

Intelligence MEMOS



From: David Johnson
To: Ontarians Concerned about Class Sizes
Date: March 15, 2019
Re: **CLASS SIZE AND STUDENT OUTCOMES: A MYSTERY YET TO BE RESOLVED**

Proposals are being floated to increase elementary class sizes in Ontario. They are very controversial. There are only four real options to reduce spending on elementary education: reduce the compensation of teachers; reduce preparation time for teachers within the school day; reduce absenteeism so that fewer supply teachers are hired; or increase class-size.

What is the evidence on the effect of class size on student learning outcomes?

The question is one of the most studied questions in the delivery of education. It has no clear answer, just strongly held beliefs. It is hard to find the right experiment to tell us if smaller classes lead to better educational outcomes.

We live in a world where the scientific method is a part of our culture. The scientific method requires that we change one factor, in this case class size, and leave all other factors that affect student outcomes the same. Many of us have driven in the countryside past fields marked as experimental seed fields. Here, different seeds are placed in the same field and then the crop yield is compared across those different seeds. Each seed of all types receives the same fertilizer, the same rainfall, the same sunshine, and is planted in the same field. We can then be sure that it is the seed type that makes the difference in the yield.

If we take this analogy to the class size question, identical children, with identical teachers would have to be placed in classes of different sizes at random. We would then measure if the students randomly placed in the smaller classes actually learn more than the students in the larger classes.

One significant attempt to do an experiment like that was carried out in Tennessee beginning in 1985. Students were initially assigned at random to smaller classes in kindergarten to Grade 4 and then followed over a number of years. Weili Ding and Steve Lehrer at Queen's University [show](#) in careful work that there was no improvement in outcomes that can be associated with smaller classes from the results of the Tennessee experiment. And this is the best evidence we have.

When we compare outcomes across different school districts, the districts with smaller class sizes are often districts with higher family incomes, at least in the United States where funding is not usually equalized across students even within a single state. Thus, a rich jurisdiction with smaller class sizes often teaches students with stronger family backgrounds and can afford to pay teachers more and attract better teachers. US evidence on class sizes and outcomes is not very useful for this reason. We do not know whether better outcomes in the smaller class-size system happen because the class sizes are smaller or because the students in that system come from richer families.

There is no strong evidence that reducing or increasing class size within the changes in Ontario in the last 15 years could have had any impact on student results. Increasing class sizes by a small amount is very unlikely to reduce student outcomes in any significant way. It will, however, reduce costs.

When we have a policy that leaves outcomes unchanged and reduces costs, this is usually considered to be a policy worth exploring and then implementing.

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