey	Turkish is the official language.	Turkish is the language of instruction.
United Arab Emirates	Arabic is the official language.	English is the language of instruction in Abu Dhabi public schools, and Arabic is the language of instruction in Ministry of Education (MOE) public schools. In Elite MOE schools, English is only the language of instruction for Grade 8.

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United States	There is no official national language in the United States, but English is the primary language in the country. In Fall 2016, about 90% of public elementary and secondary students spoke English as their first language. The most common home language for English Language Learner (ELL) students was Spanish/Castilian, followed by Arabic and Chinese. Spanish/Castilian was the home language for 7.7% of the public K–12 population.	English is generally the language of instruction. ELL students receive language support in a variety of program formats.
<b>Benchmarking Participants</b>		
Ontario, Canada	English and French are the official languages.	English and French are the languages of instruction. American Sign Language (ASL) and Quebec Sign Language (QSL) may also be used as languages of instruction.
Quebec, Canada	French is the official language. English is the major language subgroup.	French and English are languages of instruction. A large proportion of students have neither French nor English as their mother tongue.
Moscow City, Russian Fed.	Russian is the official language.	Russian is the language of instruction.
Gauteng, South Africa	Same as South Africa	
Western Cape, South Africa	Same as South Africa	
Madrid, Spain	Same as Spain	
Abu Dhabi, UAE	Same as United Arab Emirates	
Dubai, UAE	Same as United Arab Emirates	