



**EFEKTIFITAS KOMBINASI EVALUASI *FORMATIF* DAN *SUMATIF* PADA  
PEMBELAJARAN BERBASIS PROYEK**

***THE EFFECTIVENESS OF THE COMBINATION OF FORMATIVE AND SUMMATIVE  
EVALUATION IN PROJECT-BASED LEARNING***

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**Submission:** 08-01-2023

**| Review:** 10-04-2023

**| Published:** 15-08-2023

**Keywords :**

*Evaluation, Formative, Summative, Education, Project Based-Learning, 21st Century.*

**ABSTRACT**

*Learning evaluation plays an important role in ensuring the success of education, especially in project-based learning; The purpose of this study is to analyze how the combination of formative and summative evaluation can improve learning outcomes in project-based learning, as well as identify the advantages and challenges in implementing the combination of these two types of evaluation; The research method used in this study is qualitative method, this method allows the researcher to gain an in-depth understanding in combining both formative and summative evaluation in project-based learning; The results of this study reveal relevant points namely. First, formative evaluation helps learners improve the quality of the project during the process of working on the learning. Second, summative evaluation provides a comprehensive picture of students' final achievement. Third, the combination of both can improve critical thinking skills, problem solving, and concept understanding. Fourth, teachers get more accurate data to evaluate the effectiveness of learning; and contribution to the development of evaluation methods in project-based learning by understanding the effectiveness of the combination of formative and summative evaluation, teachers can optimize the learning process, create more meaningful learning experiences, and support the achievement of educational goals oriented to 21st century competencies.*

**Kata kunci :**

*Evaluasi, Formatif, Sumatif, Pendidikan, Project Based-Learning, Abad-21.*

**ABSTRAK**

*Evaluasi pembelajaran mempunyai peran penting dalam memastikan keberhasilan Pendidikan, terutama dalam pembelajaran berbasis proyek (*Project Based-Learning*); Tujuan dari penelitian ini untuk menganalisis bagaimana kombinasi evaluasi formatif dan sumatif dapat meningkatkan hasil belajar pada pembelajaran berbasis proyek, serta mengidentifikasi kelebihan dan tantangan dalam penerapan kombinasi kedua jenis evaluasi ini; Metode penelitian yang digunakan dalam studi ini adalah metode kualitatif, metode ini membuat peneliti untuk mendapatkan pemahaman mendalam dalam menggabungkan kedua evaluasi pembelajaran yaitu evaluasi formatif dan sumatif dalam pembelajaran berbasis proyek; Hasil penelitian ini mengungkapkan hal yang relevan yakni.*



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Pertama, Evaluasi formatif membantu peserta didik memperbaiki kualitas proyek selama proses pengerjaan dalam pembelajaran. Kedua, Evaluasi sumatif memberikan gambaran pencapaian akhir siswa secara komprehensif. Ketiga, Kombinasi keduanya mampu meningkatkan keterampilan berpikir kritis, pemecahan masalah, dan pemahaman konsep. Keempat, guru mendapatkan data yang lebih akurat untuk mengevaluasi efektivitas pembelajaran; Dan kontribusi terhadap pengembangan metode evaluasi dalam pembelajaran berbasis proyek dengan memahami efektivitas kombinasi evaluasi formatif dan sumatif, guru dapat mengoptimalkan proses pembelajaran, menciptakan pengalaman belajar yang lebih bermakna, dan mendukung ketercapaian tujuan pendidikan yang berorientasi pada kompetensi abad-21.

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## A. INTRODUCTION

Evaluation is a series of activities to obtain, analyze, and interpret data about the process and learning outcomes of students carried out systematically and continuously, so that it becomes meaningful information in decision making. The implementation of assessment in learning must be designed in such a way as to measure and provide information about the achievement of student competencies obtained during the learning process which includes face-to-face learning activities, structured assignments, and unstructured independent activities (Wildan, 2022). Based on this, the purpose of this discussion is for educators to think about and plan appropriate formative and summative assessments for students. Then for educators to use formative and summative assessment techniques in accordance with the functions and objectives of the assessment, so that the results of the assessment can be interpreted and bring benefits to students.

The stages of learning activities consisting of planning, implementation and assessment are very important to achieve learning objectives effectively. Planning is the foundation of learning, where teachers or facilitators identify learning objectives, design teaching plans and choose appropriate methods. In addition, the planning stage involves thinking about how to measure the achievement of these objectives through formative and summative assessment (Risma et al 2024). The learning model influences the thinking ability of students to solve problems in learning in order to achieve learning objectives. Learning models that are considered in line with the curriculum where learning is learner-centered and uses the principles of the learner-centered approach the syntax of PjBL includes a project-based learning model or what is called PjBL and also the PBL learning model. PjBL is an innovative model that involves project work where students work independently in constructing / building their learning (Sudrajat & Budiarti, 2020), the syntax of PjBL includes a) determining fundamental questions, b) preparing project plans, c)



preparing schedules, d) monitoring students and project progress, e) assessing results, f) evaluating experiences. Meanwhile, PBL is learning where contextual problems are presented to students so that they will get stimulation to learn, and PBL is a learning model based on constructivism and provides accommodation regarding the involvement of students in learning and playing a role in contextual problem solving efforts according to Arens in Warsono and Harianto (2014). The syntax of PBL includes, a) orienting students to the problem, b) organizing students to learn, c) guiding individual/group investigations, d) developing and presenting results, e) analyzing and evaluating the problem-solving process.

Learning evaluation is divided into two main types: Formative assessment is the process of collecting data in the learning process regarding the extent of learners' progress in mastering the competencies that must be achieved in the learning process. The purpose of formative assessment is to evaluate the process of learners' understanding of the lesson, learning needs, and academic progress during the learning process (Phafiandita et al., 2022). While summative assessment is an assessment carried out at the end of each unit of time / at the end of the subject matter unit / phase at the end of the learning process. Summative assessments are often carried out by educators using tests at the end of a certain teaching period. In a sense, summative assessment is an activity of assessing the achievement of learning objectives and / or Learning Outcomes (CP) of students, as a basis for determining grade promotion and / or graduation from an educational unit. Assessment of the achievement of learner learning outcomes is carried out by comparing the achievement of learner learning outcomes with the criteria for achieving learning objectives (Kemdikbud, 2020).

Although formative and summative evaluations have their own important roles, applying them separately in project-based learning may not provide a complete picture of student development. Therefore, a combination of these two types of evaluation is expected to provide a more comprehensive and in-depth evaluation, which not only assesses the end result but also the learning process.

Through this research, it is hoped that a more in-depth understanding about how these two types of evaluation complement each other and can support the achievement of more holistic learning goals. The findings from this research are also expected to contribute to the development of more effective learning evaluation practices in various educational contexts.

## **B. RESEARCH METHOD**

The type of research applied is a type of qualitative research that focuses on an in-depth understanding of a particular phenomenon or problem. So that in this study, researchers sought to understand the phenomenon under study through non-numerical data analysis, a qualitative



approach with a descriptive design to describe student perceptions of the effectiveness of the combination of formative and summative evaluation in project-based learning as a learning medium in the Learning Evaluation course in the Madrasah Ibtidaiyah Teacher Education (PGMI) STAI Al-Gazali Soppeng study program.

So far, research on combining formative and summative evaluation in the context of project-based learning is limited. Many studies focus more on using one type of evaluation without considering the integration of both. Therefore, this study aims to explore the effectiveness of combining formative and summative evaluation in project-based learning, as well as to identify its impact on improving students' critical thinking skills, collaboration and creativity.

A qualitative approach was chosen because the purpose of this study is to understand the procession of experiences and views of researchers on the effectiveness as a tool in the learning process to evaluate with the descriptive design method used to describe the phenomena that occur in the context of a combination of evaluation in project-based learning and to explore more in-depth information about its impact on the learning process, the participants in this study are Madrasah Ibtidaiyah Teacher Education (PGMI) study program students who take the Learning Evaluation course. The selection of participants was carried out using purposive sampling technique, namely selecting students who have met certain criteria, namely those who have taken the Learning Evaluation course and are willing to participate in this study. This purposive sampling technique was chosen to get participants who can provide relevant and in-depth information about the combination of formative and summative evaluation in the context of project-based learning.

### **C. RESULTS AND DISCUSSION**

In the learning system, evaluation is one of the most important parts and stages that must be passed by the teacher to determine the level of effectiveness in the learning process. The results obtained from these evaluation activities can be used as “feed-back” for teachers in improving and perfecting learning programs and activities in the future. The ability to evaluate learning is one of the competencies that must be mastered by an educator, because it is through this ability that educators can carry out their functions as professional educators. As stated in Law Number 20 of 2003 article 39 paragraph 2 concerning the National Education System states that educators are professionals who are tasked with planning and implementing the learning process, assessing learning outcomes, conducting guidance and training, and conducting research and community service, especially for educators in higher education. In language, evaluation comes from English “evaluation” which means assessment or judgment. Then literally evaluation means the process of determining the value of a thing or object based on certain references to achieve certain goals. The definition of evaluation in a broad sense is a process of planning, obtaining and providing



information that is needed to make various alternative decisions (Febriana, 2019).

The components of each evaluation activity have three implications; First, evaluation is a continuous process, not only at the end of teaching, but starting before implementing learning. Second, the evaluation process must be directed towards a specific goal, namely to obtain various answers about how to improve learning. Third, evaluation requires the use of information needed to make a decision. In general, the purpose of learning evaluation is to determine the effectiveness and efficiency of the learning system at large (Asrul et al, 2015). Furthermore, the usefulness of this learning evaluation is as a reference material in making decisions or policies to improve an educational system or program. Furthermore, Brinkerhoff in Haryanto (2020) there are seven stages in conducting an evaluation, namely: a.) Determine the focus to be evaluated, so make sure you know what will be evaluated. b.) Develop an evaluation design / design c.) Collect information data d.) Analyze and interpret information e.) Preparing a report f.) Managing the information g.) Evaluating the results of the evaluation. From some of the expert opinions above, it can be concluded that evaluation is a rationale built through a process that is carried out systematically and continuously to collect, describe, interpret into the form of presenting information on an object. The process carried out by educators in learning will produce what is called evaluation results, this evaluation material will later become a source of information in conducting assessments and improvements in further learning. This means that the results of the evaluation will be used as a benchmark for the success of a program, if the results have not achieved the expected goals and objectives, further improvements will be made.

Evaluation is an Indonesian word translated from English evaluation which translates into assessment. Evaluation according to Ramayulis contains two meanings, namely; measurement and evaluation itself. Measurement (measurement) is the process of obtaining a description of some numbers and levels of characteristics possessed by individuals. Meanwhile, evaluation (assessment) is the process of collecting, analyzing and interpreting information to determine the flexibility of achieving goals by individuals. (Lazwardi, 2017).

Formative assessment provides ongoing support and guidance throughout the learning process, while summative assessment provides a snapshot of overall student achievement and progress. The formative-summative evaluation model is an evaluation model created by Scriven (1967). Scriven argued that: “formative evaluation is to classify evaluation that gathers information for the purpose of improving instruction as the instruction is being given and summative evaluation is a method to judge the worth of the curriculum at the end of the syllabus where the focus is on the outcome” The above statement, explains that formative evaluation is the gathering of information with the aim of improving the learning that has been given, formative evaluation serves an important function in supporting the development of much needed skills in the 21st century, such as



collaboration and communication. By providing continuous feedback, participants can continuously improve their problem-solving skills and adapt to new challenges throughout the project process. In addition, formative evaluation encourages participants to think reflectively and critically, which are key skills in a changing world. Feedback provided by lecturers or peers allows participants to improve their projects, which in turn leads to achieving better results and enhancing personal skills.

(Susanti, 2017) Summative evaluation at the end of a project provides an opportunity to assess participants' overall achievement and ensure that they can apply the skills learned in a real-world context. In the 21st century, these skills are highly relevant, especially in preparing participants for an increasingly complex and technology-based world of work. Summative assessment helps participants to realize that their achievements are not only measured by the final product, but also by the process of their development, such as time management, teamwork and problem-solving. In this way, summative evaluations provide a broader picture of participants' ability to deal with global and societal challenges.

Summative assessments in educational institutions are usually conducted after a set of courses have been completed. Summative assessment will produce a score or number which is then used as a decision on the performance of the learner. Summative assessment results are used to determine the classification of learners' awards at the end of learning. This assessment is designed to record learners' overall achievement systematically (Nugraha, 2022). Formative evaluation is conducted during the learning process to provide feedback that can help students improve and develop their skills to get feedback to improve the teaching-learning process. In contrast, summative evaluation is carried out at the end of learning to assess the achievement of final results and understand the extent to which learning objectives have been achieved, measuring the success of the entire educational program carried out at the end of the implementation of the teaching and learning process “the end of the semester/year” (Sumadi Suryabata, 1983: 34-48). Summative evaluations or tests are conducted after the end of the delivery of a group of programs or a larger program. Summative tests can be carried out with an end-of-semester exam (UAS). Tests in the context of education are used to obtain evidence about the level of success of the teaching and learning process. Evaluation is an integral part of the teaching and learning process. Each lesson given should be a necessity that has a clear goal, the subject matter, the teaching and learning process, and the evaluation (Lodang & Bara, 2012).

The Indonesian Minister of Education and Culture in his speech stated that in the digital era only data speaks so that if people cannot analyze data, they tend to be left behind. Statistics is expressed as an understanding of accessing data critically which is learning to be skilled in critical thinking. Aspects of creativity, problem solving, collaboration, and critical thinking are part of



21st century skills. In line with P21 (in Uswantum & Widiyanto, 2018) that 21st century skills include (1) life and career skills, (2) learning and innovation skills, (3) critical thinking and problem solving, (4) communication and collaboration, and (5) information media and technology skills. The National Education Association has identified 21st century skills as “The 4Cs” skills. “The 4Cs” include critical thinking, creativity, communication, and collaboration skills (Redhana, 2019). Now education urgently needs to be adapted to the principles of 21st century skills so that it can produce superior generations who are creative, communication, critical thinking and collaboration. Therefore, this research combines formative and summative evaluation in project-based learning to encourage a balanced approach to education, especially in learner assessment.

The Project Based Learning model is a learning model that can encourage students to actively learn in collaboration to solve problems. At the core of learning is determining the concept of the task/project being carried out. In the process of completing this project, students are given time according to the agreement of the teacher and students. This is as said by Isrok'atun and Rosmala (2018: 107) that in the world of work, the term project is related to a plan for a job with certain goals so as to produce a work. In implementing the Project-Based Learning Model, students are given a problem to investigate so that it can increase the creativity of students. It is also said by Kurinasih and Sani (2014: 82) that Project-Based Learning uses problems as the first step in collecting and integrating new knowledge based on experience in real activities. In solving it, students will exchange information from their respective opinions so that the creativity of students is very functional, of course from this understanding it is very much in line with the understanding of 21st Century skills.

Furthermore, Santyasa (2006:11) in Dewa (2012:13) explains the characteristics of Project Based-Learning has four dimensions, namely: a.) Content: focus on ideas students form their own picture of the topic of learning content in the form of complex problems, find the relationship between the ideas proposed, learners face ambiguity problems, questions tend to question real-world problems. b.) Conditions: Project Based-Learning encourages learners to be independent in managing tasks and learning time with relevant topics. Learning is dominated and learner-centered in conducting inquiry in the context of society, managing time effectively and efficiently, learning with full self-control and simulating professional work. c.) Activity: The main feature is collaborative group investigation. The indicators are, students investigate for a certain period, solve complex problems, formulate relationships between their original ideas to construct new skills, use authentic technology in solving problems, and learners do feedback on their ideas based on expert responses or from test results. d.) Results: learning outcomes are in the form of real products, with indicators of results in the form of, real products of investigation results, conduct self-evaluation, be responsive to all implications of their competencies, and demonstrate personal



competence.

Carme Martin (2013) suggests that PjBL is applied to empower skills related to a global understanding of data base design and other advanced topics. In PjBL, students learn by working on database design projects in teamwork groups that then produce database design products. In line with the development of the PjBL model by Jalinus (2017) known as The Seven Steps of PjBl model, creating conditions for the learning process that follow the syntax (seven steps), thus creating interactions between teachers, students and learning media in accordance with the characteristics of the PjBL model effectively improves students' productive competence in the classroom.

According to Kurinasih and Sani (2014: 83-84) the advantages of Project-Based Learning are as follows: 1. Increasing learners' motivation to learn encourages their ability to do important work, and they need to be rewarded. 2. Improve problem solving skills. 3. Making learners more active and successfully solving complex problems. 4. Improve collaboration. 5. Encourage learners to develop and practice communication skills. 6. Improve learners' skills in managing resources. 7. Provides learners with learning and practical experience in organizing projects, and making allocations of time and other resources such as equipment to complete tasks. 8. Provide learning experiences that engage learners in complex ways and are designed to evolve with the real world. 9. Engage learners to learn to retrieve information and demonstrate their knowledge and apply it to the real world. 10. Makes the learning atmosphere fun so that students and educators enjoy the learning process.

Besides having advantages, the Project Based Learning model also has several weaknesses, Abidin (2016: 171) suggests that the weaknesses of this model are: 1. Requires a lot of time and money. 2. Requires a lot of media and learning resources. 3. Requires teachers and students who are equally ready to learn and develop. 4. There are concerns that students will only master one particular topic they are working on.

The combination of formative and summative evaluation gives participants the opportunity to engage in more dynamic and holistic learning. Formative evaluation provides ongoing support that allows participants to overcome obstacles in the project process, while summative evaluation provides an opportunity to assess their overall achievement. This synergy strongly supports 21st century skills, as participants not only learn about the material, but also how to learn independently, manage projects, and collaborate with others especially classmates. Continuous formative evaluation gives participants room to improve their weaknesses, while summative evaluation encourages them to measure their achievements and project success more objectively.



While the combination of formative and summative evaluation has proven to be effective, there are challenges in its implementation, especially with regard to the use of adequate technology, time management and adapting to the individual needs of participants. Project-based learning in the 21st century often requires technological tools and resources to support collaboration and project management, which are not always available in all schools. In addition, efficient time management during the project is a challenge for participants, which can affect the quality of the outcomes and their experience of the project. The combination of formative and summative evaluations is highly relevant to prepare participants for career challenges in the 21st century. Skills acquired through formative evaluations (such as the ability to adapt and improve) and summative evaluations (such as the ability to come up with creative solutions and manage projects) are in demand in a professional world that increasingly emphasizes innovation, collaboration and problem-solving.

#### **D. CONCLUSION**

Learning evaluations, both formative and summative, play an important role in improving education quality and 21st century skills. Formative evaluations provide ongoing feedback that supports the development of student skills, such as collaboration and problem-solving, throughout the learning process. Summative evaluations, meanwhile, measure the achievement of final outcomes and the success of an education program after learning has been completed. The combination of these two evaluations supports more holistic and dynamic learning, which is important in preparing students to face the challenges of a complex and technology-based world of work. The Project Based Learning (PJBL) model is effective in integrating both types of evaluation, as it promotes critical skills, communication, collaboration and creativity required in the 21st century context. However, implementing this model requires time, cost and readiness from teachers and students, as well as challenges related to the use of technology and efficient time management.

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