Understanding the fundamental differences between formative and summative assessment

BY
[1]Satish Prakash Chand ID, [2]Karishma Pillay ID

[1]Assistant Professor in Education, College of Humanities & Education, Fiji National University, Fiji.
[2]Assistant Lecturer, Department of Secondary and Sports Education, College of Humanities & Education, Fiji National University, Fiji.

Abstract

Assessment in education is an important tool for evaluating student learning and guiding instructional approaches. Two primary assessment types, formative and summative, offer distinct, but complementary methods for evaluating and enhancing student learning. This paper presents a comprehensive analysis of the differences between formative and summative assessments, defining their unique characteristics, objectives, and implications in educational settings. Formative assessment, which is also known as assessment for learning, is characterized by its continuous feedback provision, emphasising ongoing improvement throughout the learning process. It prioritises descriptive and timely feedback to guide students' understanding of their strengths and areas for improvement. On the contrary, summative assessment, which is also known as assessment of learning, marks the conclusion of a learning phase, providing a conclusive judgment of overall student achievement against predefined standards. The implications of formative assessment lie in its support for personalised learning and continuous improvement, while summative assessment extends to final evaluations and decisions about students' achievements. Integrating both types of assessment offers a comprehensive understanding of student progress, fostering differentiated instruction and informed decision-making within education, ultimately contributing to continuous growth and development among students. Therefore, teachers should consider using the strengths of both assessments to create an inclusive learning environment that caters to diverse student needs and promotes holistic student success.

Keywords: formative assessment, summative assessment, assessment types, student learning, assessment for learning, assessment of learning

Introduction

Assessment is a vital component of the educational process, serving as a critical tool for evaluating student learning and informing instructional strategies. There are two primary types of assessment: formative and summative. These assessment methods have distinct purposes, including measuring student progress, understanding their capabilities, and guiding future learning strategies. This article provides an in-depth examination of the differences between formative and summative assessment, exploring their unique characteristics, objectives, and implications in educational settings.

Formative Assessment: Characteristics and Purpose

Formative assessment, which is also known as the assessment for learning is an essential component of the educational process, distinguished by a range of defining characteristics and serving specific purposes in promoting student learning. As Black and Wiliam (1998) and Menéndez et al. (2019) assert, formative assessment is primarily characterised by its emphasis on continuously providing feedback to both students and teachers throughout the learning process. Its aim is to improve learning outcomes by identifying areas of strengths and weaknesses, thereby allowing adjustments to teaching approaches that foster student development.

Formative assessment is characterised primarily by its emphasis on providing timely and specific feedback that serves not only as an evaluative tool but also as a guide for students to understand their strengths and areas that need improvement (Cisterna & Gotwals, 2018; Morris et al., 2021; Nicol & Macfarlane-Dick, 2006). Constructive, descriptive, and focused on fostering learning rather than assigning grades, this feedback loop helps students actively engage with

the material and encourages self-reflection, allowing them to take ownership of their learning process.

Another essential characteristic of formative assessment is its iterative nature, as it is not a one-time event, but rather an ongoing process integrated into daily classroom activities (Nishizuka, 2022; Sadler, 1989). Teachers employ various methods, such as quizzes, discussions, observations, and peer assessments, to continuously gauge student understanding. This ongoing evaluation allows for adjustments in teaching strategies, enabling teachers to tailor their instruction based on real-time feedback, thus meeting the diverse needs of their students.

The primary purpose of formative assessment is to support learning. As highlighted by Black and Wiliam (1998) and Greenstein (2010), formative assessment strategies are designed to monitor student progress, identify areas of difficulty or misconception, and guide instructional decisions to improve learning outcomes. By offering immediate feedback and opportunities for students to correct misunderstandings or gaps in knowledge, formative assessment helps build a strong foundation for further learning. Ultimately, its goal is to facilitate growth, encourage a positive learning environment, and promote student success.

Summative Assessment: Characteristics and Purpose

Summative assessment, which is also known as assessment of learning, is a vital evaluative tool in education that differs from formative assessment in terms of its specific characteristics and intended objectives. According to Gronlund and Brookhart (2016) and Mogboh and Okoye (2019), summative assessment occurs at the end of a learning period and provides an overall judgment of student achievement against established standards or learning objectives. One of the primary characteristics of summative assessment is its conclusive nature, as it marks the endpoint of a learning phase, typically at the conclusion of a unit, course, or academic period, where students' knowledge and skills are assessed comprehensively (Sah, 2021; Stiggins, 2002). Contrary to formative assessment, which focusses on ongoing feedback and improvement, summative assessment focusses on assigning grades or making final judgments about student achievement.

The primary goal of summative assessment is to evaluate and summarise overall learning outcomes of students. It serves as a benchmark to measure students' proficiency against predetermined criteria, often employed for grading purposes and certification decisions (Gronlund & Brookhart, 2016). The results of summative assessments provide a snapshot of what students have learnt throughout the learning period and are used to determine their level of competency in a specific subject or curriculum.

Summative assessments can take various forms, including standardised tests, final exams, culminating projects, or end-of-term papers, depending on the educational context and learning objectives (Kariri et al., 2022; Stiggins, 2002). These

assessments aim to provide a comprehensive and conclusive evaluation of student learning, allowing teachers and institutions to make decisions regarding students' progress and proficiency.

Distinguishing Between Formative and Summative Assessment

Formative and summative assessments are two distinct types of evaluations in education that differ in their characteristics, timing, purposes, and implications for student learning. Formative assessment, as outlined by Black and Wiliam (1998) and Menéndez et al. (2019), is a continuous and ongoing process that occurs during the learning journey. Its primary focus is to provide immediate feedback to enhance learning, with the intention of guiding instructional decisions and supporting student growth. This type of assessment emphasizes descriptive and constructive feedback that aids students in understanding their strengths and weaknesses, fostering a growth mindset by encouraging active engagement with the learning process (Nicol & Macfarlane-Dick, 2006; Zeng et al., 2018)). It occurs iteratively through various techniques integrated into classroom activities, such as quizzes, discussions, peer assessments, and self-assessment activities, with the objective of monitoring student progress and shaping teaching strategies in real-time (Chen, 2023).

On the other hand, summative assessment serves a different purpose and occurs at the end of a learning period, marking a fixed point for evaluation. According to Dolin et al. (2017) and Yorke (2011), summative assessment aims to provide a summary judgment of student achievement against predetermined criteria. Unlike formative assessment, which focusses on feedback and improvement, summative assessment is more concerned with assigning grades or making final determinations about student proficiency in a particular subject or curriculum. Its primary purpose is to evaluate and certify students' overall learning outcomes, often through standardised tests, final exams, or culminating projects (Kariri et al., 2022; Stiggins, 2002).

The distinctions between formative and summative assessments are notably significant in their implications. Formative assessments facilitate learning by offering continuous feedback, empowering students to recognise areas in need of enhancement and adjust their learning techniques accordingly (Black & Wiliam, 1998; Menéndez et al., 2019). This type of assessment helps inform instructional decisions and fosters a nurturing learning environment. In contrast, summative assessment serves as a conclusive judgment of student achievement, providing a snapshot of overall performance against established standards or learning objectives (Gronlund & Brookhart, 2016). These assessments often carry greater stakes, such as determining grades or certifications, and may place less emphasis on providing timely feedback for improvement.

Implications for Education

Formative and summative assessments have significant consequences for education, influencing instructional

strategies, student learning experiences, and overall academic results.

The implications of formative assessment are crucial in improving teaching and learning practices. As Black and Wiliam (1998) and Menéndez et al. (2019) highlighted, formative assessment offers continuous feedback to students during the learning process. This feedback helps identify areas of strength and weakness, enabling instructors to adapt their teaching methods and content delivery to meet individual student needs (Nicol & Macfarlane-Dick, 2006; Zeng et al., 2018). Consequently, it cultivates a supportive learning environment that encourages student engagement and self-reflection (Gashi-Shatri & Zabeli, 2018; Ndoye, 2017). Teachers use formative assessment data to adjust instructional strategies, provide timely interventions, and scaffold learning experiences, ultimately improving student achievement and fostering a growth mindset (Hattie & Timperley, 2007).

Summative assessment, while serving a different purpose, has considerable implications for education. It provides a snapshot of students' overall achievement in relation to predetermined standards or learning objectives (Gronlund & Brookhart, 2016; Mogboh & Okoye, 2019). The outcomes of summative assessments are instrumental in determining students' grades, certifications, or progress at the conclusion of a learning period (Bazvand & Rasooli, 2022; Stiggins, 2002). These implications can impact various aspects of education, including student motivation, academic progression, and educational pathways. Significantly, high-stakes summative assessments, such as standardised tests, can influence educational policies, curriculum development, and institutional accountability (Gronlund & Brookhart, 2016). However, relying solely on summative assessment for evaluation may overlook individual student progress and diverse learning needs, potentially compromising the educational process.

Incorporating formative and summative assessments is essential for developing a balanced and effective assessment framework in education. Formative assessment practices complement summative assessments by providing continuous feedback and opportunities for students to enhance their learning outcomes (Black & Wiliam, 1998; Menéndez et al., 2019). When combined, these assessment types offer a comprehensive understanding of student progress, supporting differentiated instruction, and fostering a holistic appreciation of students' abilities and learning journeys (Nicol & Macfarlane-Dick, 2006).

Formative assessment has significant implications for the promotion of personalised learning and continuous improvement, while summative assessment's implications extend to final evaluations and decisions related to students' achievements. Both types of assessments play a crucial role in shaping educational practices, policies, and student learning experiences, highlighting the importance of their thoughtful integration within educational systems.

Conclusion

Formative and summative assessments are essential components of the educational landscape, each serving unique but complementary roles in shaping teaching practices and student learning experiences. The distinction between these types lies not only in their characteristics and objectives but also in their far-reaching implications for education.

Formative assessment is characterised by its ongoing provision of feedback, emphasising improvement throughout the learning process. It cultivates an environment conducive to personalised learning, empowering students to take ownership of their educational paths by addressing weaknesses and refining strengths. Teachers use formative assessment data to fine-tune instructional approaches, thus fostering a nurturing learning environment that encourages growth and self-reflection.

In contrast, summative assessment signifies a conclusive evaluation, marking the culmination of a learning phase. It offers an overall judgment of student achievement relative to predetermined standards. Although its primary function involves validating student learning outcomes, its implications extend to educational policies, curriculum development, and institutional accountability, influencing various aspects of the educational landscape.

Integration of formative and summative assessments offers a comprehensive understanding of student progress and proficiency. By combining these assessment types, teachers can implement differentiated instruction, support holistic student development, and make informed decisions about teaching strategies and curriculum design. This synergy contributes to a well-rounded assessment framework that promotes continuous improvement and student success in educational settings. Therefore, teachers should consider harnessing the strengths of both assessments to create a robust and inclusive learning environment that accommodates diverse student needs and fosters continuous growth and development.

References

1. Bazvand, A. D., & Rasooli, A. (2022). Students' experiences of fairness in summative assessment: A study in a higher education context. *Studies in Educational Evaluation*, *72*, 101118. https://doi.org/10.1016/j.stueduc.2021.101118
2. Black, P., & Wiliam, D. (1998). Assessment and Classroom Learning. *Assessment in Education: Principles, Policy & Practice*, *5*(1), 7–74. https://doi.org/10.1080/0969595980050102
3. Chen, I.-C. (2023). Enhancing EFL Students' Writing Skills through Formative Assessments in a Blended Learning Course. *Computer-Assisted Language Learning Electronic Journal*, *24*(2). https://callej.org/index.php/journal/article/view/18
4. Cisterna, D., & Gotwals, A. W. (2018). Enactment of Ongoing Formative Assessment: Challenges and Opportunities for Professional Development and Practice. *Journal of Science Teacher Education*,

29(3), 200–222. https://doi.org/10.1080/1046560x.2018.1432227

5. Dolin, J., Black, P., Harlen, W., & Tiberghien, A. (2017). Exploring Relations Between Formative and Summative Assessment. *Contributions from Science Education Research*, *4*, 53–80. https://doi.org/10.1007/978-3-319-63248-3_3

6. Gashi-Shatri, Z. F., & Zabeli, N. (2018). Perceptions of students and teachers about the forms and student self-assessment activities in the classroom during the formative assessment. *Journal of Social Studies Education Research*, *9*(2), 28–46. https://dergipark.org.tr/en/pub/jsser/issue/37944/438280

7. Greenstein, L. (2010). *What teachers really need to know about formative assessment*. ASCD.

8. Hattie, J., & Timperley, H. (2007). The Power of Feedback. *Review of Educational Research*, *77*(1), 81–112. https://doi.org/10.3102/003465430298487

9. Kariri, K. A., Cobern, W. W., & Al Sultan, A. A. (2022). Investigating high school science teachers' readiness for implementing formative assessment practices. *Eurasia Journal of Mathematics, Science and Technology Education*, *18*(12), em2188. https://doi.org/10.29333/ejmste/12589

10. Menéndez, I. Y. C., Napa, M. A. C., Moreira, M. L. M., & Zambrano, G. G. V. (2019). The importance of formative assessment in the learning-teaching process. *International Journal of Social Sciences and Humanities*, *3*(2), 238–249. https://doi.org/10.29332/ijssh.v3n2.322

11. Mogboh, V. E., & Okoye, A. C. (2019). Formative and summative assessment: Trends and practices in basic education. *Journal of Education and Practice*, *10*(27), 39–45. http://eprints.gouni.edu.ng/id/eprint/2278

12. Morris, R., Perry, T., & Wardle, L. (2021). Formative assessment and feedback for learning in higher education: A systematic review. *Review of Education*, *9*(3), 1-26. https://doi.org/10.1002/rev3.3292

13. Ndoye, A. (2017). Peer/Self Assessment and Student Learning. *International Journal of Teaching and Learning in Higher Education*, *29*(2), 255–269. https://eric.ed.gov/?id=EJ1146193

14. Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative Assessment and Self-regulated learning: a Model and Seven Principles of Good Feedback Practice. *Studies in Higher Education*, *31*(2), 199–218.

15. Nishizuka, K. (2022). Significance and Challenges of Formative Ipsative Assessment in Inquiry Learning: A Case Study of Writing Activities in a "Contemporary Society" Course in a Japanese High School. *SAGE Open*, *12*(2), 215824402210945. https://doi.org/10.1177/21582440221094599

16. Sadler, D. R. (1989). Formative assessment and the design of instructional systems. *Instructional Science*, *18*(2), 119–144. http://michiganassessmentconsortium.org/wp-content/uploads/Formative-Assessment-and-Design-of-Instructional-Systems.pdf

17. Sah, K. K. (2021). *Teachers Perceptions on the Use of Summative Assessment at Secondary Level*. Elibrary.tucl.edu.np. https://elibrary.tucl.edu.np/handle/123456789/10346

18. Stiggins, R. J. (2002). Assessment Crisis: The Absence of Assessment for Learning. *Phi Delta Kappan*, *83*(10), 758–765. https://doi.org/10.1177/003172170208301010

19. Yorke, M. (2011). Summative assessment: dealing with the "measurement fallacy." *Studies in Higher Education*, *36*(3), 251–273. https://doi.org/10.1080/03075070903545082

20. Zeng, W., Huang, F., Yu, L., & Chen, S. (2018). Towards a learning-oriented assessment to improve students' learning—a critical review of literature. *Educational Assessment, Evaluation and Accountability*, *30*(3), 211–250. https://doi.org/10.1007/s11092-018-9281-9