

# FORMATIVE ASSESSMENT: ASSESSMENT FOR LEARNING



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Though formative assessment is a familiar concept to all teachers, it is implemented in various ways according to how it is conceptualized and characterized. For example, some teachers consider it a pre-test or a replication of the summative evaluation that consequently weighs down their workload with additional correction time outside of the classroom. Other teachers believe that students will not partake in formative assessment if “it doesn’t count”. As for developing stimulating and effective formative assessment activities, many teachers feel helpless when faced with the required preparatory demands.

Still, formative assessment represents a powerful pedagogical strategy that allows students to progress and to self-regulate during the learning stages of a course. In order to help teachers overcome the doubts that stop them from making full use of formative assessment in their classroom, this article presents an overview of the topic based on theoretical sources and on experience in postsecondary education. The objective is two-fold: to situate formative assessment within the broader scope of assessment practices, with respect to its characteristics and its use in the regulation of learning, and to encourage teachers to reflect upon the relevance and effectiveness of their own formative assessment practices<sup>1</sup>.

## THE FUNCTIONS OF FORMATIVE ASSESSMENT

The primary function of formative assessment is to support student learning. In some sources it is described as assessment *for learning* or *classroom assessment* (Smith, 2009). In conjunction with feedback provided on an on-going basis during the course, formative assessment allows for student learning to progress by bringing to the surface students’ strengths and weaknesses, and if necessary, pointing out how to overcome the challenges they face (Brookhart, 2010; Leroux, 2015; Scallon, 2015). This on-going assessment process serves learning by informing the teacher just as much as the students. For teachers, the information provided allows them to adjust the teaching content and rhythm. For students, an optimal formative assessment process engages them actively in becoming more responsible for their own learning and promotes self-regulation (Leroux et Bélair, 2015).

It is important to situate formative assessment in relation to other types of assessment typically used in a college classroom. *Diagnostic* assessment is normally used before starting new

course content or at the beginning of a learning step to verify students’ knowledge by soliciting their prior knowledge and representations of a specific topic. This information serves the teacher in establishing a profile of the students in their group, in adjusting the teaching rhythm or in planning any subsequent learning activities (Brookhart, 2010). Concerning the function of evaluating learning outcomes, two terms are used in the college network to designate it. *Summative* evaluation refers to evaluating learning outcomes at the end of a step, a learning sequence or a course. On the other hand, *certificate-based* evaluation encompasses the endorsement of competency levels achieved at the end of a course or a program.

From this perspective, formative assessment’s goal is to prepare students to achieve success in their summative as well as their certificate-based evaluations. This goal becomes optimal through a process called *regulation of learning*.

## REGULATION OF LEARNING

Characterized by four actions or operations, the regulation of learning is a process that optimizes formative assessment by providing precise solutions for helping students to progress and teachers to adjust instruction, where necessary. In a framework established by Allal (2007) and adapted by Leroux (2015), the four operations related to regulation from the teacher’s point of view are as follows:

- 1 **Set learning goals and direct the task** in accordance with clear expectations and success criteria;
- 2 **Monitor learning progress during the task** by comparing students’ work with the goals and criteria set out in the beginning;
- 3 **Provide descriptive and specific feedback during the task**, including both strengths and weaknesses;
- 4 **Confirm or redirect the learning path** by providing ideas to reduce or close the gap between the students’ work and the goals and criteria set out in the beginning.

According to Allal (in Leroux, 2015), these operations can occur at three precise moments: at the beginning of a task

<sup>1</sup> This article is based on formative assessment courses and workshops given by the author in PERFORMA programs and AQPC Training Activities [aqpc.qc.ca/en/training].



or a learning sequence to verify initial ideas or preliminary reflection or to guide subsequent learning steps and actions (proactive regulation); during the learning process of the task to monitor learning progress (interactive regulation); and, finally, at the end of a task or a learning sequence in the form of lessons learned (retroactive regulation). It is when proactive and interactive regulation are used more frequently that formative assessment becomes effective in reducing or closing the gap between student learning and the defined goals. This is because students are provided with the necessary feedback early in the learning process and so can adjust their work in a timely fashion during the task production.

Typically initiated by the teacher in an external way, regulation can be internalized by the student. When this takes place it is called *self-regulation*. This process allows students to control their own learning in an autonomous way. Students who achieve success adopt this behaviour intuitively through their ability to actively engage in a metacognitive process, to reflect on their learning and to make decisions to redirect their learning path. Formative assessment should then not only provide feedback, but guide students towards the path of self-regulation.

### ► TYPES OF FORMATIVE ASSESSMENT

Formative assessment can be either informal or formal. Informal formative assessment occurs naturally and spontaneously in a classroom setting or when guiding a student individually; specific tools are not necessary. However, many techniques can be employed to stimulate discussion and feedback, for example, open-ended questions (to generate elaborate answers), mirrored questions (to redirect a question to the student who asked it or to the group) and modelling (to explain one's thought process out loud during a task)<sup>2</sup>.

On the other hand, formal formative assessment is planned while establishing the course's comprehensive evaluation strategy, is supported by tools and is integrated into learning activities. It can be more appropriate when it is introduced in a timely fashion to monitor the progression of student learning during a task. This is why all existing learning activities in a course plan can represent an opportune moment to integrate formal formative assessment, for example, during problem solving, case studies, exercises, research tasks, or drafts of an essay, etc. The possible activities where students can get involved in their own assessment are infinite and so foster pedagogical and didactical creativity for teachers. However, like any strategy, one must limit the number of formal formative assessments in a semester to avoid the effect of routine.

Formal formative assessment does not need to copy the form and content of summative evaluations. It is not always necessary to replicate, during a formative assessment activity, the entire task that the student produces during the summative evaluation. Actually, it is more profitable for all students if the formal formative assessment focuses on typical errors or difficult subject matter and skills related to the course competencies and tasks. In this case, students will better perceive the value and interest of the formative assessment, because it targets specific aspects that can help them achieve better success in later summative evaluations. In effect, if students entertain negative perceptions about a pedagogical activity, they will not be motivated to partake in it.

### ► MOTIVATIONAL DYNAMICS AND PEDAGOGICAL ACTIVITIES

A reminder of student motivational dynamics as depicted by Viau (2015) reveals that three perceptions come into play when proposing formative assessment activities that imply the active involvement of students.

— First, students can question the perceived **value of the activity**, regarding its interest, usefulness or relevance, before engaging in the task at hand. This questioning is influenced by the nature of the student's academic goals, principally, whether they are motivated to learn or to perform. To help students judge favorably the value of a formative assessment task, the teacher should be explicit about the task's learning objectives and how they tie in with the course's summative evaluation as well as their usefulness in the student's overall program study.

— A second judgment that a student passes concerning an activity refers to their perceived **competency** or abilities to succeed in the task. Fluid communication with peers, clear instructions and the right to make mistakes will influence the student's perception of this dimension. If the student feels that their competency is threatened during the activity, on either the cognitive or socio-affective level, the student can decide to refrain from getting involved. The teacher should then give attention to the values instilled in the classroom setting to provide an environment that promotes effective learning while offering students training time to accomplish the task.

<sup>2</sup> For more in-depth strategies that promote reflective practice, please consult Chapter 9 "Développer la pratique réflexive des étudiants pour soutenir leur autoévaluation", coauthored by Christelle Lison and Chrystelle St-Laurent, in the book *Évaluer les compétences au collégial et à l'université: un guide pratique*, edited by Julie Lyne Leroux and published by l'AQPC in 2015.



— Lastly, a student may judge their perceived **agentic control over the activity**. In respect to this dimension, a student may ask if they have a say in certain choices within the boundaries and the conduct of the activity, or if they are active during the task or passively waiting for the teacher's feedback. This type of questioning crops up because of students' need for autonomy. To enhance students' perceived agency, the teacher must clarify the different roles in the classroom and leave some leeway for students to make choices during an activity, for example, in forming the work teams or in selecting the case study to work on. However, one must be careful not to transfer all control to students: they do not seek absolute autonomy, but rather the feeling that they have a certain say in an activity guided by the teacher.

These considerations do not claim to be magical solutions, but they can contribute towards optimizing formal formative assessment activities that encourage students to actively get involved and self-regulate.

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### ► THE STUDENT'S ROLE AS AN ASSESSOR

The best strategy to promote student involvement along with motivation during formative assessment activities is to allow them to play the role of the assessor. Even though a few formal methods exist that promote student involvement, a good number of teachers continue to take on the sole responsibility of correcting formative assessment. Not only does this weigh down their workload with stacks of documents and hours of correcting, this strategy renders the students passive regarding the analysis and the consideration of expectations and success criteria associated with the course activities. On this account, allowing students to actively get involved in their own assessment or that of their peers represents an excellent strategy that further enhances the development of competency and self-regulating abilities (Leroux, 2015).

When students play the role of the assessor, they then can focus on the expectations associated with using their competencies during different tasks. Thanks to training exercises guided by the teacher, students learn how to critically assess

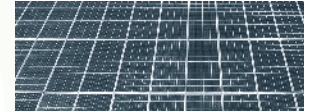
their learning or that of their peers, how to give significant feedback and how to engage in a metacognitive process of self-regulation. Three types of formal formative assessment can motivate students to invest themselves in this role: self-assessment, co-assessment and peer-assessment.

Self-assessment, where the student assesses their own work, procedures or performance, and peer-assessment, where students assess each others' work, represent familiar types of formal assessment. Co-assessment, less commonly known, is a hybrid version where the teacher performs an assessment based on the student's self-assessment or peer assessment. For the teacher, this type of assessment should be considered to avoid correction overload while still allowing them to intervene during the assessment process to confirm or refine the student's feedback. Nevertheless, when giving assessment tasks to students, the teacher must accept to give up some control in the classroom setting; this means keeping a close eye on class management, and sometimes, reverting to alternative solutions if things do not unfold according to plan.

### ► THE INSTRUMENTATION OF FORMAL FORMATIVE ASSESSMENT

In order to formalize the formative assessment process, it is important to emphasize that a criterion-based assessment tool absolutely must guide the regulation process regardless of the formal assessment type. Such instrumentation stems from learning objectives, success criteria, task instructions and formative assessment grids (Leroux, 2015). In addition, students must be informed of the instrumentation before embarking on the task; this ensures that expectations are transparent and provide students with benchmarks for completing the required task. When providing students with all the information and the tools required for formal formative assessment, the teacher opens the gateway to sharing responsibility for self-regulation of learning.

One might think that the use of a summative evaluation grid during formal formative assessment represents a coherent practice since both target the same objectives and success criteria. However, this practice does not always guarantee the success of a formal formative assessment activity, especially when students are in the role of the assessor. This is because certain parts of the summative evaluation grid may not be *student-friendly*. In this case, it is wise to verify certain elements, such as those highlighted in the box on the next page.



- Is the assessment grid **easy to handle**: is it presented on only a few pages?
- Is it **easy to understand**: is it worded in terms that are appropriate for a novice assessor?
- Is it **easy to follow**: does it contain clear instructions?
- Does it **help focus on the task**: is it explicit in presenting the learning objectives, the success criteria, the indicators and the expected performance levels?
- Is it **easy to use**: does it provide metacognitive questions to trigger self-regulation and areas to document feedback?
- Is it **free of weighting and grading points**: does it guide the critical analysis towards the learning process rather than the result?

While analyzing a summative evaluation grid, if one or more of these questions yields a negative answer, it would be wise to consider adapting the task's didactic tools and material to suit the formative assessment context to help students use the tools successfully and provide useful feedback. Given the learning context and pursued goals, different types of grids and scales can be used, for example, a checklist with a dichotomous scale, a grid with a uniform rating scale, or a rubric with an analytical descriptive scale<sup>3</sup>.

Moreover, it is necessary to train students in using assessment tools to self and peer-assess. Durand and Chouinard (2012) mention that success criteria and their indicators should be explained to make sure that students have a common understanding and adhere to them. In doing this, some teachers use class discussions so that students get familiar with success criteria and restate them in their own words. Other teachers prefer to establish success criteria with their students by using examples of expected productions. Lastly, training activities including exercises using assessment grids and work produced in past years demonstrating different performance levels allows students to develop a critical eye towards success criteria and their indicators. Whichever the method employed by the teacher to ensure that the tools are understood by all, students should find the task easier when the time comes to self-assess their own productions or that of their peers, which in turn will enhance their perception of competency and agency. Using the assessment grid, the teacher and the students must provide descriptive, specific and useful feedback identifying strengths and areas for improvement, with a view to proposing actions to bridge the gap between the learning and the expectations. The quality of this feedback is an essential aspect of a meaningful and constructive formative assessment.

## FEEDBACK

Related to steps 3 and 4 of the regulation of learning, effective feedback provides useful, specific and descriptive information. For Brookhart:

“The power of formative feedback lies in its double-barreled approach, addressing both cognitive and motivational factors at the same time. Good feedback gives students information they need so they can understand where they are in their learning and what to do next – the cognitive factor. Once they feel they understand what to do and why, most students develop a feeling that they have control over their own learning – the motivational factor.” (2008, p. 2)

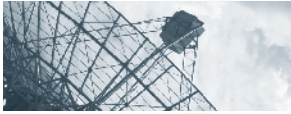
Hattie and Timperly have developed a four-level feedback model (2007, in Brookhart, 2008). [Table 1](#) summarizes them by associating the aspects addressed by each one.

The nature of feedback, whether to emphasize strengths or highlight improvements, has more positive effects on student learning if it relates to the task (cognitive) or process (methodological) and is based on success criteria and expectations. Metacognitive feedback may be beneficial if the student perceives that by increasing their efforts and attention to their metacognitive strategies, they can more easily achieve their goals. Emotional feedback that targets the student as an individual is to be used with caution because it contains little or no descriptive and specific elements related to learning as such. Hattie (2012) even advises that this type of feedback be reserved outside the scheduled time for feedback on the other three levels, as the message associated with learning may be diluted.

In any case, it is wise for feedback to target the various aspects of the task instead of targeting the student as a person. Even when giving the required attention to effective feedback, it is impossible to predict the student's interpretation of it. According to Laveault (2004), we must not underestimate the effect of the choice of words and tone used in giving written or oral feedback to the student, because they are as important, if not even more important, than the content of the message<sup>4</sup>.

<sup>3</sup> To learn more about different types of assessment grids, please consult Chapter 6 “Concevoir des grilles d'évaluation à échelle descriptive”, coauthored by Julie Lyne Leroux and Angela Mastracci, in the book *Évaluer les compétences au collégial et à l'université: un guide pratique*, edited by Julie Lyne Leroux and published by l'AQPC in 2015; or the book *Construire des grilles d'évaluation descriptives au collégial*, written by France Côté, published in 2014 by Presses de l'Université du Québec.

<sup>4</sup> The author examines correcting as a motivational tool.



**TABLE 1**

**A FOUR-LEVEL FEEDBACK MODEL\***

FEEDBACK...	ASPECTS ADDRESSED BY EACH FEEDBACK LEVEL	
... on the <b>COGNITIVE</b> level addresses...	<ul style="list-style-type: none"> <li>the qualities associated with the production or the task</li> <li>the correctness of the answer or the result</li> </ul>	<ul style="list-style-type: none"> <li>any errors</li> <li>what is missing (to meet expectations)</li> </ul>
... on the <b>PROCEDURAL</b> level addresses...	<ul style="list-style-type: none"> <li>the relevance of a structured methodology</li> <li>the correctness of the process or strategies used in completing the task</li> </ul>	<ul style="list-style-type: none"> <li>any errors</li> <li>what is missing (to meet expectations)</li> </ul>
... on the <b>METACOGNITIVE</b> level encourages a student to reflect on...	<ul style="list-style-type: none"> <li>self-regulatory strategies that were employed</li> <li>their learning capacities</li> </ul>	<ul style="list-style-type: none"> <li>processes related to a future task</li> <li>what is missing (to meet expectations)</li> </ul>
... on the <b>PERSONAL</b> level addresses...	<ul style="list-style-type: none"> <li>the student as in individual</li> <li>aspects related to encouragements and motivation</li> </ul>	<ul style="list-style-type: none"> <li>aspects confirming their competency</li> </ul>

\* Adapted from Brookhart (2008) and from Durand and Chouinard (2012)

Moreover, according to the research cited in Brookhart (2008), students place more value on descriptive comments if they are not accompanied by numerical grades. This is an argument for the use of formative assessment tools built to bring out qualitative rather than quantitative appreciation. In addition, highlighting the strengths of the task before exposing areas for improvement is an effective strategy, especially for students with learning difficulties, as this can contribute positively to their sense of competency to complete the task.

When students play the role of assessors, they may need even more time to assess, find it difficult to criticize their friends,

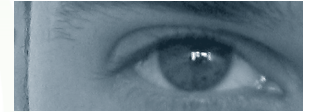
question their peers' feedback or doubt their own ability to judge the work of their peers. To help them overcome these difficulties, in addition to paying attention to the formation of teams or proposing co-assessment as a form of practice, the teacher can train students on how to provide relevant and constructive feedback (Durand and Chouinard, 2012). Regarding the provision of relevant and constructive feedbacks to peers, Hattie (2012) proposes a three-level question model to guide students in this task. **Table 2** presents them with some typical questions for students to help them give relevant and constructive feedback.

**TABLE 2**

**A THREE-LEVEL MODEL FOR GUIDING STUDENTS IN THE PROVISION OF FEEDBACK\***

LEVEL	TYPICAL QUESTIONS
<b>TASK:</b> <i>Where is the student going?</i> <i>What is the result?</i>	<ul style="list-style-type: none"> <li>Is the answer correct / incorrect according to the criteria?</li> <li>What did the student do correctly / incorrectly?</li> <li>What other information is needed to meet the expectations and the criteria?</li> </ul>
<b>PROCESS:</b> <i>How did the student get there?</i>	<ul style="list-style-type: none"> <li>What strategies were used?</li> <li>What is right / wrong and why?</li> <li>What other information could help the student during the process leading up to the result?</li> </ul>
<b>SELF-REGULATION:</b> <i>Where is it leading the student next?</i>	<ul style="list-style-type: none"> <li>How can the student monitor their own work and process?</li> <li>How can the student assess the provided information?</li> <li>How can the student reflect on their own learning?</li> </ul>

\* Adapted from Hattie (2012, p. 149)



## CONCLUSION

For the teacher, formative assessment makes it possible to target individual student difficulties, to identify learning profiles for a group and thus to adjust their teaching, either by moderating the rhythm or by adapting the nature of the learning activities. It can even help reduce the amount of correction time outside the classroom, provided the professor allows their students to participate in self or peer-assessment through formal formative assessment activities using tools. In this context, the teacher adopts the role of coach, guide, facilitator and sometimes learner in relation to the observations and feedback of their students. Their job is therefore to implement pedagogical activities that support the construction and progression of their students' learning, through explicit and adequate support at the beginning of the learning process, which is then gradually reduced to promote autonomy in the learning process.

For students, formative assessment allows them to take some responsibility for their training by actively getting involved in the activities submitted by the teacher. It also gives them the opportunity to receive frequent and specific feedback based on clear success criteria and expectations, to get a profile of their strengths, weaknesses and necessary improvements in order to help them move forward with confidence in their learning. In addition, if formative assessment is practiced in a context where making mistakes is welcomed (without any grades given to the task, for example), this allows students to take risks in their learning. They are then invited to take on the role of constructive learners, motivated collaborators, assessors and occasionally experts in the support they can provide to peers. Of course, for this context to be viable, the classroom environment must provide conditions conducive to learning where the teacher, through communication and their choice of strategies, fosters cooperation and security while minimizing unhealthy competition and unnecessary stress. This type of environment becomes more effective when the teacher conveys clear values in the classroom, including amongst others, openness to others, commitment, mutual aid, trust, democracy, risk taking, pleasure and solidarity (Rouiller and Howden, 2010). ◀▶

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