

HOUSE OF COMMONS CHAMBRE DES COMMUNES CANADA

REVITALIZING RESEARCH AND SCIENTIFIC PUBLICATION IN FRENCH IN CANADA

Report of the Standing Committee on Science and Research

Lloyd Longfield, Chair

JUNE 2023 44th PARLIAMENT, 1st SESSION Published under the authority of the Speaker of the House of Commons

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> Lloyd Longfield Chair

> > **JUNE 2023**

44th PARLIAMENT, 1st SESSION

NOTICE TO READER

Reports from committees presented to the House of Commons

Presenting a report to the House is the way a committee makes public its findings and recommendations on a particular topic. Substantive reports on a subject-matter study usually contain a synopsis of the testimony heard, the recommendations made by the committee, as well as the reasons for those recommendations.

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THE STANDING COMMITTEE ON SCIENCE AND RESEARCH

has the honour to present its

FIFTH REPORT

Pursuant to its mandate under Standing Order 108(3)(i), the committee has studied research and scientific publication in French and has agreed to report the following:

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SUMMARY

Considerable evidence shows that English is increasingly dominating research and scientific publication, both internationally and domestically. In recent decades in Canada, the vast majority of new scientific journals have been launched in English, and the proportion of scientific articles published in English has been increasing steadily in most scientific disciplines. As a result, French is losing ground in the sciences. For example, the proportion of funding requests submitted to the three granting agencies—the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council of Canada and the Canadian Institutes of Health Research —in French is significantly lower than the proportion of francophone researchers.

According to 2016 Census data, 21% of university professors and teaching assistants at the post-secondary level across Canada are francophones. These scientists face a series of obstacles when they decide to conduct research and publish their findings in French.

Work published in French is not as well indexed in the international databases used to measure the number of times an article is cited in scientific literature. French-language publications are seen as less prestigious than English-language publications, which can affect a scientist's career progression. In addition, there is a perception that funding applications are less likely to be approved if they are submitted to the granting agencies in French.

Francophone researchers, particularly those working in post-secondary institutions outside Quebec, also experience practical difficulties when working in French, because their institutions are often unable to provide the necessary material support.

The marginalisation of French has a number of repercussions. Firstly, the dominance of English threatens the dissemination of scientific knowledge in French. Secondly, the domination of English could mean that local research topics are overlooked, particularly those relating to Canadian francophone communities themselves.

While the increasing domination of English in science is a global phenomenon, Canada is in a unique position: in Canada, unlike in other officially multilingual countries such as Belgium or Switzerland, English is one of the official languages. According to Statistics Canada, in 2021 63.8% of the population in Canada spoke predominantly English at home, and 20% spoke predominantly French at home. The gradual marginalization of French in science could therefore upset the linguistic balance in Canada.

The House of Commons Standing Committee on Science and Research (the Committee) decided to undertake a study on research and scientific publication in French, both in Quebec and in the rest of Canada.

As part of this study, the Committee heard evidence on the status of French in science and the challenges facing francophone scientists in Canada. Witnesses also identified courses of action that would revitalize research and scientific publication in French.

Based on the evidence heard, the Committee made 17 recommendations to the government.

LIST OF RECOMMENDATIONS

As a result of their deliberations committees may make recommendations which they include in their reports for the consideration of the House of Commons or the Government. Recommendations related to this study are listed below.

Recommendation 1

| That the Government of Canada continue its funding for the Service to Assist | |
|--|----|
| Research in French project launched by Acfas to support francophone scientists | |
| across Canada | 32 |
| Recommendation 2 | |

| That the Government of Canada provide permanent funding for research | |
|--|---|
| involving Canadian francophone communities35 | ; |

Recommendation 3

Recommendation 4

Recommendation 5

Recommendation 6

That the Government of Canada establish a French-language science office, attached to the Office of the Chief Science Advisor, tasked with:

- monitoring and coordinating support efforts by the Federal government for research and scientific publication in French;
- measuring progress achieved; and

Recommendation 7

That the granting agencies, namely the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council of Canada, and the Canadian Institutes of Health Research, review the criteria and procedures used to assess research excellence in the context of allocating funding by:

- discontinuing the use of bibliometrics such as the impact factor; and

Recommendation 8

Recommendation 9

Recommendation 10

Recommendation 11

Recommendation 12

Recommendation 13

Recommendation 14

Recommendation 15

| That the Government of Canada continue to support initiatives offering open |
|--|
| access to French-language scientific research, such as the Érudit platform, by |
| providing stable, predictable funding 57 |

Recommendation 16

| That the granting agencies develop support programs for science outreach, |
|--|
| science communication and the mobilization of scientific knowledge in French |
| across the country |

Recommendation 17

| That the Government of Canada develop an international student exchange | |
|---|---|
| program for post-secondary institutions in the Francophonie, in collaboration | |
| with the provinces and territories | 1 |



REVITALIZING RESEARCH AND SCIENTIFIC PUBLICATION IN FRENCH IN CANADA

INTRODUCTION

On 16 June 2022, the House of Commons Standing Committee on Science and Research (the Committee) adopted the following motion:

It was agreed, —That, pursuant to standing order 108(2), the committee undertake a study of research and scientific publication in French, in Quebec, and in the rest of Canada, and that the committee dedicate a minimum of three meetings to this study, and report its findings to the House.¹

The Committee held five meetings between 3 October 2022 and 2 February 2023 for its study. It heard 28 witnesses and received 24 written briefs. The Committee would like to thank all those who took the time to participate in this study, either by appearing or by submitting a brief.

Further to the evidence it compiled, the Committee made recommendations to the Government of Canada on research and scientific publication in French in Quebec and in the rest of Canada.

CURRENT SITUATION

Witness statements gave the Committee an understanding of the current situation as regards scientific research and publication in French in Canada.

Demographic and Institutional Data

From a demographic perspective, according to the analysis of 2016 Census data by Acfas,² 21% of university professors and teaching assistants at the post-secondary level

House of Commons Standing Committee on Science and Research [SRSR], <u>Minutes of Proceedings</u>, 16 June 2022.

² Established in 1923 under the name "Association canadienne-française pour l'avancement des sciences," Acfas is a non-profit organization that seeks to promote scientific research and the dissemination of knowledge in French.



across Canada are francophones. This proportion is 5.8% outside Quebec and 72.5% within Quebec. $^{\rm 3}$

These researchers and professors work in anglophone, bilingual and francophone universities and post-secondary institutions across Canada. Institutions with postsecondary programs in French are not exclusively in Quebec.

In its 2021 report, Acfas identified 14 francophone or bilingual post-secondary institutions outside Quebec:⁴

- seven bilingual post-secondary institutions, most of which are in Ontario: the University of Ottawa, Laurentian University, the University of Sudbury, Saint Paul University, the Royal Military College of Canada, Dominican University College and York University's Glendon Campus;
- one francophone university in Ontario: the Université de Hearst;
- two francophone institutions in the Atlantic provinces: the Université de Moncton in New Brunswick and the Université Sainte-Anne in Nova Scotia; and
- in Western Canada, one francophone university: the Université de Saint-Boniface, affiliated with the University of Manitoba; and three francophone campuses within anglophone universities: the Cité universitaire francophone at the University of Regina, the Campus St-Jean at the University of Alberta, and the Office of Francophone and Francophile Affairs at Simon Fraser University.

The Université de l'Ontario français, which welcomed its first students in 2021, can also be added to this list.

³ Acfas, <u>Portraits et défis de la recherche en français en contexte minoritaire au Canada</u>, June 2021, pp. 94–95 [Full report available in French only; summary report available in English: <u>Summary Report: Portrait and</u> <u>Challenges of Research in French in the Minority Context in Canada</u>].

⁴ Ibid., p. 38.

At the college level, 10 institutions offer opportunities to study in French outside Quebec:⁵

- in the Atlantic provinces: the Collège de l'Île in Prince Edward Island; the Université Sainte-Anne in Nova Scotia; and the Collège communautaire du Nouveau-Brunswick;
- in Ontario: the Collège Boréal and the Collège La Cité;
- in Western and Northern Canada: the Université de Saint-Boniface in Manitoba; the Collège Mathieu in Saskatchewan; the Campus Saint-Jean in Alberta; the Collège Éducacentre in British Columbia; and the Collège nordique francophone in the Northwest Territories.

According to a report prepared for Canadian Heritage in 2021 that was cited by a witness, 21,825 people were studying in French in universities outside Quebec in 2018–2019, and 10,518 people were studying in French in colleges outside Quebec.⁶

Data on Scientific Publication in French

As regards scientific publication, a number of signs indicate that English is becoming increasingly dominant both globally and domestically, while French is steadily losing ground.

Launching Scientific Journals

The creation of new scientific journals illustrates this trend. According to Acfas, from a global perspective:

[M]ore than half of all new journals created since the 1960s have been in English, and this percentage has risen to nearly 70% in recent years. French has been slowly declining, accounting for about 3% of new journals published in the last decade.⁷ [translation]

⁵ List provided by Sociopol (2021), <u>Études postsecondaires dans la langue de la minorité. Portrait et analyse</u> <u>des enjeux</u>, prepared for the Department of Canadian Heritage, p. 41 [Full report available in French only; summary report available in English: <u>Postsecondary Education in the Minority Language: An Overview and</u> <u>Analysis of the Issues</u>, Summary prepared for the Department of Canadian Heritage].

⁶ Ibid., pp. 41–42.

⁷ Acfas, <u>Portraits et défis de la recherche en français en contexte minoritaire au Canada</u>, June 2021, p. 44 [AVAILABLE IN FRENCH ONLY].



Jean-Pierre Perreault, President of Acfas, stated that this phenomenon is affecting many countries: "There are virtually no more journals published in Italian, in Spanish, in German or in Japanese. The exception is China, because a lot more scientific research is being done there than 25 years ago. Otherwise, a decline can be seen in all languages."⁸

Looking back at the number of new scholarly journals that have been created in English, in French or bilingually over the last 70 years, Acfas made the following observation:

Not surprisingly, during that time, the majority of journals were launched in English. This proportion increased from about 60% in the 1970s to 70% in the 1990s, and then to over 90% since 2005. In contrast, the proportion of bilingual journals, which experienced a peak in the 1960s and 1970s, has dwindled since the 2000s. Lastly, French-language journals represented about 10% of journals launched in the 1960s onward, with their proportion growing to nearly 20% in the mid-1990s. However, this proportion decreased drastically after 2000, and only a handful of French-language journals have been created in Canada since then.⁹ [translation]

Publication of Scientific Articles

Turning to the proportion of scientific articles published in English and French, the same trends are apparent.

According to the brief submitted by Vincent Larivière and Jean-François Gaudreault-DesBiens, professors at the Université de Montréal, the proportion of academic journals published in English at the global level rose from 64% in 1995 to over 90% in 2019. During the same period, the proportion of articles published in French fell from just under 10% to 1%.¹⁰

Scientific publication in French has declined at the national level as well. According to figures provided to the Committee by the Université du Québec à Montréal:

Scientific production in French from French-language or bilingual institutions in Canada between 2011 and 2021 shows a clear downward trend. Production dropped from 595

⁸ SRSR, *Evidence*, 3 October 2022, 1915 (Jean-Pierre Perreault, President, Acfas).

⁹ Acfas, *Portraits et défis de la recherche en français en contexte minoritaire au Canada*, June 2021, p. 46.

Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific Publication in</u> <u>French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, pp. 2–3.

French-language publications in 2011 to 490 French-language publications in 2021, a decrease of 17.6% (105 publications).¹¹

Differences Between Scientific Disciplines

As many witnesses pointed out, it is important to note that the situation is not the same across all scientific disciplines.¹² Most French-language scholarly journals are in the social sciences and humanities; very few are published in the fields of natural sciences, engineering and health sciences.¹³

In their brief to the Committee, Vincent Larivière and Jean-François Gaudreault-DesBiens explain as follows:

In the last 40 years, the percentage of articles in English has increased exponentially in the medical and natural sciences, accounting for nearly 100% of Canadian articles. In the social sciences, the percentage is lower, hovering around 95%, and is around 90% in the arts and humanities.¹⁴

Acfas noted in its 2021 report that, among bilingual Canadian journals, the proportion of articles published in French is very low—in fact, nearly nonexistent since the late 1990s—in fields considered to be more internationalized, such as economics and physics.¹⁵ The proportion of articles in French is higher in other disciplines, but is still low overall:

In the field of history, about 5% of the articles published by the Canadian Historical Review have been in French, except for a spike of around 10% between 2006 and 2008. This low percentage is likely explained by the separation of the field in Canada, where the country's francophone scientific community has created journals that allow its members to publish their work in French. Nearly half of the articles published in the bilingual philosophical journal Dialogue were in French in the 1990s and 2000s.

- 13 SRSR, *Evidence*, 3 October 2022, 1845 (Jean-Pierre Perreault); and SRSR, *Evidence*, 17 October 2022, 2020 (Benoit Sévigny, Director of Communications, Fonds de recherche du Québec).
- Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific Publication in</u> <u>French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 3.
- 15 Acfas, *Portraits et défis de la recherche en français en contexte minoritaire au Canada*, June 2021, p. 47.

Université du Québec à Montréal [UQAM], <u>Submission to the House of Commons Standing Committee on</u> <u>Science and Research as Part of Its Study on Research and Scientific Publication in French</u>, 24 November 2022, p. 4.

¹² For example, SRSR, *Evidence*, 31 October 2022, 1950 (Yves Gingras, Professor of History and Sociology of Science, Université du Québec à Montréal, As an Individual); and Richard Marcoux, *Brief presented to the House of Commons Standing Committee on Science and Research: Research and scientific publication in French*, 23 November 2022, p. 2.



However, this percentage is lower today, with articles in French representing about 20% of the total. Lastly, in the case of the Canadian Journal of Political Science, apart from a gap in the early 2000s, about 30% of its articles are written in French, with this percentage increasing to about 40% after 2010.¹⁶ [translation]

In the social sciences and humanities, the portion of articles published in French has been dropping for the last 40 years, not only in francophone post-secondary institutions in minority communities, but also in francophone institutions in Quebec, as well as in bilingual and anglophone institutions in Quebec.¹⁷

Within Quebec, French is in a stronger position, especially in the arts and humanities, but it is in decline there as well in the social sciences:

In 2015, 70% of social science articles were in English, as were 30% of arts and humanities articles. While the trend in the arts and humanities has been fairly stable over time, the decline in the social sciences has been substantial, whereas less than 50% of the province's articles were in English in 1980.¹⁸

Data on Funding Applications

A number of witnesses discussed the figures about funding applications submitted in French to the tri-council granting agencies: the Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council of Canada (NSERC) and the Canadian Institutes of Health Research (CIHR).

Proportion of Applications Submitted in French

As regards the proportion of applications submitted in French, according to Nipun Vats, Assistant Deputy Minister for the Science and Research Sector at Innovation, Science and Economic Development Canada (ISED), "a smaller proportion generally of francophone researchers actually submit their applications in French than would be the case if you were going by population share."¹⁹

¹⁶ Ibid.

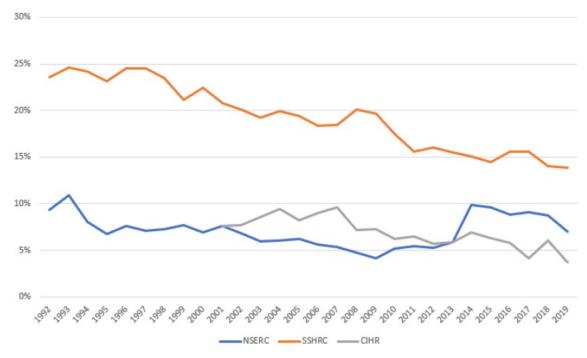
¹⁷ Ibid., p. 50.

Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific Publication in</u> <u>French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 3.

¹⁹ SRSR, *Evidence*, 31 October 2022, 2100 (Nipun Vats, Assistant Deputy Minister, Science and Research Sector, Innovation, Science and Economic Development Canada).

In response to the Committee's questions, ISED provided a chart showing that the proportion of applications submitted to the three granting agencies in French is significantly lower than the proportion of francophone researchers (see Figure 1).

Figure 1—Percentage of Applications Received in French by the Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council of Canada (NSERC) and the Canadian Institutes of Health Research (CIHR), 1992–2019



Source: Written response provided by Innovation, Science and Economic Development Canada (ISED) to the Committee.

While Acfas estimated in 2021 that 21% of university professors and teaching assistants at the post-secondary level across Canada are francophones,²⁰ in 2019 less than 15% of funding applications were submitted in French to SSHRC, with this number dropping to less than 10% for NSERC and less than 5% for CIHR. SSHRC receives more applications in French than the other two granting agencies, but the proportion of applications in French has been declining steadily since the late 1990s, dropping from roughly 25% in 1997 to under 15% in 2019.

Acfas, <u>Portraits et défis de la recherche en français en contexte minoritaire au Canada</u>, June 2021, pp. 94– 95.



Looking more precisely at funding applications submitted to the three granting agencies by researchers working at francophone and bilingual universities, the rate of applications submitted in French is also decreasing, especially for NSERC and SSHRC (see Figures 2, 3 and 4).

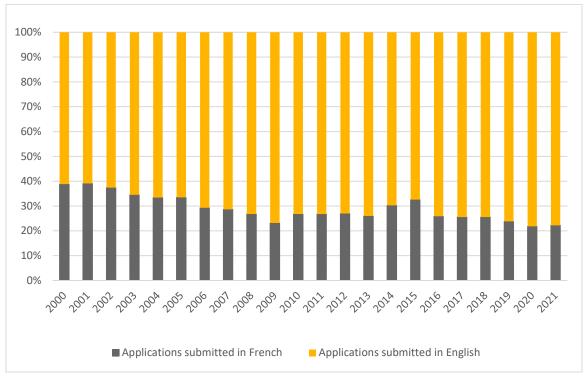


Figure 2—Proportion of funding applications submitted in French and in English to NSERC, from francophone and bilingual universities, 2000–2021

Source: Figure prepared using data from House of Commons, <u>Sessional paper 8555-441-1162</u>, 20 March 2023.

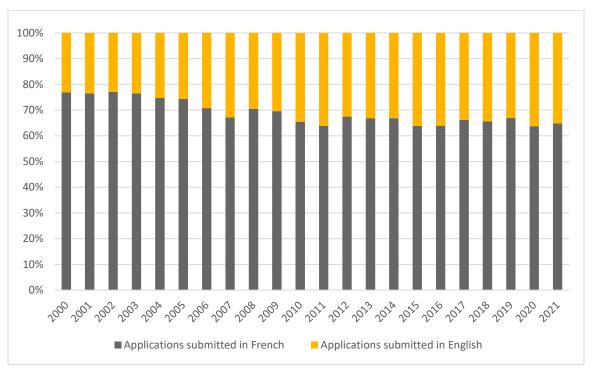


Figure 3—Proportion of funding applications submitted in French and in English to SSHRC, from francophone and bilingual universities, 2000–2021.

Source: Figure prepared using data from House of Commons, <u>Sessional paper 8555-441-1162</u>, 20 March 2023.



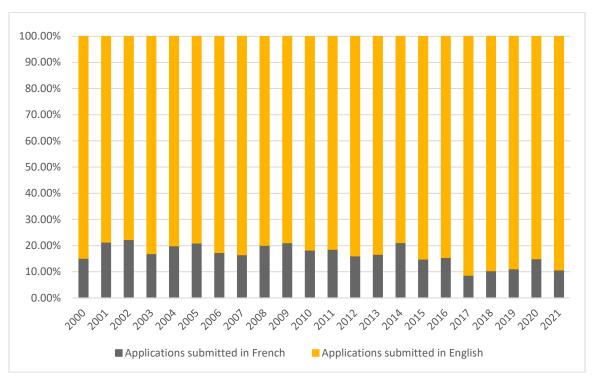


Figure 4—Proportion of funding applications submitted in French and in English to CIHR, from francophone and bilingual universities, 2000–2021.

Source: Figure prepared using data from House of Commons, <u>Sessional paper 8555-441-1162</u>, 20 March 2023.

Success Rate for Applications Submitted in French

A number of stakeholders addressed the matter of the success rate for applications submitted in French compared to the rate for applications submitted in English.

As regards applications submitted in natural sciences and engineering, Marc Fortin, Vice-President at NSERC's Research Grants and Scholarships Directorate, provided the following data to the Committee regarding NSERC programs:

I'll give you ... some 10-year data from 2009 to 2018, on average, for all NSERC programs. ... If we group all programs together, we see an average French success rate of 73%, compared to the average success rate of 66% for all NSERC applications. Some

programs will sometimes show opposite trends. However, we are close to an equivalent success rate. It's slightly higher for applications submitted to NSERC in French.²¹

According to the chart provided by ISED in response to the Committee's questions, for NSERC programs other than scholarships, the success rate for applications submitted in French has been consistently higher than for those submitted in English since 2010 (see Figure 5).

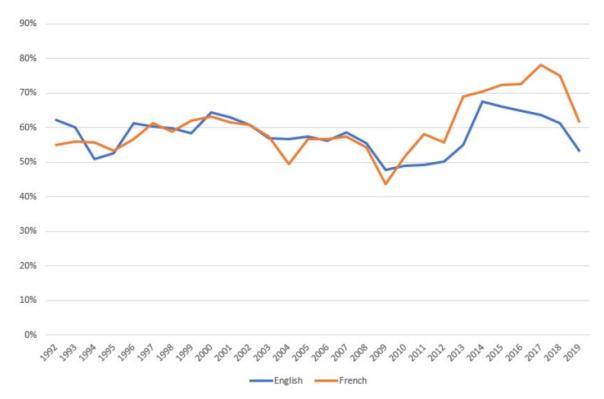


Figure 5—Success Rate of Funding Applications Submitted to NSERC by Language, 1992–2019

Source: Written response provided by Innovation, Science and Economic Development Canada (ISED) to the Committee.

As for funding applications submitted to SSHRC in the social sciences and humanities, Acfas stated the following:

Aggregate data show that the success rates of applications to the Insight program are similar by language, although the rate of "uncategorized" languages is fairly high. For

21 SRSR, *Evidence*, 17 October 2022, 2100 (Marc G. Fortin, Vice-President, Research Grants and Scholarships Directorate, Natural Sciences and Engineering Research Council of Canada).



competitions between 2013 and 2019, 12% of applications were in French, as were 11% of those funded; these percentages were 65% and 63% for English, respectively. This leaves an unknown rate of 22% of applications and 26% of those funded.²² [translation]

Valérie La Traverse, Vice-President of Corporate Affairs at SSHRC, said that the success rate for applications in French has been "quite steady over the last 10 years," and that it "ranges from 14% to 26%, again, depending on the funding opportunity."²³

Lastly, in the field of health sciences, Acfas data show that, overall, the success rate for applications in English was higher than for those in French, regardless of which language the candidate spoke.²⁴ Over the period from 2001–2002 to 2015–2016, 38.5% of applications submitted in English to CIHR were funded, compared with 29.2% of applications in French.²⁵

However, the chart provided by ISED in response to the Committee's questions shows that the success rates for applications submitted to CIHR in English and French have been comparable since 2016–2017. Applications submitted in French have had a higher success rate than those in English since 2019–2020 (Figure 6).

²² Acfas, *Portraits et défis de la recherche en français en contexte minoritaire au Canada*, June 2021, p. 53.

²³ SRSR, *Evidence*, 31 October 2022, 2115 (Valérie La Traverse, Vice-President, Corporate Affairs, Social Sciences and Humanities Research Council).

²⁴ Acfas, *Portraits et défis de la recherche en français en contexte minoritaire au Canada*, June 2021, p. 54.

²⁵ Ibid.



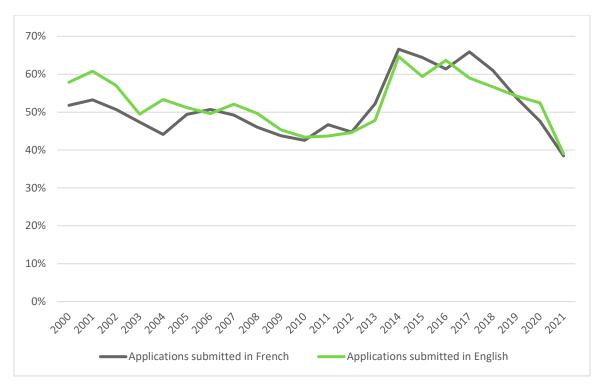
Figure 6—Success Rate of Funding Applications Submitted to CIHR by Language, 2001–2022

Source: Written response provided by Innovation, Science and Economic Development Canada (ISED) to the Committee.

Focusing on the funding applications originating from francophone and bilingual universities, the following trends can be observed. Regarding NSERC, the success rate of applications submitted in English was slightly higher than the success rate of applications submitted in French between 2000 and 2006. Since then, success rates of applications submitted in both languages are comparable (see Figure 7). At SSHRC, the success rates of applications in French and in English follow similar trends. Applications submitted in French have had slightly higher success rates since 2019 (see Figure 8). Finally, regarding CIHR, success rates of applications submitted in both languages follow similar trends, but applications submitted in French have had a superior rate of success since 2007, except for three years (see Figure 9).

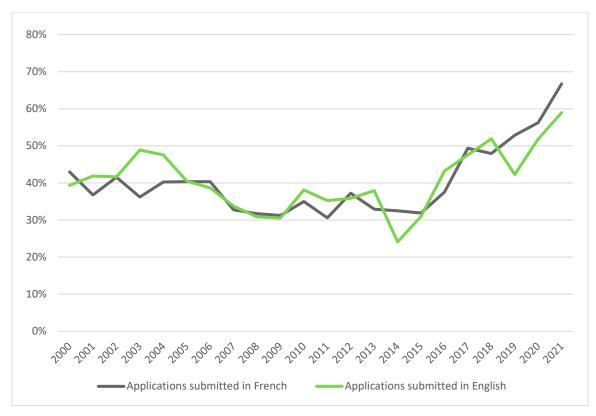






Source: Figure prepared using data from House of Commons, <u>Sessional paper 8555-441-1162</u>, 20 March 2023.

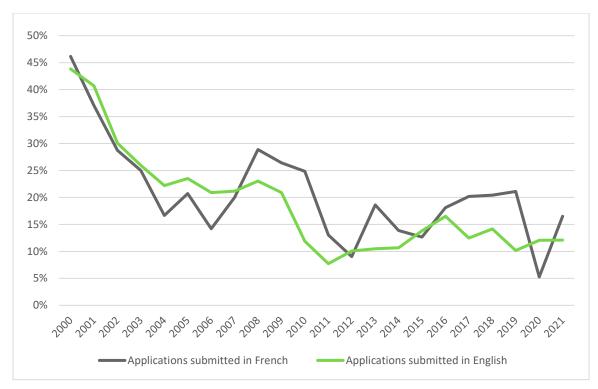




Source: Figure prepared using data from House of Commons, <u>Sessional paper 8555-441-1162</u>, 20 March 2023.



Figure 9—Success rate of funding applications to CIHR from francophone and bilingual universities, by language of submission, 2000–2021.



Source: Figure prepared using data from House of Commons, <u>Sessional paper 8555-441-1162</u>, 20 March 2023.

These initial data provide only a preliminary indication of the state of research and scientific publication in French. Evidence compiled by the Committee identified a series of underlying challenges that help explain why French is losing ground in scientific fields, how that decline is happening and what the consequences are.

FRENCH RESEARCH AND PUBLICATION CHALLENGES

Language Choice and Career Opportunities

Witness testimony highlighted some of the reasons that push francophone researchers to conduct their research and publish their findings in English rather than in French.

Jean-Pierre Perreault told the Committee about the results of an Acfas survey of 515 French-speaking researchers in Canada.²⁶ Survey responses indicated that researchers "publish in English to reach a broader audience, to be cited more often, to have better chances of getting grants, and to advance their career."²⁷

Many stakeholders highlighted the fact that choosing to work in English or French affects the career progression of researchers, particularly early in their careers.²⁸

The Committee's attention was drawn to the practices associated with assessing the quality of research and scientific publications. For decades, the international community has used statistical indicators such as the impact factor to assess the quality of a scholarly journal. The impact factor is an index that estimates the visibility of a scholarly journal based on the number of times that articles it publishes are cited. In its brief to the Committee, the Université du Québec à Rimouski explained that "[t]he higher the [impact factor] of a journal or article, the more the journal or article is considered to be of high quality and influential."²⁹

A journal's impact factor is often also used to indirectly assess the quality of a researcher's work. An article published in a journal with a higher impact factor is often assumed to be better than an article published in a journal with a smaller audience,

²⁶ Survey findings can be found in Acfas, <u>Portraits et défis de la recherche en français en contexte minoritaire</u> <u>au Canada</u>, June 2021.

²⁷ SRSR, *Evidence*, 3 October 2022, 1840 (Jean-Pierre Perreault).

SRSR, *Evidence*, 3 October 2022, 1835 (Sylvie A. Lamoureux, Full Professor, Research Chain in Language Management, As an Individual); SRSR, *Evidence*, 17 October 2022, 1905 (Linda Cardinal, Associate Vice-President of Research, Université de l'Ontario français, As an Individual); SRSR, *Evidence*, 14 November 2022, 1850 (Martine Lagacé, Associate Vice-President, Research Promotion and Development, University of Ottawa); Vincent Larivière and Jean-François Gaudreault-DesBiens, *Brief on Research and Scientific Publication in French*, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, pp. 3–4; Richard Marcoux, *Brief presented to the House of Commons Standing Committee on Science and Research: Research and scientific publication in French*, 23 November 2022, p. 7; Érudit Consortium, *Brief on research and scientific publication in French*, Brief submitted to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 17; Érudit Consortium, *Brief on research and scientific publication in French*, 24 November 2022, p. 7; Érudit Consortium, *Brief on research and scientific publication in French*, 24 November 2022, p. 4; and Canadian Association of University Teachers [CAUT], *Research and scientific publication in French*, Brief submitted to the Standing Committee on Science and Research, 0ctober 2022, p. 5.

²⁹ Université du Québec à Rimouski, <u>Brief on Research and Scientific Publication in French Submitted to the</u> <u>House of Commons Standing Committee on Science and Research</u>, 22 December 2022, p. 2.



even though this practice has long been discouraged.³⁰ Janice Bailey, the Scientific Director for Nature et technologies at the Fonds de recherche du Québec, appearing as an individual, explained as follows:

If you publish a paper in Cell, we tend to say it's a good paper, even if we haven't read it. If you publish it in the journal of growing carrots, we think it can't be that interesting because it's only growing carrots.³¹

Other indicators, such as the *h*-index, seek to measure the productivity and citation impact of a researcher's work based on how many times an article they publish is cited. These bibliometric indicators play a role in a researcher's career progression. Universities take them into account when they are recruiting or promoting professors or allocating funding.³²

In fact, "[t]he language in which a scientific article is published ... has a significant influence on its impact factor, as it determines the number of readers reached and, as a result, the visibility and recognition of the scientific work."³³ Work published in French is generally cited less than work published in English.³⁴ Kenneth Deveau, President of the Fédération acadienne de la Nouvelle-Écosse, gave the following example:

I have authored or co-authored 30 or 40 publications over the years. It is worth noting that the ones that are most often cited are far from being the best, but they are the two or three that are in English.³⁵

In addition, work published in a language other than English is often not as well indexed in the international scientific databases used to calculate these statistical indicators.³⁶

SRSR, <u>Evidence</u>, 3 October 2022, 1905 (Sylvie A. Lamoureux); SRSR, <u>Evidence</u>, 31 October 2022, 1910 (Adel El Zaïm, Vice-President, Research, Creation, Partnership and Internationalisation, Université du Québec en Outaouais); SRSR, <u>Evidence</u>, 31 October 2022, 1950 (Yves Gingras); and SRSR, <u>Evidence</u>, 31 October 2022, 2005 (Janice Bailey, Scientific Director, Nature et technologies, Fonds de recherche du Québec, As an Individual).

³¹ SRSR, *Evidence*, 31 October 2022, 2005 (Janice Bailey).

³² SRSR, *Evidence*, 17 October 2022, 2025 (Annie Pilote, Full Professor and Dean, Faculty of Graduate and Postdoctoral Studies, Université Laval, Federation for the Humanities and Social Sciences).

³³ Université du Québec à Rimouski, <u>Brief on Research and Scientific Publication in French Submitted to the</u> <u>House of Commons Standing Committee on Science and Research</u>, 22 December 2022, p. 2.

³⁴ SRSR, *Evidence*, 3 October 2022, 1835 (Sylvie A. Lamoureux).

³⁵ SRSR, <u>Evidence</u>, 14 November 2022, 1955 (Kenneth Deveau, President, Fédération acadienne de la Nouvelle-Écosse).

³⁶ SRSR, <u>Evidence</u>, 3 October 2022, 1835 (Sylvie A. Lamoureux); and Université du Québec à Rimouski, <u>Brief on</u> <u>Research and Scientific Publication in French Submitted to the House of Commons Standing Committee on</u> <u>Science and Research</u>, 22 December 2022, p. 2.

This inadequate indexing puts journals that publish articles in French at a disadvantage compared with journals that publish articles in English.³⁷ It also penalizes researchers who publish in French. As Marc Fortin said, "When we focus on impact factors, there is a bias—I don't know if it's an unconscious bias—towards English-language journals."³⁸

Yves Gingras, Professor of History and Sociology of Science, appearing as an individual, called this "linguistic rent."³⁹ As he explained, francophones have inherently less visibility than anglophones, which gives anglophones an advantage.⁴⁰ It is a type of "Matthew effect," wherein researchers who have already been recognized will subsequently receive more recognition than their due.⁴¹

Richard Marcoux, Professor and Director of the Observatoire démographique et statistique de l'espace francophone at Université Laval, told the Committee that a number of studies show that, in the social sciences, researchers in anglophone institutions in Canada rarely cite research published in French by their colleagues:

The examples ... show that two separate processes are developing within the linguistic spaces of journals and researchers, whether young or older, in Canada and Quebec. On the one hand, there are the researchers affiliated with francophone institutions who draw extensively from scientific publications in English. On the other hand, there are the researchers at anglophone institutions who ignore scientific publications in French.⁴²

Assessing research quality using quantitative indicators associated with the number of citations tends to penalize researchers who conduct their research and publish in French. Some francophone researchers choose to publish in English rather than French to avoid this type of bias.⁴³ This was summed up by the Chief Science Advisor:

[T]he system for evaluating researchers includes a number of criteria related to the dissemination of their research findings, including the quality of the scientific journal in which their work appears as well as the number of times they have been cited by other researchers. Since the major scientific journals are almost all published in English, there

³⁷ SRSR, *Evidence*, 17 October 2022, 2045 (Marc G. Fortin).

³⁸ Ibid., 2105.

³⁹ SRSR, *Evidence*, 31 October 2022, 2020 (Yves Gingras).

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Richard Marcoux, <u>Brief presented to the House of Commons Standing Committee on Science and Research:</u> <u>Research and scientific publication in French</u>, 23 November 2022, p. 6.

⁴³ Université du Québec à Rimouski, <u>Brief on Research and Scientific Publication in French Submitted to the</u> <u>House of Commons Standing Committee on Science and Research</u>, 22 December 2022, p. 2.



are few incentives to present work in another language. On the contrary, there could even be negative repercussions for not publishing in English.⁴⁴

Another reason some researchers choose to publish in English rather than French is to reach a wider international audience.⁴⁵ Martine Lagacé, Associate Vice-President, Research Promotion and Development at the University of Ottawa, summarized the situation as follows:

Personally, as a researcher, I have often decided to switch from French to English in my scientific production, although I am a francophile. I can see quite clearly that when I publish in English, I have an impact that is not at all comparable to what I can have when I publish in French, since there is a bigger pool of readers.⁴⁶

According to Benoit Sévigny, Director of Communications at the Fonds de recherche du Québec, the internationalization of research also plays a role in the drop in the number of articles published in French: "The percentage of Quebec publications jointly written by at least one scientist from another country went from 35% in 2000 to 60% in 2019."⁴⁷

These points explain why many francophone researchers choose to publish their research in English for strategic reasons.

Likelihood of Obtaining Funding

Many witnesses discussed how conducting research in French affected the likelihood of obtaining funding.

As mentioned above, the success rate for applications to the granting councils in English and French are generally comparable, although the rate for individual funding programs may differ.

A number of witnesses mentioned the case of CIHR, which was identified in the 2021 Acfas report as having a lower success rate between 2001–2002 and 2015–2016

46 SRSR, *Evidence*, 14 November 2022, 1855 (Martine Lagacé).

⁴⁴ Office of the Chief Science Advisor, <u>Written response to the House of Commons Standing Committee on</u> <u>Science and Research</u>, 20 March 2023, p. 2.

⁴⁵ Ibid., p. 1.

⁴⁷ SRSR, *Evidence*, 17 October 2022, 1945 (Benoit Sévigny).

for applications submitted in French compared with those submitted in English.⁴⁸ It is worth noting that, since 2021, CIHR has introduced measures to rebalance funding allocated through its Project Grant program "to ensure that the proportion of French grants funded is at least equal to the proportion of applications submitted in French."⁴⁹

Various testimonies revealed that a common perception is that a researcher's chance of obtaining funding is higher if they submit their application in English rather than French.⁵⁰ According to Jean-Pierre Perreault, "the granting councils have often had a poor reputation when it comes to how they treat applications in French."⁵¹

A number of factors contribute to this perception.

First, several stakeholders said that bibliometric indicators such as the impact factor are sometimes taken into account by assessment committees, including within the granting agencies.⁵² However, as mentioned above, using these tools can put researchers who conduct their research or publish it in French at a disadvantage. The three granting agencies, as well as the Canada Foundation for Innovation and Genome Canada, are all signatories to the San Francisco Declaration on Research Assessment (DORA), which seeks to improve the ways in which scholarly research is evaluated by abolishing the use of impact factors.⁵³ Marc Fortin told the Committee that NSERC is implementing DORA principles, "where research grant applications will be assessed with a different lens from

Acfas, <u>Portraits et défis de la recherche en français en contexte minoritaire au Canada</u>, June 2021, p. 54;
 SRSR, <u>Evidence</u>, 17 October 2022, 1920 (Valérie Lapointe Gagnon, Associate Professor of History, As an Individual); SRSR, <u>Evidence</u>, 14 November 2022, 1840 (Martine Lagacé); and SRSR, <u>Evidence</u>, 17 October 2022, 2020 (Martin Normand, Director, Strategic Research and International Relations, Association des collèges et universités de la francophonie canadienne).

⁴⁹ Canadian Institutes of Health Research [CIHR], <u>Research and Scientific Publication in French</u>, Written Submission to the House of Commons Standing Committee on Science and Research, November 2022, p. 1.

⁵⁰ SRSR, <u>Evidence</u>, 31 October 2022, 1855 (Tanja Niemann, Executive Director, Consortium Érudit); SRSR, <u>Evidence</u>, 14 November 2022, 1925 (Martine Lagacé); SRSR, <u>Evidence</u>, 17 October 2022, 2045 (Marc G. Fortin); and Université du Québec à Chicoutimi, <u>Brief prepared by the Vice-Rector for Research at</u> <u>the Université du Québec à Chicoutimi presented to the Standing Committee on Science and Research as</u> <u>part of its study on scientific research and publications in French</u>, 22 December 2022, p. 5.

⁵¹ SRSR, *Evidence*, 3 October 2022, 1840 (Jean-Pierre Perreault).

⁵² SRSR, *Evidence*, 14 November 2022, 1955 (Kenneth Deveau); and SRSR, *Evidence*, 31 October 2022, 2020 (Yves Gingras).

⁵³ Natural Sciences and Engineering Research Council of Canada, <u>Canadian research funding organizations sign</u> <u>San Francisco Declaration on Research Assessment (DORA)</u>, News release, 13 November 2019.



the traditional impact factor kind of lens."⁵⁴ However, he cautioned that "it's a systemic culture change that needs to happen. Culture doesn't change overnight."⁵⁵

Second, various witnesses raised the matter of the granting agencies' capacity to assess research in French.⁵⁶ The granting agencies use external experts to evaluate the applications they receive.⁵⁷ Nipun Vats believes that the granting agencies "have the systems, processes, personnel and capacity they need to thoroughly evaluate the scientific merit of an application, whether it is written in French or in English."⁵⁸ The Honourable François-Philippe Champagne, Minister of Innovation, Science and Industry, told the Committee that "a quarter of the reviewers on the Natural Sciences and Engineering Research Council of Canada and the Social Sciences and Humanities Research Council selection committees are francophones." ⁵⁹ CIHR said that it had established "a targeted recruitment strategy to expand its pool of experts capable of reviewing applications written in French" in 2018, and that "[o]ngoing analyses are conducted to ensure that approximately 25% of College of Reviewer members can review applications written in French."⁶⁰ However, various witnesses pointed out that the granting agencies' figures are based on the evaluators' self-reported language competencies.⁶¹ In fact, assessing the quality of specialized research requires a mastery of the language.⁶²

⁵⁴ SRSR, *Evidence*, 17 October 2022, 2045 (Marc G. Fortin).

⁵⁵ Ibid., 2105.

⁵⁶ SRSR, <u>Evidence</u>, 3 October 2022, 1840 (Jean-Pierre Perreault); Acfas, <u>Portraits et défis de la recherche en français en contexte minoritaire au Canada</u>, June 2021, p. 65; and Université du Québec en Abitibi-Témiscamingue, <u>The importance of research in French in Canada</u>, Brief for the Standing Committee on Science and Research, 21 December 2022, p. 5.

⁵⁷ SRSR, *Evidence*, 17 October 2022, 2045 (Marc G. Fortin).

⁵⁸ SRSR, *Evidence*, 31 October 2022, 2050 (Nipun Vats).

⁵⁹ SRSR, *Evidence*, 2 February 2023, 1220 (The Hon. François-Philippe Champagne, P.C., M.P., Minister of Innovation, Science and Industry).

⁶⁰ CIHR, <u>Research and Scientific Publication in French</u>, Written Submission to the House of Commons Standing Committee on Science and Research, November 2022, p. 1.

SRSR, <u>Evidence</u>, 3 October 2022, 1930 (Jean-Pierre Perreault); CAUT, <u>Research and scientific publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, October 2022, pp. 5–6; and Université du Québec à Rimouski, <u>Brief on Research and Scientific Publication in French Submitted to the House of Commons Standing Committee on Science and Research</u>, 22 December 2022, pp. 2–3.

⁶² SRSR, *Evidence*, 31 October 2022, 1840 (Adel El Zaïm).

Third, some witnesses pointed out that unconscious bias could lead selection committees to discount research in French.⁶³ Several of them said there was a general tendency to discount the quality of research in French.⁶⁴ In their brief to the Committee, Vincent Larivière and Jean-François Gaudreault-DesBiens pointed to "the symbolic devaluation of the relevance, or even the quality, of French-language scientific literature."⁶⁵

On that point, Martin Normand, Director of Strategic Research and International Relations at the Association des collèges et universités de la francophonie canadienne (ACUFC), said that his organization had been working with CIHR for several months to "design training modules on unconscious bias in the assessment of grant applications."⁶⁶

These factors help perpetuate the idea that it is disadvantageous to submit funding applications in French. They also help explain why the number of funding applications submitted to the granting agencies in French is lower than the proportion of francophone researchers in Canada would suggest.

Material Difficulties for French-Language Research in Minority Communities

Witnesses also highlighted the material difficulties that francophone researchers face in a minority context.

Valérie Lapointe Gagnon, a history professor appearing as an individual, described the experience of francophone scholars working in minority communities as follows: "lacking recognition, financial support, administrative support and access to research assistants, we francophone researchers are all too often invisible and forced to reject our language and identity and dissolve into the anglophone mass."⁶⁷

This lack of support is felt in various ways.

⁶³ SRSR, *Evidence*, 17 October 2022, 1935 (Martin Normand).

⁶⁴ SRSR, *Evidence*, 3 October 2022, 1840 (Sylvie A. Lamoureux); SRSR, *Evidence*, 17 October 2022, 1830 (Linda Cardinal); and SRSR, *Evidence*, 17 October 2022, 1840 (Valérie Lapointe Gagnon).

Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific Publication in</u> <u>French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 4.

⁶⁶ SRSR, *Evidence*, 17 October 2022, 2010 (Martin Normand).

⁶⁷ SRSR, *Evidence*, 17 October 2022, 1840 (Valérie Lapointe Gagnon).

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First, the Committee heard that francophone researchers often have a heavier workload than their anglophone colleagues, as they must take on additional tasks, such as translating documents and engaging in interpretation, representation or communication activities.⁶⁸ However, researchers in minority communities do not have the resources they need to accomplish these tasks alongside their teaching and research work: "[they] must do more with less when considering the need to communicate and publish in French to fulfil their francophone vocation and in English to remain relevant to their colleagues and the broader scientific community."⁶⁹

Second, according to Martin Normand, francophone scientists "work on the periphery of the major research networks" and are often isolated: "colleagues who work in French on similar topics are [far away] and English-speaking colleagues do not always understand the research subject."⁷⁰

A number of witnesses also said that francophone researchers in minority communities lack support to publish their research in French or to submit funding applications in French. In many cases, no one at their institution can help them prepare or reread their application.⁷¹ Even at major universities, research assistance services rarely have the resources to provide services to researchers in French.⁷² In addition, various stakeholders said there was a shortage of francophone graduate students at minority institutions because they do not have master's and doctoral programs in French.⁷³ Furthermore, ethics committees at institutions outside Quebec are not always able to assess research projects prepared in French.⁷⁴

Given these circumstances, many francophone researchers are left with no choice but to prepare their research projects and funding applications in English, even if the granting agencies give them the option of submitting them in French. The dominant position of

72 SRSR, *Evidence*, 17 October 2022, 1925 (Valérie Lapointe Gagnon).

⁶⁸ CAUT, <u>Research and scientific publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, October 2022, p. 5.

⁶⁹ Fédération acadienne de la Nouvelle-Écosse, <u>Brief Submitted to the Standing Committee on Science and</u> <u>Research for its Study on Research and Publication in French</u>, 14 November 2022, p. 3.

⁷⁰ SRSR, *Evidence*, 17 October 2022, 1935 (Martin Normand).

⁷¹ SRSR, *Evidence*, 17 October 2022, 1850 (Linda Cardinal); and SRSR, *Evidence*, 17 October 2022, 1900 (Valérie Lapointe Gagnon).

SRSR, *Evidence*, 17 October 2022, 1900 (Valérie Lapointe Gagnon); and SRSR, *Evidence*, 17 October 2022, 1940 (Annie Pilote).

SRSR, <u>Evidence</u>, 17 October 2022, 1850 (Linda Cardinal); SRSR, <u>Evidence</u>, 17 October 2022, 1925 (Valérie Lapointe Gagnon); and CAUT, <u>Research and scientific publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, October 2022, p. 5.

English in the existing scientific literature also explains why francophones submit applications in English: "if the literature in a field is largely in English, it will be easier to write the funding application in that language."⁷⁵

This situation puts francophone researchers at a disadvantage: as Janice Bailey pointed out, it is more difficult for researchers to write scientific texts in their non-native language.⁷⁶

In its 2021 report, Acfas suggested implementing a Service to Assist Research in French (SARF).⁷⁷ The SARF could offer "an inter-university research advisory service to help researchers in the preparation of their funding applications in French."⁷⁸ It could also "provide help in the approval of research ethics applications by putting in place an inter-university ethics committee, fully recognized by the universities and the funding agencies."⁷⁹

The Committee learned that, following the publication of its report, Acfas obtained support from the Government of Quebec, the Agence universitaire de la Francophonie and private partners to launch the SARF.⁸⁰ Many witnesses recommended that the

Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific Publication in</u> <u>French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, pp. 3–4.

⁷⁶ SRSR, *Evidence*, 31 October 2022, 2000 (Janice Bailey).

⁷⁷ Acfas, <u>Summary Report: Portrait and Challenges of Research in French in the Minority Context in Canada</u>, June 2021, p. 22.

⁷⁸ Ibid., p. 23.

⁷⁹ Ibid.

⁸⁰ SRSR, <u>Evidence</u>, 3 October 2022, 1900 (Jean-Pierre Perreault); SRSR, <u>Evidence</u>, 3 October 2022, 1900 (Laura Pelletier, Project Manager, Canadian Francophonie, Acfas); and Government of Quebec, Secrétariat du Québec aux relations canadiennes, <u>Le gouvernement du Québec pose des actions concrètes pour soutenir la francophonie canadienne</u>, Press releases, 25 November 2021. [AVAILABLE IN FRENCH ONLY]



federal government provide funding for this initiative.⁸¹ The Committee notes that the federal government announced its support for the SARF project in May 2023, after the Committee had heard all testimony for this report.⁸²

Therefore, the Committee recommends:

Recommendation 1

That the Government of Canada continue its funding for the Service to Assist Research in French project launched by Acfas to support francophone scientists across Canada.

Research Challenges Involving Francophone Communities in Canada

The Committee heard that research on the Canadian Francophonie involves unique challenges.

The pressure researchers feel to publish their research in English to reach a wider audience and advance their career also affects their choice of research topics. A number of witnesses said that it is difficult to publish about subjects of local interest in more prestigious English journals. According to Martin Normand:

The problem isn't particularly the translation from French to English. It's rather that when researchers decide to work in English in order to publish findings in major scholarly journals, they choose to work on more universal research topics of interest to

⁸¹ SRSR, <u>Evidence</u>, 3 October 2022, 1900 (Jean-Pierre Perreault); SRSR, <u>Evidence</u>, 3 October 2022, 1900 (Laura Pelletier); SRSR, <u>Evidence</u>, 17 October 2022, 1900 (Valérie Lapointe Gagnon); SRSR, <u>Evidence</u>, 17 October 2022, 1910 (Linda Cardinal); SRSR, <u>Evidence</u>, 14 November 2022, 2000 (Allister Surette, President and Vice-Chancellor, Université Sainte-Anne); Association des collèges et universités de la francophonie canadienne (ACUFC), <u>Brief</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, 22 November 2022, p. 4; CAUT, <u>Research and scientific publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, 0ctober 2022, p. 6; Université du Québec en Abitibi-Témiscamingue, <u>The importance of research in French in Canada</u>, Brief for the Standing Committee on Science and Research, 21 December 2022, p. 8; Université de Sherbrooke, <u>Brief from the Université de Sherbrooke to the House of Commons Standing Committee on Science and Research for Its Study on Research and Scientific Publication in French, Brief Submitted to the House of Commons Standing Committee on Science and Research and Scientific Publication in French, Brief Submitted to the House of Commons Standing Committee on Science and Research for Its Study on Research and Scientific Publication in French, December 2022, p. 2; and Universities Canada, <u>Research and Scientific Publication in French</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, December 2022, p. 4.</u>

⁸² Acfas Lancement du Service d'aide à la recherche en français de l'Acfas : un tournant pour la recherche en français en milieu minoritaire au Canada, Press release, 18 May 2023. [AVAILABLE IN FRENCH ONLY].

a broader public, rather than on more specific research areas that might resonate more specifically in certain communities.⁸³

As Laura Pelletier, Project Manager at Acfas, explained, "publishing only in major journals, to pad [their output], leads to abandonment of more local research subjects."⁸⁴ Several other witnesses raised this point as well.⁸⁵

Stakeholders highlighted the importance of ensuring that research on the Canadian Francophonie continues to be conducted in French. The Fédération acadienne de la Nouvelle-Écosse described the benefits of research conducted in French to local francophone communities:

Research on the Canadian Francophonie, more specifically on Nova Scotia's Acadian community, conducted by Université Sainte-Anne researchers and their partners at Canada's francophone universities and colleges is essential to the vitality of our communities. Their research:

- provides a basis for understanding our linguistic and cultural past, present and future;
- describes and explains our collective identity;
- provides evidence for better policy and strategic decisions; and
- increases the visibility of our language, cultures and knowledge, thereby becoming one of the main mechanisms by which we contribute to building a better society.⁸⁶

⁸³ SRSR, *Evidence*, 17 October 2022, 2000 (Martin Normand).

⁸⁴ SRSR, *Evidence*, 3 October 2022, 1930 (Laura Pelletier).

⁸⁵ SRSR, <u>Evidence</u>, 17 October 2022, 1920 (Valérie Lapointe Gagnon); and Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific Publication in French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, pp. 4–5.

⁸⁶ Fédération acadienne de la Nouvelle-Écosse, <u>Brief Submitted to the Standing Committee on Science and</u> <u>Research for its Study on Research and Publication in French</u>, 14 November 2022, p. 2.



This was a commonly held view, with various witnesses emphasizing the risk of losing the intimate knowledge of francophone minority communities and the negative effects of this trend on these communities.⁸⁷

Furthermore, writing in English rather than in French affects not only the type of topic selected, but also the way it is addressed. Annie Pilote of the Fédération des sciences humaines explained:

This hinders creativity and, to some degree, determines what research subjects they choose. It's very important, particularly in the training of future generations, to enable young francophone researchers to learn about the important schools of thought in their discipline, in their own language, without however limiting themselves to these scholarly approaches. As I was saying, the problem goes well beyond words. What we're talking about is theories, and ways of viewing the world that are conveyed within these linguistic spheres.⁸⁸

Kenneth Deveau mentioned that SSHRC used to allocate special funding for research on the Canadian Francophonie.⁸⁹ He added that this dedicated funding could be restored. Acfas made the same recommendation.⁹⁰ However, in its brief to the Committee, the Fédération acadienne de la Nouvelle-Écosse explained its view that it would be unwise to create "a program that only supports research and publication on francophone minority communities and official languages," as francophone communities "need institutions that conduct research in a variety of fields, such as computer science, agrifood and engineering, as well as francophone studies."⁹¹

Some witnesses proposed other ways to support research, such as creating a program of Canadian Francophonie research chairs⁹² or providing "funding for the research community to exploit official language data from the 2021 Census and future data from

^{Érudit Consortium, <u>Brief on research and scientific publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, 24 November 2022, pp. 3–4; SRSR, <u>Evidence</u>, 17 October 2022, 2025 (Martin Normand); SRSR, <u>Evidence</u>, 17 October 2022, 1840 (Valérie Lapointe Gagnon); and Université du Québec en Abitibi-Témiscamingue, <u>The importance of research in French in Canada</u>, Brief for the Standing Committee on Science and Research, 21 December 2022, p. 3.}

⁸⁸ SRSR, *Evidence*, 17 October 2022, 2005 (Annie Pilote).

⁸⁹ SRSR, *Evidence*, 14 November 2022, 2015 (Kenneth Deveau).

⁹⁰ Acfas, <u>Supporting academic publishing in French in Canada</u>, Brief submitted by Acfas to the House of Commons Standing Committee on Science and, December 2022, p. 5.

⁹¹ Fédération acadienne de la Nouvelle-Écosse, *Brief Submitted to the Standing Committee on Science and* <u>Research for its Study on Research and Publication in French</u>, 14 November 2022, p. 5.

⁹² SRSR, *Evidence*, 17 October 2022, 1900 (Valérie Lapointe Gagnon).

the Survey on the Official Language Minority Population,"⁹³ as well as creating and maintaining "long-term programs that enable minority community organizations to conduct collaborative studies with researchers."⁹⁴

Further to this testimony, the Committee recommends:

Recommendation 2

That the Government of Canada provide permanent funding for research involving Canadian francophone communities.

Recommendation 3

That the Government of Canada earmark funds so that the research community can draw upon official languages data from the 2021 Census and future data from the Survey on the Official Language Minority Population.

Support for Francophone Post-Secondary Institutions and French-Language Education

Many of the material difficulties in research and publication in French stem from the issues faced by the post-secondary educational institutions where researchers work.

Valérie Lapointe Gagnon believes that francophone or bilingual post-secondary educational institutions outside Quebec are in a "tenuous" position.⁹⁵ She cited the examples of the University of Alberta's Campus Saint-Jean, Laurentian University, the Université de Moncton, the University of Sudbury and the Université de l'Ontario français, which have all gone through hard times over the past few years.⁹⁶

She stated the following:

These major shocks were caused by the chronic underfunding of post-secondary education and a misunderstanding of the special role those institutions play and of the

96 Ibid.

ACUFC, <u>Brief</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research,
 November 2022, p. 4; and Fédération acadienne de la Nouvelle-Écosse, <u>Brief Submitted to the Standing</u>
 <u>Committee on Science and Research for its Study on Research and Publication in French</u>, 14 November 2022,
 p. 4.

⁹⁴ Acfas, *Supporting academic publishing in French in Canada*, Brief submitted by Acfas to the House of Commons Standing Committee on Science and Research, December 2022, p. 5.

⁹⁵ SRSR, *Evidence*, 17 October 2022, 1840 (Valérie Lapointe Gagnon).



additional costs necessary to achieve their objectives, which go to the heart of the vitality of the minority communities. $^{\rm 97}$

Several other witnesses expressed similar opinions.

Most francophone or bilingual university institutions are small and have limited resources to devote to research.⁹⁸ Their research departments are underdeveloped.⁹⁹ College institutions are in a similar position. Furthermore, there is a general lack of information regarding college research.¹⁰⁰

Francophone post-secondary educational institutions also face additional costs due to their unique circumstances. That point was raised in the final report of the National Dialogue on Postsecondary Education in a Francophone Minority Context, which was published in the fall of 2022 and mentioned by several witnesses:¹⁰¹

[I]nstitutions in a francophone minority context face higher costs because they are smaller, which makes it harder for them to achieve economies of scale, because their mission is generalist, because they cannot specialize when there are no other francophone institutions to meet demand, and because of their mission to affirm the francophone identity and culture, which means they must maintain spaces where life in French can be seen, heard and supported.¹⁰² [translation]

In its brief, the Université de Saint-Boniface wrote that "for every dollar that both levels of government spend on postsecondary education in majority institutions, there is a need to invest \$1.30 to provide education of equal quality in minority settings."¹⁰³

⁹⁷ Ibid.

⁹⁸ SRSR, <u>Evidence</u>, 17 October 2022, 1845 (Éric Forgues, Executive Director, Canadian Institute for Research on Linguistic Minorities); and SRSR, <u>Evidence</u>, 14 November 2022, 2000 (Allister Surette).

⁹⁹ SRSR, *Evidence*, 17 October 2022, 1850 (Linda Cardinal).

¹⁰⁰ Association pour la recherche au collégial, <u>Because the college system is also involved in research and</u> <u>scientific publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, 22 December 2022, p. 5.

¹⁰¹ SRSR, *Evidence*, 17 October 2022, 1935 (Martin Normand); and SRSR, *Evidence*, 14 November 2022, 1935 (Kenneth Deveau).

¹⁰² ACUFC and Fédération des communautés francophones et acadienne du Canada (FCFAC), <u>Bâtir ensemble le</u> <u>postsecondaire en français de l'avenir</u>, Full report of the National Dialogue on Postsecondary Education in a Francophone Minority Context, 2022, p. 95. [Full report available in French only; summary report available in English: <u>Shaping the Future of French Postsecondary Education Together</u>, Executive Summary of the Report of the National Dialogue on Postsecondary Education in a Francophone Minority Context.]

Université de Saint-Boniface, <u>Developing Research at Université de Saint-Boniface: An Institutional Capacity</u> <u>Challenge</u>, Brief submitted to the House of Commons Standing committee on Science and Research, 22 December 2022, p. 5.

Several witnesses emphasized the special role francophone institutions play in their communities.¹⁰⁴ For instance, Allister Surette, President and Vice-Chancellor of the Université Sainte-Anne, said that he firmly believes the university's responsibilities include "support[ing] the Acadian regions of Nova Scotia."¹⁰⁵ With provincial and federal support, this university created a lobster quality research centre. The initiative has benefited Acadian communities, whose economies rely heavily on the fishing and aquaculture industries.¹⁰⁶

While post-secondary education is a matter of provincial jurisdiction, the federal government helps fund francophone post-secondary institutions, particularly through the Minority-Language Education component under Canadian Heritage's Official Languages Support Programs.¹⁰⁷ The federal government also provides additional funding for one-time projects, but institutions must apply for this funding, often on an annual basis.¹⁰⁸

In Budget 2021, the federal government announced that it would "provide \$121.3 million over three years, starting in 2021–22, to Canadian Heritage to make highquality post-secondary minority-language education available across Canada."¹⁰⁹

Witnesses made a number of recommendations about federal government support for French post-secondary education.

ACUFC, <u>Brief</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, 22 November 2022, p. 3; Université de Saint-Boniface, <u>Developing Research at Université de Saint-Boniface</u>: <u>An Institutional Capacity Challenge</u>, Brief submitted to the House of Commons Standing committee on Science and Research, 22 December 2022, p. 4; and Fédération acadienne de la Nouvelle-Écosse, <u>Brief</u> <u>Submitted to the Standing Committee on Science and Research for its Study on Research and Publication in French</u>, 14 November 2022, p. 1.

¹⁰⁵ SRSR, *Evidence*, 14 November 2022, 2005 (Allister Surette).

¹⁰⁶ Ibid.

¹⁰⁷ ACUFC and FCFAC, <u>Bâtir ensemble le postsecondaire en français de l'avenir</u>, Full report of the National Dialogue on Postsecondary Education in a Francophone Minority Context, 2022, p. 96 [AVAILABLE IN FRENCH ONLY].

¹⁰⁸ Ibid.

¹⁰⁹ Government of Canada, Budget 2021: A Recovery Plan for Jobs, Growth and Resilience, p. 276.



Many witnesses said that long-term funding must be allocated to post-secondary institutions in the Canadian Francophonie.¹¹⁰ The Fédération acadienne de la Nouvelle-Écosse recommended developing a program for long-term, increased funding that would take into consideration challenges involving small size, distance and additional costs faced by francophone post-secondary institutions.¹¹¹ This program should also fund collaboration between post-secondary institutions and their community partners.¹¹²

Witnesses mentioned the need to work with the provinces to ensure that postsecondary institutions have access to federal funding or, failing that, develop programs that do not require joint funding from the provinces.¹¹³ Several provinces have demonstrated a reluctance to collaborate.¹¹⁴

Therefore, the Committee recommends:

Recommendation 4

That the Government of Canada, in collaboration with the provinces and territories, develop a program for sustainable funding for post-secondary institutions in official language minority communities; and that this program take into consideration the challenges that these post-secondary institutions face as regards small size, distance and additional costs.

The study also revealed that the difficulties experienced by francophone post-secondary institutions affect teaching in French in a minority context.

112 Ibid.

SRSR, <u>Evidence</u>, 17 October 2022, 1900 (Valérie Lapointe Gagnon); SRSR, <u>Evidence</u>, 17 October 2022, 1935 (Martin Normand); Acfas, <u>Supporting academic publishing in French in Canada</u>, Brief submitted by Acfas to the House of Commons Standing Committee on Science and Research, December 2022, pp. 4–5; and Universities Canada, <u>Research and Scientific Publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, December 2022, p. 4.

¹¹¹ Fédération acadienne de la Nouvelle-Écosse, *Brief Submitted to the Standing Committee on Science and* <u>Research for its Study on Research and Publication in French</u>, 14 November 2022, p. 4.

¹¹³ CAUT, <u>Research and scientific publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, October 2022, pp. 3–4; and SRSR, <u>Evidence</u>, 17 October 2022, 1900 (Valérie Lapointe Gagnon).

¹¹⁴ SRSR, <u>Evidence</u>, 17 October 2022, 1900 (Valérie Lapointe Gagnon); and ACUFC and FCFAC, <u>Bâtir ensemble le</u> <u>postsecondaire en français de l'avenir</u>, Full report of the National Dialogue on Postsecondary Education in a Francophone Minority Context, 2022, p. 98.

Very few graduate programs are available in French outside Quebec.¹¹⁵ According to a study cited by a witness, "fewer science, technology, engineering, mathematics and information technology programs are provided at francophone universities, and none are available in the provinces west of Ontario."¹¹⁶ This shortfall makes it difficult to train the next generation, because students have limited avenues of study:

The fact is that many francophone students who live outside Quebec are required to make the choice of either moving to continue their education in French at major universities with a broader range of graduate programs, or switching to English to continue their studies closer to home.¹¹⁷

Having access to master's or doctoral studies in French is particularly important for training the next generation of researchers who can work and teach in French.¹¹⁸

These challenges are accentuated by the general anglicization of scientific publication.

With more and more research and scientific publication taking place in English, the reputation of francophone institutions is suffering. University rankings at the international level are influenced by the language of publication for their researchers' articles. Articles written in French, which are not indexed as well, put francophone universities at a disadvantage.¹¹⁹ To bolster their international reputation, some francophone universities may be tempted to recruit renowned professors who do not speak French.¹²⁰

One witness also said that it is difficult to prepare university-level courses in French when most of the scientific literature is in English.¹²¹ French-language journals and publications are needed to develop a scientific vocabulary in French and ensure that knowledge can be transmitted in French.¹²²

¹¹⁵ SRSR, *Evidence*, 17 October 2022, 1940 (Annie Pilote).

¹¹⁶ SRSR, *Evidence*, 17 October 2022, 1845 (Éric Forgues).

¹¹⁷ SRSR, *Evidence*, 17 October 2022, 1940 (Annie Pilote).

¹¹⁸ Ibid.

Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific Publication in</u> <u>French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 5.

¹²⁰ SRSR, *Evidence*, 31 October 2022, 2015 (Yves Gingras).

¹²¹ SRSR, *Evidence*, 3 October 2022, 1835 (Sylvie A. Lamoureux).

¹²² Ibid.; and SRSR, *Evidence*, 3 October 2022, 1920 (Jean-Pierre Perreault).



Anne-José Villeneuve, President of Acfas-Alberta, summarized: "If a majority of teaching is done in English, that sends the message to students that research and scientific activity happen in English."¹²³

IMPACT ON LINGUISTIC BALANCE IN CANADA

Witnesses noted that preserving scientific research and publication in French is vital for the future of the Canadian Francophonie.

While the growing domination of English in science is a global trend, Canada is in a unique position: in Canada, unlike in other officially multilingual countries like Belgium and Switzerland, English is one of the official languages and is also the language spoken by the majority of the population. The gradual marginalization of French in science could therefore upset the linguistic balance in Canada.¹²⁴

Many witnesses highlighted the positive spinoffs that science in French generates for Canada's francophone population. For example, Martine Lagacé pointed out that "research, and more comprehensively science in French, has a profound impact on the vitality of francophone Canadians and on their ability to flourish and their sense of linguistic well-being."¹²⁵

The growing domination of English in scientific publication is threatening access to scientific knowledge for Canada's francophone communities. There is far less scholarly documentation available to researchers, students, practitioners and the general public in French than in English. The consequences were summed up by Vincent Larivière and Jean-François Gaudreault-DesBiens as follows:

This unequal access affects knowledge mobilization: How can research have a concrete impact on the public through science if science is expressed in a language that does not reach a quarter of the population? Therefore, the deficit of science mobilization in French in Canada becomes a barrier to science as a driver of social and economic development.¹²⁶

¹²³ SRSR, *Evidence*, 3 October 2022, 1915 (Anne-José Villeneuve, President, Alberta, Acfas).

Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific Publication in</u> <u>French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 5.

¹²⁵ SRSR, *Evidence*, 14 November 2022, 1840 (Martine Lagacé).

Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific Publication in</u> <u>French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 4.

As the Érudit Consortium noted in the brief it submitted to the Committee, "for Canadian francophone communities, the growing hegemony of English in scholarly publishing is a source of inequality in their own country. It compromises their ability to live, work, study and reflect in their native language."¹²⁷

Lastly, Valérie Lapointe Gagnon stated that research in French plays a major role in supporting the next generation of scientists because it "helps to address the phenomenon of linguistic insecurity now eroding our communities."¹²⁸ As an example, she pointed to the fallout from the Laurentian University crisis:

Students lost their programs and the opportunity to conduct research. It was a disaster for them, one that led them to ponder profound identity issues about the legitimacy of their language and how they viewed their lives. It was all called into question because their programs were terminated, which sent the message that it wasn't important. In many instances, those people will [pick up] stakes and leave their home and language, and we'll lose them.¹²⁹

It puts Canada's linguistic duality at stake. The Honourable François-Philippe Champagne made the following comments on this issue:

Just as diversity is a major asset for Canadian research, our linguistic duality is our hallmark and adds to the diversity of ideas, connections and collaborations in Canada and on the international scene. ... As a former minister of foreign affairs, I can say that the fact that our country has two official languages is an essential asset in the economy of the 21st century.¹³⁰

POSSIBLE COURSES OF ACTION

To tackle these challenges, witnesses suggested a number of possible courses of action, including developing a Canada-wide strategy, implementing measures to support French-language publication and strengthening ties within the Francophonie. Witnesses also noted that the granting agencies could play a role in supporting research and scientific publication in French.

¹²⁷ Érudit Consortium, <u>Brief on research and scientific publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 3.

¹²⁸ SRSR, *Evidence*, 17 October 2022, 1840 (Valérie Lapointe Gagnon).

¹²⁹ Ibid., 1920.

¹³⁰ SRSR, *Evidence*, 2 February 2023, 1205 (The Hon. François-Philippe Champagne).



Developing a Canada-Wide Strategy?

Witnesses stated that the federal government will need to take action, in partnership with the provinces and other stakeholders, to preserve Canada's francophone scientific potential.

First, a number of witnesses noted that the ongoing review of the *Official Languages Act* and the development of the Government of Canada's new Action Plan for Official Languages offer an opportunity to take measures to support scientific research in French.¹³¹

Post-secondary education falls under provincial jurisdiction, so several witnesses urged the federal government to work with the provinces to fund post-secondary educational institutions for the Canadian Francophonie.¹³²

Jean-Pierre Perreault stated that it is important "to seat all the actors around the table" in order to "support the academic community from one end of the country to the other and make it possible to create this great francophone environment where research could be done in our language, based on the authors' choices."¹³³

Martine Lagacé stressed the need for collaboration and advocated for "a Canada-wide federal strategy to support research and scientific publication in French."¹³⁴ To develop such a strategy, it will be necessary to "coordinate all federal actors—the departments, agencies and research councils directly involved in research and science in French at universities that are strictly francophone or have a francophone mission."¹³⁵ Éric Forgues, Executive Director of the Canadian Institute for Research on Linguistic

135 Ibid.

SRSR, <u>Evidence</u>, 3 October 2022, 1855 (Jean-Pierre Perreault); SRSR, <u>Evidence</u>, 3 October 2022, 1855 (Sylvie A. Lamoureux); SRSR, <u>Evidence</u>, 17 October 2022, 1900 (Valérie Lapointe Gagnon); SRSR, <u>Evidence</u>, 17 October 2022, 1905 (Linda Cardinal); SRSR, <u>Evidence</u>, 17 October 2022, 1935 (Martin Normand); Acfas, <u>Supporting academic publishing in French in Canada</u>, Brief submitted by Acfas to the House of Commons Standing Committee on Science and Research, December 2022, p. 3; and Universities Canada, <u>Research and Scientific Publication in French</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, December 2022, p. 3.

¹³² SRSR, <u>Evidence</u>, 17 October 2022, 1900 (Valérie Lapointe Gagnon); and CAUT, <u>Research and scientific</u> <u>publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, October 2022, p. 4.

¹³³ SRSR, *Evidence*, 3 October 2022, 1920 (Jean-Pierre Perreault).

¹³⁴ SRSR, *Evidence*, 14 November 2022, 1900 (Martine Lagacé).

Minorities, stated that a Canada-wide strategy should also involve partners like Acfas and the Association des collèges et universités de la francophonie canadienne.¹³⁶

The Chief Science Advisor recommended to "[s]et up a French-language science office to monitor and coordinate activities and measure progress achieved."¹³⁷ This office could be "set up within a Minister's office (the office of the Minister of Official Languages or that of the Minister of Innovation, Science and Industry) or attached to the Office of the Chief Science Advisor or the Canada Research Coordinating Committee."¹³⁸ It would be tasked with "propos[ing] concrete actions to be implemented by the principal organizations that manage and distribute federal funding for research"¹³⁹ and "could be a one-stop shop for all initiatives and programs that support science in French and make it available to everyone."¹⁴⁰

In light of the preceding, the Committee recommends the following:

Recommendation 5

That the Government of Canada, in collaboration with the provinces and territories, develop and fund a Canada-wide strategy for supporting research and publication in French, in partnership with federal institutions, the provinces and territories, universities and colleges, and other stakeholders.

Recommendation 6

That the Government of Canada establish a French-language science office, attached to the Office of the Chief Science Advisor, tasked with:

- monitoring and coordinating support efforts by the Federal government for research and scientific publication in French;
- measuring progress achieved; and

140 Ibid.

¹³⁶ SRSR, *Evidence*, 17 October 2022, 1845 (Éric Forgues).

¹³⁷ Office of the Chief Science Advisor, <u>Written response to the House of Commons Standing Committee on</u> <u>Science and Research</u>, 20 March 2023, p. 2.

¹³⁸ Ibid.

¹³⁹ Ibid.



• proposing concrete actions to be implemented by federal research funding organizations.

Role of Granting Agencies

Most witnesses discussed the role that the granting agencies could play in a Canadawide strategy and offered recommendations.

Éric Forgues noted that the granting agencies are subject to the *Official Languages Act* and urged "that political leadership be exercised to encourage the granting agencies to interpret the *Official Languages Act* generously by establishing action plans that contribute to substantive equality in the research sector."¹⁴¹

Several witnesses stated that they believe the granting agencies should be better informed of the specific challenges involved in conducting research in French at francophone institutions in a minority context.¹⁴² The Committee heard that the criteria used to allocate certain grants puts small institutions at a disadvantage.¹⁴³

Many witnesses and stakeholders that submitted briefs to the Committee stated that the methods and criteria used by the granting agencies to assess research excellence should be better tailored to evaluate research conducted in French.¹⁴⁴

¹⁴¹ Ibid.

SRSR, <u>Evidence</u>, 17 October 2022, 1840 (Valérie Lapointe Gagnon); and SRSR, <u>Evidence</u>, 17 October 2022, 1935 (Martin Normand).

¹⁴³ SRSR, *Evidence*, 14 November 2022, 1940 (Allister Surette).

See for example: Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific</u> <u>Publication in French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 5; ACUFC, <u>Brief</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, 22 November 2022, p. 5; Érudit Consortium, <u>Brief on research and</u> <u>scientific publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 5; Université du Québec en Abitibi-Témiscamingue, <u>The importance of</u> <u>research in French in Canada</u>, Brief for the Standing Committee on Science and Research, 21 December 2022, p. 4; and Martin Maltais, <u>Ensuring the prosperity of French language scholarly</u> <u>publications in Canada and their influence around the world</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, December 2022, p. 3.

More specifically, several of them asked that the agencies stop using bibliometrics such as the impact factor to assess the quality of a funding application.¹⁴⁵ The Université du Québec en Abitibi-Témiscamingue recommended limiting "the weighting of the impact factor as an evaluation criterion in the social sciences and humanities."¹⁴⁶

It was also suggested that the granting agencies develop mechanisms for awarding additional points to funding applications from researchers who plan to publish their findings in French or hold scientific events or outreach activities in French.¹⁴⁷

Some witnesses asked that steps be taken to ensure that funding applications submitted to the granting agencies in French are assessed by experts who are sufficiently proficient in French.¹⁴⁸ For instance, it was suggested that the review committee members undergo an objective evaluation of their language proficiency.¹⁴⁹

¹⁴⁵ SRSR, <u>Evidence</u>, 31 October 2022, 2020 (Yves Gingras); ACUFC, <u>Brief</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, 22 November 2022, p. 5; Université de Sherbrooke, <u>Brief from the Université de Sherbrooke To the House of Commons Standing Committee on</u> <u>Science and Research For Its Study on Research and Scientific Publication in French</u>, December 2022, p. 2; Fédération québécoise des professeures et professeurs d'université [FQPPU], <u>Research and Dissemination</u> <u>of Science in French: Countering Inequalities</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, December 2022, p. 10; and Université du Québec à Rimouski, <u>Brief on</u> <u>Research and Scientific Publication in French Submitted to the House of Commons Standing Committee on</u> <u>Science and Research</u>, 22 December 2022, p. 6.

¹⁴⁶ Université du Québec en Abitibi-Témiscamingue, <u>The importance of research in French in Canada</u>, Brief for the Standing Committee on Science and Research, 21 December 2022, p. 6.

¹⁴⁷ Martin Maltais, <u>Ensuring the prosperity of French language scholarly publications in Canada and their</u> <u>influence around the world</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, December 2022, p. 3; and Richard Marcoux, <u>Brief presented to the House of Commons Standing</u> <u>Committee on Science and Research: Research and scientific publication in French</u>, 23 November 2022, p. 7.

SRSR, <u>Evidence</u>, 31 October 2022, 1840 (Adel El Zaïm); SRSR, <u>Evidence</u>, 17 October 2022, 2040 (Chérif F. Matta, Professor, Mount Saint Vincent University, As an Individual); Acfas, <u>Supporting academic publishing in French in Canada</u>, Brief submitted by Acfas to the House of Commons Standing Committee on Science and Research, December 2022, p. 5; ACUFC, <u>Brief</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, 2022, p. 5; Université du Québec en Abitibi-Témiscamingue, <u>The importance of research in French in Canada</u>, Brief for the Standing Committee on Science and Research, 21 December 2022, p. 5; Université du Québec à Chicoutimi, <u>Brief prepared by the Vice-Rector for Research at the Université du Québec à Chicoutimi presented to the Standing Committee on Science and Research as part of its study on scientific research and publications in French, 22 December 2022, p. 6; and Université de Sherbrooke, <u>Brief from the Université de Sherbrooke To the House of Commons Standing Committee on Science and Research and Publications in French</u>, December 2022, p. 2.
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¹⁴⁹ Université du Québec à Rimouski, *Brief on Research and Scientific Publication in French Submitted to the* House of Commons Standing Committee on Science and Research, 22 December 2022, p. 6.



Martin Normand recommended that the tools and measures developed by CIHR in partnership with the ACUFC to address unconscious bias among assessors be expanded to the other granting agencies.¹⁵⁰

Several witnesses discussed the idea of setting quotas to guarantee fair funding for applications submitted to the granting agencies in French. Some witnesses expressed support for this approach, saying that there are similar mechanisms in the arts sector.¹⁵¹ Chérif F. Matta, a professor at Mount Saint Vincent University, suggested earmarking a budget quota for submissions in French to each granting agency: "Thus, each agency would have a set percentage of its financial allocation specifically targeted to proposals which are submitted in the French language in the natural and health sciences, engineering, mathematics, in addition to the social and political sciences and arts."¹⁵² However, some witnesses were against the idea of setting quotas.¹⁵³ According to Yves Gingras, one must remember that "[s]cience is based on excellence and on peer review. We just have to make sure that the peers have the tools to do the review properly."¹⁵⁴

¹⁵⁰ SRSR, *Evidence*, 17 October 2022, 2010 (Martin Normand).

SRSR, <u>Evidence</u>, 17 October 2022, 1910 (Linda Cardinal); Université du Québec en Abitibi-Témiscamingue, <u>The importance of research in French in Canada</u>, Brief for the Standing Committee on Science and Research, 21 December 2022, p. 8.

¹⁵² Chérif F. Matta, <u>Research and Scientific Publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, 17 October 2022, p. 2.

¹⁵³ SRSR, *Evidence*, 31 October 2022, 2025 (Yves Gingras); and SRSR, *Evidence*, 14 November 2022, 2000 (Allister Surette).

¹⁵⁴ SRSR, *Evidence*, 31 October 2022, 2025 (Yves Gingras).

Without mentioning quotas, other witnesses advocated for measures that would encourage researchers to submit funding applications to the granting agencies in French and would ensure these applications meet with a fair chance of success.¹⁵⁵

Lastly, some witnesses suggested establishing awards for research in French and publication in French.¹⁵⁶

The Committee also notes that the report of the Advisory Panel on the Federal Research Support System, released in March 2023, raises some of these same points.¹⁵⁷

The Committee therefore recommends:

Recommendation 7

That the granting agencies, namely the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council of Canada, and the Canadian Institutes of Health Research, review the criteria and procedures used to assess research excellence in the context of allocating funding by:

- discontinuing the use of bibliometrics such as the impact factor; and
- introducing weighting mechanisms to more accurately recognize research conducted or published in French.

SRSR, <u>Evidence</u>, 14 November 2022, 1925 (Martine Lagacé); ACUFC, <u>Brief</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, 22 November 2022, p. 5; Université du Québec à Chicoutimi, <u>Brief prepared by the Vice-Rector for Research at the Université du Québec à Chicoutimi</u> presented to the Standing Committee on Science and Research as part of its study on scientific research and publications in French, 22 December 2022, p. 6; Acfas, <u>Supporting academic publishing in French in Canada</u>, Brief submitted by Acfas to the House of Commons Standing Committee on Science and Research For Its Study on Research and Scientific Publication in French, December 2022, p. 2; FQPPU, <u>Research and Dissemination of Science in French: Countering Inequalities</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, December, p. 10; and Université du Québec à Rimouski, <u>Brief on Research and Scientific Publication in French Submitted to the House of Commons Standing Committee on Science and Research, December, p. 10; and Université du Québec à Rimouski, <u>Brief on Research and Scientific Publication in French Submitted to the House of Commons Standing Committee on Science and Research, December, p. 10; and Université du Québec à Rimouski, <u>Brief on Research and Scientific Publication in French Submitted to the House of Commons Standing Committee on Science and Research, 22 December 2022, p. 4.
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¹⁵⁶ SRSR, <u>Evidence</u>, 17 October 2022, 1910 (Linda Cardinal); and FQPPU, <u>Research and Dissemination of Science</u> <u>in French: Countering Inequalities</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, December, p. 10.

¹⁵⁷ Government of Canada, <u>Report of the Advisory Panel on the Federal Research Support System</u>, March 2023.



Recommendation 8

That the granting agencies—namely the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council of Canada, and the Canadian Institutes of Health Research—and the Canadian Foundation for Innovation institute an objective evaluation of the language proficiency of the experts who sit on their review committees.

Recommendation 9

That a quota of the funding awarded by each of the granting agencies, namely the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council of Canada, and the Canadian Institutes of Health Research, be determined and used as a minimum level of funding for research conducted or published in French.

Recommendation 10

That the granting agencies, namely the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council of Canada, and the Canadian Institutes of Health Research, take concrete steps to encourage researchers to submit funding applications in French and that they publicly report on their progress.

Recommendation 11

That within each of the granting agencies, namely the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council of Canada, and the Canadian Institutes of Health Research, measures be taken to monitor the proportion of funding applications submitted in French and to ensure that the success rate of these applications is fair; and that the granting agencies publicly report on their progress.

Support for the Publication and Dissemination of Knowledge in French

Support Measures for Translation and Publication

Witnesses unanimously agreed that it was crucial to support scholarly publishing in French, in light of the alarming statistics mentioned above. Éric Forgues summed up their views well when he stated: "Robust, strategic action is required to protect and

promote science in French, starting with support for scholarly publishing in French by the government and research funding agencies."¹⁵⁸

Witnesses described existing support measures and proposed new measures for supporting scientific publication in French.

In its brief to the Committee, Érudit wrote: "Journals publishing in French are supported by two sources of funding in Canada: the Aid to Scholarly Journals program of the Social Sciences and Humanities Research Council of Canada and the Scientific journal support program of the Fonds de recherche du Québec—Société et culture."¹⁵⁹

Valérie La Traverse told the Committee about SSHRC's Aid to Scholarly Journals program and added that there is an Awards to Scholarly Publications Program.¹⁶⁰

Benoit Sévigny told the Committee that, in 2021, the Fonds de recherche du Québec created the Publication en français award, a prize for publications in French.¹⁶¹ Under this program, every month, each of Quebec's three research funds awards \$2,000 to a recipient. Researchers and students in Quebec and the Canadian Francophonie are eligible for these prizes. One witness applauded the creation of this program.¹⁶²

Other initiatives have been implemented, including some at the university level. For example, the University of Ottawa Press is the only bilingual university press in North America. It publishes about 30 academic works per year, about half of which are in French.¹⁶³

¹⁵⁸ SRSR, *Evidence*, 17 October 2022, 1845 (Éric Forgues).

¹⁵⁹ Érudit Consortium, *Brief on research and scientific publication in French*, Brief submitted to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 3.

¹⁶⁰ SRSR, *Evidence*, 31 October 2022, 2125 (Valérie La Traverse).

¹⁶¹ SRSR, *Evidence*, 17 October 2022, 1945 (Benoit Sévigny).

¹⁶² SRSR, *Evidence*, 3 October 2022, 1835 (Sylvie A. Lamoureux).

¹⁶³ SRSR, *Evidence*, 14 November 2022, 1915 (Martine Lagacé).



According to Érudit, however, the existing support programs are insufficient, and studies show that "even the best-funded journals operate on tight budgets."¹⁶⁴ Richard Marcoux echoed that statement in his brief to the Committee.¹⁶⁵

Nathalie Lewis, a professor at the Université du Québec à Rimouski, appearing as an individual, and Anne-José Villeneuve both told the Committee how difficult it is to manage one or more scientific journals.¹⁶⁶ Nathalie Lewis stated that "managing a non-commercial francophone journal is a heavy burden to bear, on top of our jobs, to the point of being kind of scientific volunteer work."¹⁶⁷

Many witnesses recommended that the federal government increase its financial support for scientific publication in French and for French-language and bilingual

¹⁶⁴ Érudit Consortium, <u>Brief on research and scientific publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 3.

¹⁶⁵ Richard Marcoux, *Brief presented to the House of Commons Standing Committee on Science and Research:* <u>Research and scientific publication in French</u>, 23 November 2022, p. 7.

¹⁶⁶ SRSR, *Evidence*, 14 November 2022, 1905 (Nathalie Lewis, Professor, Université du Québec à Rimouski, As an Individual); and SRSR, *Evidence*, 3 October 2022, 1900 (Anne-José Villeneuve).

¹⁶⁷ SRSR, *Evidence*, 14 November 2022, 1905 (Nathalie Lewis).

scientific journals through the granting agencies.¹⁶⁸ Some suggested that the federal government create a special fund to support French-language journals.¹⁶⁹

Some witnesses recommended encouraging bilingual scientific journals to increase the percentage of articles published in French.¹⁷⁰ One witness stated that this should be a condition for receiving federal funding.¹⁷¹

Chérif F. Matta suggested establishing a leading multidisciplinary French-language journal in partnership with the international francophone community.¹⁷²

Lastly, the Fédération québécoise des professeures et professeurs d'université made the following suggestion:

Task the [Chief Science Advisor of Canada] with leading a special committee to propose to the Department of Innovation, Science and Economic Development further concrete

¹⁶⁸ SRSR, Evidence, 17 October 2022, 1845 (Éric Forgues); SRSR, Evidence, 17 October 2022, 1900 (Valérie Lapointe Gagnon); SRSR, Evidence, 17 October 2022, 1910 (Linda Cardinal); SRSR, Evidence, 31 October 2022, 1855 (Tanja Niemann); SRSR, Evidence, 14 November 2022, 1905 (Nathalie Lewis); Érudit Consortium, Brief on research and scientific publication in French, Brief submitted to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 5; UQAM, Submission to the House of Commons Standing Committee on Science and Research as Part of Its Study on Research and Scientific Publication in French, 24 November 2022, p. 4; Université du Québec à Chicoutimi, Brief prepared by the Vice-Rector for Research at the Université du Québec à Chicoutimi presented to the Standing Committee on Science and Research as part of its study on scientific research and publications in French, 22 December 2022, pp. 4–5; Université du Québec en Abitibi-Témiscamingue, The importance of research in French in Canada, Brief for the Standing Committee on Science and Research, 21 December 2022, p. 7; Acfas, Supporting academic publishing in French in Canada, Brief submitted by Acfas to the House of Commons Standing Committee on Science and Research, December 2022, p. 4; Université de Sherbrooke, Brief from the Université de Sherbrooke To the House of Commons Standing Committee on Science and Research For Its Study on Research and Scientific Publication in French, December 2022, p. 2; FQPPU, Research and Dissemination of Science in French: Countering Inequalities, Brief Submitted to the House of Commons Standing Committee on Science and Research, December, p. 10; and Université du Québec à Rimouski, Brief on Research and Scientific Publication in French Submitted to the House of Commons Standing Committee on Science and Research, 22 December 2022, p. 5.

¹⁶⁹ Université du Québec à Chicoutimi, <u>Brief prepared by the Vice-Rector for Research at the Université du</u> <u>Québec à Chicoutimi presented to the Standing Committee on Science and Research as part of its study on</u> <u>scientific research and publications in French</u>, 22 December 2022, p. 5; Acfas, <u>Supporting academic</u> <u>publishing in French in Canada</u>, Brief submitted by Acfas to the House of Commons Standing Committee on Science and Research, December 2022, p. 4; and FQPPU, <u>Research and Dissemination of Science in French:</u> <u>Countering Inequalities</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, December, p. 10.

¹⁷⁰ SRSR, *Evidence*, 17 October 2022, 1845 (Éric Forgues); and SRSR, *Evidence*, 17 October 2022, 1900 (Valérie Lapointe Gagnon).

¹⁷¹ SRSR, *Evidence*, 17 October 2022, 1855 (Linda Cardinal).

¹⁷² SRSR, *Evidence*, 17 October 2022, 2125 (Chérif F. Matta).



actions to increase scientific publication in French, the translation into French of the most important works published in English and the use of French scientific publications in teaching.¹⁷³

In light of this testimony, the Committee recommends the following:

Recommendation 12

That, through the granting agencies, namely the Social Sciences and Humanities Research Council, the Natural Sciences and Engineering Research Council of Canada, and the Canadian Institutes of Health Research, the federal government increase its financial support for scientific publication in French and for French-language and bilingual scholarly journals, and develop measures to encourage the bilingual scholarly journals that they fund to increase the percentage of articles they publish in French.

Recommendation 13

That the Chief Science Advisor of Canada organize and lead a special committee tasked with making suggestions to the Department of Innovation, Science and Economic Development regarding other concrete actions that could increase scientific publication in French, the translation to French of the most important research published in English and the availability of French-language scientific publications for teaching purposes.

Witnesses also raised the issue of translating scientific articles from French to English and from English to French.

Some of the witnesses urged the federal government to invest in translation support services for researchers.¹⁷⁴ This type of service would enable francophone scientists to conduct their research in French, publish their work in French and then have it translated to English in order to reach a wider audience.¹⁷⁵ Witnesses also supported the

¹⁷³ FQPPU, <u>Research and Dissemination of Science in French: Countering Inequalities</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, December, p. 10.

See for example: SRSR, <u>Evidence</u>, 14 November 2022, 1925 (Martine Lagacé); SRSR, <u>Evidence</u>,
 14 November 2022, 2000 (Allister Surette); and Vincent Larivière and Jean-François Gaudreault-DesBiens,
 <u>Brief on Research and Scientific Publication in French</u>, joint submission to the House of Commons Standing
 Committee on Science and Research, 24 November 2022, p. 6.

¹⁷⁵ SRSR, *Evidence*, 14 November 2022, 1925 (Martine Lagacé).

idea of translating certain works from English to French in order to facilitate access to scientific knowledge for francophone communities.¹⁷⁶

Some witnesses went a step further and recommended systematically translating articles into both languages. In a written brief, the Université du Québec à Montréal asked the government to "require—and provide permanent funding for—the publication of scientific production in both of Canada's official languages in journals funded in whole or in part by the federal government."¹⁷⁷ Similarly, Adel El Zaïm of the Université du Québec en Outaouais suggested "that Canada commit to translating new science and the results of research done here in the country's two official languages" and "that these translations and terminologies be disseminated globally free of charge, especially within the francophonie in Canada and abroad."¹⁷⁸

However, some witnesses expressed doubts about the possibilities offered by the translation of scientific works.

First, Martin Normand noted that, in the field of social sciences, translation does not solve one particular issue, which is that "when researchers decide to work in English in order to publish findings in major scholarly journals, they choose to work on more universal research topics of interest."¹⁷⁹

Second, Anne-José Villeneuve observed that researchers are usually discouraged from publishing the same article in two different languages, because it could be considered self-plagiarism.¹⁸⁰

Lastly, Yves Gingras explained to the Committee that systematic translation of scientific literature would be inefficient and a waste of money, noting that "translating everything is irrational in economic and scientific terms."¹⁸¹ He used the example of France, where the Revue française de sociologie has been translated in its entirety to English for years.

¹⁷⁶ SRSR, <u>Evidence</u>, 17 October 2022, 1845 (Éric Forgues); and Martin Maltais, <u>Ensuring the prosperity of French</u> <u>language scholarly publications in Canada and their influence around the world</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, December 2022, p. 3.

¹⁷⁷ UQAM, <u>Submission to the House of Commons Standing Committee on Science and Research as Part of Its</u> <u>Study on Research and Scientific Publication in French</u>, 24 November 2022, p. 4.

¹⁷⁸ SRSR, *Evidence*, 31 October 2022, 1840 (Adel El Zaïm).

¹⁷⁹ SRSR, *Evidence*, 17 October 2022, 2000 (Martin Normand).

¹⁸⁰ SRSR, *Evidence*, 3 October 2022, 1850 (Anne-José Villeneuve).

¹⁸¹ SRSR, *Evidence*, 31 October 2022, 2015 (Yves Gingras).



According to a study he carried out, the impact of these translation efforts was "virtually nil" in terms of the number of citations of articles from this journal.¹⁸²

In Yves Gingras's opinion, this failure can be put down to the fact that the social sciences and humanities field is not the same as the natural sciences field, because the topic of study is typically more localized.¹⁸³ Taking social sciences and humanities articles published in French and systematically translating them to English in order to disseminate them more widely would be inefficient.

The Committee therefore recommends:

Recommendation 14

That the Government of Canada, through the granting agencies, invest in translation support services in both official languages for use by researchers.

Promoting the Discoverability of French-Language Research

As noted above, scientific publications in French are not as well indexed as publications in English in large international databases, and they receive fewer citations on average. The Committee's attention was drawn to the issue of discoverability for French-language research. Discoverability means the ease with which a piece of content can be found by an audience in a vast collection of other content.

One of the challenges of disseminating scientific knowledge is the fact that the scholarly publishing market is dominated by a handful of private commercial publishers. According to Tanja Niemann, Executive Director of the Érudit Consortium, "[t]he oligopoly of large publishers, an issue that has come before this committee, disseminates very little science in French because it is not profitable enough."¹⁸⁴ Many scientific and government stakeholders support open science and open access as a way of overcoming this problem.¹⁸⁵ Tanja Niemann described two open-access initiatives:

In Europe, Plan S, developed by cOAlition S, requires governments to subscribe to this movement to make full open access to research a reality. It is accompanied by measures and technical requirements that publishers much comply with. ... [I]n the United States, the White House published a directive to every federal agency to implement programs

¹⁸² Ibid., 2010.

¹⁸³ Ibid.

¹⁸⁴ SRSR, *Evidence*, 31 October 2022, 1835 (Tanja Niemann).

¹⁸⁵ Ibid., 1905.

over the next few years prescribing and dictating open access to research funded by the government.¹⁸⁶

In Canada, the Committee notes that in February 2020, the Chief Science Advisor of Canada published a *Roadmap for Open Science*, which recommended that federal science articles and publications be made openly accessible.¹⁸⁷ The granting agencies also co-signed a *Tri-Agency Open Access Policy on Publications*, whose objective is "to improve access to the results of Agency-funded research."¹⁸⁸

As for NSERC, Marc Fortin described the situation as follows:

In NSERC, the question of open access is a challenging one. ... There are still debates about who will incur the cost of this, because it's open access for the reader, but it's not free for people who want to publish. There's still quite a bit of debate around who's going to pay for this and how we will support it.¹⁸⁹

Annie Pilote, appearing on behalf of the Federation for the Humanities and Social Sciences, urged the federal government to support open-access publishing in French by establishing a fund that "would include financing for simultaneous publication in both official languages of open access research."¹⁹⁰

Founded in 1998, Érudit is an inter-university consortium bringing together the Université de Montréal, Université Laval and the Université du Québec à Montréal. Its mission is "to support open digital publishing and research in the humanities, social sciences and the arts and letters."¹⁹¹ The consortium launched a digital platform that provides "access to 140,000 scientific articles published in more than 150 scholarly journals, 56 of which publish in French only."¹⁹² More than three-quarters of the articles available on Érudit are written in French. Érudit's funding comes from the founding universities, subscription revenue from university libraries, the Government of Quebec

¹⁸⁶ Ibid.

¹⁸⁷ Government of Canada, *<u>Roadmap for Open Science</u>*, February 2020.

¹⁸⁸ Government of Canada, <u>Tri-Agency Open Access Policy on Publications</u>.

¹⁸⁹ SRSR, *Evidence*, 17 October 2022, 2110 (Marc G. Fortin).

¹⁹⁰ SRSR, *Evidence*, 17 October 2022, 1940 (Annie Pilote).

¹⁹¹ Érudit Consortium, *Brief on research and scientific publication in French*, Brief submitted to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 2.

¹⁹² Ibid.



and contributions from the federal government, through the Canada Foundation for Innovation and SSHRC.¹⁹³

Érudit's data show that "in the two years following publication, an open access article will receive on average almost twice as many views as an article published with a 12-month moving wall."¹⁹⁴

The platform is instrumental in making the articles it hosts discoverable:

We receive these articles and we structure the content to make it legible by machine. We index all this in databases. We take care of a preservation strategy and [put] all this data on the Web, in databases of catalogues and libraries around the world to increase the chance that these articles are discovered, read, and found when searched with a key word. What is more, we also ensure that everything is found on Google and is discoverable by Google.¹⁹⁵

Tanja Niemann stated that the main barrier preventing this project from growing is its limited capacity.¹⁹⁶ Several witnesses recommended that the federal government provide Érudit with stable, predictable support.¹⁹⁷

Other witnesses recommended working on the issue of the digital platforms' recommendation algorithms, which are biased in favour of English-language articles.¹⁹⁸

¹⁹³ SRSR, *Evidence*, 31 October 2022, 1915 (Tanja Niemann).

¹⁹⁴ Érudit Consortium, <u>Brief on research and scientific publication in French</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 2.

¹⁹⁵ SRSR, *Evidence*, 31 October 2022, 1845 (Tanja Niemann).

¹⁹⁶ Ibid.

SRSR, <u>Evidence</u>, 31 October 2022, 2025 (Yves Gingras); Université du Québec à Chicoutimi, <u>Brief prepared by</u> <u>the Vice-Rector for Research at the Université du Québec à Chicoutimi presented to the Standing Committee</u> <u>on Science and Research as part of its study on scientific research and publications in French</u>, 22 December 2022, p. 4; Université du Québec en Abitibi-Témiscamingue, <u>The importance of research in</u> <u>French in Canada</u>, Brief for the Standing Committee on Science and Research, 21 December 2022, p. 7; and Universities Canada, <u>Research and Scientific Publication in French</u>, Brief Submitted to the Standing Committee on Science and Research, December 2022, p. 4.

¹⁹⁸ SRSR, <u>Evidence</u>, 31 October 2022, 1840 (Adel El Zaïm); and Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific Publication in French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 6.

The Committee therefore recommends the following:

Recommendation 15

That the Government of Canada continue to support initiatives offering open access to French-language scientific research, such as the Érudit platform, by providing stable, predictable funding.

Supporting Making Knowledge Accessible

Aside from open access to scientific articles, witnesses told the Committee that the dissemination of scientific knowledge is largely dependent on making it accessible to the general public.

Janice Bailey pointed out that the circulation of knowledge in a variety of languages "strengthens public confidence in science," adding that "[t]he phenomenon of misinformation, however, has grown over the past decade."¹⁹⁹

Consequently, "scientific communication and popularization for the general public" are "one of the most powerful drivers of French-language science."²⁰⁰ In a written brief to the Committee, Polytechnique Montréal listed a few of the activities carried out by groups and individuals involved in Quebec's scientific communication ecosystem:

[They] produce free massive open online course (MOOC) offerings and videos, design virtual laboratory tours, host events for the general public, produce podcasts, write blogs and open letters, serve as guest experts, develop specialized glossaries, serve as media liaisons and scientific advisors to governments and are tireless Instagram creators.²⁰¹

Yves Gingras believes that popular science writing is the field where it is most important to invest in translation to French:

With all due respect, I have to say that probably no one among you here would understand an article about artificial intelligence. That is not a big deal, since the function of francophone science journalists and popular science journals in French, like Québec Science, is to make very technical knowledge accessible in French, for example regarding quantum computers, knowledge that is generally published in very specialized academic journals. Québec Science is in French. Knowledge is being made accessible in

¹⁹⁹ SRSR, *Evidence*, 31 October 2022, 1945 (Janice Bailey).

²⁰⁰ École Polytechnique de Montréal, <u>Polytechnique: At the Heart of a Vibrant French Science Ecosystem</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, December 2022, p. 3.

²⁰¹ Ibid.



French by Quebec researchers like Yoshua Bengio who publish their fundamental work in the language of computing, which is English.²⁰²

The Chief Scientific Advisor recommended that the federal government "[s]upport the publication in French of plain-language scientific articles as well as journal articles that summarize the state of knowledge and can be used by both decision-makers and the general public."²⁰³

Marc Fortin outlined NSERC's science outreach and communication initiatives. NSERC has two annual science promotion campaigns: Odyssey of Science and Science Literacy Week. He stated that NSERC's partners in Quebec "have offered over 450 science promotion activities in French. In addition, NSERC provided funding to nearly 30 francophone organizations to organize science promotion activities in French."²⁰⁴

The Honourable François-Philippe Champagne also mentioned that there are "science communication skills development grants that support organizations offering communications training for students, scholarship holders and professors in the fields of science, technology, engineering and mathematics."²⁰⁵

Polytechnique Montréal recommended enhancing the Research Support Fund for universities, which includes a knowledge mobilization component.²⁰⁶ Polytechnique Montréal also recommended enhancing research grants "by increasing eligible expenses for knowledge mobilization and dissemination for the general public and end users."²⁰⁷ The Fédération acadienne de la Nouvelle-Écosse requested "an envelope to foster the sharing of knowledge from research in French with francophone minority communities."²⁰⁸

²⁰² SRSR, *Evidence*, 31 October 2022, 1950 (Yves Gingras).

²⁰³ Office of the Chief Science Advisor, <u>Written response to the House of Commons Standing Committee on</u> <u>Science and Research</u>, 20 March 2023, p. 2.

²⁰⁴ SRSR, *Evidence*, 17 October 2022, 2045 (Marc G. Fortin).

²⁰⁵ SRSR, *Evidence*, 2 February 2023, 1205 (Hon. François-Philippe Champagne).

²⁰⁶ École Polytechnique de Montréal, <u>Polytechnique: At the Heart of a Vibrant French Science Ecosystem</u>, Brief submitted to the House of Commons Standing Committee on Science and Research, December 2022, p. 4.

²⁰⁷ Ibid.

²⁰⁸ Fédération acadienne de la Nouvelle-Écosse, <u>Brief Submitted to the Standing Committee on Science and</u> <u>Research for its Study on Research and Publication in French</u>, 14 November 2022, p. 4.

The Committee therefore recommends the following:

Recommendation 16

That the granting agencies develop support programs for science outreach, science communication and the mobilization of scientific knowledge in French across the country.

Collaboration Within the Francophonie

Many witnesses stressed the importance of collaboration within the Francophonie, both domestically and internationally.

In terms of collaboration within Canada, witnesses emphasized the need to reinforce initiatives fostering greater collaboration between stakeholders in the Canadian Francophonie. Kenneth Deveau urged the federal government to provide more support for collaboration activities involving francophone post-secondary institutions.²⁰⁹

Several witnesses suggested that the federal government develop a student exchange program for post-secondary institutions in the Canadian Francophonie.²¹⁰

In terms of international collaboration, many witnesses noted that Canada is lucky to have partnerships with francophones around the world.²¹¹ The brief submitted to the Committee by the Université du Québec à Montréal summed up this sentiment:

Canada can benefit at a scientific level from its membership in the international francophone community, just as much as from its membership in the anglophone community. Thus, research and creation carried out in French must be seen as a strength for Canada that allows it to reach a large scientific community internationally and to establish itself as a scientific leader within the international French-speaking community.²¹²

²⁰⁹ SRSR, *Evidence*, 14 November 2022, 2000 (Kenneth Deveau).

²¹⁰ SRSR, *Evidence*, 17 October 2022, 1900 (Valérie Lapointe Gagnon); SRSR, *Evidence*, 17 October 2022, 1910 (Linda Cardinal); and UQAM, *Submission to the House of Commons Standing Committee on Science and Research as Part of Its Study on Research and Scientific Publication in French*, 24 November 2022, p. 3.

²¹¹ SRSR, <u>Evidence</u>, 3 October 2022, 1910 (Sylvie A. Lamoureux); SRSR, <u>Evidence</u>, 3 October 2022, 1910 (Jean-Pierre Perreault); SRSR, <u>Evidence</u>, 3 October 2022, 1910 (Anne-José Villeneuve); and Office of the Chief Science Advisor, <u>Written response to the House of Commons Standing Committee on Science and Research</u>, 20 March 2023, p. 2.

²¹² UQAM, <u>Submission to the House of Commons Standing Committee on Science and Research as Part of Its</u> <u>Study on Research and Scientific Publication in French</u>, 24 November 2022, p. 3.



Valérie La Traverse mentioned that SSHRC is currently developing an international approach, holding talks with Switzerland, Belgium and France, and developing collaborations in Africa.²¹³

Furthermore, the Chief Scientist of Quebec is President of the International Network for Government Science Advice, a network of chief scientists and scientific advisors from around the world. In November 2022, he announced the launch of the Réseau francophone international en conseil scientifique, a similar network for francophone chief scientists and science advisors.²¹⁴

Witnesses recommended that support be provided to francophone international networks and that "the Government of Canada, along with the provinces concerned, including Quebec, play a significant role in what is called 'francophone scientific diplomacy.'"²¹⁵ Some also urged the government to do more to reaffirm Canada's leadership in this area.²¹⁶

The issue of hosting foreign francophone students and researchers was also raised. The Honourable François-Philippe Champagne noted that Canada's "linguistic duality also makes us a premier destination for French-speaking researchers worldwide."²¹⁷ Some witnesses recommended ensuring "that the visa applications of international students from francophone countries are evaluated fairly in relation to those from other countries" and that visas are processed more quickly.²¹⁸

²¹³ SRSR, *Evidence*, 31 October 2022, 2125 (Valérie La Traverse).

²¹⁴ SRSR, *Evidence*, 17 October 2022, 1945 (Benoit Sévigny).

²¹⁵ Martin Maltais, <u>Ensuring the prosperity of French language scholarly publications in Canada and their</u> <u>influence around the world</u>, Brief Submitted to the House of Commons Standing Committee on Science and Research, December 2022, p. 3.

²¹⁶ SRSR, *Evidence*, 31 October 2022, 1910 (Adel El Zaïm); and SRSR, *Evidence*, 31 October 2022, 2125 (Valérie La Traverse).

²¹⁷ SRSR, *Evidence*, 2 February 2023, 1205 (Hon. François-Philippe Champagne).

Vincent Larivière and Jean-François Gaudreault-DesBiens, <u>Brief on Research and Scientific Publication in French</u>, joint submission to the House of Commons Standing Committee on Science and Research, 24 November 2022, p. 6; and SRSR, <u>Evidence</u>, 3 October 2022, 1930 (Jean-Pierre Perreault).

The Committee therefore recommends the following:

Recommendation 17

That the Government of Canada develop an international student exchange program for post-secondary institutions in the Francophonie, in collaboration with the provinces and territories.

APPENDIX A LIST OF WITNESSES

The following table lists the witnesses who appeared before the committee at its meetings related to this report. Transcripts of all public meetings related to this report are available on the committee's <u>webpage for this study</u>.

| Organizations and Individuals | Date | Meeting |
|---|------------|---------|
| Acfas | 2022/10/03 | 19 |
| Laura Pelletier, Project Manager, Canadian Francophonie | | |
| Jean-Pierre Perreault, President | | |
| Anne-José Villeneuve, President, Alberta | | |
| As an individual | 2022/10/03 | 19 |
| Sylvie A. Lamoureux, Full Professor, Research Chair in Language Management | | |
| As an individual | 2022/10/17 | 20 |
| Linda Cardinal, Associate Vice-President of Research, Université de l'Ontario français | | |
| Valérie Lapointe Gagnon, Associate Professor of History | | |
| Chérif F. Matta, Professor, Mount Saint Vincent University | | |
| Association des collèges et universités de la francophonie canadienne | 2022/10/17 | 20 |
| Martin Normand, Director, Strategic Research and International Relations | | |
| Canadian Institute for Research on Linguistic Minorities | 2022/10/17 | 20 |
| Éric Forgues, Executive Director | | |
| Federation for the Humanities and Social Sciences | 2022/10/17 | 20 |
| Annie Pilote, Full Professor and Dean, Faculty of Graduate and Postdoctoral Studies, Université Laval | | |
| Fonds de recherche du Québec | 2022/10/17 | 20 |
| Benoit Sévigny, Director of Communications | | |
| | | |

| Organizations and Individuals | Date | Meeting |
|---|------------|---------|
| Natural Sciences and Engineering Research Council of Canada | 2022/10/17 | 20 |
| Marc G. Fortin, Vice-President, Research Grants and Scholarships Directorate | | |
| As an individual | 2022/10/31 | 21 |
| Janice Bailey, Scientific Director, Nature et technologies, Fonds de recherche du Québec | | |
| Yves Gingras, Professor of History and Sociology of Science, Université du Québec à Montréal | | |
| Érudit Consortium | 2022/10/31 | 21 |
| Tanja Niemann, Executive Director | | |
| Department of Industry | 2022/10/31 | 21 |
| Nipun Vats, Assistant Deputy Minister, Science and Research Sector | | |
| Social Sciences and Humanities Research Council | 2022/10/31 | 21 |
| Valérie La Traverse, Vice-President, Corporate Affairs | | |
| Université du Québec en Outaouais | 2022/10/31 | 21 |
| Adel El Zaïm, Vice-President, Research, Creation, Partnership and Internationalisation | | |
| As an individual | 2022/11/14 | 22 |
| Nathalie Lewis, Professor, Université du Québec à Rimouski | | |
| Fédération acadienne de la Nouvelle-Écosse | 2022/11/14 | 22 |
| Kenneth Deveau, President | | |
| Université Sainte-Anne | 2022/11/14 | 22 |
| Allister Surette, President and Vice-Chancellor | | |
| University of Ottawa | 2022/11/14 | 22 |
| Martine Lagacé, Associate Vice-President, Research Promotion and Development | | |
| Canadian Institutes of Health Research | 2023/02/02 | 27 |
| Catherine MacLeod, Executive Vice-President | | |

| Organizations and Individuals | Date | Meeting |
|--|------------|---------|
| Department of Industry | 2023/02/02 | 27 |
| Francis Bilodeau, Associate Deputy Minister | | |
| Hon. François-Philippe Champagne, P.C., M.P., Minister of Innovation, Science and Industry | | |
| National Research Council of Canada | 2023/02/02 | 27 |
| lain Stewart, President | | |
| Natural Sciences and Engineering Research Council of Canada | 2023/02/02 | 27 |
| Alejandro Adem, President | | |
| Social Sciences and Humanities Research Council | 2023/02/02 | 27 |
| Ted Hewitt, President | | |

APPENDIX B LIST OF BRIEFS

The following is an alphabetical list of organizations and individuals who submitted briefs to the committee related to this report. For more information, please consult the committee's <u>webpage for this study</u>.

Acfas

Association des collèges et universités de la francophonie canadienne Association pour la recherche au collégial **Canadian Association of University Teachers Canadian Institute for Research on Linguistic Minorities Canadian Institutes of Health Research** Cardinal, Linda École Polytechnique de Montréal Érudit Consortium Fédération acadienne de la Nouvelle-Écosse Federation for the Humanities and Social Sciences Fédération québécoise des professeures et professeurs d'université Gaudreault-Desbiens, Jean-François Lapointe Gagnon, Valérie Larivière, Vincent Maltais, Martin Marcoux, Richard Matta, Chérif F. Université de Saint-Boniface Université de Sherbrooke Université du Québec à Chicoutimi Université du Québec à Montréal Université du Québec à Rimouski

Université du Québec en Abitibi-Témiscamingue

Universities Canada

REQUEST FOR GOVERNMENT RESPONSE

Pursuant to Standing Order 109, the committee requests that the government table a comprehensive response to this Report.

A copy of the relevant *Minutes of Proceedings* (Meetings Nos. <u>19</u>, <u>20</u>, <u>21</u>, <u>22</u>, <u>26</u>, <u>27</u>, <u>38</u>, <u>46</u> and <u>48</u>) is tabled.

Respectfully submitted,

Lloyd Longfield Chair

Supplementary opinion

BLOC QUÉBÉCOIS

First, the Bloc Québécois salutes the Committee members and staff for their professionalism and the work they accomplished during this study, and thanks all the witnesses and citizens who contributed to the debate on research and scientific publication in French.

However, the Bloc Québécois feels that the report does not go far enough and does not fully respond to Quebec's demands in terms of research and education.

The Bloc Québécois wishes to point out that, under the Constitution Act of 1867, education is a prerogative of Quebec and the provinces. Since scientific research is a corollary to education, we support the idea that all funding for university research should be transferred to Quebec, so that Quebec can invest according to its priorities.

Like any developed nation, Quebec needs to train its scientists in order to advance its society and economy.

With the Parent Commission of 1961, Quebec has made considerable efforts to increase access to education. Since then, Quebec has never ceased to ensure that the education system is fair and equitable for all, to ensure that the equality of opportunity is real. These efforts have rewarded the society economically and transformed it into one of the most progressive and equitable in the world, as evidenced by the social solidarity expressed through its many social programs.

The Bloc Québécois believes that this ideal can only be maintained and pursued if the federal government recognizes the fiscal imbalance that persists between the federal government, Quebec, and the provinces. The Bloc Québécois believes that the most obvious remedy to this problem is for the federal government to withdraw completely from this field of activity, while granting Quebec the means to assume these responsibilities.