

Mechanisms and Classroom Practices Through Which Formative Assessment Supports Self Regulated Learning

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Abstract

Classroom assessment can support learning processes as well as judge learning outcomes. By collecting and interpreting evidence of learning, formative assessment helps teachers adjust instruction and enables students to identify problems, select strategies, and improve their work. This article combines literature analysis with illustrative classroom scenarios to examine the mechanisms and conditions through which formative assessment supports self-regulated learning. It argues that clear learning goals, an understanding of assessment criteria, actionable feedback, and opportunities for further practice are essential links between assessment and student regulation. Comparing examples can develop judgments of quality, while self-assessment and peer assessment provide opportunities to justify those judgments with evidence. However, increasing the frequency of assessment does not necessarily improve learning; students must understand feedback and be able to use it. An argumentative writing scenario illustrates how discussion of criteria, drafting, peer feedback, revision, and reflection can form a connected learning sequence. The scenario is a proposed instructional design rather than a completed teaching experiment. Implementation requires attention to classroom time, differences in students' capabilities, the quality of peer advice, and a climate in which students can acknowledge difficulties. Classroom practice should embed assessment in instruction, provide differentiated support, and gradually transfer responsibility for judgment and regulation to students. Further research should test effects on revision quality and strategy transfer and examine whether students maintain self-regulation as teacher prompts are reduced.

Keywords: formative assessment, self-regulated learning, classroom instruction, learning feedback, self-assessment

1 Introduction

Students often know the score they have received without understanding where their difficulties lie or how to improve. For example, after receiving the comment that an essay lacks specific content, a student may simply write more rather than learn to use details to support an argument. This illustrates a possible gap between assessment information and learning action.

Formative assessment concerns the use of learning evidence to improve teaching and learning as they occur. Black and Wiliam's (1998, 2009) review and subsequent theoretical discussion locate assessment within classroom interaction and instructional adjustment, emphasizing the actual use of evidence. For teachers, assessment helps establish the extent of students' understanding. For students, it should also support the gradual development of ways to judge and adjust their own learning.

This article examines how formative assessment supports self-regulated learning, focusing on its mechanisms, classroom practices, and limitations. The classroom scenarios are illustrative designs rather than reports of an implemented teaching experiment.

2 Theoretical Connections Between Formative Assessment and Self Regulated Learning

2.1 Using Evidence of Learning

Formative assessment may involve classroom questions, short exercises, or discussion of student work. Its defining feature is the use of the resulting information in subsequent teaching and learning decisions (Black & Wiliam, 2009). A test used only to record scores offers limited diagnostic value. When teachers explain common errors and students adjust their practice accordingly, test information becomes part of an improvement process.

Sadler (1989) connects formative assessment with students' understanding of quality standards, comparison of their current performance against those standards, and action to close the gap. Assessment must therefore translate results into information students can understand and use.

2.2 Developing the Capacity to Regulate Learning

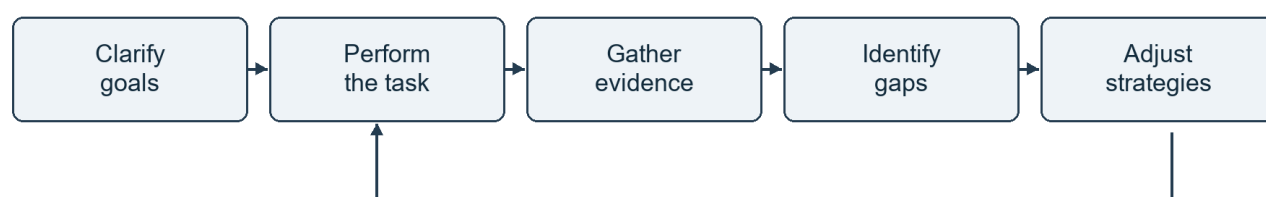
Self-regulated learning here refers primarily to students' capacity to set goals, monitor progress, adjust strategies, and reflect on outcomes during learning activities. Zimmerman (2002) emphasizes learners' active participation, while Panadero's (2017) review shows how relevant models address cognition, motivation, and emotion.

Completing a task independently does not establish that a student has developed these capacities. A student may finish homework on time without being able to judge whether the method used was effective. Assessment should therefore provide opportunities to practice judgment, explain difficulties, and select strategies.

Nicol and Macfarlane-Dick (2006) connect formative assessment with self-regulated learning and emphasize feedback practices that develop students' capacity for self-assessment. The connection lies in students' use of assessment information to regulate subsequent action.

Figure 1

A Theoretical Cycle Linking Formative Assessment and Self Regulated Learning



Note. Author-created conceptual illustration.

3 Mechanisms Supporting Self Regulated Learning

3.1 Clarifying Goals and Criteria

If a task requires only the completion of an essay, students may equate success with meeting the required length. Teachers can instead express goals as observable performances, such as stating a clear position, using relevant examples, and explaining how examples support the position. These expectations enable students to check their work and provide a shared basis for discussion. Criteria should remain manageable and emphasize the most important learning priorities at the current stage.

Rubrics can communicate expectations for quality, but their value depends on how they are used. Panadero and Jonsson's (2013) review of formative uses of rubrics indicates that rubrics must be understood within instructional activities. Distributing a scoring sheet alone cannot be assumed to improve learning.

3.2 Developing Judgment Through Examples

Students may not immediately understand abstract expectations such as adequate argumentation or clear expression. Teachers can provide two anonymous passages and ask students to explain which supports its position more effectively. Students then apply the same criteria to their own work, marking where expectations are met and where revision is needed. Andrade's (2019) review of student self-assessment provides a research basis for discussing such checking and revision against criteria.

Self-assessment should require evidence. For example, a claim that the evidence in an essay is adequate needs to be linked to specific passages and explanations. This turns a general impression into a reasoned judgment.

3.3 Turning Feedback Into Action

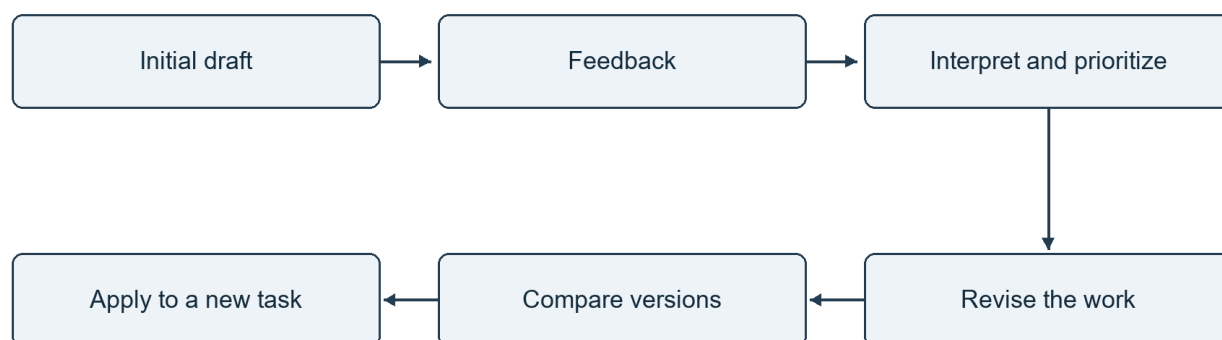
Feedback should help students understand the gap between their current performance and the goal. Hattie and Timperley (2007) and Shute (2008) discuss feedback content, functions, and implementation conditions from different perspectives. Rather than merely encouraging a student to keep trying, a teacher might explain that the second paragraph states a position but does not explain its example, then ask the student to show how that example supports the position. This guidance is easier to translate into revision. Teachers should also limit the amount of feedback and prioritize problems that most affect task quality.

More feedback is not necessarily better. Wisniewski et al.'s (2020) meta-analysis shows variation in feedback effects, so different forms of feedback should not be treated as equivalent. Classroom practice should examine whether students understand the advice and whether it suits their current capabilities.

3.4 Supporting Feedback Use and Further Practice

Students may receive feedback but take no further action because they do not understand it, disagree with it, or do not know how to respond. Carless and Boud's (2018) feedback literacy framework addresses students' capacities to appreciate feedback, make judgments, manage affect, and take action.

Winstone et al.'s (2017) systematic review likewise emphasizes learners' active engagement in feedback processes. Teachers can ask students to select one suggestion, write a revision plan, and explain why they accept or reject it. Instruction also needs to reserve time for revision. Boud and Molloy (2013) emphasize the design of learning activities through which students can continually generate and use feedback.

Figure 2*From Feedback to Learning Action*

Note. Author-created conceptual illustration.

4 Classroom Implementation Through Argumentative Writing

4.1 Establishing the Task and Reviewing Drafts

Formative assessment can be organized around a complete task. For an essay on whether schools should allocate more time to independent reading, the teacher first identifies three priorities: a clear position, relevant evidence, and sufficient explanation.

Before writing, students compare example texts and discuss the difference between listing an example and explaining it. Their explanations help the teacher determine whether they understand the criteria. After completing a first draft, students identify their position and evidence and check the connection between them. Peer assessment follows, with each reviewer identifying one strength supported by evidence and one actionable suggestion.

Double et al.'s (2020) meta-analysis supports the potential of peer assessment to improve academic performance, but this overall finding does not guarantee equivalent effects in every classroom activity. Teachers still need to model assessment practices and check the quality of advice.

Table 1*A Classroom Sequence for Formative Assessment*

Stage	Student activity	Teacher support
Understand criteria	Compare examples and explain judgments	Explain key expectations for quality
Produce a first draft	Organize a position and supporting evidence	Identify common difficulties
Self and peer assessment	Make judgments using the criteria	Model specific feedback
Revise the work	Select suggestions and explain decisions	Provide targeted guidance
Reflect and transfer	Identify strategies for future use	Check independent application

4.2 Revising and Transferring Strategies

Students may accept peer advice or offer a reasoned disagreement. Teachers should attend to the reasons for their judgments rather than treat acceptance of every suggestion as evidence of engagement. After revision, students compare the two versions and explain the most important change and its effect. In a later writing task, the teacher checks whether students can use the same strategy independently. This distinguishes improvement in a single piece of work from the development of transferable capability.

5 Implementation Conditions and Practical Limitations

5.1 Allocating Classroom Time

First, formative assessment must account for classroom time. Multiple rounds of peer assessment for every task may displace necessary practice. Teachers should select key tasks, focus on a small number of important problems, and use common errors as a basis for whole-class feedback.

5.2 Supporting Peer Judgment

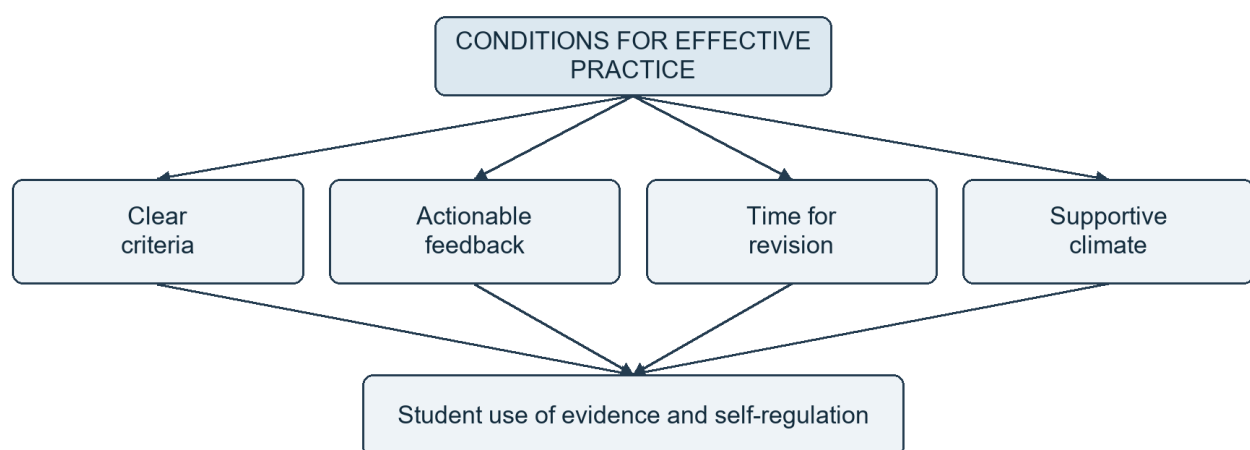
Second, peer judgments may be influenced by social relationships and differences in capability. Discussion of examples, assessment practice, and teacher review where necessary can improve judgment quality. Students who need additional support can receive sentence prompts or checking questions, with scaffolding gradually reduced over time.

5.3 Creating a Supportive Assessment Climate

Third, the assessment environment should allow students to acknowledge difficulties. If every attempt immediately contributes to high-stakes rankings, students may focus on avoiding mistakes. Some practice activities can serve primarily diagnostic and improvement purposes, leaving space for discussion and revision.

Figure 3

Conditions for Formative Assessment to Support Self Regulated Learning



Note. These conditions require coordination within each classroom.

5.4 Adapting Across Educational Stages

The cited literature also covers different educational stages, and some feedback research focuses on higher education. Application to primary and secondary education requires adaptation to students' ages, disciplinary characteristics, and the degree of teacher guidance. Evaluation should combine attainment, revisions to student work, explanations of strategies, and performance on new tasks.

6 Conclusion

Formative assessment supports self-regulated learning when assessment information becomes part of students' learning actions. Students need to understand goals, judge their current performance, recognize gaps, and select their next strategies. Assessment can support sustained improvement only when feedback is interpreted, tried, and checked.

Clear criteria provide a basis for self-judgment, while actionable feedback and further practice connect problem identification with behavioral adjustment. Self-assessment, peer assessment, and revision give students opportunities to practice judgment. Teachers need to model these practices, provide support, and gradually transfer more decision-making responsibility to students.

The contribution of formative assessment is conditional. More tests, rubric distribution, or additional comments do not independently guarantee learning gains. Classroom design must consider whether students understand the criteria, can use the advice, and have the time and resources to make improvements.

This article uses literature analysis and illustrative classroom scenarios and does not directly test the proposed practices. The recommendations are therefore instructional designs requiring validation. Future studies could compare how different feedback approaches affect revision quality and strategy transfer and follow whether students maintain self-regulation as teacher prompts are reduced.

Educational assessment should help students develop reasoned self-understanding: identifying problems, explaining their causes, trying adjustments, and judging whether those adjustments work. Its educational value lies in the sustained development of this capacity to learn.

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AI Use Declaration

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