

Education Matters: Insights on Education, Learning and Training in Canada

**Principals' Perspectives: Hindrances to
the Instruction and Learning of 15-year-
old Students, by Province, PISA 2009**



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- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
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- 0^s value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- ^P preliminary
- ^r revised
- X suppressed to meet the confidentiality requirements of the *Statistics Act*
- ^E use with caution
- F too unreliable to be published
- * significantly different from reference category ($p < 0.05$)

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Lisa Shipley
Centre for Education Statistics
Statistics Canada

The **Programme for International Student Assessment (PISA)** was implemented in Canada for the fourth time in 2009. PISA began in 2000 and focuses on the abilities of 15-year-olds in reading, mathematics and science as they near the end of compulsory education. In addition to the assessment of students in these subject areas, principals in schools that participated in PISA were asked to complete a twenty-minute questionnaire. The information gathered from the principals' questionnaire permits exploration of the education context in Canada from an administrative and teaching perspective.

Education at the secondary school level is a complex process. Numerous factors influence both the ability to provide instruction by school staff and for students to maximize their learning opportunities. In PISA 2009, principals were asked to indicate which aspects of their school context hindered instruction or student learning within their schools (see Box 1 for a summary of items presented to principals).

International comparisons demonstrate that in 2009 Canadian students attended schools where principals believed that challenges to instruction and learning were generally evident to a lesser extent than in OECD countries as a whole¹. Nevertheless, analyses of principal's responses to this segment of the PISA questionnaire highlight the challenges addressed by secondary school principals in Canada and the complexity of the secondary school environment. In the following analysis, when principals indicated that an item was a hindrance to either instruction or learning in their schools "to some extent" or "a lot," the proportion of 15-year-old students attending those schools was calculated for each province. (Since the PISA data are weighted only to the 15-year-old student population in each of the provinces – the PISA assessment population – the analytical discussions in this article must be specific to that population.) For this article individual hindrances were grouped into categories as identified in Box 1.

Box 1: Definitions of 'hindrances'

Hindrances to instruction

Staffing hindrances

- Lack of qualified teaching staff: Shortage of teachers for science, mathematics, language arts or other school subjects.
- Lack of non-teaching staff: Shortage of library, administrative, support or other non-teaching staff.

Instructional resource hindrances

- Shortages of technology-related resources: Including computers, instructional computer software, audio-visual resources or other technology-based resources.
- Shortages of other instructional resources: Including instructional material, textbooks, library materials or other non-technology-based resources.

Hindrances to learning

Teacher or Staff-related hindrances

- Teachers' relations with students: Includes teachers having low expectations of students, teachers being too strict or students not being encouraged to reach their full potential.
- Administrative issues with staff: Includes teacher absenteeism and staff resisting change.
- Individual student needs not being met: Note: The PISA data do not make clear what the impetus is for this type of hindrance. It may be that the inability to meet individual student needs is more related to resource shortages, classroom size or a number of other factors than to teachers' skills in the classroom.

Student-related hindrances

- Students' relations with teachers: Includes poor student relations with teachers or students' lack of respect for teachers.
- Student behaviour outside the classroom: Includes students intimidating/bullying other students or student drug/alcohol use.

Note: While information was also collected on hindrances relating to student classroom behaviour, it is not covered in this paper.

Provincial profiles of hindrances to instruction and learning

There was a great deal of variation across provinces in the kinds of issues that principals faced to some extent or a lot when maximizing instruction and learning opportunities in their schools in 2009. The following discussions identify the unique combination of challenges addressed by secondary school principals in each province. In the following provincial profiles, the first paragraph examines hindrances to instruction, and the next paragraphs, hindrances to learning. Overall, the proportions of students in schools with specific hindrances to instruction or learning tended to be higher in the Atlantic provinces and in central Canada relative to those in western Canada.

Data for the following provincial profiles are presented in **Appendix Table 1** (hindrances to instruction) and **Appendix Table 2** (hindrances to learning).

Newfoundland and Labrador

In Newfoundland and Labrador in 2009, responses from principals revealed that 43.8% of the 15-year-old student population attended schools where shortages of non-teaching staff were a hindrance to instruction to some extent or a lot, second highest of all provinces on this issue (behind New Brunswick at 50.9%). Shortages of technology-related resources were a challenge for principals in schools attended by 39.2% of the 15-year-old student body in this province. As well, the principals of close to one-third (30.4%) of students at this age believed that shortages of other instructional resources were an obstacle to instruction in their schools.

Some principals in this province indicated that student behaviour outside the classroom was a challenge to classroom learning in their schools to some extent or a lot, with almost half (46.1%) of 15-year-old students attending schools where principals cited this category of hindrance. At the same time, more than one third of 15-year-old students (36.6%) were in schools where principals believed that learning opportunities were challenged to some extent or a lot by students' poor relations with their teachers.

Prince Edward Island

Principals in Prince Edward Island indicated that they were facing a number of resource issues that they considered hindrances, to some extent or a lot, to the instruction of students in their schools in 2009. Almost two-thirds (63.5%) of 15-year-old students in this province had principals who indicated that shortages of non-teaching staff were a challenge to instruction in their schools and more than half (52.8%) of students this age were in schools where shortages of technology-related resources were an issue. These were the highest figures of all provinces in these two categories. As well, 35.9% of 15-year-old students in the province attended schools where principals believed that instruction was hampered to some extent or a lot by a lack of qualified teachers.

Challenges that influenced learning opportunities to some extent or a lot in this province were a consequence of both student- and teacher or staff related hindrances, according to principals. Student behaviour outside the classroom was a hindrance to learning to some extent or a lot in schools attended by 58.3% of 15-year-old students in 2009. Student learning was also impacted by administrative issues with teachers or staff, with more than half (53.6%) of these students attending schools where this was cited as a hindrance by principals. In addition, a large portion of these students (42.0%) were in schools where principals believed that individual student needs were not being met to some extent or a lot. This problem may be related to the shortages of resources noted above.

While relatively few 15-year-old students (15.2%) were in schools where principals felt that poor student-teacher relations were a hindrance to learning, almost three times as many students (39.3%) were in schools where principals believed that learning was hindered to some extent or a lot by poor teacher-student relations.

Nova Scotia

In Nova Scotia, principals reported that there were three primary types of challenges they were facing to some extent or a lot when providing instruction to the students in their schools in 2009: 42.8% of 15-year-old students were in schools where principals believed that shortages of technology-related resources were a hindrance to instruction and an almost equivalent proportion (41.2%) were in schools where principals reported that shortages of other instructional resources were a hindrance. Shortages of non-teaching staff were cited as a challenge in schools attended by 38.5% of 15 year-olds in this province.

In Nova Scotia, according to principals' responses to PISA, student behaviour outside the classroom was a challenge to learning in the classroom to some extent or a lot in schools attended by 36.9% of 15-year-old students. Poor student relations with teachers also presented a challenge to learning in schools attended by 33.6% of students in this age group. A number of principals in Nova Scotia indicated that administrative issues with teachers or staff hindered learning to a certain extent, with about one quarter (26.7%) of 15 year-old students attending these schools in 2009.

New Brunswick

In New Brunswick in 2009, about half (50.9%) of the 15-year-old student population attended schools where principals indicated that a lack of non-teaching staff was a challenge to providing instruction to some extent or a lot, the highest of all provinces for this category. Shortages of instructional resources were also an issue for instruction in some schools in New Brunswick: 44.9% of students aged 15 were in schools where shortages of

technology-based resources needed to be addressed to some extent or a lot, while 44.0% were attending schools affected by shortages of other instructional resources.

About four in ten 15-year-old students in this province attended schools where learning opportunities were hindered to some extent or a lot by teacher or staff-related or student-related challenges, according to principals. Administrative issues with teachers or staff were a hindrance to learning in schools attended by 46.0% of 15-year-old students and student behaviour outside the classroom was a challenge to learning in schools attended by 38.6% of them.

Principals' responses to PISA also suggested that about one third (34.2%) of the 15-year-old student population attended schools where learning was hindered to some extent or a lot by an inability of teachers to meet individual student needs. The survey data do not provide details on what the impetus is for this result. It may be that the inability to address individual student needs was related to the resource shortages described above, or to other issues in the school context (such as class size), rather than to the skills of teachers.

Quebec

Responses to the PISA questionnaire by principals in Quebec in 2009 indicated that 55.2% of 15-year-old students in the province attended schools where instruction was hindered to some extent or a lot by a lack of qualified teachers, the highest of any province. As well, almost half (47.2%) of the students in this age group attended schools where principals believed that instruction was impacted to some extent or a lot by shortages of technology-related resources.

According to principals in Quebec, teacher-staff-related issues posed a hindrance to learning in schools attended by a greater proportion of 15-year-olds than did student-related hindrances to learning. More than half (52.5%) of 15-year-old students in 2009 attended schools where principals perceived that there were challenges to learning as a result of administrative issues with teachers or staff. Poor teacher or staff relations with students were cited by principals as hindering learning to some extent or a lot in schools attended by 37.3% of students at this age. About the same proportion (36.7%) of students attended schools where the ability of teachers to meet individual student needs was a challenge, which, as noted above, may have been a consequence of other factors, such as shortages of qualified teachers and shortages of technology-based resources in the schools.

Ontario

The most pervasive issue hindering instruction to some extent or a lot in the schools attended by 15-year-olds in Ontario in 2009 was a shortage of technology-related resources. Principals' responses to PISA revealed that almost half (47.3%) of students in this age group were in schools where this issue challenged the ability to provide instruction. Shortages of other instructional resources hampered instruction to some extent or a lot in schools attended by 39.7% of these students, while shortages of non-teaching staff were a challenge in the schools attended by 33.7% of students in this age group.

Teacher or staff-related issues and student-related behaviours were cited by some principals as posing hindrances to learning to some extent or a lot in Ontario secondary schools in 2009. Teacher absenteeism and staff resistance to change hindered learning opportunities to some extent or a lot in schools attended by 40.1% of 15-year-old students, while student behaviour outside the classroom hampered learning to some extent or a lot in schools attended by 39.7% of these students.

Manitoba

In Manitoba in 2009, about four in ten (41.9%) 15-year-old students were attending schools in which principals indicated that shortages of technology-based resources were hampering instruction to some extent or a lot. In addition, shortages of other instructional resources and a lack of non-teaching staff were issues that challenged instruction to some extent or a lot in schools attended by, respectively, 39.7% and 33.7% of 15-year-old students in Manitoba.

Learning opportunities in some secondary schools in Manitoba were constrained to some extent or a lot by three separate issues, according to that province's principals. Student behaviour outside the classroom hindered classroom learning opportunities to some extent or a lot in schools attended by 31.8% 15-year-old students, while teacher relations with students was a challenge for learning according to principals in the schools attended by 30.1% of students at that age. About three in ten (29.4%) 15-year-olds in this province had principals who believed that administrative issues with teachers or staff hindered learning to some extent or a lot in their schools.

Saskatchewan

According to some principals in Saskatchewan, instruction in their schools was challenged by a variety of hindrances. Shortages of other instructional resources hindered instruction to some extent or a lot in schools attended by 23.9% of students aged 15 in 2009, according to their school principals, while a lack of technology-related resources was a challenge to instruction to the same degree in the schools attended by 22.7% of these students. Shortages of non-teaching staff were also an issue for instruction in the schools of 22.6% of these students.

Challenges to learning reported by school principals in Saskatchewan secondary schools came from both teacher-staff-related and student-related issues. Student behaviour outside the classroom was identified by principals as a hindrance to learning to some extent or a lot in schools attended by 41.8% of 15-year-olds in 2009, while administrative issues with teachers or staff were an issue to some extent or a lot to learning in schools attended by more than one third (37.9%) of students at that age. About one-quarter (24.3%) of students attended schools where principals believed that learning was hindered to some extent or a lot by the inability of teachers to meet individual student needs, a situation that may have been related to the instructional challenges noted above or to other school- or family-related factors.

Alberta

Responses to PISA in Alberta revealed that 29.5% of 15-year-old students were attending schools where principals believed that shortages of technology-based resources were a hindrance to instruction in their schools to some extent or a lot. Shortages of other instructional resources and difficulty finding qualified teaching staff were also a challenge to instruction to some extent or a lot in the schools attended by, respectively, 24.9% and 24.6% of this student population.

Less than one quarter of the 15-year-old students in Alberta in 2009 attended schools where principals identified hindrances to learning. Among these, administrative issues with teachers or staff were the most prevalent, cited by principals as occurring to some extent or a lot in the schools attended by 23.2% of 15-year-old students. According to principals, student behaviour outside the classroom influenced the learning environment to some extent or a lot in schools attended by 21.5% of students in this age group.

British Columbia

In 2009 in British Columbia, shortages of technology-related resources hindered instruction to some extent or a lot in the schools attended by about one third (31.0%) of 15-year-old students, according to principals in that province. About one quarter of students (24.3%) attended schools where principals believed that instruction was challenged to some extent or a lot by a shortage of non-teaching staff.

Close to four in ten (38.5%) 15-year-old students in this province attended schools where principals identified administrative issues with teachers or staff as a challenge to the learning environment to some extent or a lot in their school in 2009. As well, 30.6% of students in this age group were in schools where principals felt that teachers' inability to meet individual student needs hindered learning opportunities to some extent or a lot for their students.

Conclusion

The Programme for International Student Assessment, 2009, asked principals in each of the provinces to identify hindrances to the instruction of, and learning by, students in their schools in 2009. This article highlights how the challenges faced by these school administrators varied across the provinces. In all provinces, principals indicated that there were six or more categories that hindered instruction or learning to some extent or a lot in schools attended by one fifth or more of the 15-year-old students in the province, with the combination of categories varying for each province. Each of the challenges faced by principals requires a different set of actions for resolution. This article, therefore, not only points out the types of challenges that principals and staff need to address when providing instruction and learning opportunities, but also the complexity of managing and maximizing the quality of the secondary school educational experience.

Note

1. OECD (2010). PISA 2009 Results: What Makes a School Successful? Resources, Policies and Practices, (Volume IV). Paris 2010

Appendix Table 1

Proportion of 15-year-old students attending schools with hindrances (to some extent or a lot) to instruction, Provinces, 2009

Province	Staffing related hindrances		Instructional resource hindrances	
	Lack of qualified teaching staff	Lack of non-teaching staff	Shortage of technology-related resources	Shortage of other instructional resources
	percent			
Newfoundland and Labrador	18.8 ^E	43.8	39.2	30.4
Prince Edward Island	35.9	3.4	52.8	63.5
Nova Scotia	22.7	38.5	42.8	41.2
New Brunswick	19.2	50.9	44.9	44.0
Quebec	55.2	23.5	47.2	29.0
Ontario	16.3 ^E	33.7	47.3	39.7
Manitoba	27.6	32.4	41.9	35.4
Saskatchewan	18.4	22.6	22.7	23.9
Alberta	24.6	22.7	29.5	24.9
British Columbia	16.8 ^E	24.3 ^E	31.0	18.7 ^E

^E use with caution

Source: Programme for International Student Assessment, OECD, 2009.

Appendix Table 2

Proportion of 15-year-old students attending schools with hindrances (to some extent or a lot) to learning, Provinces, 2009

Province	Teacher-related hindrances			Student-related hindrances	
	Teachers' relations with students	Administrative issues with teachers or staff	Individual student needs not being met	Students' relations with teachers	Student behaviour outside the classroom
	percent				
Newfoundland and Labrador	16.4	25.8	25.1	36.6	46.1
Prince Edward Island	39.3	53.6	42.0	15.2	58.3
Nova Scotia	10.5 ^E	26.7	16.1 ^E	33.6	36.9
New Brunswick	23.9	46.0	34.2	27.1	38.6
Quebec	37.3	52.5	36.7	24.5	32.1
Ontario	18.7 ^E	39.7	20.4 ^E	22.1 ^E	40.1
Manitoba	30.1 ^F	29.4	23.9	20.5 ^F	31.8

Saskatchewan	15.6 ^E	37.9	24.3	18.5 ^E	41.8
Alberta	13.2 ^E	23.2	10.8 ^E	8.9 ^E	21.5
British Columbia	16.4 ^E	38.5	30.6	13.5 ^E	23.2 ^E

^E use with caution

Source: Programme for International Student Assessment, OECD, 2009.