DEFINITION OF THE EVALUATION DOMAIN

Adult General Education

Diversified Basic Education Program

Mathematics

GEOMETRIC REPRESENTATION IN A FUNDAMENTAL CONTEXT 2 MTH-5173-2

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Québec

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Introduction

The Definition of the Evaluation Domain (DED) ensures consistency between a course and the related evaluation instruments. The DED is used to select, organize and describe the essential and representative elements of the course. The DED is based on the program of study and the course, but should by no means replace them in the planning of instructional activities.

All the DEDs produced after June 30, 2014, by the Ministère de l'Éducation, de l'Enseignement supérieur et de la Recherche (MEESR) are prescriptive. Consequently, they are the reference documents to be used in the development of all examinations, be they ministerial or those developed by adult education centres or by Société GRICS (BIM). The DEDs thus serve as a model for preparing multiple equivalent versions of examinations that are valid across the province.[1]

In addition, as set out in the *Policy on the Evaluation of Learning*, adult learners must know what they will be evaluated on and what is expected of them.[2] The DEDs and the criterion-referenced rubrics (contained in the evaluation instruments) may be used for this purpose.

[1] Québec, Ministère de l'Éducation du Québec, *Policy on the Evaluation of Learning* (Québec: Gouvernement du Québec, 2003), 47.

[2] Ibid., 9.

Evaluation Content

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Proficiency in subject-specific knowledge presupposes its acquisition, understanding, application and mobilization, and is therefore linked with the evaluation criteria for the competencies.</td></tr>
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[3] The broad areas of learning are stated exactly as in the course. However, the person who designs the evaluation instrument may choose other broad areas of learning.

Explanation of the Evaluation Content

Evaluation Criteria

The evaluation criteria are stated exactly as in the course.

Not all the evaluation criteria for the course are used in the examination. Nevertheless, the adult learner must receive feedback on all of them during the learning process.

The evaluation criteria used in the examination are presented below. They are associated with Competency 1, *Uses strategies to solve situational problems* and Competency 2, *Uses mathematical reasoning*.

Competency 3, *Communicates by using mathematical language*, is not specifically evaluated for the purpose of certification and recognition. However, as it is an essential part of all mathematical activities, this competency has been taken into account in the assessment tools provided to help teachers come to a judgment.

Information Clarifying the Evaluation Criteria

1.1 Indication (oral or written) that the situational problem has been understood

This criterion evaluates the adult learner's ability to identify what is required in accordance with the wording of the problem and to extract relevant information, taking into account the constraints involved in the mathematical processing of the situation.

1.2 Application of strategies and appropriate mathematical knowledge

This criterion evaluates the adult learner's ability to use relevant strategies to select appropriate knowledge in order to solve the problem.

2.1 Correct use of appropriate mathematical concepts and processes

This criterion evaluates the adult learner's ability to properly apply the mathematical knowledge and skills required to solve the problem.

2.2 Proper implementation of mathematical reasoning suited to the situation

This criterion evaluates the adult learner's ability to use logical reasoning by drawing upon the appropriate knowledge and skills.

2.3 Proper organization of the steps in an appropriate procedure

This criterion evaluates the adult learner's ability to present a structured procedure that complies with the rules and conventions of mathematics. The answer is consistent with the adult learner's procedure and the context of the situational problem.

Proficiency in Subject-Specific Knowledge

Proficiency in subject-specific knowledge is assessed through the evaluation of competencies, using tasks related to the evaluation criteria.

For this course, certain knowledge is explicitly evaluated.

Weighting

The weighting for the evaluation of the competencies is determined in accordance with the *Framework for the Evaluation of Learning* in general education in the youth sector.

Competency 1, *Uses strategies to solve situational problems*: 30%

Competency 2, *Uses mathematical reasoning*: 50%

The weighting corresponding to the knowledge that is explicitly evaluated is 20%.

The weighting of the evaluation criteria appears in the assessment tools provided in the *Correction and Evaluation Guide*. Adult learners must be made aware of the evaluation criteria used to evaluate them and the corresponding weighting of each criterion.

Knowledge

All the categories of knowledge and at least seven of the eleven items of prescribed knowledge are covered in the examination. However, for a given item of prescribed knowledge, it is not necessary to include all of the items listed in the *Restrictions and Clarifications* column of the table of prescribed knowledge for the course.

Subject-Specific Content

Categories of Knowledge	Prescribed Knowledge
Geometric transformations	• Representing and interpreting geometric transformations
Finding measurements	• Equivalent figures • Finding measurements of: – arcs or angles – lengths (segments, chords) – areas – volumes – capacities
Geometric loci: conics	• Describing, representing and constructing a conic • Solving a system of second-degree equations with respect to conics • Determining the coordinates of points of intersection between a line and a conic or between a parabola and another conic
Trigonometric relations	• Standard unit circle (radian and arc length) • Manipulating simple trigonometric expressions using definitions (sine, cosine, tangent, secant, cosecant and cotangent)
Vectors	• Resultant and projection • Operations on vectors • Determining the coordinates of a point of division

Specifications for the Evaluation Instruments

Examination: Number of Parts, Sections, Procedure and Duration

The examination is divided into two sections. These sections are included in a single booklet and must be administered during the same evaluation session.

Duration: 180 minutes

Examination Content

The two sections are:

1. Explicit evaluation of knowledge

   In this section, the adult learner must answer application questions.

2. Evaluation of competencies

   This section consists of tasks that the adult learner must complete based on realistic situations. An evaluation situation may cover one or two integrative processes as long as both processes are covered in this section of the examination.

Information-Gathering Tools

The Adult's Booklet is the information-gathering tool and consists of the following two sections:

1. Explicit evaluation of knowledge

   The adult learner answers short- and long-answer questions.

2. Evaluation of competencies

   The adult learner completes problem-solving tasks.

Authorized Materials

- A scientific or graphic display calculator

  Information about the calculator:

  - The data and programs stored in the calculator's memory must be erased before and after the examination. Before the day of the examination, the adult learner must have been given the opportunity to learn how to reset the calculator's memory to zero.

- A ruler, set square, compass, protractor and graph paper
- A memory aid

  Information about the memory aid:

  - The adult learner may prepare a memory aid consisting of no more than one 8½ x 11 inch sheet of paper, with information on one side only. It may be handwritten or typed (minimum 12-point font; single-spaced) and must be approved by the teacher.
  - Examples prepared by the adult learner and mathematical formulas may be included in the memory aid.

Assessment Tools

For the explicit evaluation of knowledge, examples of correct solutions are provided in the *Correction and Evaluation Guide.*

For the evaluation of competencies 1 and 2, the criterion-referenced rubric (one for each competency) is the assessment tool used by the teacher. In criterion-referenced interpretation, the information gathered is compared with the outcomes expected of the adult learner.[4] The criterion-referenced rubrics are appended to the *Correction and Evaluation Guide* and include the following rating scale:

- Excellent
- Very good
- Good
- Weak
- Very weak

To help markers use criterion-referenced rubrics, the person who designs the evaluation instrument may provide a tool for analyzing the data (checklist, information-gathering tool) in order to supplement these rubrics.

Pass Mark

The pass mark is 60%.

Retakes

The adult learner must retake the entire examination.

[4] Québec, Ministère de l'Éducation, *Policy on the Evaluation of Learning* (Québec: Gouvernement du Québec, 2003), 28-29.

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