



Follow-up on Students' Learning in Reading, Writing and Mathematics at the End of Elementary 2

JUNE 2019 DATA COLLECTION, ENGLISH SCHOOL SYSTEM

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Introduction

The Ministère de l'Éducation (MEQ) has made early intervention one of its priorities. As stated in its *Plan stratégique 2019-2023* [Strategic Plan 2019-2023], “The will of the government is to take concerted action as early as possible on behalf of young children, in order to meet their individual needs The objective is to foster the development of each child’s full potential and educational success” (p. 2) [*translation*]. To achieve this objective, the Ministère is implementing all-day kindergarten for 4-year-olds in Québec schools and is adding student support workers in preschool and Elementary Cycle One classrooms.

The implementation of these measures is aimed at improving the educational success of students in their early years of schooling. Elementary Cycle One is particularly important, since it is during this time that students are formally introduced to reading, writing and mathematics and learn key skills that will play a determining role throughout their education.

As part of the measures put in place to promote educational success, the Ministère has initiated a procedure for monitoring learning in Elementary 2. An initial data-collection process took place in June 2019, a second is planned for June 2022, and a third for June 2025. These data-collection processes will make it possible to document and monitor the students’ learning progress in reading, writing and mathematics at the end of Elementary Cycle One.

This report summarizes the results of the initial data-collection process performed in June 2019, with students in the English school system.

Methodology

Data-collection process

A representative sample of Elementary 2 students attending schools where English is the language of instruction was selected. The students sampled were enrolled in public and private schools across Québec. Between one and three students per school were selected at random.

The homeroom teachers of the students in the sample were asked to complete a questionnaire about the students' learning progress. This questionnaire was filled out by the homeroom teachers of 152 students.¹

Evaluation instrument

Since there is no ministerial examination in Elementary 2, the Ministère designed a questionnaire that allowed the homeroom teachers to indicate where their students stood in relation to the learning outcomes targeted for the end of Elementary Cycle One. The evaluation instrument was developed and validated by a team of MEQ experts responsible for curriculum and evaluation in English Language Arts and Mathematics.

To prepare the questionnaire, the MEQ team used the *Québec Education Program*, as well as the subject specific *Framework for the Evaluation of Learning and Progression of Learning*. The elements selected constituted reference points that enabled the homeroom teachers to judge the students' learning progress based on tasks in which they were required to exercise their competencies.

The homeroom teachers were responsible for indicating the degree to which the statements in the questionnaire corresponded to the students' learning progress at the end of Elementary Cycle One. The possible choices were as follows: 1 = *Very unsatisfactory*, 2 = *Unsatisfactory*, 3 = *Acceptable*, 4 = *Satisfactory*, 5 = *Very satisfactory*. Level 3 (*Acceptable*) meant that a particular student had mobilized the resources essential to developing and exercising the competency.

¹ The response rate was 58.2%. Taking this response rate into account, the overall margin of error was 7.9%.

Results²

Reading

Data on students' learning progress in reading in the English school system is presented in Table 1.

Table 1: Learning progress in reading: Distribution of Elementary 2 students in the English school system, according to the rating assigned by their homeroom teacher

<i>By the end of Cycle One, the student reads, views and listens to authentic literary, popular and information-based texts that are appropriate to the student's age, interests and developing abilities. The student responds to texts in light of his/her own experiences and teacher/peer discussions.</i>					
The student...	5	4	3	2	1
	Very satisfactory (%)	Satisfactory (%)	Acceptable (%)	Unsatisfactory (%)	Very unsatisfactory (%)
chooses to read texts appropriate to her/his own age, interests and abilities	27.0	30.2	30.8	10.3	1.7
develops a range of favourite texts	21.0	34.5	30.0	11.6	3.0
uses a preferred repertoire of meaning-making strategies and textual cues to construct meaning	17.6	36.6	22.4	17.5	5.9
returns to texts to support understanding or to locate information	19.2	33.1	26.7	13.8	7.2
identifies important ideas in texts read	19.2	33.3	27.7	13.9	5.9

More than half of Elementary 2 students achieved a satisfactory or very satisfactory level of proficiency in the learning targeted in reading. The element that students were most adept at was choosing texts appropriate to their age, interests and abilities. Using reading strategies and textual clues to derive meaning seemed more challenging for some students.

² The results presented in the tables have been rounded to the first decimal place.

Writing

Data on students' learning progress in writing in the English school system is presented in Table 2.

Table 2: Learning progress in writing: Distribution of Elementary 2 students in the English school system, according to the rating assigned by their homeroom teacher

<i>By the end of Cycle One, the student writes a range of text types for a familiar audience of peers, family and friends.</i>					
The student...	5	4	3	2	1
	Very satisfactory (%)	Satisfactory (%)	Acceptable (%)	Unsatisfactory (%)	Very unsatisfactory (%)
chooses her/his own topics and purposes for writing in order to produce personally meaningful texts	17.9	32.6	34.1	10.1	5.3
draws on prior knowledge, experience and models for writing	20.3	35.1	30.3	9.6	4.7
uses vocabulary related to the type of writings	10.1	41.6	32.7	11.5	4.1
structures a writing sequence with a beginning, a development and an ending	17.3	26.0	32.2	17.2	7.1
applies developmentally appropriate language conventions, including, in some situations, the rules of capitalization (i.e. the first word in a sentence and proper nouns) and the rules for end punctuation (i.e. period, question mark, exclamation point)	22.0	30.2	26.8	11.6	9.4
uses spelling strategies such as approximations, phonetic representations, visual patterns, common letter sequences or common structural patterns, and uses resources for less familiar words	16.2	31.9	30.8	14.0	7.1
spells frequently used and high-frequency words with growing accuracy	20.7	33.8	22.6	15.2	7.6

More than half of the students achieved a satisfactory or very satisfactory level of proficiency in drawing on their prior knowledge and experience to compose a text. Comparatively fewer students knew how to structure their text with a beginning, a development and an ending. More than half achieved a satisfactory or very satisfactory level in mastering the spelling of frequent words, while nearly a quarter had difficulty with this aspect.

Mathematics

Data on students' learning progress in mathematics in the English school system is presented in Table 3. There are five categories of statements: Understanding and writing numbers; Meaning of operations; Operations; Geometry; and Measurement. These elements were observed during tasks that required the student to exercise the competency *to reason using mathematical concepts and processes*.

Table 3: Learning progress in mathematics: Distribution of Elementary 2 students in the English school system, according to the rating assigned by their homeroom teacher

<i>By the end of Cycle One, the student devises and applies his/her own processes to do mental and written computations that involve adding and subtracting natural numbers. The student identifies and compares plane figures and solids. He/she compares and measures lengths using conventional units.</i>					
The student...	5	4	3	2	1
	Very satisfactory (%)	Satisfactory (%)	Acceptable (%)	Unsatisfactory (%)	Very unsatisfactory (%)
Understanding and writing numbers					
reads and writes natural numbers less than 1000	45.5	29.1	17.6	5.4	2.4
counts collections, using objects or drawings, by grouping and regrouping	41.4	34.0	16.1	7.3	1.2
represents natural numbers in different ways or associates a natural number with a set of objects or drawings	37.9	33.8	21.7	4.8	1.8
compares natural numbers	46.3	30.8	15.7	6.0	1.2
Meaning of operations					
determines the operation (addition or subtraction) to perform in a given situation	26.1	37.8	23.4	8.0	4.7
uses objects or diagrams to represent a situation (use of different meanings of addition and subtraction: transformation [adding, taking away], uniting and comparing)	24.4	38.4	22.7	10.3	4.2
determines numerical equivalencies using relationships between operations (addition and subtraction) and the commutative property of addition	18.8	41.6	21.5	12.8	5.3
Operations					
uses objects, drawings, charts or tables to build a memory of addition facts (0 + 0 to 10 + 10) and the corresponding subtraction facts	36.9	30.0	24.1	5.5	3.5
determines the sum or difference of two natural numbers using his/her own mental computation strategies	30.7	32.5	21.7	12.1	2.9
determines the sum of two natural numbers less than 1000 or their difference using his/her own processes	21.4	44.8	13.9	16.4	3.5
Geometry					
identifies solids (spheres, cones, cubes, cylinders, prisms, pyramids)	27.5	42.3	22.9	5.4	1.8
compares solids using appropriate vocabulary (solid, base of a solid, face, flat surface, curved surface)	18.0	44.7	25.8	8.5	3.0
identifies plane figures (square, rectangle, triangle, rhombus, circle)	49.8	21.9	27.1	1.2	0.0
compares plane figures using appropriate vocabulary (straight line, closed straight line, curved line, plane figure, side)	22.6	39.6	26.4	7.8	3.5
Measurement					
compares lengths	33.5	36.4	21.7	6.0	2.3
estimates and measures the dimensions of an object using conventional units (metre, decimetre and centimetre)	23.4	39.0	22.1	9.7	5.9

The mathematical concepts and processes of Elementary Cycle One were generally well understood since, for each of the statements, the majority of Elementary 2 students achieved a satisfactory or very satisfactory level of proficiency. The concepts that students were most comfortable with involved number sense and understanding and writing numbers. For example, three out of four students in the sample could read and write natural numbers less than 1000 at a satisfactory or very satisfactory level. Learning about the meaning of operations seemed to be challenging for some. Despite this, about six out of ten students achieved a satisfactory or very satisfactory level of proficiency in determining numerical equivalences using relationships between operations (addition and subtraction) and the commutative property of addition. In geometry, nearly 7 out of 10 students could identify plane figures or solids in a satisfactory or very satisfactory manner. Approximately 6 out of 10 students could compare plane figures or solids in a satisfactory or very satisfactory manner.

Conclusion

The purpose of this data-collection process was to provide a general picture of the learning progress that students have achieved by the end of Elementary Cycle One. Overall, Elementary 2 students in the English school system are doing quite well in learning that contributes to the development of their reading, writing and mathematics competencies. The analysis highlighted the elements mastered by most students, as well as elements that were more challenging for some.

Since the results presented cover the year 2019 only, they do not allow for definitive conclusions. The Ministère plans to repeat this follow-up in 2022 and 2025. By the end of the three data-collection processes, the Ministère will be better able to produce a reliable picture of students' learning progress at the end of Elementary Cycle One. The data collected will also help to follow the evolution of the current pandemic and its effects on education (by means of an initial data-collection process carried out before the pandemic and two more carried out afterward).

