

Chapter 4 Definitions and policies relative to the evaluation of learning

Before deciding how to evaluate learning, it is necessary to have a clear picture of what we are dealing with. It is useful to understand not only the nature of the evaluation but also how it functions and its impact within the educational system.

To begin with, let us examine the nature of evaluation and identify the relationships and distinctive features between evaluation, judgment and measurement. We will then look at the various functions of the evaluation of learning and the people who benefit from its practical use.

The evaluation of student learning is an operation that consists primarily in making a judgment (or, if viewed in the context of support for learning, as an attestation or diagnostic tool) on the learning of a student. This conclusion is arrived at through deduction and is based on data provided by indicators and interpreted using benchmarks (evaluation criteria, requirements, scale, etc.).

The evaluation of learning consists therefore primarily in a judgment based on inference. It cannot be reduced to an algorithm nor be wholly objective. An evaluation is different from a measurement. A measurement is the collection of quantitative data that can be used, on occasion, as the basis for a judgment.

The evaluation of learning involves many people — those who evaluate and those whose learning is evaluated — and calls into play relational and *affective* dimensions that must be taken into consideration.

To grasp the nature of the evaluation of learning, we must remember what evaluations and learning are, and also that we are referring to the learning of people, of students. The term “evaluation” (like measurement, judgment, learning and integration) designates both the operation and its result.

If we view the evaluation as an operation, we can identify the following fundamental characteristics taken from the many definitions of the terms “evaluation” and “to evaluate”.

- evaluation is directed towards a goal, it leads to a decision;
- evaluation deals with an object;
- evaluation is primarily about assessment and judgment;
- judgment is based on data;
- judgment is made using benchmarks (in particular, evaluation criteria).

To fully understand the evaluation, it is essential to make the distinction between “evaluation” and “measurement”. According to the Commission de terminologie de l’éducation du Québec : “Evaluation has a broader meaning than measurement. An evaluation includes *qualitative and quantitative* descriptions of behaviour as well as value judgments on their desirability. “(C.T.E.Q., 1988, in Legendre, 1993, p. 574), whereas measurement consists in “collecting results and other clues for a *quantitative* analysis of student knowledge, abilities and skills .” (Legendre, 1993, p. 831).

As noted by Legendre (p. 574), “measurement relates to the collection and processing of information, whereas evaluation is a judgment based on this information”.

Chapter Synopsis:

Activity 4 :

Activity 4.1 :

Activity 4.2 :

Definition and policies which guide the evaluation of learning

Definition

Policy

Learning tools :

Learning tool 4.A :

Learning tool 4.B :

Learning tool 4.C :

Learning tool 4.D :

Learning tool 4.E :

A definition of the evaluation of learning

Guiding principles for the evaluation of learning

Definitions applicable to the evaluation of learning

Comparing three types of evaluations

Principles and rules that govern my actions

Document :

Document 4. A :

“Principles and policies that guide the evaluation of learning”

Supporting documentation

Document 2.C :

“Bringing changes to the evaluation of learning”

Activity 4

Definition and policies that guide the evaluation of learning

Heading	Definition and policies that guide the evaluation of learning
Objectives	<p>To define policies prior to the planning and implementation of learning evaluations.</p> <p>To validate personal practices in light of these principles.</p>
Description	<p>To agree on definitions that are essential for understanding the proposed framework.</p> <p>The central aspect of this activity relates to principles and policies that guide the evaluation of learning.</p> <p>To acknowledge the policies that guide the implementation process for the evaluation of learning</p> <p>Lastly, to discuss the statements themselves in order to integrate, adapt or replace them. The purpose of this exercise is to support the policies that guide personal practices and identify emotions connected to them.</p>
Unfolding	<p>Activity 4.1</p> <p><i>Definitions</i></p> <p>A. Individually, draft a definition of the evaluation of learning.</p> <p>B. Presentation of personal definitions and validation using the definition found in learning tool 4.A “A definition of the evaluation of learning”.</p> <p>C. Review of principles and policies using learning tool 4.B “Guiding principles and policies. Personal reactions.</p> <p>D. Presentation and discussion on definitions and types of evaluation: the diagnostic evaluation, the formative evaluation and the summative evaluation using the following documents:</p> <ul style="list-style-type: none"> - Learning tool 4.C “Definitions applicable to the evaluation of learning”; - Learning tool 4.D “Comparing three types of evaluations”

	<p>Activity 4.2</p> <p><i>Policies</i></p> <p>E. Creation of teams of 4 to 6 people. Each team can choose to discuss the questions in the order given or those that are of concern to them, using learning tool 4.E "Principles and rules that govern my actions".</p> <p>F. To acknowledge the proposed principles and policies and comment on them by accepting, modifying or replacing them.</p> <p>G. To identify reservations, solicit questions, concerns, agreement or disagreement on each principle. If there is no consensus within the team, make note of various options and their basis.</p> <p>H. To evaluate the relevance and coherence of principles.</p> <p>I. To evaluate the possible impact of principles adopted in our personal practice.</p>
Moderator's role	<p>To create a climate favourable to reflection.</p> <p>To encourage participants to ask questions.</p>
Participants' role	<p>To openly express personal convictions.</p> <p>To support interaction with other participants.</p> <p>To identify the principles and policies that govern learning evaluation practices in our lives.</p>
Pedagogical material	<p>Learning tool 4.A: A definition of the evaluation of learning</p> <p>Learning tool 4.B: Guiding principles for the evaluation of learning</p> <p>Learning tool 4.C: Definitions applicable to the evaluation of learning</p> <p>Learning tool 4.D: Comparing three types of evaluations</p> <p>Learning tool 4.E: Principles and rules that govern my actions</p> <p>Document 4.A : Principles and policies that guide the evaluation of learning</p>
Support documentation	<p>Document 2.C : "Bringing changes to the evaluation of learning"</p>
Approximate duration	<p>Activity 4.1: 2 hours</p> <p>Activity 4.2: 4 hours</p>

Learning tool 4.A

A definition of the evaluation of learning ¹

“Tis with our judgments as with our watches, none go just alike,
yet each believes his own.”

Alexander Pope

The evaluation of learning is primarily:

- a judgment
- made by evaluators
- on the leaning of students
- through inference
- based on information relative to indicators
- using benchmarks (typical criteria, requirements, productions, etc.)
- to enlighten decisions
- relative to the learning process and its results.

Every evaluation of learning comprises three separate stages:

1. collection of raw data;
2. analysis and interpretation of data:
 - a. for the purpose of **supporting** learning:
assessment, diagnosis and judgment,
 - b. for the purpose of **attesting** to learning acquired:
measurement of performance and judgment on learning;
recording of results as grades or other format;
3. **follow-up** after judgment: communication, decisions and actions.

Based on the various results, a final judgment is made to establish a student’s level of mastery relative to the targeted learning (of a course or a program).

To proceed to the evaluation of learning, there must be:

1. an identification of the learning to be evaluated;
2. a selection of indicators that constitute (as per our judgment) demonstration of this learning;
3. identification of the evaluation criteria (learning qualities);
4. data collected on these indicators through the observation of students;
5. the use of evaluation criteria to analyze the data;
6. conclusions through inference, on the level of mastery of the underlying learning.²

¹ Translated from Cécile D’Amour, *L’évaluation des apprentissages au collégial : du cours au programme, Fascicule II. Cadre de référence. Première partie : Les questions préalables, première édition, Performa collégial, April 1996, p. 26.*

What characterizes learning

The terms “learning” and “evaluation” indicate both a process and a **result**. When we speak of learning and evaluation, we are generally referring to results. The concept we have of **the nature** of these results is in keeping with the concept we have of the process used to achieve the results.

At college level, the learning we want to evaluate is:

1. *the result* of a *process*
 - this is true of all learning;
2. a process that is *directed* by goals
 - this is true of all conscious and voluntary learning;
 - the goals are those of the educational system and those of the student; they are seldom in total agreement; the system goals are more clearly defined;
3. a process that is *characteristic* of the learner
 - this is true of all learning;
4. a process that is *supported* by pedagogical and didactic interventions
 - this is true of all learning except self-learning;
5. results that are *characteristic* of the person who guided the learning process
 - this is true of all learning;
6. results that are mainly abstract, *internal*, and not directly accessible or completely observable.

What characterizes the evaluation of learning

Every evaluation is affected by the characteristics of the object to be evaluated: requirements, difficulties and methods used may vary to a certain extent, according to the object being evaluated. For example, to evaluate an ability, an approach, an intellectual process, to assess a system of knowledge, to evaluate a material object and to evaluate a social behaviour are operations that, although similar in some respects, present major differences.

The operation of “evaluating learning” will share commonalities with all evaluations but it will also have characteristics of the object being evaluated, given that the object is the result of learning. Depending on the learning in question, the evaluation of learning can be characterized by a number of traits that are provided in the following table.

² **Translated from Cécile D’Amour, *L’évaluation des apprentissages au collégial : du cours au programme*, Fascicule II. Cadre de référence. Première partie : Les questions préalables, première édition, Performa collégial, April 1996, p. 51.**

Evaluation of learning characteristics based on the nature of learning³

Because...	Evaluation of learning is:
i. Because learning is the result of a process,	the evaluation of learning is used to attest to results of the process and to support its unfolding.
ii. Because the process is characteristic of the learner,	the evaluation is used to support the learning process and must help learners increase their mastery of the process.
iii. Because learning is the result of a process,	the evaluation attesting to results should not be given until the time allocated for training is over.
iv. Because the learning process is based on precise targets,	the evaluation judgment is made by comparing the learning achieved with the targeted learning.
v. Because in an academic environment, the learning process is directed and supported by interventions,	the evaluation accurately targets clear learning objectives that have been effectively supported by pedagogical and didactic interventions.
vi. Because learning results are characteristic of the individual,	the evaluation judgment accurately reflects the level of mastery of each individual relative to the targeted learning.
vii. Because learning is a reality that is not directly accessible nor observable (in all its complexity),	the evaluation judgment is made through inference and based on indicators.

³ Translated from Cécile D'Amour, *L'évaluation des apprentissages au collégial : du cours au programme*, Fascicule II. Cadre de référence. Première partie : Les questions préalables, première édition, Performa collégial, April 1996, p. 25.

Learning tool 4.B

Guiding principles and rules⁴

Principles (personal conduct) useful in directing the process and for maintaining a critical eye.

A. The evaluation of learning is in the spirit of collective choices

- an action in keeping with collective choices;
- a practice marked by the dynamics of a dialogue between departments, programs.

B. The evaluation of learning is carried out in a professional manner

- a practice based on a frame of reference;
- consistency between individual and collective practices;
- respect of ethical requirements.

C. The evaluation of learning supports learning while attesting to the learning achieved

- adequate formative-summative coordination;
- importance of role played by formative and diagnostic evaluations.

D. The summative evaluation must be fair and equitable and perceived as such

The summative evaluation must be fair and equitable

The term “fair” implies an evaluation that is both just and accurate. A fair and equitable evaluation fulfills three requirements: justice, accuracy and equity.

Justice means the absence of arbitrary decisions, in conformity with:

- agreement on lines of conduct, suitable rules;
- right of recourse in case someone perceives the evaluation as either unfair or not equitable.

Accuracy is the quality of proper targeting, of assigning the rightful and exact value:

- to evaluate effectively what one seeks to evaluate (validation);
- to evaluate the object of evaluation with accuracy (reliability);
- to judge based on a sufficient amount of data.

Equity means the judgment is impartial and treats all individuals equally:

- the process of evaluation is free of discrimination, at all levels;
- the process of judgment is written out, illustrated and executed in a manner that ensures the greatest possible objectivity, impartiality and stability;
- measures are taken to ensure **equivalence** as much as possible in the evaluation from one classroom-group to another, from one teacher to another.

The summative evaluation must be perceived as such

⁴ Translated from Cécile D'Amour et Groupe de recherche à Performa, “Une évaluation des apprentissages marquée par le nouveau paradigme”, *L'évaluation des apprentissages au collégial: du cours au programme*, Fascicule II. Cadre de référence. Section D, première édition, Performa collégial, p. 65-85, 1996.

The rules for evaluations, the benchmarks used for judgment (evaluation criteria, minimum requirements, levels of mastery, typical productions, etc.) and the process must be understood by those who will be evaluated (**transparency**).

E. The formative evaluation is lenient and conducive to the development of student autonomy

The teacher adopts an attitude of trainer: coaching, showing empathy, encouraging progress, identifying problems, contributing to the diagnosis and the evaluation as well as the identification and implementation of remedial measures (**student preparation throughout the program**).

Formative evaluation activities are designed so the student develops the ability to adjust actions and learning autonomously, thanks to feedback received (**development of autonomy**).

Formative activities are designed to enable students to develop their ability to self-evaluate and their capacity for metacognition (**development of autonomy**).

F. The evaluation of learning is carried out with pertinent and exact methodology that keeps track of evaluation methods (collection of data, interpretation and judgment) as well as measures ensuring the quality of the evaluation.

Evaluation methods are adapted to the nature of the learning to be evaluated.

Evaluation methods are adapted to the **function** of the evaluation (support or certification) and its requirements.

Methods ensure the quality of the evaluation (guarantee validity, reliability and equivalence).

The choice and use of methods and **tools** are marked by a stringent respect for proper procedures and conditions of use.

Four rules on which to base the search for fairness

For a process to be fair, it must respect rules deemed appropriate by those who use the process. These rules can vary from one community to another and even within the same group from one era to another; they are a function of the concepts concerning the process in question and the very notion of fairness.

Given the understanding we have of the nature and functions of the evaluation of learning and the decision made to include the evaluation of learning as part of the new emerging perspectives in the field of education, it seems to us that the search for fairness in the evaluation of learning rests on four rules:

Rule 1

The evaluation of learning objects and methods, must be consistent with the orientation (objectives) and the reality of learning (teaching and learning activities).

Coherence in evaluation-training

Rule 2

The summative evaluation judgment must not be rendered before the end of the training period (that corresponds to the segment of education— course or program — required for attestation); the result of the evaluation must reflect the degree of mastery achieved at the end of the process.

Respect of the final nature of the summative evaluation

Rule 3

Within the framework of the summative evaluation, student learning must be evaluated relative to expected (pre-defined) learning results

Use of expected results for comparative purposes (criteria-based evaluation)

Rule 4

Results of the evaluation of learning must be characteristic of the student; the indicators used must allow for a judgment on the acquisitions of each individual.

Respect for the individual character of learning

Learning tool 4.C

Definitions applicable to the evaluation of learning⁵

Measurement	<p>Activity consisting in collecting results and other data for quantitative and/or qualitative descriptions of performances and student acquisitions (knowledge, abilities, skills, attitudes, values).</p> <p>First stage in the process of the evaluation of learning.</p>
Evaluation	<p>Activity that analyzes and interprets results and other measurement data to make a qualitative or quantitative judgment on student performances or acquisitions (knowledge, abilities, skills, attitudes, values).</p> <p>The purpose of this activity is to make the best decision possible relative to the support and certification of student learning.</p> <p>Second and third stages in the process of the evaluation of learning.</p>
Normative evaluation	<p>Evaluation in which student performance is compared to that of a reference group using the same measurement tool. (Legendre, 1988)</p>
Normative interpretation	<p>The interpretation of results is considered normative when it is compared to group results. For example, Annie can jump 1.10 m. She is first in her class.</p>
Criteria-based evaluation	<p>Evaluation in which the performance of a subject is judged using benchmarks and criteria for success identified within targeted objectives, and independent of other performances.(Legendre, 1988)</p>
Criteria-based interpretation	<p>The interpretation is criteria-based when the results are compared to criteria. For example, Peter can jump 1.20 m. The criteria for success for this student is set at 1.25. Therefore the objective was not reached.</p>

⁵ Translated from Pierre Deshaies, Hermann Guy and Michel Poirier, “Les procédures d’élaboration d’une épreuve d’évaluation”, *Recueil intégrateur, Section IV: L’évaluation des apprentissages au collégial*, (not yet in print), Sherbrooke, regroupement des collèges Performa, 2003.

**Definitions applicable
to the evaluation of learning (cont'd)**

Continuous evaluation	Cumulative process of grading or reporting spread over a pre-determined period of time (learning activity, session, year) after which a final grade is assigned. (Pôle de l'Est, 1996)
Diagnostic evaluation	Intervention carried out at the beginning of a course to identify the level of mastery of previously acquired skills in relation to the attainment of targeted learning in a specific course. (Pôle de l'Est, 1996)
Formative evaluation	Evaluation of one or more learning sections a learning sequence during the course of teaching and learning. The essential function is the regulation of learning. It provides feedback so the student can progress in his learning through remedial activities; it allows the teacher to identify activities for the pursuit of teaching and the required student supervision . (Pôle de l'Est, 1996)
Summative evaluation	Evaluation carried out at the end of a course or learning sequence that is consistent and meaningful. The essential function is the validation of learning and student certification, a verdict for success or a grade indicating failure. (Pôle de l'Est, 1996)
Object of evaluation	Learning (knowledge, skills, abilities, and attitudes) evaluated to support the learning process or validate acquired student learning. The objects of evaluation are based on the learning required within the program or the course. (D'Amour et autres, Fascicule II, p. 55, 1996)

Definitions applicable
to the evaluation of learning (cont'd)

<p>Object of the summative evaluation</p>	<p>Learning that is considered sufficiently important to warrant official certification at the end of the course or program. In a competency-based approach, this is fundamental and integrating learning. Certification deals with the mastery of learning that corresponds to:</p> <ul style="list-style-type: none"> — the targeted goals and learning objectives (<i>cf.</i> ministerial specifications, exit profile, final integrating objective or final integrating objectives for each course, etc.); — knowledge that contributes to preparing students for subsequent stages of learning. (<i>cf.</i> stage within the course and subsequent courses). <p>(D'Amour et autres, Fascicule II, p. 52, 1996)</p>
<p>Object of the formative evaluation</p>	<p>Learning that the teacher or teaching group feel is useful in supporting the process. This can include:</p> <ul style="list-style-type: none"> — all learning connected to the objects of the summative evaluation (ex.: intermediate, specific, one-dimensional learning, etc.); — learning that is seen in more than just one course and the object of a summative evaluation in a subsequent course; — learning that is not the object of a summative evaluation (ex.: prior knowledge to be consolidated; learning relative to basic education, an educational project at college, the exit profile for a program and learning that is not included in official objectives). <p>(D'Amour et autres, Fascicule II, p. 53 et 54, 1996)</p>

Definitions applicable
to the evaluation of learning (cont'd)

Indicator	<p>An indicator is a demonstration, action or gesture that is directly observable and allows for an evaluation of an objective that is not directly observable. (D'Amour et autres, Fascicule II, p. 55, 1996)</p> <p>The selected indicators must allow for the observation of:</p> <ol style="list-style-type: none"> 1. actions, student behaviour during the achievement of a task, in a situation (a process); 2. work produced by the student following the achievement of a task (production); 3. words (written and oral) used by the student relative to his knowledge and their integration in the achievement of the task (speech). <p>(D'Amour et autres, Fascicule II, p. 55, 1996)</p>
Evaluation criteria ⁶	<p>Evaluation criteria refer to the properties, characteristics and qualities that assist in judging various dimensions of the objects of evaluation as revealed by indicators.</p> <p>(D'Amour et autres, Fascicule II, p. 55, 1996)</p>
Minimum requirements (Identification of "STANDARDS" for certification of learning)	<p>Benchmarks and indicators chosen by the teacher or teaching group to represent the minimum level of learning that must be achieved by the student at a specific stage (ex.: in a course, at the end of a course or program, professional examination, etc.).</p> <p>(D'Amour et autres, Fascicule II, p. 52, 1996)</p>
Inference	<p>Process by which the teacher or teaching group arrives at conclusions relative to student learning, based on selected indicators.</p> <p>The quality of the inference relies on the strength of the connection between the indicator and the object, the time frame (proximity to the the end of the learning process) and the minimum requirements for this stage of learning.</p> <p>(D'Amour et autres, Fascicule II, p. 26, 1996)</p>

⁶ The term "criteria" is very general and can be used to indicate dimensions of the object and indicators. We use the term to indicate "qualities" that are sought and will be used to render the evaluation judgment.

Learning tool 4. D

Comparing three types of evaluation

Let us examine the formative evaluation, the summative evaluation and the diagnostic evaluation based on four major characteristics:

- the time frame;
- the nature of the objects under evaluation;
- the nature of the decisions resulting from the evaluation;
- the recipient of the judgment rendered.

Characteristics	Diagnostic evaluation	Formative evaluation	Summative evaluation
Time frame	before learning begins; at the beginning of a sequence	during learning; at the end of a stage regularly, in continuous fashion	after learning has taken place; at the end of a key stage of learning
Nature of the objects under observation	abilities or prior knowledge	learning progress, learning, process and results (mastery of knowledge, skills, etc.) (small units)	achievement of key goals (larger units)
Nature of the decisions	prior student orientation and adjustment to teaching activities	ongoing adjustments to teaching and learning activities	passing grade, diploma
Principal recipients	school administration; teacher	student; teacher	school administration

Types of evaluation

Included are eight index cards (p. 144-151) provided by Pierre Deshaies, educational advisor at Collège Shawinigan, within the framework of MIPEC/PED-858/Outils de formation, version 2, autumn 2002.

1. Evaluating in a formative and summative way

Theoretical considerations

“Teachers cannot avoid feeling like traitors... either they betray the trust of students who expect total complicity; or, they betray society that expects them to always provide sound judgments.”. Albert Jacquard

These concise remarks by A. Jacquard¹ introduce us to this ongoing debate that brings into conflict proponents of formative evaluations and those of summative evaluations, despite the fact that the nature of both types of evaluation seems well defined.

The general consensus in the field is to consider the formative evaluation as a review of data provided by the teacher during the learning process. The data validates the total or partial mastery of the objects of learning; identifies what the student has understood, what he has not yet grasped and why he is experiencing a particular difficulty in mastering these objects. According to Scallon², formative evaluation plays the role of *regulator* of student learning. Although it can be quantified (ex.: a discriminating scale), the formative evaluation is generally descriptive and qualifies student training. It is thus ideal for providing continuous feedback on learning achieved and is also “proactive” in that it can identify any remedial learning required.

A similar consensus applies to the *summative* evaluation that is linked to the *decision-making process* at the end of the training, which it sanctions by either by granting or withholding success. As expressed by Allal³, it is from this type of generalized evaluation that students receive certificates of competency (report cards) from designated organizations. By assigning the student a certain grade, the teacher does more than judge and validate the degree of student success; he also intervenes in a decisive fashion in the student’s academic and professional environment. Jacquard denounced precisely this type of situation when he accused teachers of treachery [...]. According to him, society abdicates its role when it asks teachers to go against their natural complicity with students by rendering peremptory judgments and sanctions.

Teachers should be true coaches and provide students with resources during the entire learning process. The final summative evaluation and selection should be left to others. In short, the formative evaluation should be the responsibility of the teacher and the summative evaluation should be left to society!

¹ Translated from Albert Jacquard, *Inventer l’homme*, Éd. Complexe, Brussels, 1984, 183 p., p. 170.

² Translated from Gérard Scallon, *L’évaluation formative des apprentissages. La réflexion*, Presses de l’Université Laval, 1988, 171 p., p. 135.

³ Translated from L. Allal, *Vers une pratique de l’évaluation formative*, De Boeck Wesmael, Brussels, 1991, 158 p., p. 13.

2. Evaluating in a formative and summative way Theoretical considerations (cont'd)

We will not settle this theoretical debate but we will try to define it in terms with which teachers are more familiar.

Whether desirable or not, the teacher performs both formative and summative evaluations and it is wrong to view this bimodal function as merely accessory. In fact, pedagogically speaking, the formative evaluation seems to have a definite advantage over the summative evaluation. And this is not just a bias. Many research results attest to the superiority of the formative evaluation over the summative evaluation, relative to the effectiveness of teaching.

We are in complete agreement with this and, in fact, believe that the formative evaluation could be considered part of the act of teaching itself, given that it is inherent to it. How can we possibly conceive of effective teaching without continuous feedback between the teacher and the student? Whether formal or not, the formative evaluation should be considered essential to teaching because it provides essential information on learning. However, a great number of teachers are still not giving it the attention it deserves. The reasons given are diverse and summarized in the writings of J. Lavoie-Sirois⁴. In spite of the key role played by the formative evaluation in teaching however, it is important not to forget the *summative* evaluation and the role it plays.

Admittedly, many teachers are convinced of the effectiveness of formative evaluations in the learning process, but there are others who recognize the unquestionable effectiveness of *summative* evaluations. Students may say “that they do not work for the grade”, but they continue to ask “does this count or not?”. And, in fact it does count, because when a teacher assigns a grade to the student at the end of a learning cycle, he places the student in a competitive situation that will inevitably impact him in ways he cannot anticipate. This fact alone should dictate that the summative evaluation be handled as professionally as possible. A grade is often a strong motivator in the learning process. Behaviorist theories on the effects of rewards and punishments were not inspired by Tarot readings! Every teacher who has used formative evaluations frequently, without assigning a grade, can attest to the fact that they lead to *a decrease* in student efforts over time.

The desire to distinguish between formative and summative evaluations resulted in a disassociation of the two rather than a collaboration towards a common goal, i.e., the evaluation of learning. In our opinion, collaboration is the right pedagogical path on which to embark.

In short, let us stress that the formative evaluation draws its maximum effectiveness when it lets students understand the precise nature of their learning and by effectively preparing them for the summative evaluation. We will discuss later how this is possible on a practical level. The summative evaluation, for its part, draws its maximum effectiveness by validating the mastery of learning; and, by acting as a *lever* or *motivating agent* for later learning. This will also be reviewed in the following pages.

⁴ Translated from J. Lavoie-Sirois, *La problématique de l'évaluation formative chez les enseignants et les enseignantes*. Non-published course notes taken from an improvement session, Documents A, B, C and D, Université Laval, Faculty of Education, 1991, 27 p., p. 3-5.

3. Formative evaluation versus summative evaluation

All things considered, the teacher who wants to effectively use both summative and formative evaluations, should position them on a *continuum* where, in complementary fashion, formative evaluations prepare the student for upcoming summative evaluations.

Statements

- The formative evaluation is generally more effective than the summative evaluation in supporting quality learning in students.
- The formative evaluation achieves its maximum effectiveness when it prepares the ground for the summative evaluation. Used alone and too frequently, it can negatively impact student efforts and interest.
- The formative evaluation is done throughout the student learning process.
- The formative evaluation has *diagnostic* and *prescriptive* qualities.
- This type of evaluation offers great flexibility in its methods of application: exercises, written and oral comments, encouragement, formal and informal feedback, etc.
- The formative evaluation is also applicable to several types of learning objectives (memorization, judgment, analysis, transfer of knowledge, attitudes, etc.).
- The formative evaluation allows students to participate in their own evaluation.
- The summative evaluation is used only at the end of a learning process and for assessment purposes.
- The summative evaluation evaluates a broader body of learning than the formative evaluation.
- The summative evaluation is directed towards a *decision* on the level of student success.
- The summative evaluation is always quantified or assigned a grade.
- The summative evaluation is always formal and objective.
- The summative evaluation can have a motivating effect on students, particularly students who are high achievers.
- The summative evaluation results in immediate and far-reaching consequences for the student, and demands professionalism from the teacher.

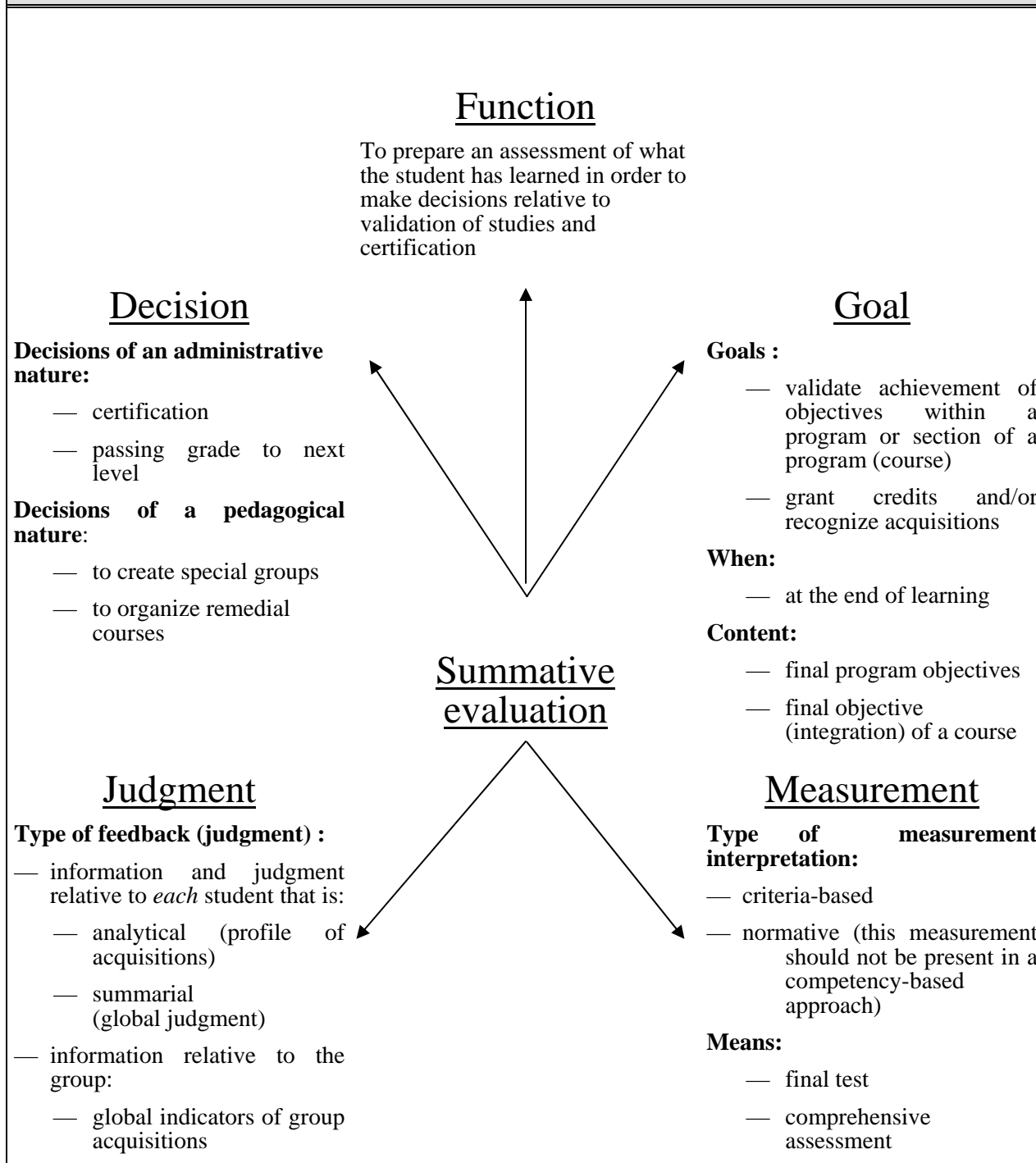
4. To evaluate in a formative and summative way

Practical advice

- When evaluating student learning in a formative way, define the value of this type of evaluation very clearly by demonstrating that “it counts even if it does not count for grades”!
- Avoid repetitive formative evaluations. When they are frequent and closely spaced, these evaluations end up “de-motivating” students.
- Regularly connect formative evaluations to later summative evaluations. For example, use questions in a simulated examination and advise students that these questions will be on the summative examination. Vary the formative evaluation: oral questions in the classroom, written test, questionnaire corrected by the students, distribution of answers, questionnaire-games, teamwork, student identification of problems and resolutions, immediate reference to reading assignments, individual feedback in the classroom, etc.
- The use of formative evaluation grids is strongly recommended. [...]
- When evaluating students in a *summative* way, focus the evaluation on what is essential to the achievement of course objectives. Not everything can be evaluated, nor is it realistic to believe it can be. In theory, examinations of 25 questions or more should be avoided and written work must be directly connected to course objectives, well defined and include precise instructions. [...]
- Always inform your students in advance of evaluation dates and repeat the information.
- You can provide examination questions to students in advance, when the evaluation’s targeted objectives make it feasible. This process helps guide students in their studies and maximizes efforts. It is particularly suited to examinations with “open” questions (10 or more questions).
- This practice has no value for exams that are said to be “objective”. The purpose of the examination is not to trap students but to validate their understanding of the subject matter. Providing the questions in advance - when feasible – displays good faith and guides the students in preparatory work, it also increases their sense of security.
- To give a formative character to summative evaluations, allow students to “correct” their examination answers whenever feasible. The formula of at-home exams lends itself well to self-correction and many students – both weak and strong – benefit from this exercise. In this scenario, interested students must meet with the teacher only at predetermined times so as not to overload their latter’s workload. This type of activity reduces the workload relative to final corrections.
- You can also allow students to bring a sheet or index card, that they have prepared prior to the exam, to summarize the subject matter. In this situation, you may choose not to provide students with questions in advance.

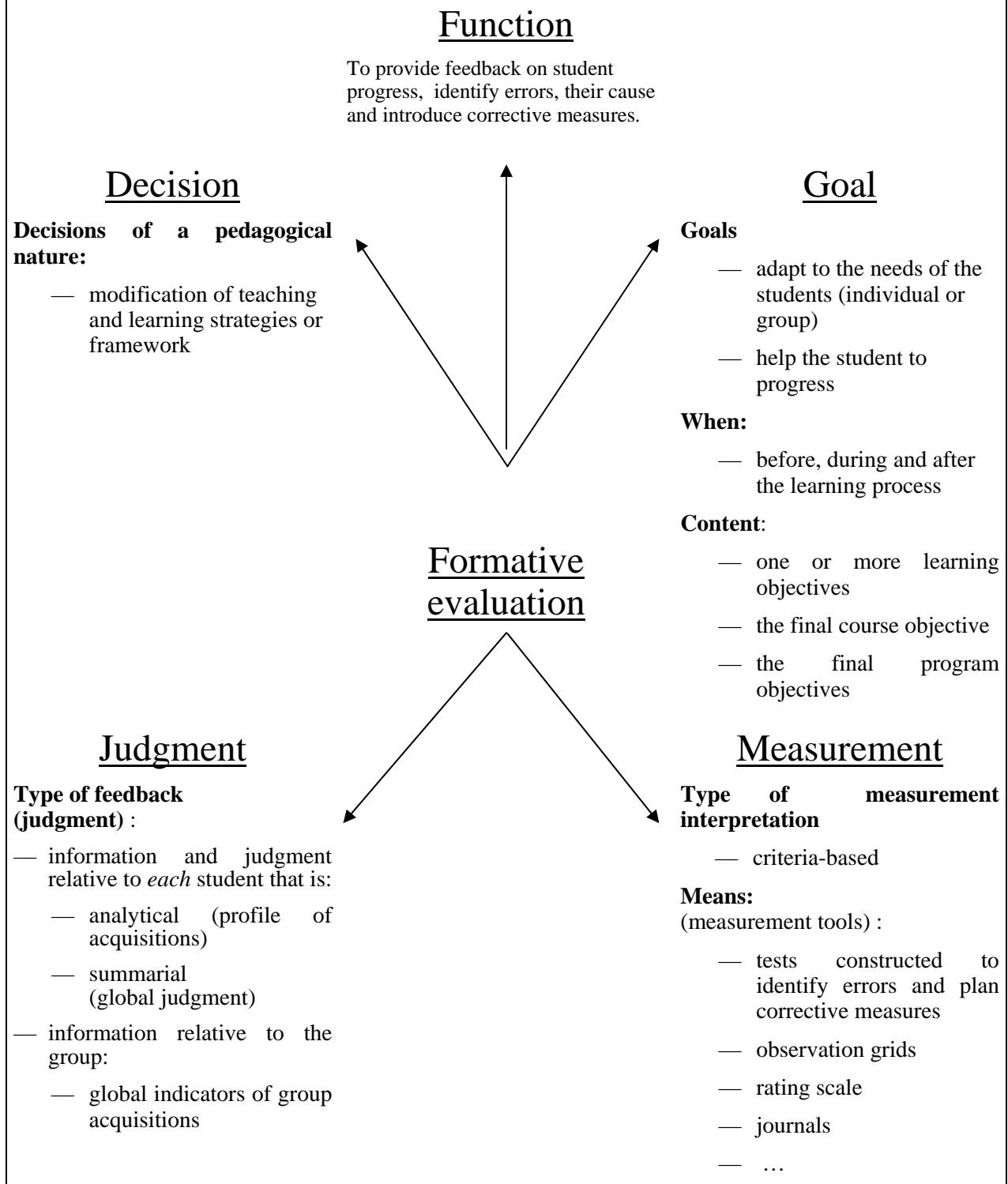
Translated from Jean Proulx, *Enseigner mieux, stratégies d’enseignement*, Cégep de Trois-Rivières, 1993, p. 169-174.

5. The summative evaluation



SRD/adapted from PEPFO (Projet d'excellence pédagogique des francophones de l'Ontario)

6. The formative evaluation



SRD/adapted from PEPFO (Projet d'excellence pédagogique des francophones de l'Ontario)

7. Advantages of the formative evaluation

1. Focuses on the **process** more than the product (the product is just a product, i.e., the result of a process).
2. Facilitates cooperation; competition impedes cooperation.
3. Creates a **climate of security** that is more productive than stress generated by external controls and values placed on performance.
4. **Rapidity** of execution; there is nothing more time-consuming than grading assignments.
5. Allows for feedback on **all aspects of education**.
6. Reduces **the burden of corrections**, by entrusting the essential work of formative evaluation to the student.
7. Allows the students to assume **responsibility for their learning**.
8. Allows for transmittal of information relative to **qualities and weaknesses of work**, as well as **desired improvements**.
9. Enables and even encourages intellectual risk; allows students to **go off the beaten paths** without risk of being penalized.
10. Supports **frequent feedback**, which in turn motivates students.

Excerpt translated from Ulric Aylwin, "Apologie de l'évaluation formative", *Pédagogie collégiale*, March 1995.

8. Examples of formative evaluation exercises

- Find three words that summarize the presentation that just took place.
- Give an example of the rule (or concept or formula) explained in the preceding presentation.
- Find the rule (or concept or formula) that is expressed in the following example.
- Identify the elements of the subject matter you did not understand.
- Identify the elements you understood the best.
- Form pairs using the two lists of words provided (for example, a list of symptoms and one of diagnostics).
- Compare your course notes with those of your neighbour.
- Write a sentence that summarizes the presentation that occurred.
- Draft a question on the presentation's essential theme.
- Given a specific answer, find the question that goes with it; or given a solution, identify the problem.
- Given a specific situation, identify the factors or circumstances that created it.
- Given a specific situation, identify the resulting impact or phenomena.
- Classify a list of words according in a specific order.
- Complete the following concepts.
- Identify in the following table, the components that are missing, unnecessary or erroneous.
- Given the following problem, list the steps or procedure required to find the solution.
- Given the present situation, what diagnosis would you recommend? (What decision should be made? What action should be taken?)
- Etc.

Translated from Ulric Aylwin, *Petit guide pédagogique*, Montréal, AQPC, 1994, p. 67.

Key questions and principles	Comments:
FOR WHOM? Proposed principle(s)	Does this statement fall under the teaching paradigm or the learning paradigm?
THE DIAGNOSTIC EVALUATION	Is it present in my evaluation practices?
1) The diagnostic evaluation at the beginning of a course is primarily useful for students but also for professors.	Novelty and pertinence of this principle?
2) Results must be communicated individually to the student.	.....
3) The overall results of diagnostic evaluations of classroom-groups in a course should be communicated to professors who teach courses that are prerequisites to this course.	.....
THE FORMATIVE EVALUATION	.....
4) The formative evaluation within the course is useful for both students and the professor, from a perspective of regulating the teaching and learning processes.	.....
5) The formative evaluation does not always have to be confidential; it can be done in a progressively informal fashion, as trust develops over time in the classroom-group. (An open approach makes it possible for several students to benefit from feedback offered on one student's productions or performance vs a confidential approach; it also increases social interactions conducive to learning; and has the advantage of reducing the amount of teacher corrections.)	.....
THE SUMMATIVE EVALUATION	.....
6) The results of a summative evaluation officially sanction studies.	.....
7) The results of a summative evaluation must be communicated to students in a confidential manner.	.....
8) The overall results of a summative evaluation for classroom-groups in a course, should be communicated (for analytical purposes) to those teachers whose responsibility is to ensure course quality.	.....

Key questions and principles	Comments:
FOR WHAT? Proposed principle(s)	Does this statement fall under the teaching paradigm or the learning paradigm?
THE DIAGNOSTIC EVALUATION	Is it present in my evaluation practices?
1) The primary purpose of a diagnostic evaluation at the beginning of a course, is to help students and professors plan the work ahead:	Novelty and pertinence of this principle?
— The teacher will have a better grasp of student concepts and acquisitions and be more able to anticipate learning difficulties;	.....
— Students will have a more accurate view of their acquired strengths and their weaknesses.	.....
2) The results of the diagnostic evaluation can also serve to promote reflection on what students acquired in prior courses.	.....
THE INFORMATIVE EVALUATION	.....
3) The purpose of the formative evaluation is to regulate teaching and learning processes.	.....
THE SUMMATIVE EVALUATION	.....
4) The primary purpose of the summative evaluation in a course is to attest to the level of mastery achieved as regards the learning targeted in the course, the level reached:	.....
— by each individual,	.....
— at the end of the course.	.....
5) The results of the formative evaluation can also contribute to the global evaluation process of a program or the teaching dispensed within a department.	.....

Key questions and principles	Comments:
HOW? Proposed principle(s) (means)	Does this statement fall under the teaching paradigm or the learning paradigm?
THE SUMMATIVE EVALUATION	Is it present in my evaluation practices?
1) The methods used to evaluate the accomplishment of a goal must “respect” the nature of the objective and the level of mastery sought. (coherence goals /methods)	Novelty and pertinence of this principle?
2) At the end of the course, there must be a test (with one or more sections) dealing with the final goal(s) of the course, in all its(their) complexity and totality. (final test.)	..... ..... .....
3) The report card grade should reflect the degree of mastery of learning at the end of the course; it cannot simply be the total of grades given at different moments during the training. (construction of the final grade)	..... ..... .....
4) To achieve “success”, the student must pass the final test (this is an absolute requirement).	..... ..... .....
5) A student who fails the final test despite having passed most of the tests leading up to it, should have the right to rewrite the exam. (conditions for rewriting)	..... ..... .....
THE FORMATIVE EVALUATION	.....
6) It is beneficial to use the formative evaluation in various ways (formal and informal, individual or group, oral or written, interactive or not, etc.).	..... ..... .....
7) The methods adopted must always include feedback and offer possibilities for correction and adjustments in learning and teaching.	..... ..... .....

Document 4.A

“Principles and rules that guide the evaluation of learning”⁵⁶

Key question OBJECT OF DECISION	Principles and policies that should guide the evaluation of learning
<p>Why?</p> <p>GOAL (S)</p> <p>Within the scope of a course, both the diagnostic evaluation and the formative evaluation meet the need for diagnosis and regulation, with the diagnosis being stronger in a “diagnostic” evaluation. This evaluation can be considered similar to a formative evaluation used at the beginning of a course.</p>	<p>THE DIAGNOSTIC EVALUATION</p> <ol style="list-style-type: none"> 1) The primary goal of the diagnostic evaluation, administered at the start of a course, is to help students and teacher plan their work: <ol style="list-style-type: none"> a) The teacher will have a better grasp of student concepts and acquisitions, and be more able to anticipate learning difficulties; b) Students will have a more accurate view of their acquired strengths and their weaknesses in relation to what is required to undertake the course. 2) <i>In certain courses</i>, the diagnostic evaluation can help the student understand the purpose of the course and become aware of the gaps between his capacities and what is needed to pass the course. 3) The results of the diagnostic evaluation can also serve to nourish a reflection on what students acquired in prior courses. <p>THE FORMATIVE EVALUATION</p> <ol style="list-style-type: none"> 4) The purpose of the formative evaluation is the regulation of teaching and learning processes, regulation that can be the result of a diagnosis. <p>THE SUMMATIVE EVALUATION</p> <ol style="list-style-type: none"> 5) The primary purpose of the summative evaluation of learning for an overall course is to officially attest to the level of mastery achieved: <ul style="list-style-type: none"> — for each individual, — at the end of the course. 6) The results of the formative evaluation can also contribute to the evaluation process within a program or the teaching dispensed within a department.

⁵⁶ Translated from Cécile D’Amour, *Principes et règles d’action qui devraient guider l’évaluation des apprentissages*, Proficiency session, Cégep de l’Abitibi-Témiscamingue, 1995.

Key question OBJECT OF DECISION	Principles and policies that should guide the evaluation of learning
For whom? RECIPIENTS	<p>THE DIAGNOSTIC EVALUATION</p> <ol style="list-style-type: none"> 1) The diagnostic evaluation, administered at the start of a course, is useful for students and the professor. 2) The results must be communicated individually to each student. It is also worthwhile for the professor to communicate the overall results to the classroom-group and to explain how this “snapshot” will be taken into account in the planning of teaching, learning and evaluation activities (impact on student motivation). 3) The overall results of the diagnostic evaluation, for the classroom-group of a given course, should be communicated to all teachers offering courses that are prerequisites for this course. <p>THE FORMATIVE EVALUATION</p> <ol style="list-style-type: none"> 4) The formative evaluation administered in a course helps the students and the professor in regulating the teaching and learning processes. 5) The formative evaluation does not always have to be confidential; it can be conducted in a progressively more open manner, in a more public fashion, as trust develops in the classroom-group⁵⁷. <p>THE SUMMATIVE EVALUATION</p> <ol style="list-style-type: none"> 6) The results of the summative evaluation serve to officially sanction studies. 7) The results of the summative evaluation must be communicated to the students in a confidential manner. 8) The overall results of the summative evaluation, for the classroom-group of a given course, should be communicated to the professors who are responsible for course quality (departments, program teams, etc.). (Any documents useful for interpretation should accompany the results.)

⁵⁷ **The open approach versus confidentiality makes it possible for several students to benefit from feedback based on one student’s production or performance; this way of proceeding increases social interactions conducive to learning; it also offers the advantage of reducing the professor’s burden of corrections.**

Key question OBJECT OF DECISION	Principles and policies that should guide the evaluation of learning
<p>When?</p> <p>TIME AND FREQUENCY</p>	<p>THE DIAGNOSTIC EVALUATION</p> <p>1) A diagnostic evaluation must take place at the start of a course (first or second meeting).</p> <p>THE FORMATIVE EVALUATION</p> <p>2) The formative evaluation must be used regularly, at pivotal moments in the learning process and any time the teacher deems it necessary to check the impact of his teaching.</p> <p>THE SUMMATIVE EVALUATION</p> <p>3) All summative evaluations must take place at the end of a pivotal stage of learning. ("at the end" means the moment when most of the students should have completed that stage of learning)</p> <p>4. The definitive judgment that follows the summative evaluation must be made when it is no longer possible to go back over past content.</p> <p>(see principles listed under "HOW?" (the methods))</p>
<p>Of whom?</p> <p>SUBJECT(S)</p>	<p>THE SUMMATIVE EVALUATION</p> <p>1) The summative evaluation must be individualized, that is, the judgment must be based on indicators obtained from the <i>individual</i> whose learning we are trying to sanction. These indicators can also relate to a group activity.</p> <p>THE FORMATIVE EVALUATION</p> <p>2) It is not only unnecessary for the formative evaluation to be given in the form of an individual assignment, but it is practical for this type of evaluation to use collective methods for observation, judgment and feedback purposes.</p>

Key question OBJECT OF DECISION	Principles and policies that should guide the evaluation of learning
Of what? OBJECT(S)	<p>THE DIAGNOSTIC EVALUATION</p> <p>1) The diagnostic evaluation, administered in one or several more-or-less formal sections, must deal with all objects (concepts, beliefs, acquisitions, intellectual practices) likely to have an influence on learning.</p> <p>THE SUMMATIVE EVALUATION</p> <p>2) The summative evaluation within a course must deal <i>exclusively</i> with the objective(s) that was(were) clearly <i>stated</i> and <i>pursued</i> as the targeted learning for the course.</p> <p>THE FORMATIVE EVALUATION</p> <p>3) Any component that will be the object of the summative evaluation must first have been evaluated in a formative evaluation.</p> <p>4) The formative evaluation can also relate to goals that will not be the object of the summative evaluation (for example, certain basic education goals or students' personal goals).</p> <p>5) The formative evaluation deals with results and processes as well as with the student's judgment on the processes and results.</p>
Based on what? CRITERIA	<p>THE SUMMATIVE EVALUATION</p> <p>The summative evaluation of a student's learning must be an "evaluation established on a criteria-based interpretation", that is, the judgment must be given in comparison with a pre-determined standard (threshold of success) and based on pre-established criteria, and not in comparison with the student's performance at the beginning of the course (evaluation of progress) or in comparison with the performances of other students (normative evaluation).</p> <p>2) The diagnostic evaluation must enable the teacher and the students to get an overview of the situation:</p> <p>in relation to prior learning judged necessary (prerequisite threshold) to the pursuit of the targeted goal,</p> <p>in relation to factors likely to support learning or detract from it, in certain courses;</p> <p>in relation to the threshold to be achieved at the end of the course.</p> <p>THE FORMATIVE EVALUATION</p> <p>3) Even though the formative evaluation must enable the students to position themselves with regard to the threshold to be attained, it can also prove useful to compare their achieved level with a prior level of learning or with the performance of colleagues (to enlighten and stimulate).</p>

Key question OBJECT OF DECISION	Principles and policies that should guide the evaluation of learning
<p>In relation to what?</p> <p>POINTS OF COMPARISON</p>	<p>THE SUMMATIVE EVALUATION</p> <p>1) The summative evaluation must be based on criteria that are:</p> <ul style="list-style-type: none"> — predefined; — familiar to the students and understood by them; — the same for different groups of students who follow the same course. <p>2) The evaluation criteria must be:</p> <ul style="list-style-type: none"> — adapted to the learning objective; — adapted to the level of student training; — relative to the future context of transfer. <p>THE FORMATIVE EVALUATION</p> <p>3) The criteria used for summative evaluations must also be used for the formative evaluation so that students can incorporate them.</p> <p>Their use can be adjusted (progressive introduction; use only a few of them, use of various combinations; etc.).</p> <p>Other criteria can be used, for example, in the following two circumstances:</p> <ul style="list-style-type: none"> when they relate to training included in the program but are not the object of a summative evaluation within the course; when they are useful for a student's learning progress.

Key question OBJECT OF DECISION	Principles and policies that should guide the evaluation of learning
<p>To what point? REQUIREMENTS, THRESHOLD OF SUCCESS (STANDARDS)</p>	<p>THE SUMMATIVE EVALUATION</p> <ol style="list-style-type: none"> 1) The course requirements that form the basis for the summative evaluation of learning, must be achievable by the great majority of students in the course providing they benefit from quality teaching and do adequate personal, both qualitatively and quantitatively (respecting the weighting assigned to the course). 2) <ol style="list-style-type: none"> a) At the end of the program: the requirements must correspond to the entry level in the labour market or for university studies. b) At the end of the course: the requirements must be established to allow for a normal progression in the program. If a course represents the final stage toward a program objective, the condition stipulated in a) must apply. c) At the end of a stage in a course: the requirements must be established in order to enable, at the very least, a normal progression within the course, keeping in mind that certain components require a greater mastery than others (some require absolute mastery). <p>THE FORMATIVE EVALUATION</p> <ol style="list-style-type: none"> 3) The formative evaluation must motivate students to reach the greatest possible mastery of targeted learning; it must not orient students exclusively towards meeting the minimum threshold (standard for a passing grade)⁵⁸, even though it must provide students with opportunities to appropriate this standard and to judge where their learning stands in relation to it.

⁵⁸ Translated from Ulric Aylwin, “Quel niveau de compétence? Une ambiguïté fondamentale”, *Pédagogie collégiale*, vol. 8, n° 2, December 1994, p. 26 and 27.

Key question OBJECT OF DECISION	Principles and policies that should guide the evaluation of learning
By whom? AGENT (s)	<p>THE SUMMATIVE EVALUATION</p> <p>1) The teacher is the person responsible for the summative evaluation; his responsibility in this matter must be exercised while respecting the principles adopted by the institution and the department and, although this responsibility may be shared with teaching colleagues, it cannot be shared with the individual whose learning is being evaluated nor his peers.</p> <p>THE FORMATIVE EVALUATION</p> <p>2) It is not recommended that the teacher be the only evaluator. When training students, it is better if formative evaluation methods call upon peer evaluations and self-evaluation activities.</p>
How? METHODS	<p>THE SUMMATIVE EVALUATION</p> <p>1) The methods used to evaluate an objective must respect the nature of the objective as well as the criteria and the level of mastery sought (the links between objectives, criteria, levels and methods).</p> <p>2) The report card grade should reflect the degree of mastery of learning at the end of the course; it cannot simply be the total of grades taken at different moments during the training session (construction of the final grade).</p> <p>3) At the end of the course, there must be an overall test (one or more sections) dealing with the final course goal(s), in all its complexity and totality (final test).</p> <p>4) To achieve “success”, the student must pass the final test (this is an absolute requirement).</p> <p>5) A student who fails the final test despite having passed most of the tests leading up to it, should have the right to rewrite the exam (conditions for rewriting).</p> <p>THE FORMATIVE EVALUATION</p> <p>6) It is beneficial to vary the methods of using the formative evaluation (formal and informal, individual or group, oral or written, interactive or not, etc.).</p> <p>7) The methods adopted must always include feedback and offer possibilities for correction and adjustments in learning and teaching.</p>

Key question OBJECT OF DECISION	Principles and policies that should guide the evaluation of learning
<p>How? QUALITIES</p>	<p>FOR OVERALL EVALUATIONS</p> <p>1) <i>Transparency</i> Students must be clearly informed:</p> <ul style="list-style-type: none"> — of the general principles and rules prevailing in the evaluation of learning at the college and in the course; — of the various components making up the process of evaluation in each course. <p>THE FORMATIVE EVALUATION</p> <p>2) <i>Frequency and integration</i> The course must include frequent formative evaluations that are linked to the summative evaluation and well-integrated in the teaching and learning processes.</p> <p>THE SUMMATIVE EVALUATION</p> <p>3) <i>Accuracy</i> The evaluation methods used must evaluate with precision what we wish to evaluate. To accomplish this, we must ensure the validity of the evaluation tools as well as their reliability (in situations where reliability is relevant).</p> <p>4) <i>Fairness</i> In order to ensure fair student treatment in all courses, the summative evaluation for the overall course must avoid all forms of discrimination and be administered in accordance with common principles and guidelines (adopted by the institution and department responsible for the course).</p> <p>(Rules are to be applied in a considered and critical manner; with modifications if necessary).</p> <p>In addition, the summative evaluation must be equivalent for all students in the same course (whether it is the same professor or not).</p>

Key question OBJECT OF DECISION	Principles and policies that should guide the evaluation of learning
<p>Where? With what? For how long?</p> <p>CONTEXT OR CONTEXTS</p>	<p>THE SUMMATIVE EVALUATION</p> <ol style="list-style-type: none"> 1) The summative evaluation must take place in the most authentic context possible, relative to the goal(s) whose attainment we wish to evaluate. 2) The context must respect the principles adopted for the evaluation process. <p>THE FORMATIVE EVALUATION</p> <ol style="list-style-type: none"> 3) The formative evaluation can take place in contexts that differ from those of the summative evaluation, but they must also prepare students to work effectively in such contexts.
<p>How?</p> <p>METHODS</p> <p>For a final integrating objective relative to complex learning and, in certain cases, directly transferable outside of college studies.</p> <p>In addition to general principles mentioned earlier, we must also take into consideration the ones provided here.</p>	<p>THE SUMMATIVE EVALUATION</p> <ol style="list-style-type: none"> 1) The degree of achievement of complex learning is more appropriately expressed by a “snapshot” of the mastery of the various components in interaction, rather than the results of tests where components are evaluated separately (interaction rather than juxtaposition). 2) Tasks used to evaluate complex learning must reflect the complexity of this learning and must be as authentic as possible relative to the way in which the learning will be used beyond college studies (nature of the tasks). 3) They must make it possible judge the mastery of this complexity and, if necessary, the capacity to transfer (which the simple observation of a performance does not allow for). (nature of the test) 4) Evaluating the level of mastery of complex learning rests on an evaluation judgment and not on a measurement. (importance of the judgment) 5) To accurately evaluate the mastery level of complex learning, we must use more than one test. (number of tests) 6) The level of mastery of complex learning is more accurately reflected by resorting to a scale defined with levels (a few numbers) than by a scale defined with percentages. (rating scale) 7) The judgment of “success” must be based on a certain stability in demonstrating mastery of the integrating objective. (basis for determining final grade) <p>THE FORMATIVE EVALUATION</p> <ol style="list-style-type: none"> 8) The methods of formative evaluation must stimulate metacognition and self-evaluation.