Éducation, Loisir et Sport Québec

Québec Education Program
Frameworks for the Evaluation of Learning

Framework for the Evaluation of Learning

Work-Oriented Training Path

Prework Training

Mathematics

Secondary School
Cycle Two

August 2011

INTRODUCTION

Following the announcement of new orientations regarding the evaluation of student learning by the Minister of Education, Recreation and Sports, the *Basic school regulation for preschool, elementary and secondary education* has been amended to require that, as of July 1, 2011, evaluation be based on the Framework for the Evaluation of Learning produced for each program. The annual Directives specify that the evaluation of learning acquired within the context of Prework Training must also be based on the framework produced for each program. These frameworks provide guidelines for the evaluation of learning specific to each subject in the Québec Education Program in order to determine students' results, which will be communicated in the provincial report card.

The role of knowledge in evaluation

Knowledge is at the heart of student learning, since it provides the foundation for all school subjects. Knowledge gives students the means to reflect and to understand the world around them, and its acquisition is the first step in any learning process. Through the knowledge they acquire and through the connections they are able to make among different items of knowledge, students can develop an understanding of simple and complex concepts. In Prework Training, each program sets out the knowledge that teachers must choose from with a view to helping students develop from a personal, social and career development perspective. Knowledge must therefore be acquired, understood, applied and used thoroughly. Evaluation must thus take place throughout the learning process to ensure proficient knowledge.

Organization of the evaluation frameworks

For each subject, the framework defines the criteria on which the student's results must be based. These evaluation criteria are based on the ones in the Québec Education Program.

The framework also specifies the relative weighting assigned to each competency, which makes it possible to determine the subject marks to be recorded in the report card.

The teacher’s role in evaluation

Section 19 of the *Education Act* stipulates that teachers are entitled "to select the means of evaluating the progress of students so as to examine and assess continually and periodically the needs and achievement of objectives of every student entrusted to [their] care." It is therefore up to teachers to choose the means of evaluating student learning.

Solves a situational problem

Evaluation of Learning

Evaluation criteria

- Proficiency of subject-specific knowledge targeted in the program:♦
  - Arithmetic
  - Statistics and Probability
  - Geometry

- Oral or written explanation showing that he/she understands the situational problem
- Correct application of mathematical knowledge appropriate to the situational problem
- Oral or written explanation of aspects relevant to the solution
- Appropriate oral or written explanation of how the solution was validated*

Knowledge will be evaluated at specific times chosen by the teacher, who will determine the importance of the various dimensions to be evaluated in calculating the student's mark.

♦ The proficiency of subject-specific knowledge is evaluated as part of *Uses mathematical reasoning*.

* The student must be provided with feedback on this element, but the element must not be considered when determining the student's mark in the report card.

This arrow indicates that the evaluation of learning involves a process of going back and forth between the acquisition of subject-specific knowledge and the understanding, application and use of this knowledge. Evaluation must thus take place throughout the learning process to ensure proficient knowledge.

Uses mathematical reasoning

Predominant weighting in the subject mark

Evaluation of Learning

Evaluation criteria

- Proficiency of subject-specific knowledge targeted in the program:
  - Arithmetic
  - Statistics and Probability
  - Geometry

- Oral or written demonstration of his/her understanding of the situation
- Correct use of the concepts and processes selected
- Oral or written justification of an action or series of actions appropriate to the situation

Knowledge will be evaluated at specific times chosen by the teacher, who will determine the importance of the various dimensions to be evaluated in calculating the student's mark.

 ***This arrow*** indicates that the evaluation of learning involves a process of going back and forth between the acquisition of subject-specific knowledge and the understanding, application and use of this knowledge. Evaluation must thus take place throughout the learning process to ensure proficient knowledge.

Communicates by using mathematical language*

Evaluation of Learning

Evaluation criteria

- Proficiency of subject-specific knowledge targeted in the program:♦
  - Arithmetic
  - Statistics and Probability
  - Geometry
- Correct interpretation of a mathematical message
- Production of an oral or written message appropriate to the situation

Knowledge will be evaluated at specific times chosen by the teacher, who will determine the importance of the various dimensions to be evaluated in calculating the student's mark.

♦ The proficiency of subject-specific knowledge is evaluated as part of *Uses mathematical reasoning*.

* The student must be provided with feedback on this element, but the element must not be considered when determining the student's mark in the report card.

This arrow indicates that the evaluation of learning involves a process of going back and forth between the acquisition of subject-specific knowledge and the understanding, application and use of this knowledge. Evaluation must thus take place throughout the learning process to ensure proficient knowledge.

Appendix 1

Information Clarifying the Criteria

Oral or written explanation showing that he/she understands the situational problem	• Description of the task to be performed • Determination of the steps involved • Identification of relevant information • Identification and consideration of constraints
Correct application of mathematical knowledge appropriate to the situational problem	• Selection of appropriate strategies • Use of the required mathematical concepts and processes • Validation of the relevance of selected concepts and processes and rectification as needed
Oral or written explanation of aspects relevant to the solution	• Clear indication of how the solution is worked out • Description of the expected result, taking into account the requirements of the situational problem • Use of appropriate elements of mathematical language
Appropriate oral or written explanation of how the solution was validated*	• Validation of the solution and rectification as needed

* The student must be provided with feedback on this element, but the element must not be considered when determining the student's mark in the report card.

Appendix 2

Information Clarifying the Criteria

Oral or written demonstration of his/her understanding of the situation	• Description of the task to be performed • Identification of relevant information • Use of strategies appropriate to implementing mathematical reasoning • Use of mathematical concepts and processes appropriate to the situation • Formulation of a likely or plausible opinion • Assimilation of proposed conjectures
Correct use of the concepts and processes selected	• Use of the required mathematical concepts and processes • Use of different types of representations • Validation of the relevance of the selected concepts and processes and rectification as needed
Oral or written justification of an action or series of actions appropriate to the situation	• Reference to the required mathematical concepts and processes • Use of appropriate mathematical arguments • Clear, thorough indication of reasoning • Use of appropriate everyday and mathematical language • Validation of procedure and rectification as needed

Appendix 3

Information Clarifying the Criteria

Correct interpretation of a mathematical message*	• Identification of important elements and selection of relevant information • Translation of a message by effectively using elements of everyday and mathematical language • Switch from one type of representation to another • Reformulation of message • Use of mathematical concepts and processes appropriate to the message to be interpreted
Production of an oral or written message appropriate to the situation*	• Development of an appropriate message containing relevant ideas • Selection of types of representation according to the purpose and context of the message • Selection of elements of mathematical language appropriate to the purpose and context of the message • Use of mathematical concepts and processes appropriate to the purpose of the message to be produced • Formulation of appropriate mathematical arguments to support his/her ideas • Observance of rules and conventions of mathematical language

* The student must be provided with feedback on this element, but the element must not be considered when determining the student's mark in the report card.