DEFINITION OF THE EVALUATION DOMAIN

Adult General Education

Diversified Basic Education Program

Science and Technology

GENERAL SCIENCE 2 TSG-4060-2

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Québec

Table of Contents

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 a 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 et de l'Enseignement supérieur (MEES) are prescriptive. Consequently, they are the reference documents to be used in the development of all examinations, be they ministerial examinations 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]

Furthermore, 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 are recommended 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

General Information

Broad Areas of Learning

- Health and Well-Being
- Environmental Awareness and Consumer Rights and Responsibilities
- Career Planning and Entrepreneurship
- Media Literacy
- Citizenship and Community Life

Subject Area

- Mathematics, Science and Technology

Families of Learning Situations

- Research
- Expertise

Program of Study

- Science and Technology

Course

- General Science 2

Essential Elements Targeted by the Evaluation

Subject-Specific Competencies

1. Seeks answers or solutions to scientific or technological problems
2. Makes the most of own knowledge of science and technology
3. Communicates in the languages used in science and technology

Categories of Knowledge

General Concepts:
- Musculoskeletal system
- Organization of matter
- Transformation of energy
- Graphical language
- Mechanical engineering
- Materials
- Electrical engineering

Techniques:
- Graphical language
- Manufacturing
- Measurement

Evaluation Criteria

Evaluation Criteria for Competencies 1 and 3

1.1 Appropriate representation of the situation

1.2 Development of a suitable plan of action

1.3 Appropriate implementation of the plan of action

1.4 Development of relevant explanations, solutions or conclusions

Evaluation Criteria for Competencies 2 and 3

2.1 Appropriate interpretation of the issue

2.2 Relevant use of scientific and technological knowledge

2.3 Appropriate formulation of explanations or solutions

Proficiency in Subject-Specific Knowledge

Proficiency in subject-specific knowledge presupposes its acquisition, understanding, application and mobilization, and is therefore linked with the evaluation criteria for the competencies.

Explanation of the Evaluation Content

Evaluation Criteria

The evaluation criteria in this course are stated exactly as they are in the other courses in the *Science and Technology* program.

Competency 3 is not specifically evaluated. It is integrated into the other two competencies in evaluation situations designed for certification purposes.

Information Clarifying the Evaluation Criteria

1.1 Appropriate representation of the situation

This criterion evaluates adult learners' ability to state, in their own words, the characteristics of the problem to be solved and the operating principles of the technical object in question. It also evaluates adult learners' ability to complete the design plan of the object in question by adding the movement of specific parts.

1.2 Development of a suitable plan of action

This criterion measures adult learners' ability to present the chosen solution by using a sketch or to interpret a technical diagram and draw an orthogonal projection of a simple shape. It also evaluates adult learners' ability to complete a manufacturing process sheet.

1.3 Appropriate implementation of the plan of action

This criterion evaluates adult learners' ability to use the chosen techniques to safely manufacture a technical object under supervision taking into consideration the machining characteristics or the characteristics of the electrical components and the way in which they are connected. It also evaluates adult learners' ability to make the necessary adjustments to the technical object in order for it to function.

1.4 Development of relevant explanations, solutions or conclusions

This criterion evaluates adult learners' ability to check a prototype against the specifications, to explain the operating principles of the technical object and, if necessary, to justify any modifications made to the object. It also evaluates adult learners' ability to follow scientific and technological terminology, rules and conventions and to use mathematical symbolism and formalism, if needed.

2.1 Appropriate interpretation of the issue

This criterion evaluates adult learners' ability to put a technological application in context and to identify the relevant elements of the issue, the connections between them and the operating principles of the technological applications involved.

2.2 Relevant use of scientific and technological knowledge

This criterion evaluates adult learners' ability to use scientific and technological concepts, laws, theories or models to explain how a technological application works, identifying the operating principles and role of each component of the application. It also evaluates adult learners' ability to compare the application's operation with characteristics of the musculoskeletal system or to make connections between the technological application and this system.

2.3 Appropriate formulation of explanations or solutions

This criterion evaluates adult learners' ability to explain why a material was used to manufacture a moving part or why a mechanical or electrical function was used in a technological application, based on a technical diagram or design plan. It also evaluates adult learners' ability to propose improvements, if necessary, to follow scientific and technological terminology, rules and conventions and to use mathematical symbolism and formalism, if needed.

Proficiency in Subject-Specific Knowledge

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

For this course, certain knowledge is explicitly evaluated. The following measurable cognitive skills were selected for evaluation:

Skills

- Knows
    - Provides evidence of knowledge of manifestations or components of a scientific or technical reality

      E.g. chooses, connects, describes, defines, distinguishes, lists, names
- Understands
    - Uses elements of prior learning and draws information from them

      E.g. combines, demonstrates, identifies, illustrates, interprets, explains
- Applies
    - Uses a scientific or technological model or principle to establish information

      E.g. uses, represents, applies, determines, calculates, completes

Weighting

The weighting for the evaluation of competencies is determined in accordance with the weighting found in the other courses in the *Science and Technology* program:

- Competency 1, *Seeks answers or solutions to scientific or technological problems* and Competency 3, *Communicates in the languages used in science and technology*: 40%
    - 1.1 Appropriate representation of the situation (10%)
    - 1.2 Development of a suitable plan of action (10%)
    - 1.3 Appropriate implementation of the plan of action (10%)
    - 1.4 Development of relevant explanations, solutions or conclusions (10%)

- Competency 2, *Makes the most of own knowledge of science and technology* and Competency 3, *Communicates in the languages used in science and technology*: 40%
    - 2.1 Appropriate interpretation of the issue (10%)
    - 2.2 Relevant use of scientific and technological knowledge (20%)
    - 2.3 Appropriate formulation of explanations or solutions (10%)

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

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

Knowledge

Knowledge includes concepts and techniques.

The seven general concepts are covered in the examination. It is not necessary, however, to include all the compulsory concepts for a given general concept. Similarly, it is not necessary to include all the techniques for a given category of techniques.

For the knowledge targeted by the evaluation of the competencies:

- Five to seven general concepts must be covered. For these general concepts, a representative sample of compulsory concepts must be covered.
- The three categories of techniques must be covered. For these categories, a representative sample of compulsory techniques must be covered, including *Safely using materials and equipment*.

For the knowledge targeted by explicit evaluation:

- Three to five general concepts must be covered, including those not covered in the evaluation of competencies, if applicable. For these general concepts, priority is given to compulsory concepts that were not covered in the evaluation of competencies.

Concepts

General concepts	Compulsory concepts
Musculoskeletal system	• Function of the musculoskeletal system • Types of joint movement
Organization of matter	• Pure substance: compound, element • Homogeneous and heterogeneous mixtures
Transformation of energy	• Forms of energy: electrical, chemical, thermal, mechanical, radiant
Graphical language	• Basic lines • Scales • Oblique projection • Orthogonal projections: multiview and isometric • Standards and representations: diagrams and symbols • Dimensioning
Mechanical engineering	• Typical functions: linking, guiding, sealing and lubricating • Typical mechanical links • Function, components and use of motion transmission systems • Function, components and use of motion transformation systems • Speed changes
Materials	• Mechanical properties • Constraints: tension, compression and torsion
Electrical engineering	• Power supply • Conduction and insulation • Control • Transformation of energy

Techniques

Categories of techniques	Techniques
Graphical language	• Using scales • Producing a graphic representation using instruments
Manufacturing	• Safely using materials and equipment • Assembling and disassembling • Measuring and laying out • Making a part
Measurement	• Using measuring instruments

Specifications for the Evaluation Instruments

Examination: Number of Parts, Sections, Procedure and Duration

The examination consists of two parts that must be administered during different evaluation sessions. Adult learners are responsible for managing the time available to them, which is 120 minutes for each part.

Total duration: 240 minutes

Practical part:* Evaluation of Competencies 1 and 3
Duration: 120 minutes

Theory part: Evaluation of Competencies 2 and 3, and Explicit Evaluation of Knowledge
Duration: 120 minutes

* All competency evaluation sessions for the practical part are carried out in a workshop or another appropriate location.

Examination Content

Practical part

This part involves a situation from the *Research* family of situations designed to evaluate the development of Competencies 1 and 3 using criteria 1.1, 1.2, 1.3 and 1.4. Using specifications, adult learners must solve a problem by following a design process that involves drawing a sketch of the prototype and manufacturing it under supervision. Prefabricated parts and electrical or mechanical components are supplied, if applicable. Access to basic tools or machine tools such as a drill press must be arranged.

Theory part

This part has two sections. One section is designed to evaluate the development of Competencies 2 and 3 using criteria 2.1, 2.2 and 2.3. Adult learners deal with one to three situations from the *Expertise* family of situations that require the analysis of a technological application that can be related to the musculoskeletal system or a part thereof. This analysis will include justifying the choice of materials and mechanical and electrical functions. The other section is devoted to the explicit evaluation of certain knowledge.

Information-Gathering Tools

Practical part:

Two tools are used to gather information:

- The *Adult's Booklet*, which contains tasks to be performed, space provided for the representation of the prototype, and a basic framework to be used for writing a report on the design process.
- A checklist outlining actions performed by the adult learner when applying different techniques.

Theory part:

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

1. The "Evaluation of Competencies" section, which consists of tasks related to different issues.
2. The "Explicit Evaluation of Knowledge" section, which consists of short-answer or essay-type questions.

NB: The *Adult's Booklet* may include tables, formulas and lists of symbols.

Authorized Materials

For the two parts of the examination:

- Additional blank sheets of paper
- Ordinary or scientific 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, adult learners must have been given the opportunity to learn how to reset the calculator's memory to zero.

For the practical part of the examination:

- Mechanical parts, electrical components and prefabricated parts, where necessary
- Manual or machine tools and the materials needed to make the prototype

Assessment Tools

The criterion-referenced rubric is the assessment tool used by the teacher for the evaluation of the competencies. Criterion-referenced interpretation involves comparing the information gathered with the outcomes expected of the adult learner.[3] The rubrics are compulsory and include the following rating scale:

Competency development:

- Advanced
- Thorough
- Acceptable
- Partial
- Minimal

Checklists may also be provided to make it easier for markers. These checklists can be found in the *Marking Guide*.

Each checklist and rubric focuses on the evaluation of specific competencies:

- Checklist and rubrics for the evaluation of Competencies 1 and 3, practical part
- Checklist and rubrics for the evaluation of Competencies 2 and 3, theory part

For the explicit evaluation of knowledge in the theory part, a correction key is provided in the *Marking Guide*.

Pass Mark

The pass mark is 60% for the examination as a whole.

Retakes

The adult learner must retake each part of the examination (practical and theory) separately.

3. Ibid., 28-29.

APPENDICES – CRITERION-REFERENCED RUBRICS

Adult General Education

EVALUATION

Criterion-Referenced Rubrics
(Practical Part)

_____
Name of the Adult Learner

_____
Name of the Teacher

_____
Date

Diversified Basic Education Program
Science and Technology

Course
General Science 2
TSG-4060-2

Competency 1: *Seeks answers or solutions to scientific or technological problems*, and Competency 3: *Communicates in the languages used in science and technology* (40%)

Instructions:

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

Rating scale / Evaluation criteria	Topics	**Advanced** competency development	**Thorough** competency development	**Acceptable** competency development	**Partial** competency development	**Minimal** competency development	**Mark**
1.1 Appropriate representation of the situation	**a)**	Shows a thorough understanding of the problem to be solved by accurately describing the operation and all characteristics of the technical object. **5 marks**	Shows an appropriate understanding of the problem to be solved by correctly describing the operation and most of the characteristics of the technical object. **4 marks**	Shows a satisfactory understanding of the problem to be solved by briefly describing the operation and some of the characteristics of the technical object. **3 marks**	Shows a limited understanding of the problem to be solved by describing characteristics that are more or less related to the technical object and its operation. **2 marks**	Shows a lack of understanding of the problem to be solved by naming only some characteristics of the technical object, without describing its operation. **1 mark**	**/5**
	b)	Completes an appropriate design plan by correctly illustrating all movements of the parts of the technical object. **5 marks**	Completes an appropriate design plan by correctly illustrating most of the movements of the parts of the technical object. **4 marks**	Completes an acceptable design plan by correctly illustrating the basic movements of the parts of the technical object. **3 marks**	Completes a design plan by correctly illustrating few of the movements of the parts of the technical object. **2 marks**	Completes a design plan by vaguely illustrating very few of the movements of the parts of the technical object. **1 mark**	**/5**

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

Competency 1: *Seeks answers or solutions to scientific or technological problems*, and Competency 3: *Communicates in the languages used in science and technology* (40%) (cont.)

Instructions:

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

Rating scale / Evaluation criteria	Topics	**Advanced** competency development	**Thorough** competency development	**Acceptable** competency development	**Partial** competency development	**Minimal** competency development	**Mark**
1.2 Development of a suitable plan of action	**a)**	Produces an accurate sketch of the chosen solution or accurately interprets a technical diagram and accurately draws the orthogonal projection of a part of the technical object. **5 marks**	Produces an acceptable sketch of the chosen solution or correctly interprets a technical diagram and correctly draws the orthogonal projection of a part of the technical object. **4 marks**	Produces a cursory sketch of the chosen solution or provides a vague interpretation of a technical diagram and correctly draws the orthogonal projection of a part of the technical object. **3 marks**	Produces a largely inappropriate sketch of the chosen solution or provides a vague interpretation of a technical diagram and incorrectly draws the orthogonal projection of a part of the technical object. **2 marks**	Produces an irrelevant sketch of the chosen solution or provides a confusing interpretation of a technical diagram and does not draw the orthogonal projection of a part of the technical object. **1 mark**	**/5**
	b)	When completing the manufacturing process sheet, lists all the steps in the manufacturing process and all the manual or machine tools, materials, and manufacturing and assembly techniques to be used. **5 marks**	When completing the manufacturing process sheet, lists most of the steps in the manufacturing process and most of the manual or machine tools, materials, and manufacturing and assembly techniques to be used. **4 marks**	When completing the manufacturing process sheet, lists the main steps in the manufacturing process and the important manual or machine tools, materials, and manufacturing and assembly techniques to be used. **3 marks**	When completing the manufacturing process sheet, lists only some of the steps in the manufacturing process and only some of the manual or machine tools, materials, and manufacturing and assembly techniques to be used. **2 marks**	When completing the manufacturing process sheet, provides a disorganized list of the steps in the manufacturing process and the manual or machine tools, and lists only some of the materials, and manufacturing and assembly techniques. **1 mark**	**/5**

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

Competency 1: *Seeks answers or solutions to scientific or technological problems*, and Competency 3: *Communicates in the languages used in science and technology* (40%) (cont.)

Instructions:

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

Rating scale / Evaluation criteria	**Advanced** competency development	**Thorough** competency development	**Acceptable** competency development	**Partial** competency development	**Minimal** competency development	**Mark**
1.3 Appropriate implementation of the plan of action	Produces a prototype by strictly applying the safety measures, taking into account all the machining and assembly characteristics, and enlisting the help of an assistant, where necessary.	Produces a prototype by strictly applying the safety measures, taking into account most of the machining and assembly characteristics, and enlisting the help of an assistant, where necessary.	Produces a prototype by applying only some of the safety measures, taking into account only some of the machining and assembly characteristics, and enlisting the help of an assistant.	Produces a prototype by applying only some of the safety measures and taking into account few of the machining and assembly characteristics, and the help of an assistant is required to ensure that the manufacturing process is carried out smoothly.	Does not succeed in manufacturing the expected prototype even with the help of an assistant and takes into account very few of the safety measures and machining and assembly characteristics when applying the chosen techniques.	
	10 marks	**8 marks**	**6 marks**	**4 marks**	**2 marks**	**/10**

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

Competency 1: *Seeks answers or solutions to scientific or technological problems*, and Competency 3: *Communicates in the languages used in science and technology* (40%) (cont.)

Instructions:

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

Rating scale / Evaluation criteria	Topics	**Advanced** competency development	**Thorough** competency development	**Acceptable** competency development	**Partial** competency development	**Minimal** competency development	**Mark**
1.4 Development of relevant explanations, solutions or conclusions	**a)**	Rigorously checks the prototype against the specifications, accurately explains how it works, and proposes changes, where necessary. **5 marks**	Correctly checks the prototype against the specifications, correctly explains how it works, and proposes changes, where necessary. **4 marks**	Does a cursory check of the prototype against the specifications, briefly explains how it works, and proposes questionable changes. **3 marks**	Checks few aspects of the prototype against the specifications, briefly explains how it works, and does not propose any changes, even if they are necessary. **2 marks**	Checks very few aspects of the prototype against the specifications, does not explain how it works, and does not propose any changes, even if they are necessary. **1 mark**	**/5**
	b)	Communicates clearly in all required tasks and always follows scientific, technological and mathematical terminology, rules and conventions. **5 marks**	Communicates clearly in all required tasks and generally follows scientific, technological and mathematical terminology, rules and conventions. **4 marks**	Communicates with some difficulty and does not always follow scientific, technological and mathematical terminology, rules and conventions. **3 marks**	Has difficulty communicating and rarely follows scientific, technological and mathematical terminology, rules and conventions. **2 marks**	Communicates in a confusing manner and very rarely follows scientific, technological and mathematical terminology, rules and conventions. **1 mark**	**/5**

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

Result: ____ /40

Adult General Education

EVALUATION

Criterion-Referenced Rubrics
(Theory Part)

_____
Name of the Adult Learner

_____
Name of the Teacher

_____
Date

Diversified Basic Education Program
Science and Technology

Course
General Science 2
TSG-4060-2

Competency 2: *Makes the most of own knowledge of science and technology*, and Competency 3: *Communicates in the languages used in science and technology* (40%)

Instructions:

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

Rating scale / Evaluation criteria	Topics	**Advanced** competency development	**Thorough** competency development	**Acceptable** competency development	**Partial** competency development	**Minimal** competency development	**Mark**
2.1 Appropriate interpretation of the issue	**a)**	Identifies all the relevant elements of the issues and the connections between them; identifies all the scientific or technological principles that underlie the applications or the musculoskeletal system. **5 marks**	Identifies most of the relevant elements of the issues and the connections between them; identifies most of the scientific or technological principles that underlie the applications or the musculoskeletal system. **4 marks**	Identifies only the essential elements of the issues and the connections between them; identifies some of the scientific or technological principles that underlie the applications or the musculoskeletal system. **3 marks**	Identifies very few of the relevant elements of the issues and the connections between them; identifies very few of the scientific or technological principles that underlie the applications or the musculoskeletal system. **2 marks**	Identifies scientific or technological principles that are, for the most part, unrelated to the issues. **1 mark**	**/5**
	b)	Identifies all the relevant aspects of the issues and takes into account all the related energy transformations when justifying the materials or mechanical or electric functions chosen. **5 marks**	Identifies most of the relevant aspects of the issues and takes into account most of the related energy transformations when justifying the materials or mechanical or electric functions chosen. **4 marks**	Identifies some of the relevant aspects of the issues and takes into account the important related energy transformations when justifying the materials or mechanical or electric functions chosen. **3 marks**	Identifies very few of the relevant aspects of the issues and takes into account only some of the related energy transformations when justifying the materials or mechanical or electric functions chosen. **2 marks**	Identifies aspects that are, for the most part, unrelated to the issues and does not take into account any of the related energy transformations when justifying the materials or mechanical or electric functions chosen. **1 mark**	**/5**

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

Competency 2: *Makes the most of own knowledge of science and technology*, and Competency 3: *Communicates in the languages used in science and technology* (40%) (cont.)

Instructions:

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

Rating scale / Evaluation criteria	Topics	**Advanced** competency development	**Thorough** competency development	**Acceptable** competency development	**Partial** competency development	**Minimal** competency development	Mark
2.2 Relevant use of scientific and technological knowledge	**a)**	Shows an appropriate understanding of the scientific or technological principles inherent in the issues by using all the relevant concepts, laws, models and theories to provide a coherent analysis of the technological applications or the functioning of the musculoskeletal system. **10 marks**	Shows an appropriate understanding of the scientific or technological principles inherent in the issues by using most of the relevant concepts, laws, models and theories to provide a coherent analysis of the technological applications or the functioning of the musculoskeletal system. **8 marks**	Shows an adequate understanding of the scientific or technological principles inherent in the issues by using some of the relevant concepts, laws, models and theories to provide a valid analysis of the technological applications or the functioning of the musculoskeletal system. **6 marks**	Shows a partial understanding of the scientific or technological principles inherent in the issues by using few of the relevant concepts, laws, models and theories to provide an incomplete analysis of the technological applications or the functioning of the musculoskeletal system. **4 marks**	Shows a poor understanding of the scientific or technological principles inherent in the technological applications or the functioning of the musculoskeletal system, and provides a confusing analysis. **2 marks**	**/10**
	b)	Makes perfect use of own knowledge and takes into account all the related energy transformations when justifying the materials or mechanical or electric functions chosen. **10 marks**	Makes appropriate use of own knowledge and takes into account most of the related energy transformations when justifying the materials or mechanical or electric functions chosen. **8 marks**	Makes adequate use of own knowledge and takes into account the important related energy transformations when justifying the materials or mechanical or electric functions chosen. **6 marks**	Makes limited use of own knowledge and takes into account only some of the related energy transformations when justifying the materials or mechanical or electric functions chosen. **4 marks**	Makes very little use of own knowledge and provides an incoherent justification. **2 marks**	**/10**

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

Competency 2: *Makes the most of own knowledge of science and technology*, and Competency 3: *Communicates in the languages used in science and technology* (40%) (cont.)

Instructions:

- For each criterion, circle the statement(s) that correspond(s) to the adult learner's performance level.
- In the last column, enter the mark that corresponds to the assigned rating(s). The only mark that can be allotted for a given level is that indicated in the rubric.

Rating scale / Evaluation criteria	Topics	**Advanced** competency development	**Thorough** competency development	**Acceptable** competency development	**Partial** competency development	**Minimal** competency development	**Mark**
2.3 Appropriate formulation of explanations or solutions	**a)**	Provides complete and clear explanations, solutions or justifications and meticulously organizes the elements of the message. **5 marks**	Provides complete and clear explanations, solutions or justifications and correctly organizes the elements of the message. **4 marks**	Provides acceptable explanations, solutions or justifications but the elements of the message are not very well organized. **3 marks**	Provides brief explanations, solutions or justifications and the elements of the message are not very well organized. **2 marks**	Provides partial explanations, solutions or justifications without organizing the elements of the message. **1 mark**	**/5**
	b)	Always follows scientific, technological and mathematical terminology, rules and conventions. **5 marks**	Generally follows scientific, technological and mathematical terminology, rules and conventions. **4 marks**	Sometimes follows scientific, technological and mathematical terminology, rules and conventions. **3 marks**	Rarely follows scientific, technological and mathematical terminology, rules and conventions. **2 marks**	Very rarely follows scientific, technological and mathematical terminology, rules and conventions. **1 mark**	**/5**

Assign a mark of 0 when the adult learner's performance does not correspond to any of the statements in the rubric.

Result: ____ /40

Éducation
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