in brief
evidence for decisions
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Inclusion of special education students doesn't affect classmates' education

Recent decades have seen an increased emphasis on inclusion of students with special learning needs and disabilities in mainstream classrooms with non-disabled students. One of the questions raised by this trend is whether there are any effects on non-disabled classmates.

Disabled peers might affect the educational achievement of non-disabled classmates in a number of ways. For example, the extra resources typically allocated to support students in certain special education categories might 'spill over' to the benefit of their classmates. Alternatively, demands on teachers' attention made by students needing extra help might have a negative impact on others.

Existing evidence on this issue is mixed. The Centre for Education Research and Policy (CERP) at Simon Fraser University analyzed data from British Columbia to contribute credible new evidence. CERP researchers compared the performance of successive cohorts within every public elementary school in B.C. (as measured by the change in individual test scores between grades 4 and 7), to see if the proportion of disabled peers makes any difference to the achievement of non-disabled students.

Attending school with a higher percentage of students with disabilities is found to have only extremely small and statistically insignificant effects on the reading and numeracy achievement of non-disabled students.

Under current conditions, the placement of students with special learning needs and disabilities into regular classrooms does not compromise the education of their average non-disabled classmate. The study does not evaluate the helpfulness of the inclusion policy for disabled students themselves, or measure any non-educational effects.

Read on for more details.

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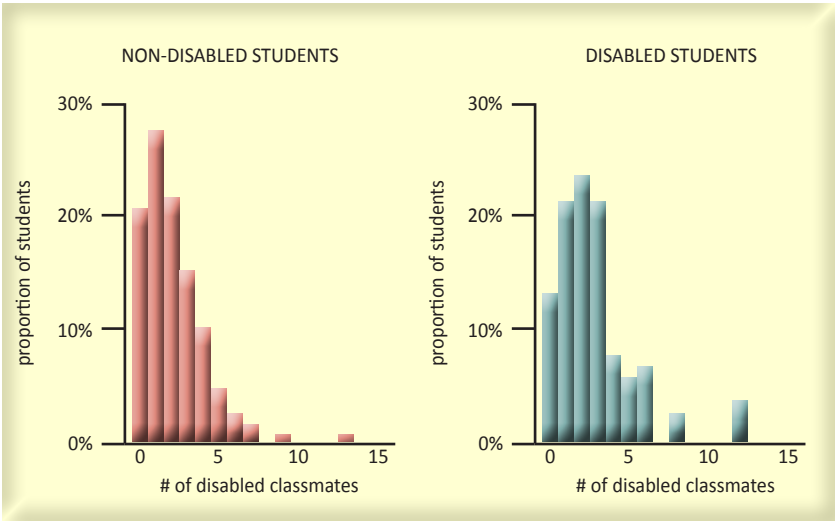
special education in B.C.

B.C. uses eleven diagnostic categories for students with disabilities, grouped into four categories for funding purposes: dependent (physically dependent or deafblind), severe behaviour (intense behaviour intervention or serious mental illness), low incidence/high cost (moderate to profound intellectual disability, physical disability or chronic health, visual or aural impairment, autism) and high incidence/low cost (learning disability, mild intellectual disability, moderate behavioural support or mental illness). In 2004, 9.4 per cent of 7th graders were diagnosed with disabilities: 0.2 per cent in the dependent category, 1.3 per cent severe behaviour, 2.2 per cent low incidence/high cost and 5.9 per cent high incidence/low cost. Since 2002, school districts have received supplementary funding of $30,000, $15,000 and $6,000 respectively for each student in the first three categories.

For the most part, B.C. follows an 'inclusion' model: services are provided to disabled students in regular classrooms whenever possible. Ministry of Education reports on the number of disabled students in each class indicate that schools typically distribute disabled students across classes, rather than concentrating them in particular classes. Figure 1 compares the numbers of disabled students sharing a classroom with disabled peers to the numbers of non-disabled students doing so, for a reasonably typical school district. The patterns are quite similar. For example, a fifth of non-disabled students shared a classroom with three disabled peers, and a fifth of disabled students were in a class that had three disabled students (including themselves). Only a small proportion of students of either type shared a classroom with more than 4 disabled peers. This suggests that school administrations are generally faithful to the spirit of inclusion, and do not put disabled students together.

FIGURE 1

Number of disabled classmates, by own disability status. Vancouver school district 2005-06.



Source: Authors' tabulations, based on B.C. Ministry of Education data

The presence of disabled peers might be hypothesized to affect the achievement of non-disabled classmates in a number of ways. In B.C. as in most North American jurisdictions, disabled students bring extra resources to the classroom, which might improve the learning environment of their classmates. Disabled students also bring additional needs, however, and the demands on teachers' attention made by students needing extra help might have a negative impact on their classmates. This study measured the overall effect of learning with disabled peers.

data and *method*

Some schools have much higher numbers of students assessed in special education categories than other schools do. But comparing the achievement of non-disabled students in different schools will not clarify the potential effects of learning with disabled students. There are many other differences between schools, and those with a higher incidence of special educational needs tend to have a higher incidence of other challenges that can suppress achievement. It could also be misleading to compare the achievement of classes within the same school that contain different numbers of disabled peers. Assignment of students to different classes might not be random. Their classmates and teachers might bring different systematic strengths or weaknesses that would obscure any peer effect.

To really isolate any effect of learning with peers in special education categories, we require a source of variation in peer composition that is unrelated to other factors that affect achievement. The small variations in the number of disabled students across successive cohorts within the same school very plausibly satisfy this condition.

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B.C. administers Foundation Skills Assessments (FSAs) in reading and numeracy in grades 4 and 7. Using encrypted identification numbers, unique to each student but anonymous in the data, the FSA database was linked with the enrolment database, which records special education status. CERP measured the change in test scores between grades 4 and 7 for every non-disabled student in the province who entered grade 7 between 2002 and 2004, and also measured the number in each cohort who were in special education categories (other than 'gifted').

This permits estimation of the effect on achievement of increasing or decreasing the number of disabled students in the cohort. Since those students are not generally clustered by class within the cohort, this should reliably tell us whether sharing a classroom with disabled peers makes any important difference to achievement.

results and *conclusions*

The results show that increasing the proportion of students with special educational needs has only extremely small and statistically insignificant effects on the achievement of other students.

The direction of the effect is generally negative. However, it is never large enough, for either reading or numeracy, to prompt concern. For example, moving from learning with zero disabled peers to learning with 16 per cent disabled peers (the 90th percentile of the distribution) – an extreme change – produces a mere .03 standard deviation reduction in test scores (roughly equivalent to a drop of just one percentile). Moreover, no effects are statistically significant – it is possible that even these small observed effects have arisen by chance, rather than reflecting a causal connection.

When disabled students are broken out into 'learning/behavioural disability' and 'other' categories, some effects in a positive direction are observed for the 'other' category, while other results are negative. But again, though the effect sizes are a little larger than before, they remain very small. And again, all effects are statistically insignificant.

Increasing the proportion of students with special educational needs in a cohort does not have any notable effect on the achievement of other students.

Parents and teachers may sometimes feel concerned that a policy of including students with special educational needs in regular classrooms could detract from the quality of education available to other students. It is valuable to learn that, in British Columbia, such concerns are not borne out by the evidence. This conclusion is applicable strictly in the context of the overall special education policy framework in B.C.: given the resources and services that are made available to support special education, the potential for negative peer effects is negligible. Whatever schools and teachers are doing to support disabled students and their classmates, they are successful in ensuring that the inclusion policy creates no detrimental side-effects.

CERP was unable to evaluate the effect on disabled students themselves of learning with more or fewer other disabled students, due to the small sample sizes resulting from low levels of test participation among these students.

Some educators have suggested that non-disabled students may derive certain benefits from sharing the classroom with disabled students, such as improvements in interpersonal skills. However, this study does not evaluate effects on any outcomes other than the skill development measured by FSA exams.

about *CERP*

The Centre for Education Research and Policy coordinates the activities of an interdisciplinary group of researchers who are interested in issues related to education policy in British Columbia. Our mandate is to examine the academic consequences of various aspects of education policy, including assessment and accountability frameworks, school and program choice, and funding levels. In addition to looking at academic outcomes, we are interested in measuring the effects of these policies on geographic segregation, social interactions and inter-group attitudes.

Our research group includes social scientists from Economics, Education, Psychology and Public Policy who have expertise in a range of quantitative, qualitative and experimental methods. CERP is committed to working in partnership with students, parents, educators, administrators and community organizations from across the province to generate high-quality research evidence that can inform and enrich public debates about education policy, locally, nationally and internationally. Financial support for CERP's activities is provided by Simon Fraser University's Community Trust Endowment Fund.

CERP is interested in programs and policies, not individuals or schools. The data we use is anonymous and strongly protected. Our work is vetted by SFU's Office of Research Ethics to assure the highest ethical standards and protection of privacy.

Adapted from Friesen, J., Hickey, R. & Krauth, B. (2009; working paper) by Mark Campbell.