LESSONS
IN LEARNING

### The rural-urban gap in education

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Students in rural Canada are falling behind their urban counterparts.

High-school dropout rates are higher in rural areas: during the 2004/2005 school year, the rural dropout rate (16.4%) was nearly twice as high as the urban dropout rate (9.2%).[1]

Achievement is also lower in rural areas: in the 2003 Programme for International Student Assessment (PISA) urban students outperformed rural students in math, reading and science. These rural-urban differences in achievement persist across all the provinces (see Figure 1).

Figure 1:
PISA 2003 Math, Reading & Science Scores by Province

PISA Scores - Math

PISA Scores - Reading

PISA Scores - Science
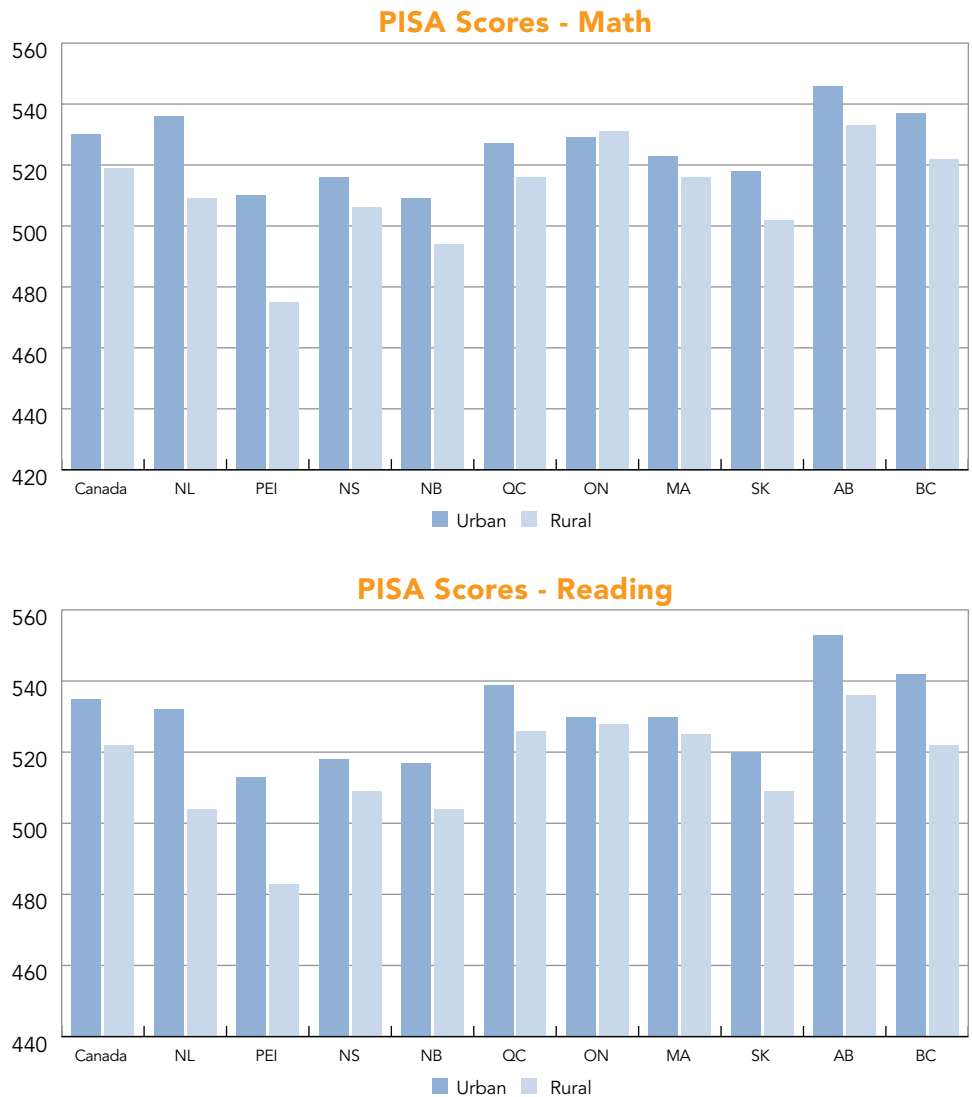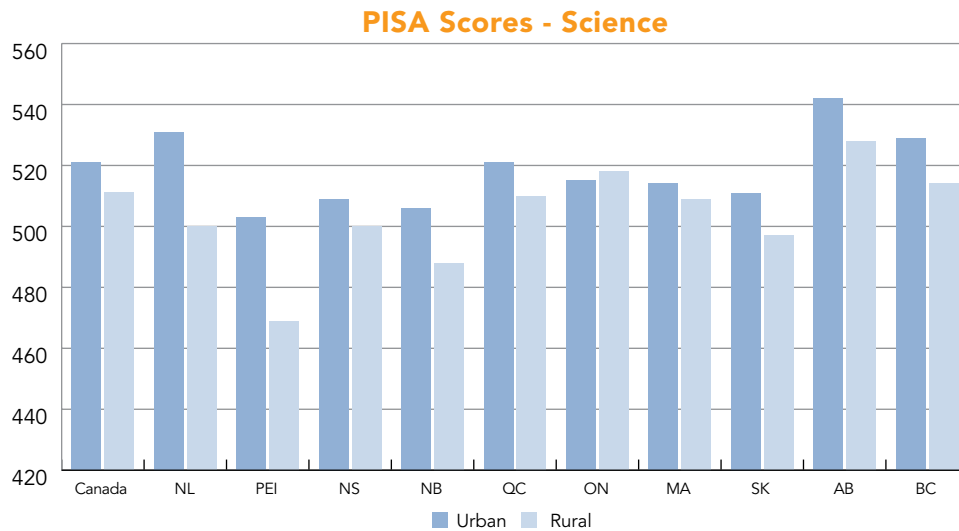
Furthermore, educational attainment is lower in rural Canada. The proportion of 25- to 54-year-olds who have some post-secondary education is slightly higher than 60% in urban areas and just under 50% in rural areas. Despite recent gains in educational attainment, the rural-urban gap has persisted. Between 1981 and 1996, the proportion of Canadians with some post-secondary education increased from 44% to 58%, but this increase occurred uniformly in both urban and rural areas. Thus, despite their gains, rural areas are no further ahead relative to urban areas.[2] These adverse educational outcomes limit the range of employment options available to rural youth and reduce the talent pool available within rural economies.

Rural-urban differences in education can be found in many different countries around the world. However, Canadians should be particularly concerned because, among OECD countries, Canada has the worst rural-urban gap with respect to levels of education in the workforce.[3] Canada's rural areas are "experiencing out-migration, higher unemployment and lower incomes."[4] A well-educated workforce is a necessary pre-condition to a region's economic growth. Therefore, it is crucial for rural communities, and Canada as a whole, to find ways to narrow the rural-urban gap in education.

What accounts for rural-urban differences in educational outcomes?

The available evidence suggests that two different factors—school conditions and economic conditions—combine to discourage rural students from educational achievement.

School Conditions

Rural schools tend to be smaller than urban schools and this carries a number of benefits for rural students. Class sizes tend to be smaller, students enjoy more individual attention from their teachers, and teachers often know most, if not all, of the students. There is also some evidence that small rural schools

can be more effective in helping their students learn better, behave better, and participate more in civic life. Rural students express a clear awareness of and strong attachment to the benefits of attending small schools.[5]

Despite these advantages, small rural schools face challenges that can lead to unfavourable educational outcomes for their students.

One problem is that it is difficult for small rural schools to attract and retain qualified teaching staff. Staffing issues, in turn, often result in related problems revolving around high turnover rates. Small rural schools have to compete with larger urban schools in recruiting and hiring teachers. Given the widespread shortage of and demand for specialty teachers,[6] rural schools often have to fill their vacancies with younger, less experienced teachers. These teachers are unlikely to remain in the positions for more than a year or two, contributing to high staff turnover rates.[7] Beyond their lack of experience, these young teachers face a number of obstacles to effective teaching. They are often burdened with heavy workloads, routinely teaching courses in four or five different subject areas—some of which fall outside of their teaching specialties.[8] New teachers in rural settings have little or no access to mentoring[9] and may not receive adequate administrative and classroom support.[10] Further, new teachers may struggle to build productive relationships with students who are wary of strangers who drop into their communities only to leave again within a year or two.[11]

Rural schools that are unable to attract and retain specialty teachers are unable to regularly offer the same range of courses found in larger urban schools.[12] Rural students consequently have fewer opportunities to take certain kinds of courses, particularly the senior science courses often required for admission to post-secondary institutions. When rural schools do offer these courses, the lack of specialized teachers in rural areas sometimes means that they are taught by non-science specialist teachers. As a result, rural students may be limited in their ability to pursue certain areas of post-secondary education.

Rural schools are also at a disadvantage relative to urban schools with respect to access to and use of information and communication technology (ICT).[13] According to the available data, over 97% of Canadian schools have computers and are connected to the Internet. This high rate of connectivity holds for both urban and rural schools; however, urban schools may be better able to make use of this connectivity. Rural schools are still hampered by slower internet connections: more than 20% of rural schools still use dial-up connections, while less than 5% of urban schools do so.

In addition, fewer rural schools have strategies for helping teachers learn how to use ICT and fewer rural schools include ICT learning in teacher development. These facts are particularly problematic given that ICT can provide effective tools for counteracting the difficulties small schools encounter in trying to support their teachers and offer a full range of courses.

Economic Conditions

Educational outcomes may be more positive in urban areas simply because urban economic conditions provide greater returns on investment in education.[14] Thus, urban students have greater incentives to stay in, and work hard at, school. In rural areas, unemployment rates are higher, bouts of unemployment last longer, and labour force participation is lower—largely because there are fewer job opportunities.[15] Job growth is generally much higher in urban areas: in Canada, 75% of all job growth is concentrated in just 10% of census divisions.[16] Managerial, professional and other "knowledge economy" jobs are concentrated in urban areas, while unskilled occupations are more concentrated in rural areas.[17] This is partly because the fastest growing sector—business services—is primarily situated in urban centres, partly because rural economies tend to be too small and not diverse enough to offset changes in the global economy,[18] and partly because of the limited opportunities for employee retraining in response to those changes.[19]

Rural youth are well aware of the opportunities (or lack thereof) that will be available to them when they finish school. If staying in school, working hard to excel and pursuing post-secondary education are unlikely to be rewarded with good jobs, then fewer young people will invest their efforts in gaining an education. This tendency for rural students to have lower educational aspirations is well documented,[20] as is the dearth of solid employment opportunities.[21] Rural youth earn lower wages, take longer to find paid employment, and are less likely to find full-time, year-round employment than their urban counterparts.

Clearly, some rural youth have very high educational aspirations and maintain high academic standards. However, these best and brightest are most often pulled away from their rural communities in pursuit of educational and occupational opportunities. The loss of smart, educated young people to big cities can further contribute to the low educational aspirations of rural youth by leaving behind few highly educated role models.

A recent analysis of the rural-urban gap in reading achievement demonstrates the strong link between community economic factors and educational outcomes.[22] According to this analysis, the explanation for rural-urban differences in reading performance is not to be found in differences between rural and urban schools. Rather, the rural-urban gap is best explained by differences in the kinds of jobs available in different communities and in the amount of education required by those jobs.

In communities where the proportion of workers whose jobs require university training is lower, reading performance among 15-year-olds is correspondingly low—and rural communities tend to have fewer jobs requiring a university education. Achievement in school is influenced by any number of factors, including personal aptitude and family circumstances. However, when all of these factors are held constant, the role of community economic factors becomes clear. For example, the smart child of well-educated parents will likely be quite a good reader, but she is likely to be an even better reader if she lives in an urban environment where a good proportion of jobs requires a university education.

Finally, rural economic conditions can contribute to negative educational outcomes by pulling students (particularly males) out of the classroom and pushing them prematurely into the workforce. Rural family incomes are lower than urban family incomes and rural youth are more likely than their urban counterparts to be called upon to leave school and find work to make up for shortfalls in their family budgets.[23] The short-term economic benefits gained from leaving school in order to work are offset in the long-term by the limited employment opportunities available to high-school dropouts.

What can be done to improve educational outcomes for students in rural Canada?

School Conditions

In order to address their staffing issues, rural schools will need to improve both their recruitment and their retention strategies. To successfully recruit teachers for rural schools, administrators should concentrate on candidates who are inclined to stay in their new communities for some time, such as candidates with rural backgrounds or a genuine interest in living in a rural area.[24]

In their study of rural teachers in British Columbia, Murphy and Angelski[25] found that teachers who accepted positions in rural communities expressed three types of reasons for remaining in those positions: positive working relationships with their principals, employment in the community for their spouses, and satisfaction with the rural lifestyle.

Most schools will have little to no control over spousal employment or lifestyle issues, but principals can foster conditions that encourage teachers to remain in their positions. This can include being careful in assigning new teacher course loads, establishing an encouraging and non-threatening environment, and providing opportunities to interact with experienced colleagues and parents.

Professional induction programs can also help encourage new teachers to stick around by easing them into their new positions.[26] Professional induction involves providing novices with extended training, development and mentoring as they gradually take on the responsibilities of full professionals. In particular, the emotional support afforded by a good mentoring relationship can significantly increase teacher retention rates.[27]

Small rural schools may not be able to provide all aspects of good induction programs, and offering professional development for specialist teachers may be particularly challenging. Based on their research on rural schools in Australia, Herrington and Herrington[28] argue that "professional induction might be improved by targeted use of the Internet to support professional groups in geographically and professionally isolated placements." For example, web-based discussion boards can link isolated teachers to distant peers and mentors. Videos of procedures such as innovative classroom teaching strategies can be downloaded, as can critical resources such as lesson plans.

Even with improved retention rates, small rural schools may not be adequately staffed with specialist teachers to regularly offer courses such as senior sciences.

Here again, Internet-based resources may provide a workable solution. According to a recent study of rural high-school students' access to senior science courses, students do not feel that distance education is an appropriate format for the delivery of such courses.[29] Students express concerns that senior course material is too difficult to learn on their own and that the isolated learning environment of traditional distance education does not provide them with enough external motivation to get through the courses.

Nonetheless, web-based distance education can provide some improvements over traditional paper-based forms of distance education and alleviate a number of the problems inherent to distance education. Web-based distance learning can address these issues by incorporating real-time interactions with course instructors. Additional forms of support, such as tele-mentoring or e-mentoring where knowledgeable adult volunteers use telecommunications technology to form mentoring relationships with students, can make web-based distance learning a viable approach to education in rural contexts.[30]

The Vista School District Digital Intranet allows students in rural Newfoundland & Labrador to take advance placement courses in mathematics, chemistry, physics and biology through web-based distance education. Four instructors (one for each content area) are shared by all the schools in the district and provide real-time instruction to geographically scattered students through the use of Microsoft Netmeeting and a freeware program called MeetingPoint. On-demand instructional resources are also available via WebCT. These resources include course outlines, lesson notes, homework, assignments, and labs; a bulletin board that allows students to communicate publicly with each other and their instructors; private e-mail; and tests and quizzes for student self-assessment. Knowledge Forum, another collaborative Internet learning tool, facilitates the development of a virtual classroom that allows instructors to remotely monitor and participate in the activities of their students. This program has proven to be particularly useful in helping students make effective use of class time that would otherwise be unsupervised.

Successful web-based learning depends, at least in part, on students' ability and willingness to ask questions in open electronic classes; however, many students find this very difficult. The Vista Digital Intranet project includes social occasions for students to get to know each other and, after participating in these social occasions, most students are able to overcome their discomfort with asking questions on-line.

Numerous other valuable on-line resources are available to rural teachers and students. For example, the Curriculum Resource Bank, developed by TVOntario and the Education Network of Ontario, contains over 20,000 different learning objects covering most areas of K-12 education. The learning materials include videos, teacher guides, lesson plans, and interactive modules. All materials are available at no fee for students and educators in Ontario; some materials are available to schools in Quebec through a Télé-Québec pilot project.

Economic Conditions

To lessen the effects of negative community economic conditions, rural schools need to make special efforts to demonstrate the long-term value of education. A school-to-careers approach to connecting workplace experiences with classroom learning may be an effective strategy; however, the rural context presents particular challenges for implementing such a strategy. The economic conditions in rural areas allow for fewer opportunities for cooperation between schools and industry, and transportation between school sites and work sites can be particularly problematic.

In the United States, the National Employer Leadership Council has documented a number of innovative school-to-careers programs implemented in rural regions.[31] For example, a sheet metal manufacturer in Minnesota works with school districts, nonprofit organizations, and employers to provide high-school students with apprenticeships, job shadowing, and extensive academic exploration activities. A bank in Iowa, working in partnership with the local elementary school, opened a bank within the school to help students develop their mathematical and financial literacy skills. Students run all the bank operations. A company in Oklahoma started a program to teach local students about occupations other than farming, although many of the skills would also be useful in a farm enterprise. Student interns are assigned mentors in engineering, accounting, purchasing, or communications, and the mentors give their students projects based on their academic interests.

The Role of Government

Governments also have a role to play in improving educational outcomes for rural students. The Social Research and Demonstration Corporation (SRDC) is currently evaluating three Access to Post-Secondary Education pilot projects supported by the Canada Millennium Scholarship Foundation (a federally funded organization) in partnership with three provincial governments.

In Manitoba and New Brunswick, the Future to Discover project is designed to address the low rates of post-secondary participation among students from low-income families and families with little post-secondary education—struggling rural students frequently fall into these categories. The project includes an informational strategy in which students learn about the options available in and the advantages conferred by post-secondary education. It also includes a financial strategy in which students receive substantial financial support for their post-secondary education. SRDC is evaluating the relative effectiveness of these two strategies, individually and in combination.

In British Columbia, the Advancement Via Individual Determination (AVID) project targets students who achieve average grades and will likely benefit from post-secondary education but who rarely receive the type of support available to the most gifted and the most challenged students. Many rural students fit this profile. AVID works to motivate these students to pursue post-secondary education by helping them acquire the skills and habits that promote academic success.

A key component in all three pilot projects is the rigorous evaluation undertaken by SRDC. This evaluation will inform policy decisions concerning how best to target funding to improve educational outcomes for struggling students.

The research on the rural-urban gap in education indicates that there is nothing intrinsic to rural settings that precludes successful educational outcomes. In fact, small rural schools carry a number of benefits of great value to students, their teachers, and their parents. Rural schools and communities that take advantage of innovative strategies for recruiting and retaining teachers, for providing a full range of courses, and for smoothing the transition between work and school can help their students bridge the rural-urban gap.

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