Schooling Methods in Student Test Scores*

Denise Chang

April 14, 2024

An increasing number of schools and universitities have adopted virtual or hybrid teaching methods ever since the COVID-19 pandemic in 2020. Using data from the National Center for Education Statistics and from various district-level assessements, this paper investigates the impact of schooling modes on students' pass rate in state standardized assessments in grades 3-8 during the 2020-2021 school year. The exploration of the data across 11 states suggests that the overall student pass rates declined during the pandemic school year. The pass rates have also seen more drastic changes in schools with larger share of black students as well as in schools who had a higher share of virtual and hybrid schooling. The results of this study are significant as they can be used by educational authorities and policymakers to support student learning.

NOTE TO SELF : I WANT TO CHANGE THE FIRST SENTENCE IN ABSTRACT

1 Introduction

In 1969, Canada adopted the Official Languages Act which recognizes both English and French as its official languages [CITE SMT]. Though Canada is a bilingual country, seven provinces recognizes English as their sole official language, and one province considers their official language to be French. New-Brunswick is the only bilingual province [CITE SMT]. To encourage bilingualism, English-speaking provinces promote French as second language through educational programs, such as the French Immersion Program in Ontario. However, the French-speaking province, Quebec, restricts the usage of English. Instead, Quebec pushes forward programs and policies to further promote the French language [CITE SMT]. Quebec's active francization which differentiates it from the rest of Canada sparks debate in the population as it seems to go against Canadian bilingualism.

In this paper, I am interested in the evolution of the knowledge of canadian official languages in Quebec. Using data from the Canadian Language Census from 2001, 2006, 2011, 2016 and

*Code and data are available at: LINK.

2021, I explore the trends in Quebecers' knowledge in English and French for more insights on the influence of the government's francization efforts on the provincial bilingualism rate. I find that, despite the restriction on the usage of English in Quebec, the province has an increasing trend in bilingual population. MODIFY THIS IF NEEDED AFTER DISCUSSION

The remainder of this paper is structured as follows. Section 2 discusses the data collection and the studied variables. Section 4 builds a model that illustrates the trend in bilingualism rate in Quebec throughout

2 Data

Talk more about it.

Talk way more about it.

3 Model

The goal of our modelling strategy is twofold. Firstly,…

Here we briefly describe the Bayesian analysis model used to investigate… Background details and diagnostics are included in

3.1 Model set-up

Define y_i as the number of seconds that the plane remained aloft. Then β_i is the wing width and γ_i is the wing length, both measured in millimeters.

$$y_i|\mu_i, \sigma \sim \text{Normal}(\mu_i, \sigma) \tag{1}$$
$$\mu_i = \alpha + \beta_i + \gamma_i \tag{2}$$
$$\alpha \sim \text{Normal}(0, 2.5) \tag{3}$$
$$\beta \sim \text{Normal}(0, 2.5) \tag{4}$$
$$\gamma \sim \text{Normal}(0, 2.5) \tag{5}$$
$$\sigma \sim \text{Exponential}(1) \tag{6}$$

We run the model in R (R Core Team 2022) using the `rstanarm` package of Goodrich et al. (2022). We use the default priors from `rstanarm`.

3.1.1 Model justification

We expect a positive relationship between the size of the wings and time spent aloft. In particular...

We can use maths by including latex between dollar signs, for instance θ.

4 Results

Our results are summarized in.

5 Discussion

5.1 First discussion point

If my paper were 10 pages, then should be be at least 2.5 pages. The discussion is a chance to show off what you know and what you learnt from all this.

5.2 Second discussion point

5.3 Third discussion point

5.4 Weaknesses and next steps

Weaknesses and next steps should also be included.

References

Goodrich, Ben, Jonah Gabry, Imad Ali, and Sam Brilleman. 2022. "Rstanarm: Bayesian Applied Regression Modeling via Stan." https://mc-stan.org/rstanarm/.

R Core Team. 2022. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.