ASSESSMENT MATTERS!

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1

Assessing and Marking Student Performance in Canada: Results from PCAP 2010

Assessment and marking play a significant role in affecting a student's future. As OECD noted in the last issue of "PISA in Focus,"[1] school marks often determine student expectations of further education and have long-lasting effects on their careers. This is especially true considering that most school systems and universities use marks to select students for their academically oriented programs. In Canada, assessment debates in the past decade have inspired many changes at different levels of school systems.[2] Canadian teachers, academics, and policy-makers continue to highlight the need to rethink classroom assessment to make it fair, useful, and accessible for everyone.

This brief synopsis reports the results of PCAP 2010, which asked Grade 8 students, teachers, and principals about assessment practices that usually take place in Canadian classrooms.

WHAT DID STUDENTS SAY ABOUT...

... their classroom assessment methods?

Students were asked how often they are involved in each type of the following year-long assessments: *unconventional* (self-assessment, peer assessment, journals, portfolios, and group work) and *conventional* (tests, quizzes, and homework). The highest use of *unconventional* methods was observed in Newfoundland and Labrador and English-speaking Ontario, and the lowest was found in francophone Quebec. *Conventional* methods are more popular in anglophone populations than in francophone ones. Ontario English is the only jurisdiction showing fairly equal use of both types of year-long assessments (conventional and unconventional); by contrast, this jurisdiction demonstrates quite limited use of the end-of-term and end-of-year *exams*. For the *exams*, Quebec French stood out for using this method more than others.

Relationship with student performance: *Conventional* assessment practices have a positive relationship with student performance in mathematics, while *unconventional* practices have negative effects. These results should be interpreted carefully since they relate to mathematics only, and could be different for other domains. That said, PCAP is itself a *conventional* assessment and may not reflect the competencies usually targeted by *unconventional* practices. The use of

[1] Organisation for International Co-operation and Development, 2013, March, Grade expectations, PISA in Focus, no. 26 (Paris: OECD).

[2] Manitoba Education, Citizenship, and Youth (MECY) 2006, *Rethinking assessment with purpose in mind: Assessment for learning, assessment as learning*, assessment of learning (Winnipeg: MECY).

exams did not show any clear relationship with student performance.

... rubrics?

Rubrics are now widely used in education as a means of clarifying outcomes and expectations. Being widely used by classroom teachers across the country, they are also used, to a different extent, by students themselves to assess their own work. Canadian Grade 8 students were asked if they know what a *rubric* is and how often they use a rubric in their classrooms. The results indicate that students in most francophone jurisdictions are less familiar with *rubrics* than in anglophone jurisdictions. The exception is Ontario French. Overall, more than half of all Canadian students report using *rubrics* for scoring. Use is highest in Ontario (both French and English) and Nova Scotia English, with over two thirds of students using rubrics at least sometimes.

Relationship with student performance: For students, both knowing what a *rubric* is and using it at the start of assignments are significantly positively associated with mathematics performance. This suggests that some form of assessment of teaching and learning may in fact influence achievement positively.

WHAT DID TEACHERS SAY ABOUT...

... using non-academic criteria in grading?

As the last *PISA in Focus* issue notes, OECD finds it troubling that teachers systematically reward certain student characteristics that are unrelated to learning. In this context, PCAP 2010 asked Canadian teachers how often they use non-academic criteria for assessment purposes. These criteria included: *attendance, class participation, improvement, effort,* and *behaviour*. Over one third of Canadian teachers use at least two of the above criteria for assigning marks. However, there are wide variations across jurisdictions, ranging from 18 per cent of teachers in Alberta English to 87 per cent in Saskatchewan French.

Relationship with student performance: There is a pattern of reduced mathematics performance with teachers' use of more non-academic grading criteria. It is worth noting that a number of Canadian jurisdictions have established policies recommending that teachers report separately on achievement and non-academic criteria.

...type of assessment items?

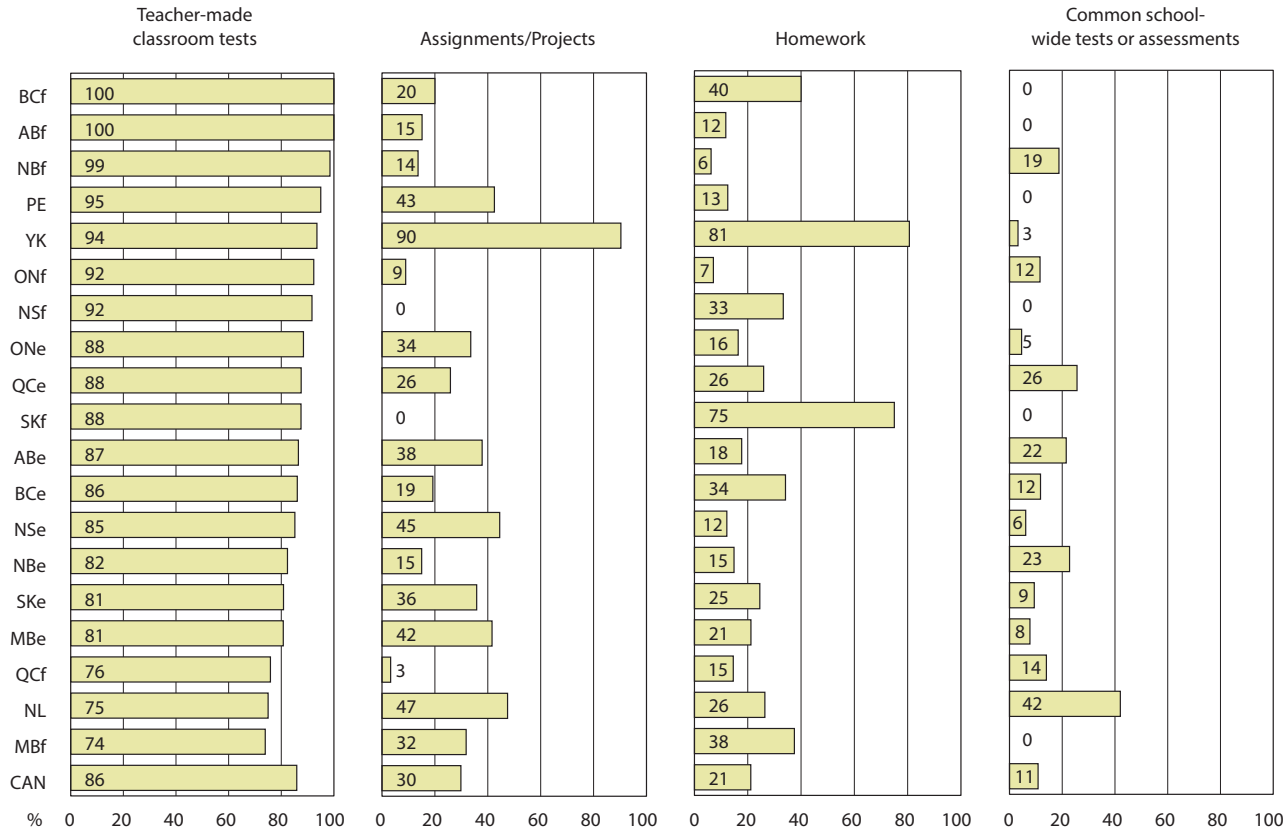
Canadian teachers were asked how frequently they assess their students using*: selected response, short answer, extended response multi-step,* or *extended response with explanations*. The results are fairly complex, but the following highlights are worth noting: (1) francophone teachers use *extended response* items more often than anglophone teachers do; (2) there is a wide variation in use of the different types of assessment items which may suggest the complementary nature of these assessment techniques. Newfoundland and Labrador is the only jurisdiction where teachers appear to use all types of assessment items relatively frequently.

Relationship with student performance: The greater use of *extended response items* (both *multi-step* and *with explanations*) is associated with higher math scores. There is no clear pattern for other assessment types. In the Canadian context, mathematics assessment tends to rely on a variety of item types, including extended response items, whether at the provincial/territorial, pan-Canadian, or international level.

...assessment components that contribute to student final marks?

Since marks are widely used as feedback on assessment, PCAP 2010 sought to find out how Canadian teachers assign these marks and which assessment methods they usually use for them. As the following chart shows, *teacher-made classroom tests* are most frequently used in Canada to assign marks, with little variation across jurisdictions. Other assessment methods include *assignments/projects*, *homework,* and *common school-wide tests or assessments*, but their use varies widely across the country. Overall, francophone teachers clearly tend not to use *assignments/projects* for marking, while a vast majority of Yukon teachers rely on this assessment method. Use of *homework* for marking urposes is rather infrequent in Canada, except for Yukon and Saskatchewan French.

CHART 1 **Percentage of teachers "often" using selected assessment methods to assign grades, by jurisdiction and language**

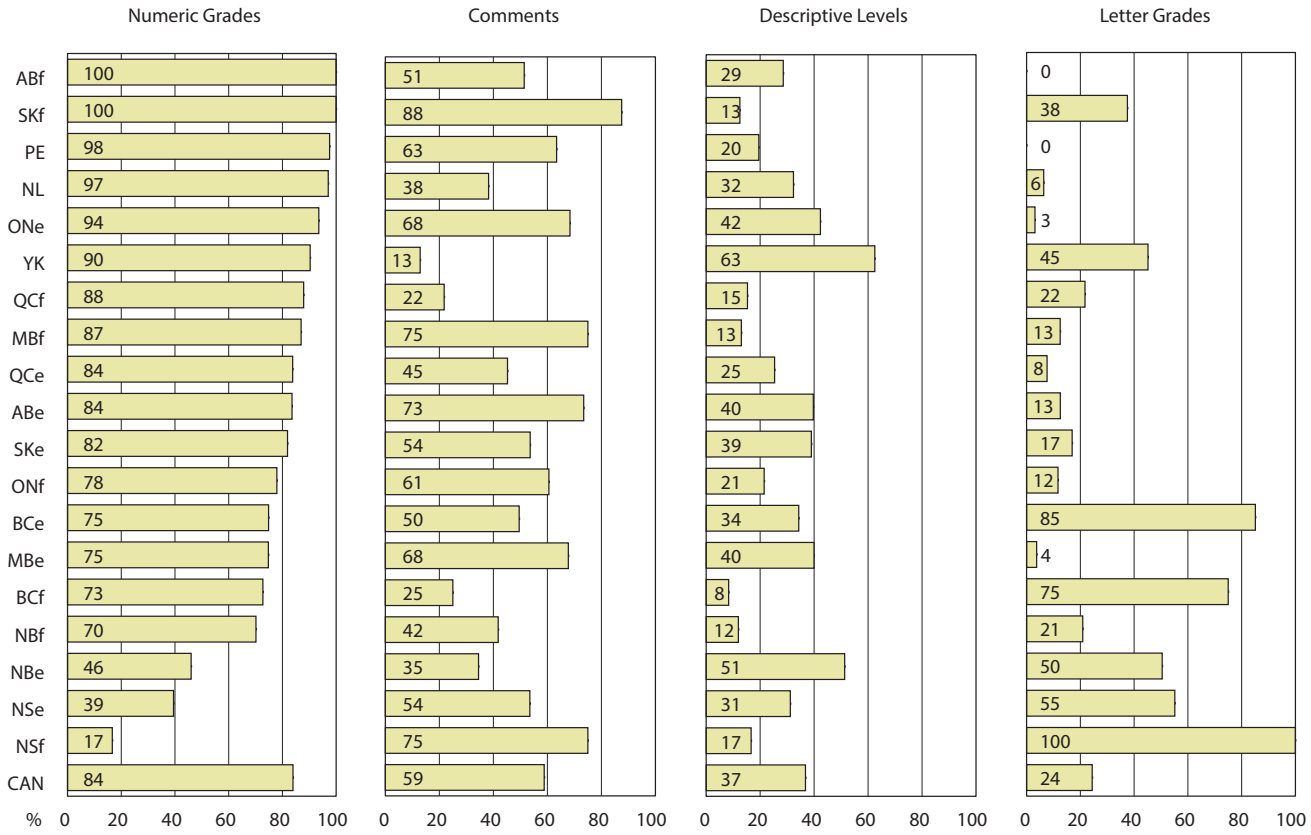


Relationship with student performance: The only clear pattern in teachers' assessment methods is related to *projects/assignments*; it indicates that a greater use of this method is associated with lower math scores. But again, these results should be interpreted carefully since they relate to mathematics scores only and do not cover other domains.

...grading methods?

Debate over grading and reporting practices intensified in the past decade, reflecting a lack of consensus about what works best. In this context, PCAP 2010 sought to find out which methods of final reporting are commonly employed by Canadian Grade 8 teachers. As the following chart shows, *numerical grades* are used by more than 70 per cent of teachers in most jurisdictions. (The exceptions are New Brunswick English and Nova Scotia, both English and French.) Providing *comments* when grading is another frequently used method in most Canadian jurisdictions; *descriptive levels* and *letter grades* are used somewhat less often and show more inter-jurisdictional variation. Nova Scotia French stands out as a jurisdiction where all participating teachers use *letter grades*. Care should be taken when interpreting these results, as grading methods may be dictated by provincial/territorial policies.

CHART 2 **Methods of final reporting by jurisdiction and language**



Relationship with student performance: The only significant pattern regarding assessment methods relates to *letter grades*. Students whose teachers use *letter grades* for reporting tend to show lower performance in mathematics than those using *numerical grades* or *comments*.

WHAT DID PRINCIPALS SAY ABOUT…

…the availability and use of external assessments?

Many Canadian provinces/territories participate in national and international assessment programs. Such programs serve a variety of important purposes such as evaluating student progress, comparing results with other countries' or jurisdictions' performance, pinpointing educational goals for students and teachers to work toward, providing useful feedback to guide policy and management decisions regarding educational provision, and, finally, holding Canadian schools accountable. It is the last reason that provokes most debates at school level — because many educators doubt these tests' usefulness as measures of educational quality, they tend to dismiss those results.[3]

In PCAP 2010, principals were asked to give their opinions on the *availability* and *use of external assessments* such as PCAP and PISA. The results indicate that principals in Saskatchewan (both English and French) have stronger negative views about the *availability of external assessments* than the Canadian average, while principals in British Columbia (both English and French), Ontario French, Nova Scotia French, Yukon, and Quebec French find these assessments *less useful* than the Canadian average.

There was also a set of questions seeking principals' views about *provincial/territorial assessments*. The results show that negative attitudes are more prevalent among Saskatchewan English principals. Less positive views on these assessments' *usefulness* are also observed in seven jurisdictions: British Columbia (both English

[3] L. Volante, 2006, An alternative vision for large-scale assessment in Canada, *Journal of Teaching and Learning*, 4(1), 1-14.

and French), Quebec (both English and French), Manitoba (both English and French), and Yukon.

Relationship with student performance: No significant pattern of effects was noticed for *external assessments*. However, there was a distinct relationship with performance for *provincial/territorial assessments*: schools whose principals have less negative attitudes toward external assessments tend to have higher mathematics scores.

...purpose for which assessment results are used?

Principals were asked how often they use the results of different assessments for grading and reporting on individual student progress, program evaluation, and teacher effectiveness. The results indicate that *classroom assessments* are used more often overall than the other forms; *provincial/territorial assessments* are used to a lesser degree (with wide variations across jurisdictions); and *national and international assessments* are rarely used within most populations. This is not surprising in the Canadian context where pan-Canadian and international assessments are low stakes, sample based, and mostly used for system-monitoring purposes.

Relationship with student performance: The results differ depending on how the assessment results are used. For instance, mathematics scores increase when *classroom assessment* is used for student retention and promotion. However, the scores decrease when *classroom assessment* is used to group students for instruction.

TO BE CONTINUED...

On April 11, 2013, OECD released a report entitled *Synergies for Better Learning: An International Perspective on Evaluation and Assessment.* It describes the design, implementation, and use of assessment and evaluation procedures in participating countries. It also analyzes the strengths and weaknesses of different approaches and provide recommendations for improvement. Several Canadian provinces, through CMEC, participated in this project and a Canadian Country Report will also be published at a later date.

Further **PCAP 2010 results** are available in PCAP ***2010 Contextual Report on Student Achievement in Mathematics*** which is available at**:**
http://www.cmec.ca/Publications/Lists/Publications/Attachments/287/PCAP-Context-Report-EN.pdf

Information on the **OECD Review** on ***Evaluation and Assessment Frameworks for Improving School Outcomes*** is available at:
http://www.oecd.org/education/school/oecdreviewonevaluationandassessmentframeworksforimprovingschooloutcomes.htm