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Interpreting and presenting census language data

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Interpreting and presenting census language data

Introduction

Canada outranks other countries around the world for the number of language questions in its Census of Population. No other national census has as many questions about language as the Census of Canada. In 2016, seven questions provided information on mother tongue, knowledge of languages, and languages spoken at home or used at work by Canadians. The language information derived from the Canadian Census of Population is rich, but it is also complex. Canadians declare several hundred languages on the census, and an increasing number of respondents report more than one language in their responses to the different language questions. Moreover, language questions can be combined to create derived variables, indexes or other indicators, which makes data processing and presentation more complex.

Two broad approaches can be used to determine how statistical data on language derived from the Canadian Census of Population are prepared and disseminated. The first involves language groups, while the second concerns the languages themselves as well as the population's language practices and characteristics. These two approaches are not necessarily incompatible or contradictory; they are simply based on different choices for presenting the data. These choices are closely related to the underlying analytical perspectives of each approach.

The language group-based approach can be dubbed the "standard" approach. For many years, it has been used to process and present Statistics Canada's census language data. It addresses demolinguistic concerns, a branch of demography that has grown significantly in Canada since the 1960s, mainly as a result of works by the Royal Commission on Bilingualism and Biculturalism (Martel and Pâquet 2010). The root of the demolinguistic problem is the comparison of demographic characteristics or behaviours and, by extension, sociocultural, economic and other characteristics and behaviours, between language groups (Maheu 1985). In Canada, these comparisons mostly concern anglophones and francophones. In an attempt to produce an exhaustive distribution of the population in mutually exclusive groups, a residual category called "allophone"[1] was created. It can be included or excluded from the analysis based on context-specific needs and objectives.

Where language statistics are concerned, the approach based on languages and language practices and characteristics can be called the "emerging" approach. The convergence of three major trends in Canada in recent decades exposed certain limitations in the standard approach and warranted the need for new perspectives. First, steady and more and more linguistically diverse immigration since the 1980s has led to significant growth in the size and heterogeneity of the "allophone" group. This diversification in Canada's "linguistic landscape" generated growth in multilingualism (or speaking more than one language at home or at work), resulting in increasingly porous borders between language groups. Finally, increasing recognition of the importance of Indigenous languages in Canada, which led to the *Indigenous Languages Act* being adopted recently by the federal government, stimulated interest in statistics on languages other than English or French or on language practices and characteristics of populations that are not necessarily defined by these language criteria.

Traditionally, the language group approach was used because it generally addressed the concerns expressed by the main social and political stakeholders.[2] In the last decade, Statistics Canada has observed new trends and limitations in the standard approach when it comes to depicting the richness, complexity and diversity of language situations and behaviours in Canada. The agency therefore implemented measures to meet the emerging needs in data and in statistical analyses on language issues in Canadian society.[3] One important measure was to gradually introduce elements that put the focus on languages—or on one language in particular—when preparing, presenting and analyzing data. Meanwhile, we continued to make statistical information on major language groups available. The purpose was to further leverage the information available while maintaining the existing language data offer.

1. The term "allophone," which here means those whose mother tongue or language of use is not English or French, was introduced at the Commission of Inquiry on the Situation of the French Language and Linguistic Rights in Quebec (Gendron Commission) in the early 1970s. Today, the term is recognized by the main dictionaries (Corbeil, forthcoming).
2. This approach was justified by the strong homogeneity of the francophone group, particularly until the late 1980s, and the need for a historical comparability of data. One reason behind is the social and political issues in the 1950s and 1960s, when there was great uncertainty surrounding the future of the French language and francophones in Canada (Martel and Pâquet 2010).
3. The federal government's modernization of the *Official Languages Act* and the *Official Languages (Communications with and Services to the Public) Regulations* and adoption of the *Indigenous Languages Act* are current examples of emerging contexts and needs that Statistics Canada must take into account.

It is important for data users to understand what guides Statistics Canada's choices in collecting, compiling, analyzing, abstracting and disseminating statistical information on languages in Canada. The agency publishes many data products and analytical products on language issues and, although one of its responsibilities is to consider emerging needs and issues, it is just as important for Statistics Canada to ensure that it does not hinder the traditional, established uses of its data, which remain fully legitimate and relevant.

The aim of this paper is to describe the two main approaches and explain how each requires different choices in organizing and presenting language data for dissemination. Statistics Canada has produced this document to provide language data users with key information on what data are available so they can know which data sources can meet their needs.

The first part of the document presents the language questions asked in the 2016 Census, as well as how the data derived from these questions were presented and made available in Statistics Canada's different data products, including the agency's website. The second part provides a more detailed look at the language group approach and the one based on the population's languages, practices and characteristics. It explains how data are used to produce analyses that answer the specific questions raised by both approaches.

Part 1 — Census language questions and classifications

In the 2016 Census, Statistics Canada collected information on different language characteristics of Canadians using five questions, including two two-part questions.[4]

Most questions (knowledge of official languages, languages spoken at home, first language learned in childhood and still understood) were both in the census short-form and long-form questionnaires[5] (100% data, see Table 1). They were asked to the entire Canadian population.

Table 1
Information on the language questions in the Canadian Census of Population

Question and concept	Short form (100% data)[1]	Question number[2]	Year question added to the census questionnaire
Knowledge of official languages[3]	Yes	7	1901
Language spoken at home	Yes	8	1971
most often	Yes	8a	1971
on a regular basis	Yes	8b	2001
Mother tongue	Yes	9	1901
Knowledge of non-official languages	No	16	1991
Language used at work	No	45	2001
most often	No	45a	2001
on a regular basis	No	45b	2001

1. Indicates whether the question was on the 2016 Census short-form questionnaire. The long-form questionnaire comprises all questions.
2. In the 2016 Census.
3. Refers to the ability to conduct a conversation in English or French, which became Canada's two official languages after the *Official Languages Act* was adopted in 1969.

The other language questions (knowledge of non-official languages, languages used at work) were asked only in the long-form questionnaire (sample data). For the 2016 Census, 25% of households received the long-form questionnaire.

Appendix A presents the census questions as they appeared in the 2016 Census.

4. The two-part questions are the ones on languages spoken at home and languages of work. In each, Part A asks about the main language (spoken most often at home or used most often at work) and Part B about the secondary languages (other languages spoken at home on a regular basis or other languages used at work on a regular basis).
5. The 2016 Census short form comprised 10 questions (sex, date of birth, marital status, etc.), including the above-mentioned language questions. The 2016 Census long-form questionnaire included 49 questions on household members, including all questions from the short form. The additional questions related to activities of daily living, sociocultural information, mobility, parents' place of birth, education and labour market activities. The 2016 Census long-form questionnaire also included 10 questions on the dwelling occupied by the household.

The wording of the language questions has been practically unchanged since 2001.[6] The main changes introduced during this period were the addition of instructions in the electronic form to ask respondents who report certain languages (such as "Chinese") to specify which language they are referring to (Mandarin, Cantonese, etc.), and increasing the number of languages for which data are disseminated.

1.1 Mother tongue, languages spoken at home and languages used at work

The census language questions are used to produce "direct variables": mother tongue, knowledge of official languages, language spoken most often at home, other languages spoken at home on a regular basis, etc. Data on mother tongue, language spoken most often at home and other languages spoken at home on a regular basis are usually presented in a broad classification (see list below) or a detailed classification which, in 2016, included as many as 269 categories[7] (see all categories in Appendix B).

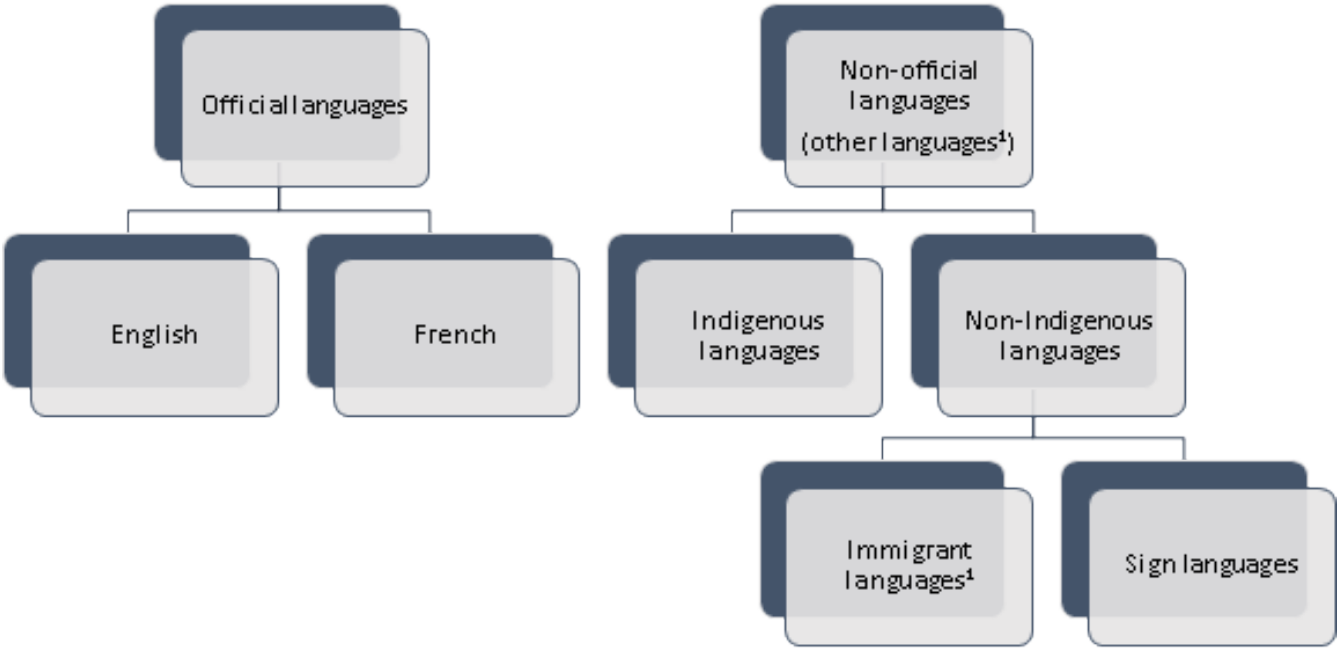
Below is the broad list[8] for mother tongue, language spoken at home and language of work in the 2016 Census:

- Single responses
  - English
  - French
  - Non-official languages
    - Indigenous languages
    - Other non-official languages
- Multiple responses
  - English and French
  - English and non-official language
  - French and non-official language
  - English, French and non-official language

The categories that make up these classifications do not represent only distinct languages. They also include language families (Inuit languages, Indo-European languages, Germanic languages, etc.), main combinations (single responses, official languages, Indigenous languages, etc.) and residual categories ("not included elsewhere" or "not otherwise specified"). The terms used to designate the different categories are generally stable, but may vary in some analytical documents (see Figure 1).

6. The only change was the questionnaire in which the questions were included. In 2001 and 2006, only the question on mother tongue was included in the short-form census questionnaire. In 2011, since the long form was replaced by the voluntary National Household Survey, the questions on knowledge of official languages and languages spoken at home were added to the mandatory census short form to comply with the provisions of the *Official Languages (Communications and Service to the Public) Regulations* (section 3).
7. The detailed classification of languages spoken at home on a regular basis or used at work on a regular basis in addition to the main language comprises 270 categories, since "None" is also a category. Some tables present a selection of categories taken from the detailed classification defined by criteria of interest. For example, a classification with all categories of Indigenous languages in certain tables combines variables of interest for issues related to Indigenous peoples, but does not go into as much detail as for other languages.
8. The broad list for the questions on other languages spoken at home on a regular basis and other languages used at work on a regular basis also includes the "None" category.

Figure 1
Main language categories and their components



1. These terms are used in analytical documents, but are not found in classifications.

The number of categories in the detailed classification increases from one census to the next. In 2001, the detailed classification comprised 160 categories. This rose to 186 categories in 2006, and to 232 categories in 2011. In order for data on a specific language to be disseminated, they must meet certain quality criteria and maintain confidentiality of responses. The number of languages that meet these criteria increases constantly from one census to the next.

1.2 Knowledge of languages and first official language spoken

The classifications used to disseminate data on knowledge of official languages and on the derived variable "first official language spoken" (FOLS) are much shorter because they exclusively concern Canada's official languages, English and French (see Table 2).

Table 2
Classifications for the variables *Knowledge of official languages* and *First official language spoken*

Knowledge of official languages	First official language spoken
English only	English
French only	French
English and French	English and French
Neither English nor French	Neither English nor French

Data on knowledge of non-official languages are generally presented together with official languages data. A detailed classification identical to the one used for mother tongue data (see Appendix B) is used, excluding multiple response categories. Unlike data on mother tongue, language spoken at home or language used at work, multiple responses are not usually presented separately for knowledge of non-official languages. For each language enumerated, the data on language knowledge provide the total number of people who speak that language, i.e., the number of respondents who reported being able to conduct a conversation in that language, whether they are unilingual, bilingual or multilingual. The "English" category therefore indicates the number of respondents who

reported being able to conduct a conversation in English, the "French" category the number of respondents who reported being able to conduct a conversation in French, and so on. Respondents who are able to conduct a conversation in English and in French will be enumerated in both the "English" and "French" categories. With this data presentation method, the sum of the categories is greater than the total Canadian population.

That said, two derived variables provide further details on this. Data on language knowledge are sometimes cross-tabulated with a variable called "knowledge of languages: single and multiple language responses"[9] (see Table 3). For each language, this variable is used to count the number of respondents who reported being able to conduct a conversation only in this language (unilingual) and those who also reported being able to conduct a conversation in at least one other language (bilingual or multilingual). However, it is not possible to identify the specific combination of languages, if any, when data are presented this way.

Table 3
Single and multiple responses on knowledge of languages, selected languages or language categories, Canada, 2016

	Single responses	Multiple responses	Total
		number	
Total[1]	**21,025,925**	**13,434,140**	**34,460,060**
Official languages	20,464,040	13,354,170	33,818,210
English	16,794,015	12,954,250	29,748,260
French	3,670,030	6,572,920	10,242,950
Non-official languages	561,885	8,807,400	9,369,280
Indigenous languages	7,295	256,545	263,840
Algonquian languages	2,960	174,610	177,570
Blackfoot	10	5,645	5,645
Cree-Montagnais languages	2,405	114,175	116,585
Atikamekw	445	6,200	6,640
Montagnais (Innu)	445	11,000	11,440
Moose Cree	0	195	190
Naskapi	85	1,380	1,470
Northern East Cree	0	545	550
Plains Cree	0	5,895	5,905
Southern East Cree	0	40	40
Swampy Cree	10	2,345	2,350
Woods Cree	25	2,640	2,665
Cree, n.o.s.	1,395	84,725	86,115
(Etc.)[2]	…	…	…

… not applicable

1. The total represents the entire Canadian population. It means that in this population, 21,025,925 individuals reported being able to hold a conversation in one language only, and 13,434,140 reported being able to converse in more than one language..

2. Visit the Statistics Canada website for the full version of Table 98-400-X2016160.

Source: Statistics Canada, Census of Population, 2016; Table 98-400-X2016160.

This gap is partly filled by another derived variable, the "number of languages known," which presents certain combinations of languages known (Table 4). However, these combinations do not identify a particular language other than English or French.

Table 4
Number of languages known, Canada, 2016

	Number
Knowledge of one language	21,025,925
English only	16,794,010
French only	3,670,030
Non-official language only	561,880
Knowledge of more than one language	13,434,140
English and French only	4,626,740
English, French and one or more non-official language	1,546,260
English and one or more non-official language	6,781,255
French and one or more non-official language	399,920
Multiple non-official language only	79,970
Total	**34,460,060**

Source: Statistics Canada, Census of Population, 2016; Table 98-400-X2016195.

9. Similar variables also exist for mother tongue and languages spoken at home. These will be discussed later in the document (see Section 2.2.2).

Part 2 — Main approaches

The different ways to present census language data can be divided into two broad approaches. The main difference between them is how they process multiple responses (or combinations of responses).[10] This distinction is nonetheless based on a significant difference in perspective.

The first approach looks at groups, defined by language characteristics, which make up a population. It attempts to understand and document relationships between language groups in demographic terms (relative population growth, pull, gains and losses in exchanges with other groups, etc.).[11] Reduced to the essential, this perspective is mostly interested in the number of people who make up each group, in the respective demographic evolution of the groups, and in the factors that determine this evolution.

The second approach looks at language dynamics, characteristics and behaviours within a population. It explores linguistic diversity, the knowledge and use of certain languages, bilingualism and multilingualism. It seeks to understand language experience, the relationship with languages, language learning and retention, language vitality factors, etc.

This section of the paper presents these approaches in greater detail, and illustrates the relationships between them and how language data are used in each.

2.1 Language group approach

Census data can be used to define a population or subpopulation of interest according to specified criteria. Users can get statistics on different groups, including Indigenous peoples, youth, women or immigrants, for research, program or policy development, or for any other reason. Language data from the Census of Population can also be used to define a population by its language characteristics. Users can, for example, identify a “francophone” or an “anglophone” population based on a criterion or a combination of selected criteria, and thereby examine a specific language group, or they can divide the population of a country, province or region into different language groups.

The objective of the language group approach is to study relationships between the groups in a population. By extension, it also explores the characteristics and behaviours of a language group, generally for comparison purposes. These characteristics or behaviours can be demographic, sociocultural, economic, etc. It can look at the fertility level, level of education or the unemployment rate of a French-language, English-language or other-mother-tongue population. The characteristics or behaviours of interest can also be linguistic or include a linguistic aspect: bilingualism rate among English-language individuals, average income of workers who use French at work, etc.

To define any population for statistical purposes, inclusion or exclusion criteria must be selected. The choice of criteria defines the border between the target population and the rest of the population, or between the different population groups that make up the total population.[12] The group of interest can therefore be compared with the rest of the population, or different groups can be compared with each other. The groups must be defined before embarking on any comparative analysis. For example, to compare the demographic, language or socioeconomic characteristics of francophones and anglophones, each individual must be placed in their corresponding language group.[13] In this perspective, it is also best to avoid placing individuals in more than one group.

10. Like any other categorization exercise, this one is reductive. It does not adequately reflect all the nuances and the different current and possible uses of data. Instead, its objective is to illustrate the basic differences in perspective that affect data presentation, and in doing so, to not limit possibilities or prevent the innovative use of data. Moreover, both approaches presented are not necessarily contradictory or incompatible; on the contrary, they can be complementary.
11. In a seminal document on demolinguistics, Maheu (1985, p. 3) states that most often, demolinguistic studies aim to compare the demographic behaviours of language groups that live in the same territory.
12. It is important to understand that this is a statistical categorization exercise. The categorization is used for analytical purposes to reproduce borders in a database that are more or less specific in reality. In this vein, applying criteria associated with statistical categories is generally much more specific and stringent than in reality, particularly when membership in a group is not based only on objective characteristics, but also, for example, on a sense of belonging that is essentially subjective. Categorization can nevertheless have a structuring effect on real social groups, which can be more or less homogeneous, more or less well defined, and more or less organized. Categorization can even fabricate “groups” that do not actually exist (i.e., they are not based on real social interactions or on a real sense of belonging or of community) beyond the fact that they comprise individuals who were placed into a common statistical category (such as “allophones” or “visible minorities”). For more on this, see Corbeil (forthcoming).
13. Changing the criteria that define a language group can shape the analysis. For example, the analysis could compare different definitions of a population group, such as comparing the francophone or anglophone population defined by the mother tongue criterion with the population defined by the “first official language spoken” criterion.

Although the Census of Canada includes several language questions, none of them include an identity dimension or are worded in such a way as to ask about membership in a language group. Consequently, there can be a difference between, on one hand, the preferred definition that reflects the reality we are seeking to describe or represent and, on the other, the possible definitions based on available statistics. These statistics usually limit the possible definitions.[14] Limitations in statistical criteria and classifications can, in turn, have a structuring effect on the groups themselves, such as if they are used to select recipients of particular programs or policies.

The most common variables for defining language groups using census data are generally mother tongue, first official language spoken and language spoken most often at home (or main home language). Other variables, such as knowledge of languages or language of work, can also be used. However, they are more often used as variables of interest to compare such phenomena as the English–French bilingualism rates of different language groups, or the use of languages at work by English-language, French-language or other-mother-tongue workers.

In Canada, there is no consensus on how these language groups, including official language groups, are defined.[15] For many years, the "English" and "French" groups were initially defined by ethnocultural ancestry. Mother tongue was used to measure assimilation, such as by estimating the portion of the population of French ancestry to whom a language other than French had been transmitted as its mother tongue. Following the work of the Royal Commission on Bilingualism and Biculturalism and the adoption of the *Official Languages Act* by the Government of Canada in 1969, use of mother tongue to indicate membership in an ethnocultural group required a change in the definition of groups based mainly on their language characteristics (Juteau 2015, p. 149). At that time, mother tongue was used to define language groups because it was the only information derived from the Census of Population that made it possible to do so. The only other language information available at the time was knowledge of English or French.

The addition of language questions in the Census of Canada increased opportunities for defining language groups. Considering information on mother tongue (first language learned in childhood and still understood) to be retrospective, the Royal Commission on Bilingualism and Biculturalism suggested adding a question on the "main language of each Canadian" (Royal Commission on Bilingualism and Biculturalism 1967, p. 18). This recommendation led to the addition of a question on language spoken most often at home in the 1971 Census. New questions on knowledge of non-official languages (1991), languages spoken at home on a regular basis in addition to the main language (2001) and languages used at work (two parts) [2001] as well as many possible combinations of language variables resulted in a wide variety of definitions and even in adjustments based on the specific context, issues and needs of data users.

Today, Statistics Canada uses several definitions, usually selected according to the issue at hand. For example, if the analysis is only on official language groups (from an inclusion perspective, i.e., to include as many Canadians as possible in either group), "first official language spoken" (FOLS) is generally used. In contrast, if the analysis is on language diversity or a language group defined according to an Indigenous or immigrant language, the mother tongue criterion is often preferred over the FOLS because there is no category in the latter that identifies these languages.

However, since no language question in the Census of Canada concerns membership or sense of belonging to a language group, criteria that relate to language characteristics, knowledge or practices are used to "objectively" establish or attribute a person's belonging to a given group. Criteria used to define populations for statistical purposes may not correspond to the identity or sense of belonging of those involved, particularly when the objective characteristics or sense of identity fail to clearly place certain people in a single group. It will always be possible to use subjective criteria to challenge what is used to define or assign "objective" belonging to a group. This is why Statistics Canada does not suggest a standardized definition for language groups or an official definition for "anglophone," "francophone," or even "allophone." The agency recognizes the importance of defining populations or subpopulations according to language criteria and ensures that data users are provided with as much information as possible so they can choose the criteria they deem appropriate. Furthermore, Statistics

14. This is perfectly normal when the objective of the statistical analysis is to describe and explain certain aspects of a complex reality. The analysis aims to reduce this complexity so it is clear, similar to how a map represents a territory. No map can represent all aspects of a territory; certain characteristics are selected based on scale and specific interests (topographic map, road map, nautical chart, etc.).
15. There is no consensus in civil society, the research community or different levels of government. To cite just one example, the federal government, in its language policy, set out certain criteria to regulate the language rights of Canadians. However, even when the criteria are defined quite specifically, which is not always the case (Lachapelle 1991), they differ in federal legislation and regulations, depending on the rights in question (access to education, communications with the government, etc.).

Canada regularly defines groups or populations based on language criteria in some of the analytical products it disseminates. There are many definitions and they are always contextual.

In the same spirit, Statistics Canada takes no position on how data users define their language groups. The agency can, on request, provide advice and recommendations on what it considers to be the best use of census data, based on the context, but data users decide whether they want to take it into account. Statistics Canada will not invalidate the definition of a language group used by data users unless it is based on faulty data or a design error. In other words, according to Statistics Canada, there is not only one valid way to define language groups. Ultimately, a definition can be appropriate or inappropriate, depending on the context.

2.1.1 Preparing and presenting data: multiple responses

In addition to the criterion underlying their definition, data preparation methods also have an impact on the composition of language groups. A major issue in data presentation is the processing of multiple responses, a growing phenomenon over the past decades. Respondents can know more than one language, speak more than one language at home or use more than one language at work, and even have more than one mother tongue, although the latter is not as common.

Table 5 presents 2016 Census data on mother tongue for the entire Canadian population according to the broad classification.

Table 5
Mother tongue, Canada, 2016

	Number
English	19,460,850
French	7,166,705
Non-official language	7,321,065
Indigenous	195,695
Non-Indigenous	7,125,365
English and French	165,320
English and a non-official language	533,260
French and a non-official language	86,150
English, French and a non-official language	33,900
Total	**34,767,250**

Source: Statistics Canada, Census of Population, 2016; Table 98-400-X2016347.

Table 6 presents the same data according to three simple methods for processing multiple responses. The first method (exclusion) consists of treating multiple responses in a separate category, which basically excludes them from the main groups. This method produces a minimum estimate of the population whose mother tongue is English, French or a language other than English or French. The close to 820,000 respondents who reported more than one mother tongue in 2016 are not included in any of the three main groups.

Table 6
Mother tongue by multiple response processing method, Canada, 2016

	English	French	Other languages	Multiple	Total
Method			number		
Exclusion	19,460,850	7,166,705	7,321,065	818,630	**34,767,250**
Distribution	19,821,440	7,303,740	7,642,070	…	**34,767,250**
Inclusion[1]	20,193,330	7,452,075	7,974,375	…	**…**

… not applicable

1. Regarding the total for method 3, it is neither recommended nor justified to add up the totals of the different categories when each main category includes multiple responses. The resulting sums would exceed the total Canadian population and would be very difficult to interpret.

Note: Total Canadian population in 2016: 34,767,250

Source: Statistics Canada, Census of Population, 2016.

Conversely, the second method (inclusion) consists of adding all multiple responses that include French to the French mother tongue group and doing the same with the multiple responses that include English and languages other than English or French. In other words, all instances of French, English or languages other than English

or French are included in the corresponding language group, regardless of the kind of response, whether it is a single response or a multiple response. The result is a maximum estimate of the population whose mother tongue is English, French or a language other than English or French. Table 7, however, illustrates that the sum of the three populations using the inclusion method exceeds the total Canadian population. The same is true for data on knowledge of languages, or any other variable for which there are too many multiple responses to be redistributed (such as the census variable on ethnic origin). This can be explained by the fact that, when calculating this sum, respondents who report more than one mother tongue are counted two or three times (in the case of three languages – English, French and a Non-official language).

Table 7
Proportion of the English-, French- and other-mother-tongue populations, by three multiple response processing methods, Canada, 2016

	English	French	Other	Total
		percentage		
Exclusion	56.0	20.6	21.1	**97.6**
Distribution	57.0	21.0	22.0	**100.0**
Inclusion	58.1	21.4	22.9	**102.5**

Notes: Total Canadian population in 2016: 34,767,250.
It is neither recommended nor justified to add up the proportions of the different categories when each main category includes multiple responses. The total is given to show that it exceeds 100% of the Canadian population.
Source: Statistics Canada, Census of Population, 2016.

A third method (distribution) produces a mid-point estimate of the population whose mother tongue is English, French or another language. It consists of distributing respondents who reported both English and French as their mother tongue equally between the English and French mother tongue groups, and similarly distributing the responses of type "English and non-official language," "French and non-official language," and "English, French and non-official language" (the latter category being distributed equally between the three language groups). The main advantage of this method is the comprehensive distribution of the population into large, mutually exclusive language groups. The distribution of multiple responses between the groups makes it possible to assign a (single) group to respondents for whom the information available does not enable us to say with certainty which group they belong to. Distribution is the only method in which the sum of the language groups equals the total Canadian population without having to use small multiple response groups that serve as residual categories.

The main limitation of the distribution method is that its simplified nature has an artificial aspect that increases with the number of multiple responses. In other words, redistribution works as long as the number of multiple responses remains marginal, since its impact on the data is quite small. Conversely, redistribution would appear to distort the data if the response rates reached a much higher level, such as 50% of the population. There is, however, no predetermined threshold below which the redistribution of multiple responses would be acceptable and above which it would no longer be.[16]

A second limitation of the distribution method is that it enables only a limited number of languages to be considered in data organization and presentation. It thereby rests on an approach that focuses exclusively on Canada's main official languages.[17] To apply the distribution method to other languages or families of languages in the data tables published on the Statistics Canada website would require exponentially multiplying the response categories in these tables. Table 8 presents the categories needed in a classification to adequately distribute the multiple responses by separating languages other than English or French into two groups; a first containing Indigenous languages and a second containing immigrant languages. This increases the number of multiple response categories from 4 to 10.[18]

16. Although multiple responses are somewhat rare within the language majority, and by extension within the general population, they are somewhat more numerous within minority language groups. See also Section 2.2.
17. It is always possible to obtain equivalent information for any other language derived from census microdata. Existing technical means and resources do not, however, enable us to provide the same level of detail for all languages in the data products published on the Statistics Canada website. Data users who want equivalent statistical information for a language other than English or French must request a custom product or access the microdata in a Statistics Canada research data centre themselves.
18. Statistics Canada could automatically redistribute the multiple responses during data processing to simplify their presentation. This method, called "cleansing," used in the 1971, 1976 and 1981 censuses, was criticized and caused Statistics Canada to stop using it as of the 1986 Census (Statistics Canada 1992).

Table 8
Categories of multiple responses, by number of languages or language groups considered in presenting the data

Three languages or language groups[1]	Four languages or language groups[2]
English and French	English and French
English and an non-official language	English and Indigenous language
	English and immigrant language
	English, immigrant language and Indigenous language
French and an non-official language	French and Indigenous language
	French and immigrant language
	French, immigrant language and Indigenous language
English, French and an non-official language	English, French and Indigenous language
	English, French and immigrant language
‡	Indigenous language and immigrant language

‡ No corresponding category.

1. Refers to the multiple response categories in the common broad and detailed classifications, including for the dissemination of language data from the 2016 Census.

2. This multiple response classification has never been used. It is only presented to illustrate the number of categories required to increase the number of languages or language groups in the classification. Theoretically, past and present census data could be used with this classification, but only the first write-in response was considered for dissemination. To answer "English" or "French" on the census, respondents simply need to check the corresponding box. All other responses must be entered in the space provided. Until 2016, the second and subsequent, if any, write-in responses were captured, but were not included in the data dissemination.

Other methods for processing multiple responses can be favoured in certain specific contexts. For example, multiple responses such as "English and non-official language" can be included only in the English mother tongue group and responses like "French and non-official language" only in the French mother tongue group, whereas responses like "English and French" and "English, French and non-official languages" are generally distributed between the English- and French-language groups. There is therefore no more symmetry between the third mother tongue group and the official language groups, and it becomes a residual category that includes only respondents who did not report either of the two official languages. Analytically speaking, this suggests predominance is given to official language groups.

All these methods used to present multiple responses correspond to the traditional data processing and presentation approach that focuses not on the language groups in general, but on the English- and French-language groups in particular. These categorizations were originally used in response to social and political concerns which, historically, related mostly to English- and French-language groups in Canada.[19] The "other," "non-official" or "allophone" language categories are in fact one very heterogeneous and large residual category that combines Indigenous languages, immigrant languages and sign languages under a single label. This traditional approach has significant limitations with regard to population estimates for a specific mother tongue other than English or French, or for a family of Indigenous or immigrant mother tongues. The classification that contains 10 categories enables to produce population estimates for the English and French mother tongue groups only. The classification that contains 269 categories enables such estimates only according to the exclusion method, since it is impossible to take into account multiple responses (in order to include or distribute them) for specific languages other than English or French.[20]

19. Beyond the recently adopted *Indigenous Languages Act*, "in Canada, legislation mostly involves English- and French-language speakers" [translation] (Lachapelle 1991, p. 1).
20. At this time, the only way to obtain these estimates is to submit a customized request to Statistics Canada or access the microdata in a Statistics Canada research data centre. Note that all multiple responses include at least one of the two official languages. This is explained by the fact that census language data disseminated by Statistics Canada take into account only the first "write-in response." To respond "English" or "French" to the census question, respondents simply check the appropriate box. All other responses must be written in the designated space. Presently, the second and subsequent write-in responses, if any, were entered but not taken into account during data dissemination. As well, no census data therefore contain multiple responses that relate to two Indigenous languages, two immigrant languages or a combination of Indigenous and immigrant languages.

2.1.2 Languages spoken at home and language of work

These classifications, as well as the multiple response processing methods, also apply to main home language, and can also apply to the language used most often at work. Since 2001, however, both census questions differ from the question on mother tongue due to a second part that asks about languages spoken at home or used at work on a regular basis in addition to the main language.[21]

There are not only more cases where more than one language is spoken at home,[22] but they are also more complex and varied than cases where there is more than one mother tongue. Where more than one language is spoken at home, there can be multiple responses to Part A (when two or three languages are reported to be spoken just as often) or a combination of one or more main languages (Part A) with one or more secondary languages (Part B). For a comprehensive look at languages spoken at home at least on a regular basis, we must cross-tabulate Part A and Part B (see Table 9).

Table 9
Languages spoken at home: main and secondary language, Canada, 2016

	Secondary language								
Main language	None	English	French	Non-official language	English and French	English and a non-official language	French and a non-official language	English, French and a non-official language	Total
	number								
English	19,756,510	0	566,295	1,793,305	0	0	46,760	0	**22,162,865**
French	6,081,030	629,055	0	201,590	0	32,125	0	0	**6,943,800**
Non-official language	2,191,465	1,469,085	152,555	104,090	47,970	28,590	1,350	2,080	**3,997,200**
English and French	143,040	0	0	17,140	0	0	0	0	**160,180**
English and a non-official language	1,239,645	0	12,245	32,440	0	0	645	0	**1,284,980**
French and a non-official language	135,600	11,200	0	1,760	0	360	0	0	**148,915**
English, French and a non-official language	67,955	0	0	1,355	0	0	0	0	**69,310**
Total	**29,615,240**	**2,109,340**	**731,100**	**2,151,690**	**47,970**	**61,075**	**48,755**	**2,080**	**34,767,250**

Source: Statistics Canada, Census of Population, 2016; Table 98-400-X2016347.

This level of detail and complexity, however, is not necessarily useful when defining a population or subpopulation of interest according to language criteria. In many cases, it is best to take into account only the main language, i.e., the language spoken most often at home (Part A). If we considered both parts, a minimum estimate (exclusion method) similar to the one presented in Table 6 for mother tongue, which took into account respondents who speak only one language at home, would exclude from the French-language population, for example, all persons whose main language is French, but who also speak another language at home, even if it is simply a secondary language. Information on languages regularly spoken at home in addition to the main language, if taken into account in such a way, significantly restricts the population of interest and increases exclusions.[23]

It can also be best to take into account only the main language to produce a mid-point estimate of language groups (distribution method) when the objective is to form mutually exclusive language groups. Using the same example, respondents who speak French only as a secondary language at home are not likely to be included in the French-language group.[24] They will first be included in the group that corresponds to their main language, as long as we are not simply trying to determine whether they speak French at home, but whether they speak it *predominantly*.

Moreover, a maximum estimate (inclusion method) that considers all languages reported in parts A or B of the question on languages spoken at home provides an overview of language use within the household. In keeping

21. More specifically, a second part was added to the question on language spoken at home in the 2001 Census long-form questionnaire. Between 1971 and 1996, only the question on language spoken most often at home (which became Part A of the question on languages spoken at home) was asked, with the exception of 1976 (this question did not appear in the census questionnaire). In 2011 and 2016, the two-part question on languages spoken at home appeared in the census short-form questionnaire. A two-part question on languages of work was added to the 2001 Census and has since been included in the long-form questionnaire.
22. For simplicity, only the example of languages spoken at home is presented, but the same applies for languages used at work. The main difference between both variables is that the question on languages spoken at home applies to the entire population, whereas the one on languages used at work targets persons 15 and older who worked during the reference period. Both variables are the same in terms of data processing and presentation.
23. This information is useful if the objective is to define a population that speaks only one language, such as French, at home. Conversely, when breaking down a population into language groups (keeping residual categories to a minimum), the information on languages regularly spoken complicates things and brings no added value.
24. This would be the case in a scenario primarily based on official language groups, where respondents who speak a non-official language as their main language and French as a secondary language would be included in the French-language population.

with the same example this method also groups, within a given subpopulation, respondents who speak only French at home and those who speak French only as a secondary language, in combination with one or several other languages. Therefore, when forming language groups based on language spoken at home, there are many more overlaps between subpopulations than for mother tongue, since it is more usual to speak a secondary language at home than to have more than one mother tongue.

With the approach based on mutually exclusive language groups, information on secondary language (Part B) may not seem very useful, and with good reason. However, it paints a more comprehensive and nuanced picture of language practices, particularly for minority languages, be it Indigenous or immigrant languages, or English or French in minority communities. For example, it enables to differentiate complete language transfers (respondents who stop using their mother tongue at home) from partial language transfers (respondents who still speak their mother tongue at home, but only as a secondary language).

Information on secondary language (Part B) can also be useful when defining a population that speaks a given language, regardless of possible overlaps. Doing so, however, eliminates the mutually exclusive nature of language groups which is specific to demolinguistics, by introducing elements that are part of a different approach, one that is based on languages and language practices and characteristics.

2.2 Approach based on languages and language practices and characteristics

The language approach[25] is mostly interested in the language behaviours of the general population, or of a specific subpopulation, without necessarily defining it according to language criteria. This approach meets emerging concerns that stem from certain trends in sociolinguistics or language sociology (Thibault 2001). The aim of these disciplines is much broader than demolinguistics', with the latter being more closely associated with census data, particularly in Canada[26] (Humbert, Coray and Duchêne 2018). Language approach perspectives can be grouped into, but are not limited to, three main categories.

The first attempts to identify the *presence* of a language (English, French, an Indigenous language or an immigrant language) within the overall population and measure its evolution. Census data can provide the number of respondents who are able to conduct a conversation in a language, who speak this language at home or use it at work, or who have this language as their mother tongue. The presence of a language within a population can be measured using one of these indicators, or a combination thereof.[27]

The second category could look at language practices and dynamics *in a given environment,* such as a geographic area (neighbourhood, city, region, etc.), a home environment (family, household, etc.) or a work setting (company, job sector, etc.). Among others, we can examine language diversity in a neighbourhood or region, families or households in which there are several languages, bilingualism or the use of a specific language on the labour market in general or in certain sectors of activity, or even how languages co-exist in the workplace. In this context, the language approach enables us to comprehend language situations in all their complexity.

The third category can look at *respondents* in a given situation or with specific language characteristics. We can thus study language criteria such as bilingualism and multilingualism, language learning, transmission and loss, and language paths. Moreover, individuals who speak a language, who are bilingual or multilingual, who have undergone a language transfer, who use different languages at home or at work, etc., often captures the attention of researchers and data users. Like the language group approach, the language approach can therefore be used to study specifically a given population or group according to language criteria. In this sense, however, there is no need for the interest groups to be defined in a mutually exclusive manner.

The challenge relating to the processing of multiple responses is different in the case of the language approach. To adequately measure the presence of a language, it is often best to take into account all instances of the language in

25. For simplicity, we will use the term "language approach," which also includes language practices and characteristics. There are many other ways to examine languages, including statistically, as is the case in linguistics. This paper essentially concerns approaches that make use of census or population survey data.
26. The limited use of language statistics from censuses of population in research fields other than demolinguistics is perhaps due to the fact that, for such a long time, the data were not collected, processed or disseminated to address their needs, nor to address how these fields problematize needs and social and political language statistics.
27. For example, we could enumerate respondents who speak French at home *or* who use it at work to measure the presence of French (Arsenault Morin and Geloso 2019). We could also explore the relationship between private and public use of languages (Béland 2008).

question. This is particularly true for minority—or very minority—languages, such as certain Indigenous languages. Table 10 indicates that in 2016, multiple response rates were twice as high for non-official languages (8.2%) than for French (3.8%) or English (3.6%) as a mother tongue.

Table 10
Single or multiple responses, mother tongue, by selected languages or language categories, Canada, 2016

	Single responses (mother tongue)		Multiple responses (mother tongue)		Total	
	number	percentage	number	percentage	number	percentage
Official languages	26,627,555	97.0	818,635	3.0	**27,446,190**	**100.0**
English	19,460,850	96.4	732,485	3.6	**20,193,335**	**100.0**
French	7,166,705	96.2	285,375	3.8	**7,452,075**	**100.0**
Non-official languages	7,321,065	91.8	653,310	8.2	**7,974,375**	**100.0**
Indigenous languages	195,700	91.8	17,530	8.2	**213,230**	**100.0**
Non-Indigenous languages	7,125,365	91.8	635,785	8.2	**7,761,150**	**100.0**
Total	**33,948,620**	**97.6**	**818,635**	**2.4**	**34,767,250**	**100.0**

Source: Statistics Canada, Census of Population, 2016; Table 98-400-X2016060.

The difference is even greater for statistics on languages spoken at home (see Table 11). About one-quarter of all respondents who speak French at home at least on a regular basis do so in combination with another language, all languages combined. In other words, about three in four respondents who speak French at home do not speak any other language at home. Results are similar among respondents who speak English at home, with a few percentage points difference. These proportions are the opposite among respondents who speak an Indigenous language: more than three-quarters of them (75.9%) speak an Indigenous language in combination with another language.

Table 11
Single and multiple responses, language spoken at home, by selected languages or language categories, Canada, 2016

	Single responses (language spoken at home)		Multiple responses (language spoken at home)[1]		Total	
	number	percentage	number	percentage	number	percentage
Official languages	25,837,540	79.6	6,634,155	20.4	**32,471,695**	**100.0**
English	19,756,510	76.3	6,141,290	23.7	**25,897,805**	**100.0**
French	6,081,025	74.6	2,071,085	25.4	**8,152,115**	**100.0**
Non-official languages	2,191,465	28.9	5,399,860	71.1	**7,591,325**	**100.0**
Indigenous languages	55,175	24.1	173,595	75.9	**228,765**	**100.0**
Non-Indigenous languages	2,136,290	29.0	5,226,480	71.0	**7,362,775**	**100.0**
Total	**28,029,005**	**80.6**	**6,738,245**	**19.4**	**34,767,250**	**100.0**

1. The proportion of multiple responses includes individuals who reported speaking more than one language equally and those who speak one language most often and one or more other languages on a regular basis as a secondary language or secondary languages.

Source: Statistics Canada, Census of Population, 2016; Table 98-400-X2016345.

This is also very true for immigrant languages:[28] the integration of non-official-language immigrants in Canadian society is often synonymous with the use of English or French at work, and the gradual adoption of that language as the language used at home.

However, it may not be justified to place all instances of a language on equal footing. Thanks to the two-part questions, census data on languages spoken at home and languages used at work make it possible to differentiate between the single use and the combined use of a language. In the case of the latter, we can also differentiate the (mainly) prevalent use from the equal use and the secondary use of a language.

Yet, when respondents are asked in Part B of these questions to report all languages spoken "regularly" at home or used "regularly" at work in addition to their main language, the threshold according to which a language is spoken or used sufficiently enough to be reported can vary from one person to another. There is no way to certify that respondents will report a language usually spoken or used and not one that is used only occasionally. Nevertheless, qualitative tests performed among respondents and data from the 2006 Survey on the Vitality of Official-Language Minorities (SVOLM) revealed that most respondents consider a language spoken or used "regularly" as one that is used on a daily basis.

28. Table 11 presents data for languages other than English or French that are not Indigenous, including sign languages, although these represent only a very small portion of the category.

Knowledge of a language also comprises an unknown aspect. The degree of language proficiency required to report the ability to conduct a conversation in this language is left at the respondent's discretion. It is subjective and can vary from one person to another. Furthermore, census data cannot evaluate a person's language proficiency, nor can it qualitatively differentiate language proficiency among bilingual or multilingual persons. Looking only at the responses to the official language question, we have no way of knowing in which language a bilingual person who speaks English and French is most proficient. Both languages appear to have equal footing in the census data, whereas this is rarely the case in reality.[29] A look at the other language questions can lead to certain hypotheses, but there is no way to be certain.

With regard to mother tongue, the instructions provided in the *2016 Census of Population Long-form Guide* specified the following: "For a person who learned two or more languages at the same time in early childhood, report the language this person spoke most often at home before starting school. Report two or more languages only if those languages were used equally often and are still understood by this person."[30] Multiple responses to the mother tongue question, which are much less frequent than for the other questions, therefore reflect a situation in which languages were transmitted equally to the respondent.

2.2.1 Data preparation and presentation: multiple responses

The different methods for processing multiple responses presented in Section 2.1.1, which are used to form language groups, are not necessarily useful when focusing on a given language. To do so, it is generally best to take into account all respondents who mention that language in response to the selected census question, which corresponds to the maximum estimate (inclusion method) presented in Table 6. For example, when measuring the extent to which the French language is present within a population, with mother tongue as the indicator, it is difficult to justify, based on the pretext that respondents reported this language in combination with another language, the total exclusion (exclusion method) or even partial exclusion (distribution method) of respondents who did in fact report French as their mother tongue, even if multiple responses are somewhat unstable from one census to another (Statistics Canada 2013). In this context, the maximum estimate (inclusion method) is more respectful of the responses given by Canadians to the census question on mother tongue and provides a better overview of the presence of a language in a given society or environment.

To find out, for example, the total number of respondents whose mother tongue is French, we simply need to add up the "French" category from the single responses to the three multiple response categories that include French (see Table 6, inclusion method). For similar information on French spoken at home, the operation is more complex since data are collected using a two-part question. We must first cross-tabulate the information collected in Part A to the information collected in Part B, as in Table 9 (see Section 2.1.2), and add up the information from 20 different cells, that is, all those where French is mentioned for either one of the two parts. In Table 12 below,[31] the grey cells are the ones that must be added up to take into account all respondents who reported speaking French at home at least on a regular basis[32] (without taking into account the order of languages in cases where more than one language is reported).

29. Other sources of data provide more details in this regard. For example, the 2011 Programme for the International Assessment of Adult Competencies contained questions on the ability to conduct a conversation in either official language and response choices based on an ordinal scale. The interaction between these data and the census data provides an idea of the difference in results depending on how the question was asked and the type of responses proposed. The 2006 SVOLM also contained questions on the level of knowledge of official languages (https//www150.statcan.gc.ca/n1/en/surveys/5099).
30. See the *2016 Census of Population Long-form Guide*.
31. Except for the fact that certain cells are grey, Table 12 is identical to Table 9 (see Section 2.1.2).
32. The operation is the same for languages used at work.

Table 12
Language or languages spoken at home: main language and secondary language, Canada, 2016

	Secondary language								
Main language	None	English	French	Non-official language	English and French	English and a non-official language	French and a non-official language	English, French and a non-official language	Total
	number								
English	19,756,510	0	566,295	1,793,305	0	0	46,760	0	**22,162,865**
French	6,081,030	629,055	0	201,590	0	32,125	0	0	**6,943,800**
Non-official language	2,191,465	1,469,085	152,555	104,090	47,970	28,590	1,350	2,080	**3,997,200**
English and French	143,040	0	0	17,140	0	0	0	0	**160,180**
English and a non-official language	1,239,645	0	12,245	32,440	0	0	645	0	**1,284,980**
French and a non-official language	135,600	11,200	0	1,760	0	360	0	0	**148,915**
English, French and a non-official language	67,955	0	0	1,355	0	0	0	0	**69,310**
Total	**29,615,240**	**2,109,340**	**731,100**	**2,151,690**	**47,970**	**61,075**	**48,755**	**2,080**	**34,767,250**

Source: Statistics Canada, Census of Population, 2016; Table 98-400-X2016347.

To simplify this operation while maintaining the distinction between the main (Part A) and secondary (Part B) language behaviours, Statistics Canada used a different approach to present the 2016 Census data on languages spoken at home[33] (see Table 13). The approach consists in presenting, for a given language (or group of languages), the number of respondents who reported using that language (or language belonging to this group) only, mostly, equally or regularly as their secondary language. The variable also indicates the number of respondents who did not report speaking this language (or group of languages) at home at least on a regular basis. It is therefore much easier to have an overview of the use of this language or group of languages at home by Canadians.

Table 13
English, French, Indigenous languages and immigrant languages spoken at home, Canada, 2016

	English spoken at home		French spoken at home		Indigenous language spoken at home		Immigrant language spoken at home	
	number	percentage	number	percentage	number	percentage	number	percentage
Only	19,756,510	56.8	6,081,025	17.5	55,420	0.2	2,230,645	6.4
Most often	2,406,355	6.9	862,770	2.5	63,050	0.2	1,637,640	4.7
Equally	1,514,470	4.4	378,410	1.1	19,050	0.1	1,476,895	4.2
On a regular basis	2,220,465	6.4	829,905	2.4	91,250	0.3	1,990,565	5.7
Total speakers	25,897,805	74.5	8,152,115	23.4	228,765	0.7	7,335,745	21.1
No mention	8,869,445	25.5	26,615,135	76.6	34,538,485	99.3	27,431,510	78.9
Total	**34,767,250**	**100.0**	**34,767,250**	**100.0**	**34,767,250**	**100.0**	**34,767,250**	**100.0**

Source: Statistics Canada, Census of Population, 2016; Table 98-400-X2016344.

The inconvenience with this approach is that data can be presented only for one language or one group of languages at a time. In the 2016 Census, data were presented this way, separately, for French, English, Indigenous languages (combined) and immigrant languages (combined). The same information cannot be obtained for a specific Indigenous language or immigrant language using the data tables currently available on the Statistics Canada website.

2.2.2 Languages other than English and French

Based on the "traditional" data presentation method, multiple response categories are presented in distinct categories for both broad and detailed classification. This provides an overview for only a very limited number of languages, so preference is given to English and French, Canada's official languages (see Section 2.1.1). It is not possible for data users interested in a specific Indigenous or immigrant language, or a family of languages, to calculate the total number of respondents who reported this language from the tables in which data are presented this way.[34]

33. This approach had been used in a similar manner as part of the 2001 Census and in the *Languages in Canada: 2006 Census* paper (Lachapelle and Lepage, 2010).
34. However, this information can be obtained by requesting a custom product or by accessing the microdata directly in a Statistics Canada research data centre.

To address this issue, some tables[35] published on the Statistics Canada website present mother tongue data the same way as knowledge of languages data (see Section 1.2), taking into account, for each language, all respondents who reported it as their only mother tongue or in combination with one or more languages (multiple responses). Table 14 presents an overview of data that appears on the Statistics Canada website.[36] This is the same information that is presented in Table 10, but with additional detail for each specific language for which census data are available.

Table 14
Single and multiple responses, mother tongue, selected languages or language categories, Canada, 2016

	Single responses (mother tongue)	Multiple responses (mother tongue)	Total
	number		
Total[1]	**33,948,620**	**818,635**	**34,767,250**
Official languages	26,627,555	818,635	**27,446,190**
English	19,460,850	732,485	**20,193,335**
French	7,166,705	285,375	**7,452,075**
Non-official languages	7,321,065	653,310	**7,974,375**
Indigenous languages	195,700	17,530	**213,230**
Algonquian languages	130,450	12,710	**143,160**
Blackfoot	2,820	650	**3,465**
Cree-Montagnais languages	88,445	7,810	**96,260**
Atikamekw	6,150	145	**6,295**
Montagnais (Innu)	10,235	480	**10,710**
(Etc.)[2]	…	…	**…**
Non-Indigenous languages	7,761,150	7,125,365	**635,785**
Afro-Asiatic languages	657,055	575,365	**81,690**
Berber languages	25,440	22,135	**3,300**
Kabyle	15,070	13,150	**1,920**
Berber languages, n.o.s.	10,365	8,985	**1,385**
Cushitic languages	47,105	42,885	**4,220**
Bilen	835	805	**30**
(Etc.)[2]	…	…	**…**

... not applicable
1. The total represents the entire Canadian population. It means that in this population, 33,948,620 individuals reported one mother tongue, and 818,635 reported more than one.
2. Visit the Statistics Canada website for the full version of Table 98-400-X2016060.
Source: Statistics Canada, Census of Population, 2016; Table 98-400-X2016060.

The same type of data are also provided for languages spoken at home.[37] In this case, the information is presented for all respondents who reported speaking a given language at least on a regular basis, without being able to determine whether this is their main language (Part A) or secondary language (Part B). When the information is cross-tabulated with the "single and multiple responses for language spoken at home" variable (see Table 15), the "single responses for language spoken at home" category combines all respondents who reported only one language in Part A of the census question on language spoken at home, without having provided a response to Part B. In contrast, the "multiple responses for language spoken at home" combines all respondents who reported more than one language in Part A, or any combination of languages in Part A or B of the question.

35. For example, see table 98-400-X2016060.
36. On the website, the table contains information for each language and language family for which data are disseminated.
37. See table 98-400-X2016345.

Table 15
Single and multiple responses, language spoken at home, selected languages or language categories, Canada, 2016

	Single responses (language spoken at home)	Multiple responses (language spoken at home)	Total
	number		
Total[1]	28,029,005	6,738,245	**34,767,250**
Official languages	25,837,540	6,634,155	**32,471,695**
English	19,756,510	6,141,290	**25,897,805**
French	6,081,025	2,071,085	**8,152,115**
Non-official languages	2,191,465	5,399,860	**7,591,325**
Indigenous languages	55,175	173,595	**228,765**
Algonquian languages	32,820	120,460	**153,280**
Blackfoot	535	4,410	**4,945**
Cree-Montagnais languages	24,565	77,990	**102,555**
Atikamekw	2,775	3,615	**6,390**
Montagnais (Innu)	4,830	6,130	**10,960**
(Etc.)[2]	…	…	**…**
Non-Indigenous languages	7,362,775	2,136,290	**5,226,480**
Afro-Asiatic languages	684,415	154,385	**530,030**
Berber languages	23,610	2,160	**21,445**
Kabyle	14,540	1,490	**13,050**
Berber languages, n.o.s.	9,120	675	**8,445**
Cushitic languages	50,920	15,215	**35,705**
Bilen	805	305	**505**
(Etc.)[2]	…	…	**…**

... not applicable

1. The total represents the entire Canadian population. It means that in this Canadian population, 28,029,0050 individuals reported speaking one language at home, and 6,738,245 reported speaking more than one language at least on a regular basis at home.

2. Visit the Statistics Canada website for the full version of Table 98-400-X2016345.

Source: Statistics Canada, Census of Population, 2016; Table 98-400-X2016345.

2.3 Comparison of both approaches

Language groups are often studied for comparison purposes. This purpose was at the heart of the work by the Royal Commission on Bilingualism and Biculturalism, in which we noticed, among other things, that French-language populations were socioeconomically behind compared with English-language populations.[38] This is the reality in which demolinguistics experienced its largest growth in the 1960 and 1970s, when unequal relationships between language groups were seen by many as a threat to social peace (Martel and Pâquet 2010, p. 20). The comparison can suppose some sort of competition or conflict[39] between the language groups, even though this may not necessarily be the case. The title of the founding paper by Richard J. Joy, *Languages in Conflicts: the Canadian Experience*, published in 1967, clearly expresses this conflicting aspect in relationships between language groups in Canada.

The language approach does not exclude comparisons between languages or between groups who speak those languages. However, it is best for studying language coexistence, language diversity and multilingualism, among other examples, than the language group approach. But to do so requires a different approach for the presentation and dissemination of language data, particularly for multiple responses.

2.3.1 Mother tongue

Table 16 presents data (counts and proportion of the total population) on mother tongue for Canada, the provinces and territories, according to the distribution and inclusion methods (see Section 2.1.1). The distribution of multiple responses between the major language groups is the method generally used for the language group approach. The

38. "The economic factor exercises an important influence and the English language, with its unquestionable dominance [...] tips the scale strongly in its favour. Since economic, social, and linguistic factors all play a part, the Francophone community [is] economically weaker than the Anglophone" (Royal Commission on Bilingualism and Biculturalism 1969, p. 5). These populations were defined according to the ethnic origin criterion.

39. "[…] sociolinguistic imbalances and inequalities are seen from the point of view of society in general and groups or even communities fighting for recognition and/or to defend their identity and, beyond that, more generally and commonly, to seize or retain power, be it political, economic or other." [*translation*] (Boyer 2017, p. 76).

inclusion method, which can also be used to define a language group, is the one that best meets the objectives of the language approach.[40]

Table 16
Populations with English, French or other language as their mother tongue, by two calculation methods, Canada, 2016

	English				French				Other languages			
	Distribution[1]		Inclusion[2]		Distribution[1]		Inclusion[2]		Distribution[1]		Inclusion[2]	
	number	percentage	number	percentage	number	percentage	number	percentage	number	percentage	number	percentage
Canada	19,821,440	57.0	20,193,330	58.1	7,303,740	21.0	7,452,075	21.4	7,642,070	22.0	7,974,375	22.9
Newfoundland and Labrador	500,523	97.1	501,345	97.2	2,678	0.5	3,015	0.6	12,468	2.4	13,025	2.5
Prince Edward Island	128,484	91.1	128,970	91.5	5,124	3.6	5,395	3.8	7,407	5.3	7,665	5.4
Nova Scotia	834,103	91.4	838,055	91.9	31,375	3.4	33,350	3.7	46,823	5.1	49,165	5.4
New Brunswick	477,183	64.8	481,690	65.4	234,961	31.9	238,865	32.4	24,136	3.3	25,165	3.4
Quebec	657,078	8.1	718,985	8.9	6,295,378	78.0	6,377,080	79.1	1,114,093	13.8	1,173,340	14.5
Ontario	9,077,155	68.2	9,255,660	69.5	527,690	4.0	568,335	4.3	3,708,015	27.9	3,865,780	29.0
Manitoba	915,931	72.6	931,415	73.8	43,208	3.4	46,055	3.7	302,476	24.0	316,125	25.1
Saskatchewan	901,691	83.2	910,860	84.1	16,373	1.5	17,740	1.6	165,171	15.2	173,475	16.0
Alberta	3,035,904	75.4	3,080,870	76.5	79,149	2.0	86,695	2.2	911,592	22.6	952,785	23.7
British Columbia	3,220,418	70.0	3,271,430	71.1	64,213	1.4	71,705	1.6	1,313,790	28.6	1,360,820	29.6
Yukon	29,430	82.8	29,760	83.7	1,688	4.7	1,815	5.1	4,438	12.5	4,670	13.1
Northwest Territories	32,156	77.7	32,550	78.7	1,268	3.1	1,365	3.3	7,961	19.2	8,300	20.1
Nunavut	11,376	31.9	11,735	32.9	616	1.7	640	1.8	23,693	66.4	24,050	67.4

1. In the distribution method, multiple responses are distributed among the different language groups.

2. The inclusion method counts all individuals who have that language as their mother tongue.

Source: Statistics Canada, Census of Population, 2016.

Of course, the number and proportion of respondents whose mother tongue is English, French or an "other" language are different depending on the approach or method selected. The data are the same; the differences lie only in the handling of the multiple responses. The differences observed on the national, provincial or territorial scale can seem trivial at first: they are less than one percentage point in the majority of cases and barely exceed this threshold in other cases (see Table 16). In numbers, however, these differences translate to 371,890 respondents whose mother tongue is English, 148,335 respondents whose mother tongue is French and 332,305 respondents whose mother tongue is a language other than English or French, across Canada (see Table 17).

Table 17
Differences (in number) and variations (in percentage) between the two calculation methods for the English-, French- and other-mother-tongue populations, Canada, 2016

	English				French				Other language			
	Inclusion[1]	Distribution[2]	Difference	Variation	Inclusion[1]	Distribution[2]	Difference	Variation	Inclusion[1]	Distribution[2]	Difference	Variation
	number			percentage	number			percentage	number			percentage
Canada	20,193,330	19,821,440	371,890	-1.8	7,452,075	7,303,740	148,335	-2.0	7,974,375	7,642,070	332,305	-4.2
Newfoundland and Labrador	501,345	500,523	822	-0.2	3,015	2,678	337	-11.2	13,025	12,468	557	-4.3
Prince Edward Island	128,970	128,484	486	-0.4	5,395	5,124	271	-5.0	7,665	7,407	258	-3.4
Nova Scotia	838,055	834,103	3,953	-0.5	33,350	31,375	1,975	-5.9	49,165	46,823	2,343	-4.8
New Brunswick	481,690	477,183	4,507	-0.9	238,865	234,961	3,904	-1.6	25,165	24,136	1,029	-4.1
Quebec	718,985	657,078	61,907	-8.6	6,377,080	6,295,378	81,702	-1.3	1,173,340	1,114,093	59,247	-5.0
Ontario	9,255,660	9,077,155	178,505	-1.9	568,335	527,690	40,645	-7.2	3,865,780	3,708,015	157,765	-4.1
Manitoba	931,415	915,931	15,484	-1.7	46,055	43,208	2,847	-6.2	316,125	302,476	13,649	-4.3
Saskatchewan	910,860	901,691	9,169	-1.0	17,740	16,373	1,367	-7.7	173,475	165,171	8,304	-4.8
Alberta	3,080,870	3,035,904	44,966	-1.5	86,695	79,149	7,546	-8.7	952,785	911,592	41,193	-4.3
British Columbia	3,271,430	3,220,418	51,013	-1.6	71,705	64,213	7,493	-10.4	1,360,820	1,313,790	47,030	-3.5
Yukon	29,760	29,430	330	-1.1	1,815	1,688	128	-7.0	4,670	4,438	233	-5.0
Northwest Territories	32,550	32,156	394	-1.2	1,365	1,268	97	-7.1	8,300	7,961	339	-4.1
Nunavut	11,735	11,376	359	-3.1	640	616	24	-3.8	24,050	23,693	357	-1.5

1. The inclusion method counts all individuals who have that language as their mother tongue.

2. In the distribution method, multiple responses are distributed among the different language groups.

Source: Statistics Canada, Census of Population, 2016.

40. It is also the method that is best at bridging the gap between both approaches. It usually supposes that attention is given only to one language group at a time and that comparisons are restricted to "the rest of the population."

In certain provinces, these respondents who are added to or excluded from the population of interest, depending on the point of view, can have quite a significant effect on minority language groups. In Quebec, for example, the redistribution of multiple responses excludes 61,907 respondents who reported English as their mother tongue from the English mother tongue group, which equals 8.6% of all Quebecers who reported English as their mother tongue during the 2016 Census. Similarly, the redistribution of multiple responses excludes 11.2% of respondents who reported French as their mother tongue in Newfoundland and Labrador, and 10.4% of those in British Columbia. All these respondents reported more than one mother tongue.

Based on the language approach, French is the mother tongue of all respondents who respond French to the mother tongue question. Likewise, English is the mother tongue of all respondents who report English as their mother tongue, and so on and so forth for all other mother tongues enumerated. The purpose is not to determine which mother tongue group respondents belong to, but rather how many respondents reported French, English or any other language as their mother tongue.

In the language group approach, the exclusion method and the distribution method are based on the principle that each respondent can belong to only one group. Each respondent therefore has the equivalent of one mother tongue (or 100% of the mother tongue). To a certain extent, respondents who report English and French as their mother tongues have two halves of a mother tongue: 50% of their mother tongue is English and 50% is French, a situation which, in reality, is difficult to justify. They are therefore half counted in the English mother tongue group and half in the French mother tongue group. Statistically speaking, this is the same as placing half of respondents who report English and French as their mother tongue in the French-language group and the other half in the English-language group.

The language approach is dichotomous: respondents reported or did not report a given mother tongue. If so, they are included in the count; if not, they are excluded.[41] As for the language group approach, it attempts to consider the importance of the respondent's language (or, at least, presupposes lesser or greater importance based on whether there is "coexistence" with another or several other languages). In this sense, we assume that French is of greater importance for respondents who report only this language as their mother tongue, compared with respondents who report it in combination with another language. This importance is measured as follows: 100% for a single response, 50% for a combination of two languages and 33.3% for a combination of three languages.[42]

On the other hand, there is no indication that a person who is transmitted two mother tongues is transmitted only half of each language. The transmission of two mother tongues is done cumulatively, and not to the detriment of one of the languages. With time, a respondent may become more proficient in one language than the other, but census data do not enable us to support this statement. According to the language group approach, reporting only one language has more weight than reporting that language in a multiple response. According to the language approach, all languages reported for a question on mother tongue have the same weight.

2.3.2 Languages spoken at home or languages used at work

The situation is different for languages spoken at home or languages used at work. Table 18 presents data on language spoken at home most often (Part A only) the same way Table 16 presents data on mother tongue, that is, by adding up all respondents who reported English, French or a third language as their main language of use. In this case, respondents report speaking these languages at home in Part A of the question without the responses in Part B being taken into account.

41. In doing so, since only one language group is being targeted, the excluded population becomes a simple residual category (which can, however, include a quite significant population). There is therefore no need, in this perspective, for each respondent to be included in a well-identified language group.
42. This is true for the mother tongue example. The idea is similar for language spoken at home if we consider only Part A of the question, but it is much more complex if we take both parts into consideration.

Table 18
Population that speaks English, French, or other language most often at home, by two calculation methods, Canada, 2016

	English				French				Other languages			
	Method 2[1]		Method 3[2]		Method 2[1]		Method 3[2]		Method 2[1]		Method 3[2]	
	number	percentage	number	percentage	number	percentage	number	percentage	number	percentage	number	percentage
Canada	22,908,548	65.9	23,677,335	68.1	7,121,451	20.5	7,322,205	21.1	4,737,251	13.6	5,500,405	15.8
Newfoundland and Labrador	506,856	98.3	508,180	98.5	1,166	0.2	1,415	0.3	7,658	1.5	8,795	1.7
Prince Edward Island	133,419	94.6	134,180	95.1	2,442	1.7	2,630	1.9	5,159	3.7	5,750	4.1
Nova Scotia	869,230	95.3	875,015	95.9	15,698	1.7	17,035	1.9	27,373	3.0	32,105	3.5
New Brunswick	511,389	69.5	516,940	70.2	210,222	28.6	214,225	29.1	14,674	2.0	16,755	2.3
Quebec	866,845	10.7	965,610	12.0	6,502,820	80.6	6,644,080	82.4	696,885	8.6	821,985	10.2
Ontario	10,717,595	80.5	11,112,790	83.5	309,515	2.3	348,275	2.6	2,285,760	17.2	2,661,490	20.0
Manitoba	1,067,358	84.6	1,099,535	87.2	18,918	1.5	21,260	1.7	175,348	13.9	206,190	16.3
Saskatchewan	981,537	90.6	998,600	92.2	4,829	0.4	5,845	0.5	96,874	8.9	113,410	10.5
Alberta	3,420,716	85.0	3,515,165	87.3	32,621	0.8	38,600	1.0	573,313	14.2	664,885	16.5
British Columbia	3,747,137	81.5	3,863,595	84.0	21,222	0.5	26,670	0.6	830,062	18.1	943,765	20.5
Yukon	32,675	91.9	33,085	93.1	933	2.6	1,005	2.8	1,948	5.5	2,300	6.5
Northwest Territories	36,810	89.0	37,355	90.3	713	1.7	800	1.9	3,863	9.3	4,350	10.5
Nunavut	16,989	47.6	17,295	48.5	359	1.0	375	1.1	18,352	51.4	18,650	52.3

1. In method 2, multiple responses are distributed among the different language groups.

2. Method 3 counts all individuals who speak that language at home as their main language, including those who speak more than one main language "equally."

Source: Statistics Canada, Census of Population, 2016.

However, Tables 19, 20, 21 and 22 illustrate the importance of taking into account multiple responses and secondary language for a more comprehensive and nuanced picture of the languages spoken at home, particularly in the case of Indigenous languages. Thanks to these tables, users can compare the sum and proportion of respondents who speak, at home, English (Table 19), French (Table 20), an Indigenous language (Table 21) or an immigrant language (Table 22), most often (Part A, single responses), equally (Part A, multiple responses) or regularly (Part B) in addition to their main language. This differentiates prevalent use from the equal or secondary use of a language at home.[43] The total therefore provides an overview of all respondents who speak English, French, an Indigenous language or an immigrant language at home *at least on a regular basis*.

Table 19
Population that speaks English at home, Canada, provinces and territories, 2016

	English spoken at home							
	Most often[1]		Equally[2]		On a regular basis[3]		Total	
	number	percentage	number	percentage	number	percentage	number	percentage
Canada	22,162,865	63.7	1,514,475	4.4	2,220,470	6.4	25,897,810	74.5
Newfoundland and Labrador	505,545	98.0	2,630	0.5	3,260	0.6	511,435	99.2
Prince Edward Island	132,665	94.1	1,510	1.1	2,595	1.8	136,775	97.0
Nova Scotia	863,555	94.7	11,470	1.3	17,380	1.9	892,400	97.8
New Brunswick	505,930	68.7	11,000	1.5	50,410	6.8	567,345	77.1
Quebec	782,190	9.7	183,430	2.3	579,695	7.2	1,545,310	19.2
Ontario	10,328,680	77.6	784,100	5.9	923,840	6.9	12,036,625	90.4
Manitoba	1,035,475	82.1	64,060	5.1	78,285	6.2	1,177,815	93.4
Saskatchewan	964,645	89.1	33,955	3.1	42,965	4.0	1,041,565	96.2
Alberta	3,327,260	82.6	187,915	4.7	227,465	5.6	3,742,635	92.9
British Columbia	3,631,700	79.0	231,885	5.0	281,485	6.1	4,145,075	90.1
Yukon	32,270	90.8	820	2.3	1,305	3.7	34,395	96.7
Northwest Territories	36,270	87.7	1,075	2.6	2,210	5.3	39,560	95.6
Nunavut	16,685	46.7	610	1.7	9,575	26.8	26,870	75.3

1. Includes all single responses of English to Part A (most often) of the question on language spoken at home.

2. Includes all instances of English in a multiple response to Part A (most often) of the question on language spoken at home.

3. Includes all responses of English to Part B (other language spoken on a regular basis) of the question on language spoken at home.

Source: Statistics Canada, Census of Population, 2016.

43. Table 13 (Section 2.2.1) shows that data can also distinguish between the single (single response to Part A and no language reported in Part B) and combined but prevalent use (single response to Part A accompanied by the use of a secondary language reported in Part B) of a language. Respondents who do not report using the language in question at least regularly can therefore be enumerated residually.

Table 20
Population that speaks French at home, Canada, provinces and territories, 2016

	French spoken at home							
	Most often[1]		Equally[2]		On a regular basis[3]		Total	
	number	percentage	number	percentage	number	percentage	number	percentage
Canada	6,943,805	20.0	378,410	1.1	829,905	2.4	8,152,115	23.4
Newfoundland and Labrador	935	0.2	485	0.1	3,255	0.6	4,670	0.9
Prince Edward Island	2,265	1.6	370	0.3	2,910	2.1	5,540	3.9
Nova Scotia	14,465	1.6	2,570	0.3	17,015	1.9	34,055	3.7
New Brunswick	206,310	28.0	7,910	1.1	30,555	4.1	244,780	33.2
Quebec	6,375,665	79.0	268,420	3.3	381,490	4.7	7,025,580	87.1
Ontario	277,045	2.1	71,235	0.5	268,970	2.0	617,245	4.6
Manitoba	16,870	1.3	4,385	0.3	21,290	1.7	42,545	3.4
Saskatchewan	3,980	0.4	1,860	0.2	10,025	0.9	15,865	1.5
Alberta	27,630	0.7	10,970	0.3	46,255	1.1	84,860	2.1
British Columbia	16,795	0.4	9,870	0.2	46,080	1.0	72,750	1.6
Yukon	860	2.4	145	0.4	950	2.7	1,960	5.5
Northwest Territories	630	1.5	160	0.4	845	2.0	1,640	4.0
Nunavut	345	1.0	25	0.1	260	0.7	625	1.8

1. Includes all single responses of French to Part A (most often) of the question on language spoken at home.

2. Includes all instances of French in a multiple response to Part A (most often) of the question on language spoken at home.

3. Includes all responses of French to Part B (other language spoken on a regular basis) of the question on language spoken at home.

Source: Statistics Canada, Census of Population, 2016.

Table 21
Population that speaks an Indigenous language at home, Canada, provinces and territories, 2016

	Indigenous language spoken at home							
	Most often[1]		Equally[2]		On a regular basis[3]		Total	
	number	percentage	number	percentage	number	percentage	number	percentage
Canada	118,470	0.3	19,050	0.1	91,250	0.3	228,765	0.7
Newfoundland and Labrador	1,910	0.4	110	0.0	685	0.1	2,705	0.5
Prince Edward Island	10	0.0	10	0.0	25	0.0	45	0.0
Nova Scotia	2,570	0.3	385	0.0	2,150	0.2	5,105	0.6
New Brunswick	820	0.1	175	0.0	1,320	0.2	2,320	0.3
Quebec	40,190	0.5	2,405	0.0	5,955	0.1	48,545	0.6
Ontario	9,210	0.1	3,285	0.0	14,440	0.1	26,940	0.2
Manitoba	15,770	1.2	3,560	0.3	16,120	1.3	35,445	2.8
Saskatchewan	16,600	1.5	2,980	0.3	13,485	1.2	33,070	3.1
Alberta	9,970	0.2	3,565	0.1	17,450	0.4	30,985	0.8
British Columbia	1,565	0.0	1,620	0.0	8,025	0.2	11,200	0.2
Yukon	80	0.2	75	0.2	595	1.7	745	2.1
Northwest Territories	2,040	4.9	310	0.7	2,995	7.2	5,345	12.9
Nunavut	17,735	49.7	570	1.6	8,010	22.4	26,315	73.7

1. Includes all single responses of an Indigenous language to Part A (most often) of the question on language spoken at home.

2. Includes all instances of an Indigenous language in a multiple response to Part A (most often) of the question on language spoken at home.

3. Includes all responses of an Indigenous language to Part B (other language spoken on a regular basis) of the question on language spoken at home.

Source: Statistics Canada, Census of Population, 2016.

Table 22
Population that speaks an immigrant language at home, Canada, provinces and territories, 2016

	Immigrant language spoken at home							
	Most often[1]		Equally[2]		On a regular basis[3]		Total	
	number	percentage	number	percentage	number	percentage	number	percentage
Canada	3,868,285	11.1	1,476,895	4.2	1,990,565	5.7	7,335,745	21.1
Newfoundland and Labrador	4,415	0.9	2,015	0.4	3,175	0.6	9,610	1.9
Prince Edward Island	4,550	3.2	1,150	0.8	1,495	1.1	7,190	5.1
Nova Scotia	19,880	2.2	8,740	1.0	13,590	1.5	42,215	4.6
New Brunswick	11,660	1.6	3,720	0.5	6,170	0.8	21,555	2.9
Quebec	543,925	6.7	232,020	2.9	346,385	4.3	1,122,335	13.9
Ontario	1,902,680	14.3	739,170	5.6	987,945	7.4	3,629,795	27.3
Manitoba	128,465	10.2	57,415	4.6	61,455	4.9	247,340	19.6
Saskatchewan	63,615	5.9	29,730	2.7	29,780	2.7	123,135	11.4
Alberta	471,665	11.7	177,810	4.4	227,245	5.6	876,725	21.8
British Columbia	714,275	15.5	223,820	4.9	310,645	6.8	1,248,740	27.2
Yukon	1,505	4.2	620	1.7	1,225	3.4	3,350	9.4
Northwest Territories	1,330	3.2	660	1.6	1,070	2.6	3,055	7.4
Nunavut	290	0.8	25	0.1	385	1.1	695	1.9

1. Includes all single responses of an immigrant language to Part A (most often) of the question on language spoken at home.

2. Includes all instances of an immigrant language in a multiple response to Part A (most often) of the question on language spoken at home.

3. Includes all responses of an immigrant language to Part B (other language spoken on a regular basis) of the question on language spoken at home.

Source: Statistics Canada, Census of Population, 2016.

Information on languages spoken at home derived from census data does not make it possible to accurately weigh language use according to all possible combinations, which are more numerous than for mother tongue. Although more weight should be given to main language than to secondary language, nothing indicates the specific weighting that should be attributed to each. For example, if a respondent reports a main language (Part A) and a secondary language (Part B), it is not possible to precisely weigh their respective importance beyond the fact that the main language should have greater weight than the secondary language. What if more than one main language or more than one secondary language is reported? There are too many cases and too much uncertainty to be able to process this information with accuracy. Furthermore, this level of accuracy is not required because the information provided in Part B of the question on languages spoken at home is not generally used to create language groups using a multiple response distribution method (see Section 2.1.2).

However, based on the language approach, data on languages spoken at home and languages used at work provide a nuanced portrait of the use of languages by taking advantage of all the information available. This is why Statistics Canada has developed an approach to distinguish single, prevalent (most often), equal or secondary (regularly) use of a language (see Table 13, Section 2.2.1).

2.4 Data processing

Language data products derived from the Canadian Census of Population have long been prepared and disseminated by Statistics Canada to follow the demographic evolution of language groups, and more specifically English- and French-language groups. It is important for Statistics Canada that data users who want to continue following this evolution are able to do so. The agency will therefore continue to provide data that enable users to define language groups based on criteria they deem relevant and compare the data to previous census data. The 2016 Census data tables published on the Statistics Canada website, like the ones from previous censuses, enable the creation and analysis of mutually exclusive language groups. Data from the 2021 Census will do the same.

However, it is just as important for Statistics Canada to respond to, inasmuch as possible, current and emerging issues that require language statistics to be presented and developed differently. In this sense, the agency would like to develop a data offer that focuses on languages, language practices and language characteristics, as well as on specific languages or families of languages. These data will, of course, concern English and French, but also Indigenous and immigrant languages. This will be done in such a way that does not compromise the tables that data users already had access to in the past.

English and French are Canada's official languages. Even in a context of growing language diversity, they play a key role in the lives of a vast majority of Canadians. They will continue to play a central role in the presentation of census language data. Offering the data using the language approach improves the statistical information that is available on official languages as much as it does the information available on Indigenous and immigrant languages.

In brief, the objective is not to favour one approach in particular, nor is it to reduce or modify the offer to the detriment of one of the approaches, but rather to develop a complementary data offer so as to meet as many data needs and users as possible.

2.5 Data presentation

Statistics Canada is constantly required to make choices about how it presents data in its analytical documents. The language group approach was used in the past and continues to be used in several documents and analyses. It is still relevant to follow the demographic evolution of language groups in Canada: the relative weight of these groups changes based on steady and very linguistically diverse immigration.[44] Although there are much fewer differences since the findings of the Royal Commission on Bilingualism and Biculturalism in the 1960s,[45] comparing sociocultural and economic characteristics between different language groups meets current concerns related, among others, to specific issues that are often local or regional.[46] It enables to better understand the challenges faced by certain groups. Statistics Canada will continue to disseminate analytical reports that target certain important aspects of language groups, particularly when it comes to official and minority language groups.

The agency also plans to use the approach that focuses on languages and language practices and characteristics in several other documents. In a society that is more and more linguistically diverse, the benefit of the language approach is that it provides a simple, user-friendly and accessible perspective, in addition to respecting responses provided in the Canadian Census of Population, and makes use of all information available. This approach enables to report on growing phenomena within Canadian society, such as bilingualism and multilingualism, both on an individual level and in relation to households, contacts, exchanges and language coexistence.[47] Furthermore, the language approach, based on which all respondents who report a language are taken into account, is better adapted to the study of Indigenous and immigrant languages and the issues that concern them.[48]

44. See also Houle and Corbeil 2017.
45. See also the series *Portrait of Official-Language Minorities in Canada* published from 2010 to 2012.
46. See also Bérard-Chagnon and Lepage 2016.
47. See Statistics Canada 2017.
48. See also Lepage, Langlois and Turcotte 2019.

Conclusion

Two main approaches can determine how statistical language data derived from the Canadian Census of Population are processed and disseminated. One is based on language groups, and the other on the population's languages and language practices and characteristics. Without being incompatible, both perspectives are based on different data processing choices as it relates to presenting multiple responses to language questions.

The objective of this paper was to explain both main approaches and their differences. These approaches use different research techniques and therefore provide a different view of the language situation in Canada. The redistribution of multiple responses, usually favoured by the language group approach, has been criticized in the past.[49] In a context where the availability of statistical data on language groups has increased, opportunities for defining language groups have multiplied. The definition of language groups or communities is thus also the responsibility of the groups and communities in question. Statistics Canada's role is to ensure they have the tools and statistical information required to do so. The language group approach thus continues to be used by numerous researchers and data users because it provides effective responses to certain legitimate questions.

However, this approach does not answer all current questions. The language approach, which considers all respondents who report a language, is better suited to answer certain emerging questions from a language statistics perspective. There is, in fact, growing interest for languages other than English and French, for bilingualism and multilingualism, for more inclusive (and not mutually exclusive) perspectives on languages and populations that know them, speak them or have them as their mother tongue, as well as for a level of detail and nuance that the language group approach cannot easily provide.

For the last few censuses, Statistics Canada has focused more on the approach based on languages, language practices and characteristics of the population in its analytical documents, while continuing to disseminate data that can be used to establish language groups according to the main indicators (mother tongue, main language of use, first official language spoken, etc.). Statistics Canada strives to have an optimal balance between taking into account emerging issues and ensuring historical data comparability. Finding this optimal balance between both sometimes contradictory considerations is at the heart of the agency's data collection, processing and dissemination activities. Statistics Canada therefore does not favour one approach over another in its data products. Statistics Canada's objective is to provide the greatest possible number of data users with access to statistical information that is relevant to them, regardless of their chosen approach.

49. As seen in Section 2.1.1, data "cleansing," which is the automatic distribution of multiple responses during data processing, was abandoned following criticism (Statistics Canada 1992) and replaced by a presentation that provides the option of redistributing or not redistributing data. The issue was not as much with the distribution as with the fact that it was *automatic* (and irreversible), since this does not necessarily meet all data users' needs.

Appendix A

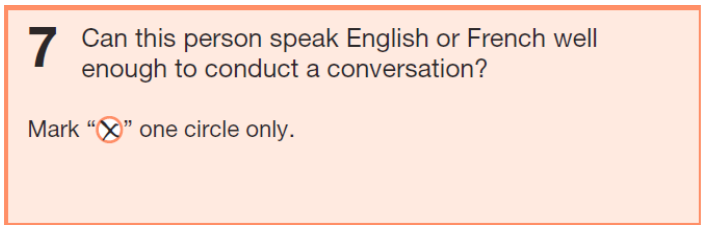
Linguistic questions from the 2016 Census

The following definitions were taken from the 2016 Census Dictionary.

Knowledge of official languages

Definition : 'Knowledge of official languages' refers to whether the person can conduct a conversation in English only, French only, in both or in neither language. For a child who has not yet learned to speak, this includes languages that the child is learning to speak at home.

Question of the census:



Language spoken at home

Language spoken most often at home

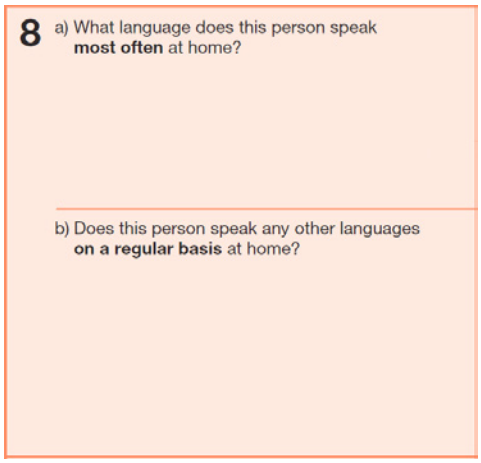
Definition : 'Language spoken most often at home' refers to the language the person speaks most often at home at the time of data collection. A person can report more than one language as 'spoken most often at home' if the languages are spoken equally often.

For a person who lives alone, the language spoken most often at home is the language in which he or she feels most comfortable. For a child who has not yet learned to speak, this is the language spoken most often to the child at home. Where two languages are spoken to the child, the language spoken most often at home is the language spoken most often. If both languages are used equally often, then both languages are included here.

Other language(s) spoken regularly at home

Definition : 'Other language(s) spoken regularly at home' refers to the languages, if any, that the person speaks at home on a regular basis at the time of data collection, other than the language or languages he or she speaks most often at home.

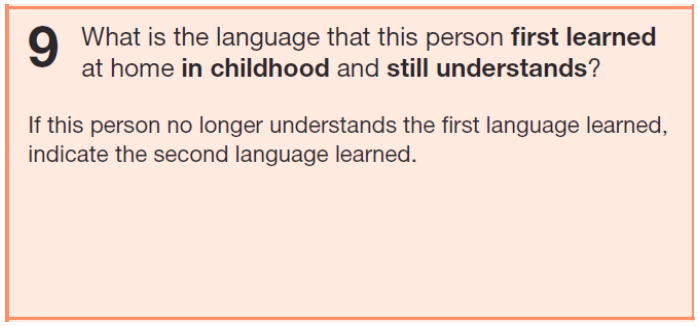
Questions from the census:


8 a) What language does this person speak **most often** at home?

b) Does this person speak any other languages **on a regular basis** at home?

Mother tongue

Definition : 'Mother tongue' refers to the first language learned at home in childhood and still understood by the person at the time the data was collected. If the person no longer understands the first language learned, the mother tongue is the second language learned. For a person who learned two languages at the same time in early childhood, the mother tongue is the language this person spoke most often at home before starting school. The person has two mother tongues only if the two languages were used equally often and are still understood by the person. For a child who has not yet learned to speak, the mother tongue is the language spoken most often to this child at home. The child has two mother tongues only if both languages are spoken equally often so that the child learns both languages at the same time.

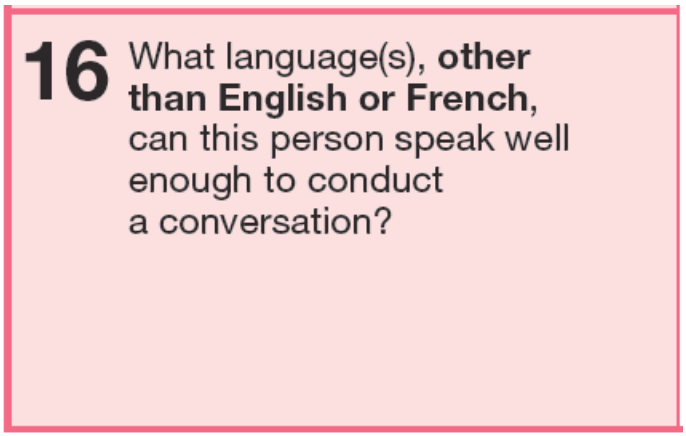

9 What is the language that this person **first learned** at home **in childhood** and **still understands**?

If this person no longer understands the first language learned, indicate the second language learned.

Knowledge of non-official languages

Definition : 'Knowledge of non-official languages' refers to whether the person can conduct a conversation in a language other than English or French. For a child who has not yet learned to speak, this includes languages that the child is learning to speak at home. The number of languages that can be reported may vary between surveys, depending on the objectives of the survey.

Question from the census:



Language at work

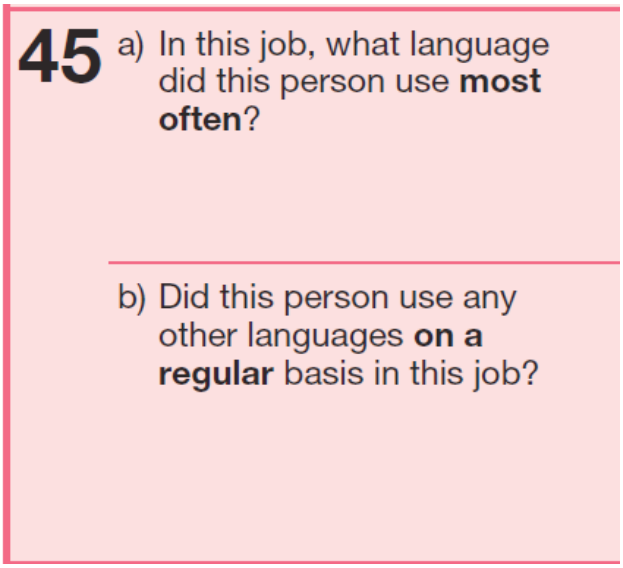
Language used most often at work

Definition : 'Language used most often at work' refers to the language the person uses most often at work. A person can report more than one language as "used most often at work" if the languages are used equally often

Other language(s) used regularly at work

Definition : 'Other language(s) used regularly at work' refers to the languages, if any, that the person uses in their job on a regular basis, other than the language or languages he or she uses most often at work.

Question from the census:



Appendix B

Detailed classification

- Total — Mother tongue
  - Single responses
    - Official languages
      - English
      - French
    - Non-official languages
      - Aboriginal languages
        - Algonquian languages
          - Blackfoot
          - Cree-Montagnais languages
            - Atikamekw
            - Montagnais (Innu)
            - Moose Cree
            - Naskapi
            - Northern East Cree
            - Plains Cree
            - Southern East Cree
            - Swampy Cree
            - Woods Cree
            - Cree, n.o.s.
        - Eastern Algonquian languages
          - Malecite
          - Mi'kmaq
        - Ojibway-Potawatomi languages
          - Algonquin
          - Ojibway
          - Oji-Cree
          - Ottawa (Odawa)
        - Algonquian languages, n.i.e.
      - Athabaskan languages
        - Northern Athabaskan languages
          - Babine (Wetsuwet'en)
          - Beaver
          - Carrier
          - Chilcotin
          - Dene
          - Dogrib (Tlicho)
          - Gwich'in
          - Sarsi (Sarcee)

        - Sekani
        - Slavey-Hare languages
            - North Slavey (Hare)
            - South Slavey
            - Slavey, n.o.s.
        - Tahltan languages
            - Kaska (Nahani)
            - Tahltan
        - Tutchone languages
            - Northern Tutchone
            - Southern Tutchone
        - Athabaskan languages, n.i.e.
    - Haida
    - Inuit languages
        - Inuinnaqtun (Inuvialuktun)
        - Inuktitut
        - Inuit languages, n.i.e.
    - Iroquoian languages
        - Cayuga
        - Mohawk
        - Oneida
        - Iroquoian languages, n.i.e.
    - Kutenai
    - Michif
    - Salish languages
        - Comox
        - Halkomelem
        - Lillooet
        - Okanagan
        - Shuswap (Secwepemctsin)
        - Squamish
        - Straits
        - Thompson (Ntlakapamux)
        - Salish languages, n.i.e.
        - Siouan languages
        - Dakota
        - Stoney
        - Siouan languages, n.i.e.
    - Tlingit
    - Tsimshian languages
        - Gitxsan (Gitksan)
        - Nisga’a

- Tsimshian
- Wakashan languages
  - Haisla
  - Heiltsuk
  - Kwakiutl (Kwak'wala)
  - Nuu-chah-nulth (Nootka)
  - Wakashan languages, n.i.e.
- Aboriginal languages, n.o.s.

- Non-Aboriginal languages
  - Afro-Asiatic languages
    - Berber languages
      - Kabyle
      - Berber languages, n.i.e.
    - Cushitic languages
      - Bilen
      - Oromo
      - Somali
      - Cushitic languages, n.i.e.
    - Semitic languages
      - Amharic
      - Arabic
      - Assyrian Neo-Aramaic
      - Chaldean Neo-Aramaic
      - Harari
      - Hebrew
      - Maltese
      - Tigrigna
      - Semitic languages, n.i.e.
    - Afro-Asiatic languages, n.i.e.
  - Austro-Asiatic languages
    - Khmer (Cambodian)
    - Vietnamese
    - Austro-Asiatic languages, n.i.e
  - Austronesian languages
    - Bikol
    - Cebuano
    - Fijian
    - Hiligaynon
    - Ilocano
    - Malagasy
    - Malay
    - Pampangan (Kapampangan, Pampango)

- Pangasinan
- Tagalog (Pilipino, Filipino)
- Waray-Waray
- Austronesian languages, n.i.e.

- Creole languages
  - Haitian Creole
  - Creole, n.o.s.
  - Creole languages, n.i.e.
- Dravidian languages
  - Kannada
  - Malayalam
  - Tamil
  - Telugu
  - Dravidian languages, n.i.e.
- Hmong-Mien languages
- Indo-European languages
  - Albanian
  - Armenian
  - Balto-Slavic languages
    - Baltic languages
      - Latvian
      - Lithuanian
    - Slavic languages
      - Belarusan
      - Bosnian
      - Bulgarian
      - Croatian
      - Czech
      - Macedonian
      - Polish
      - Russian
      - Serbian
      - Serbo-Croatian
      - Slovak
      - Slovene (Slovenian)
      - Ukrainian
      - Slavic languages, n.i.e.
  - Celtic languages
    - Scottish Gaelic
    - Welsh
    - Celtic languages, n.i.e.
  - Germanic languages
    - Afrikaans

- Danish
- Dutch
- Frisian
- German
- Icelandic
- Norwegian
- Swedish
- Vlaams (Flemish)
- Yiddish
- Germanic languages, n.i.e.

- Greek
- Indo-Iranian languages
  - Indo-Aryan languages
    - Bengali
    - Gujarati
    - Hindi
    - Kashmiri
    - Konkani
    - Marathi
    - Nepali
    - Oriya (Odia)
    - Punjabi (Panjabi)
    - Sindhi
    - Sinhala (Sinhalese)
    - Urdu
  - Iranian languages
    - Kurdish
    - Pashto
    - Persian (Farsi)
  - Indo-Iranian languages, n.i.e.
- Italic (Romance) languages
  - Catalan
  - Italian
  - Portuguese
  - Romanian
  - Spanish
  - Italic (Romance) languages, n.i.e.
- Japanese
- Kartvelian languages
  - Georgian
  - Korean
  - Mongolic languages

- Mongolian
- Niger-Congo languages
  - Akan (Twi)
  - Bamanankan
  - Edo
  - Ewe
  - Fulah (Pular, Pulaar, Fulfulde)
  - Ga
  - Ganda
  - Igbo
  - Lingala
  - Rundi (Kirundi)
  - Kinyarwanda (Rwanda)
  - Shona
  - Swahili
  - Wolof
  - Yoruba
  - Niger-Congo languages, n.i.e.
- Nilo-Saharan languages
  - Dinka
  - Nilo-Saharan languages, n.i.e.
- Sign languages
  - American Sign Language
  - Quebec Sign Language
  - Sign languages, n.i.e
- Sino-Tibetan languages
  - Chinese languages
    - Cantonese
    - Hakka
    - Mandarin
    - Min Dong
    - Min Nan (Chaochow, Teochow, Fukien, Taiwanese)
    - Wu (Shanghainese)
    - Chinese, n.o.s.
    - Chinese languages, n.i.e.
  - Tibeto-Burman languages
    - Burmese
    - Karenic languages
    - Tibetan
    - Tibeto-Burman languages, n.i.e.
  - Tai-Kadai languages
    - Lao

        - Thai
        - Tai-Kadai languages, n.i.e
    - Turkic languages
        - Azerbaijani
        - Turkish
        - Uyghur
        - Uzbek
        - Turkic languages, n.i.e.
    - Uralic languages
        - Estonian
        - Finnish
        - Hungarian
        - Uralic languages, n.i.e.
    - Other languages, n.i.e.
- Multiple responses
    - English and French
    - English and non-official language
    - French and non-official language
    - English, French and non-official language

References

Arsenault Morin, Alex and Vincent Geloso. 2019. "Multilingualism and the decline of French in Quebec." *Journal of multilingual and multicultural development. October 22.* https://www.tandfonline.com/doi/abs/10.1080/01434632.2019.1676250

Béland, Paul. 2008. *Langue et immigration, langue du travail : éléments d'analyse*. Conseil supérieur de la langue française. 40 p. http://www.cslf.gouv.qc.ca/publications/pubf228/f228.pdf

Bérard-Chagnon, Julien and Jean-François Lepage. 2016. "The literacy skills of New Brunswick francophones: Demographic and socioeconomic issues." *Ethnicity, Language and Immigration Thematic Series.* Statistics Canada Catalogue no. 89 657 X2016001. 80 p. https://www150.statcan.gc.ca/n1/en/pub/89-657-x/89-657-x2016001-eng.pdf?st=9tF8ENG8

Boyer, Henri. 2017. *Introduction à la sociolinguistique*. Dunod. 136 p.

Corbeil, Jean-Pierre. Forthcoming. "Catégories et frontières : le recensement et la construction sociale, politique et scientifique des groupes ethnolinguistiques au Canada." *Diversité urbaine*.

Houle, René and Jean-Pierre Corbeil. 2017. *Language Projections for Canada, 2011 to 2036*. Ottawa. Statistics Canada Catalogue no. 89-657-X2017001. 140 p. https://www150.statcan.gc.ca/n1/en/catalogue/89-657-X2017001

Humbert, Philippe, Renata Coray and Alexandre Duchêne. 2018. *Compter les langues : histoire, méthodes et politiques des recensements de population. Une revue de littérature*. Fribourg. Research Centre on Multilingualism. 73 p. http://doc.rero.ch/record/308744/files/2018.001_census_def_web_0.pdf

Joy, Richard J. 1967. *Languages in Conflict: The Canadian Experience*. Ottawa. Self published. 145 p.

Juteau, Danielle. 2015. *L'ethnicité et ses frontières*. Les Presses de l'Université de Montréal. Montréal. 306 p.

Lachapelle, Réjean. 1991. *Utilisation des données de recensement dans la mise en œuvre de la législation linguistique*. Ottawa. Statistics Canada. 54 p.

Lachapelle, Réjean and Jean-François Lepage. 2010. *Languages in Canada: 2006 Census*. Canadian Heritage and Statistics Canada. 205 p.

Lepage, Jean-François, Stéphanie Langlois and Martin Turcotte. 2019. *Evolution of the language situation in Nunavut, 2001 to 2016*. Ottawa. Statistics Canada Catalogue no. 89-657-X2019010. 102 p. https://www150.statcan.gc.ca/n1/pub/89-657-x/89-657-x2019010-eng.htm

Maheu, Robert. 1985. "La démolinguistique : objet et enjeux." *Cahiers québécois de démographie*. Vol. 14, no. 1. April 1985. p. 3-5. https://www.erudit.org/fr/revues/cqd/1985-v14-n1-cqd2458/600554ar/

Martel, Marcel and Martin Pâquet. 2010. *Langue et politique au Canada et au Québec. Une synthèse historique*. Boréal. Montréal. 335 p.

Royal Commission on Bilingualism and Biculturalism. 1967. "Book I, Official Languages." *Report of the Royal Commission on Bilingualism and Biculturalism*. Ottawa. 229 p. http://publications.gc.ca/site/eng/9.643815/publication.html

Royal Commission on Bilingualism and Biculturalism. 1969. "Book III, The Work World." *Report of the Royal Commission on Bilingualism and Biculturalism*. Ottawa. 492 p. http://publications.gc.ca/site/eng/9.643817/publication.html

Statistics Canada. 1992. *Population selon la langue maternelle, 1981 à 1991 : données de base et statistiques comparatives approchées*. Draft document. Ottawa. 15 p.

Statistics Canada. 2013. *Methodological Document on the 2011 Census*. Ottawa. Statistics Canada Catalogue no. 98-314-X2011051. 30 p.

Statistics Canada. 2017. *Linguistic diversity and multilingualism in Canadian homes*. Ottawa. Statistics Canada Catalogue no. 98-200-X2016010. 9 p. https://www12.statcan.gc.ca/census-recensement/2016/as-sa/98-200-x/2016010/98-200-x2016010-eng.cfm

Thibault, Pierrette. 2001. "Regard rétrospectif sur la sociolinguistique québécoise et canadienne." *Revue québécoise de linguistique*. Vol. 30, no 1. p. 19-42. https://www.erudit.org/fr/revues/rql/2001-v30-n1-rql411/000512ar/