

Formative Assessment: A Significant Facilitator of Student Learning

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“Education is the most powerful weapon that we can use to change the world.”
–Nelson Mandela

IN RECENT decades, formative assessment has garnered substantial interest of teachers and educational researchers. Definitions of formative assessment vary in the literature. Relatively well-accepted among them is the one that describe it as the process of seeking and interpreting evidence for learners and their teachers to determine where the learners are in their learning, where they need to go and how best to get there (Antoniou & James, 2014). As opposed to summative assessment, formative evaluation gives comprehensive evaluation and feedback throughout the learning process of students, with the purpose of assisting students in identifying learning gaps, modifying learning methods, and enhancing learning outcomes. Common forms of formative assessment include quizzes, observation records, face-to-face conversations, questionnaires, feedback, student self-assessment, etc. It is meant to evaluate not only students’ academic performance but also their progress in learning attitudes, learning strategies, emotional skills, and other aspects (Wu, 2023).

For students, formative assessment allows them the opportunities for a better understanding of their learning status. Through timely, specific feedback, students can identify both their merits and shortcomings, reflect on and adjust their learning methods, and thus, formulate learning plans that better suit their needs (Cao, 2024). Moreover, formative assessment can significantly increase students’ engagement in schoolwork, as it is typically embedded in every process of study, so supporting student active learning. Also, formative assessment can effectively stimulate learning motivations in students. The display of their progressive advancement in learning has the potential to enhance their senses of satisfaction and confidence, which in turn piques stronger interest in learning in them (Yang, 2023). In addition, self-assessment and inter-peer assessment entailed in formative assessment are beneficial for fostering students’ reflective and critical thinking abilities.

For teachers, formative assessment is a valuable instrument for optimizing instructional outcomes. With formative assessment, teachers can flexibly use various devic-

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es to obtain information about students' learning progress, which helps optimize instructional objectives and improve teaching efficacy. Through predictive assessment, teachers understand students' prior knowledge and skills on a certain subject and develop teaching plans suitable for their current learning circumstances (Chen, 2023). In the process of instruction, they can engineer effective classroom discussions and Q & A activities to elicit evidence of student understanding; provide feedback that moves learners forward; and administer phased evaluation using assignments and quizzes to determine the ensuing teaching content. In this process, teachers modify their instruction and activities according to the assessment information, and students are activated to be the owners of their own learning (Chen, 2023). As a result, formative assessment is distinguished by its effects in boosting teaching outcomes.

Examination of Effects of Embedding Formative Assessment in Inquiry-Based Teaching on Conceptual Learning in this issue of the journal is an investigation of the impact of formative assessment on students' understanding of physics concepts in inquiry-based learning. The mixed method experimental research design was adopted to include both qualitative and quantitative data in the study. The results of quantitative analysis showed that the experimental group who were taught with the method of formative assessment-embedded inquiry-based teaching performed better in conceptual learning than the control group. The results of qualitative analysis supported the said finding and shed light on how the integration of formative assessment with inquiry-based learning enhanced students' grasp of concepts (Koksalan & Ogan-Bekiroglu, 2024). The article provides a deep insight into the role of formative assessment in implementing inquiry-based learning, a student-centered instructional strategy, in the classroom.

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