

# Developing a Learning Evaluation Tool Based on the Gimkit Application on Economic Systems to Improve Student Learning Outcomes

 <https://doi.org/10.31004/jele.v11i2.2280>

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## A B S T R A C T

This study aims to develop a learning evaluation tool using the GimKit application on economic system material in Economics for grade X-6 and to analyze its feasibility, practicality, and effectiveness in improving student learning outcomes. Learning evaluation in schools is still dominated by the use of Student Worksheets (LKS), which tend to be monotonous, less interactive, and less optimal in measuring higher-order thinking skills. This condition contributes to low student learning outcomes and indicates the need for innovation in digital-based evaluation tools. This research uses the Research and Development (R&D) method with the 4D development model consisting of define, design, develop, and disseminate stages. The subjects of this study were grade X students at SMAN 19 Surabaya. Data collection techniques included expert validation from material and media experts, practicality questionnaires, student response questionnaires, and pretest-posttest tests to measure cognitive learning outcomes. The results show that the GimKit-based evaluation tool is very feasible according to expert validation, practical to use in learning activities, and effective in improving student learning outcomes, as indicated by the increase in posttest scores compared to pretest scores. Therefore, the GimKit-based evaluation tool can be used as an innovative, interactive, and effective alternative for learning evaluation on economic system material.

**Keywords:** *Economic System, Gimkit, Learning Evaluation Tools, Learning Outcomes*

### Article History:

Received 13<sup>th</sup> March 2026

Accepted 12<sup>th</sup> April 2026

Published 13<sup>th</sup> April 2026



## INTRODUCTION

Education plays a strategic role as the main foundation in the national development process (Iqbal et al., 2018). Education can be defined as a deliberate and structured process to create an effective and meaningful learning environment and mechanism, capable of enabling students to actively engage in the development of their potential, interests, and abilities to the maximum. Education facilitates the development of an individual's abilities by acquiring knowledge and shaping the character of students to be positive. Education is not only useful as a mechanism for transferring knowledge but also as an instrument for preparing the younger generation to face future challenges (Rasyid et al., 2024). In this case, improving the quality of education is an urgent need in the context of social development.

In this context, the field of education is experiencing continuous development in line with the dynamics of the times. The development of digital technology has brought significant transformations in the world of education, particularly in the innovation of learning tools (Iqbal et al., 2018). While previously learning focused solely on textbooks and blackboards, now a more varied range of technology-based learning tools is available (Agustina et al., 2024). The era of the Industrial Revolution 4.0 has significantly encouraged the integration of technology into various aspects of life, including the education sector. The use of technology allows for more flexible, interactive, and engaging learning. Therefore, education is required to transform by utilizing technology, including in the field of learning evaluation tools, which are key factors in determining educational success.

Learning evaluation is a crucial component of education because it plays a role in assessing the extent to which students have achieved learning objectives (Warsah, 2022). Therefore, innovative evaluation tools are needed to achieve educational success. Good evaluation is not solely oriented towards cognitive outcomes. Evaluation is a crucial component of the learning process, providing important feedback for both students and educators. Effective evaluation not only assesses achievement but also considers academic aspects, stimulating critical thinking and active student participation (Warsah, 2022). In this context, the development of innovative evaluation instruments that must align with the characteristics of learning in the digital era is a crucial need to support a personalized and adaptive learning process, thereby comprehensively improving student achievement (Nasution et al., 2024).

Based on research observations during the PLP (Introduction to the School Environment) activity at SMAN 19 Surabaya, it was found that the learning evaluation process still focuses on the use of student worksheets (LKS) as the primary reference for assessing learning outcomes. The repeated use of LKS results in a lack of variety in the evaluation and a lack of ability to determine higher-order thinking. This condition results in the evaluation being less than optimal, especially during formative tests, where teachers have not fully utilized digital-based evaluation tools. This results in students still cheating during the evaluation process in a classroom that seems less conducive. Some students also do not immediately submit their answer sheets and require time to correct a score. Learning evaluation tools used at the high school level still have limitations, especially in terms of the variety of question formats and the use of technology. In economics learning, specifically the topic of economic systems, evaluation materials generally still come from student worksheets (LKS), which serve as the primary reference in compiling questions. Although LKS are useful as a practice tool, their repeated use can reduce the variety and difficulty of questions, so they cannot fully determine students' higher-order thinking skills. Limitations in the variety and interactivity of evaluations result in student motivation, resulting in decreased learning achievement, particularly in the economic systems material, which requires analytical thinking skills. This situation indicates that the use of student worksheets (LKS) as an evaluation reference still has limitations in improving students' critical thinking skills. As a result, conceptual understanding of the economic systems material is not fully optimal, and student learning outcomes do not demonstrate the best achievements according to their potential. The evaluation process tends to be less engaging and does not encourage students to understand economic concepts in depth. This situation contributes to decreased student learning achievement, particularly in the economic systems material.

Based on interviews with several students, some felt the evaluation questions were less challenging and tended to be monotonous because they were sourced from the same worksheets each time. This resulted in a lack of optimal understanding of economic concepts and low learning outcomes. Furthermore, the limited use of digital technology in evaluation tools meant that the assessment process was not fully interactive and was unable to fully tap into students' cognitive potential. In economics, particularly economic systems, the cognitive domain is the primary focus because achievement indicators emphasize conceptual understanding and students' analytical skills (Rahman & Anam, 2024). Therefore, the evaluation focus in this study was directed at measuring cognitive learning outcomes, which is expected to provide an accurate picture of students' level of understanding and serve as a basis for improving the learning process. Therefore, innovative digital-based learning evaluation tools are needed that are more interactive and adapt to the characteristics of the current generation, such as the GimKit application. This innovative digital-based evaluation instrument will not replace existing methods but rather serve as a complement to improve student learning achievement more comprehensively.

The aforementioned issues require innovative, interactive learning evaluation tools that are appropriate to the characteristics of the digital generation. One such technology-based evaluation tool is Gimkit, a game-based quiz platform that allows teachers to create cognitive research questions in various formats, including multiple-choice. GimKit not only provides a

fun evaluation experience through game elements, music, and visual themes, but also makes it easier for teachers to automatically correct results, thereby saving assessment time (Bicen & Kocakoyun, 2018). Implementing GimKit during cognitive evaluations can improve student learning outcomes and lead to more accurate evaluation results (Hanus & Fox, 2015). GimKit is a learning platform used for learning assessment (Yuanta et al., 2025). Therefore, GimKit-based learning evaluation is very appropriate for use at SMAN 19 Surabaya. Unlike platforms like Kahoot! or Quizizz, which tend to focus on speed-based answering, Gimkit offers an in-game economy mechanism where students manage virtual currency to purchase power-ups or investments. This creates a more immersive assessment experience and reduces students' time anxiety (Habibullah, 2024; Taliak et al., 2024).

The Gimkit application also offers the advantage of being an interactive and fun game-based tool. Gimkit encourages student learning outcomes by creating a positive competitive atmosphere through a points system and virtual prizes (Alhubilah et al., 2025). This platform has a visual interface that is easy for both teachers and students to use and is accessible through digital devices. Furthermore, Gimkit allows teachers to modify questions and adapt them to the needs of ongoing learning, making it more individualized and efficient in achieving set goals. With its instant feedback feature, students can immediately identify errors and correct them directly while playing (Bicen & Kocakoyun, 2018). However, the GimKit application also has limitations. Using the GimKit application requires a digital device and a stable internet connection (Amelia, 2024). If a school lacks adequate facilities and infrastructure, the implementation of the GimKit application can face technical challenges. Inappropriate learning design can result in Gimkit being merely a game without providing in-depth conceptual understanding. This can also reduce the effectiveness of achieving learning objectives.

Previous research conducted by (Sa'diyah et al., 2024) and (Yuanta et al., 2025) highlighted the development of GimKit application-based evaluation tools at the elementary school level, especially in science and social studies subjects. The results of the study indicate that GimKit is feasible to use, practical, and effective in efforts to improve student learning outcomes (Levia et al., 2024), also developing GimKit-based formative assessments at MTS Darul Amin Palangka Raya and proven to increase student participation from 40% to 90% and increase the average score from 70 to 85. Another study by (Amelia, 2024), regarding the use of GimKit in grade V SDN Paarang Tabung 1 Makassar shows that GimKit is effective in increasing student learning interest from 65% to 85% and improving evaluation results from 70 to 85. Meanwhile, research by (Rosa et al., 2025), through community service activities shows that the use of GimKit as a learning evaluation tool can improve understanding and evaluation of learning to be more interactive, efficient and in accordance with the character of today's students. However, the study is still limited to elementary school level and science / social studies material. This research has a novelty with the development of a GimKit-based evaluation tool for the subject of Economics for grade X of high school, especially the material on more complex and conceptual economic systems, which has not been studied by previous researchers. This study is expected to be able to provide innovative contributions in the development of evaluation tools that suit the needs of high school students and increase the understanding of economic concepts in depth.

This evaluation instrument not only strengthens understanding but also supports teachers in conducting evaluations more efficiently and accurately. Therefore, this research focuses on "Developing a Gimkit Application-Based Learning Evaluation Tool for Economic Systems Material in the Economics Subject of Class X at SMAN 19 Surabaya." It is hoped that this innovation can make a significant contribution to creating a more effective learning process.

## METHOD

The development model used in this study is the 4D model developed by Thiagarahan, namely the Define, Design, Develop, and Disseminate stages (Sugiyono, 2019). This model was chosen because it fits the needs of development research that emphasizes a systematic approach in producing educational products. The Define stage focuses on product design, namely the GimKit application-based evaluation instrument, which is adapted based on the results of a needs analysis based on observations and interviews with educators. The Design stage is used to design the initial product in the form of a GimKit application-based evaluation tool according to the results of the needs analysis and learning indicators. The Develop stage is used to produce the product and conduct validation and limited trials. The Disseminate stage is the stage of widespread product distribution and comprehensive product evaluation for continuous improvement.

## FINDINGS AND DISCUSSION

### Development of a GimKit-Based Learning Evaluation Tool

The first research question aims to examine how the learning evaluation tool based on the GimKit application was developed for the economic system material. The development process in this study followed the 4D development model, which includes the stages of define, design, development, and disseminate. The define stage began with a needs analysis conducted through classroom observations and interviews with teachers and students at SMAN 19 Surabaya. The findings indicated that the evaluation process still relied heavily on worksheets (LKS), which tended to be repetitive and less capable of measuring higher-order thinking skills. This condition made the evaluation process less varied and less effective in assessing students' analytical abilities in the economic system material.

The results of the analysis also revealed that most students had already been familiar with digital technology and frequently used smartphones and online platforms in learning activities. This condition indicates that students possess sufficient technological readiness to participate in digital-based evaluations. Therefore, the development of a digital evaluation tool such as GimKit is considered appropriate to support more interactive and engaging learning evaluation activities. According to (Warsah, 2022), learning evaluation plays a crucial role in determining the extent to which learning objectives have been achieved; therefore, the evaluation instrument must be designed in accordance with students' learning characteristics and the competencies to be measured.

At the design stage, the researcher developed a blueprint of the evaluation instrument by determining the learning objectives, preparing a test specification table, and designing pretest and posttest questions aligned with the learning outcomes. The instrument was designed in the form of objective test questions integrated into the GimKit platform so that students could access them through digital devices. The interface and navigation of the evaluation tool were also designed to be simple and easy to use, ensuring that students could focus on answering the questions rather than on technical aspects of the platform.

The development stage involved creating the evaluation instrument within the GimKit application and conducting expert validation. This stage aimed to ensure that the developed product met the standards of content accuracy, media quality, and instructional appropriateness. The evaluation tool was reviewed by material experts and media experts who provided feedback for improvement. The validation process ensured that the instrument was suitable for measuring students' understanding of economic system concepts and could be implemented effectively in classroom learning activities.

Overall, the development process demonstrates that the GimKit-based evaluation tool was systematically designed according to students' needs, learning objectives, and technological developments in education. Similar findings were reported by (Sa'diyah et al., 2024) and (Yuanta et al., 2025), who found that digital game-based evaluation tools can create a more interactive assessment environment and increase student engagement during evaluation activities.

**Effectiveness and Feasibility of the GimKit-Based Evaluation Tool**

The second research question examines the effectiveness and feasibility of the GimKit-based evaluation tool as assessed by expert validators and students' learning outcomes. The results of expert validation showed that the evaluation tool met the criteria of feasibility in terms of both content and media aspects. The material expert evaluated the suitability of the questions with the learning objectives and economic system concepts, while the media expert assessed the usability, visual design, and technical functionality of the GimKit platform.

The validation results indicated that the developed instrument was categorized as feasible for use in learning evaluation. The experts stated that the questions were relevant to the curriculum, clearly formulated, and capable of measuring students' conceptual understanding and analytical skills related to economic systems. In addition, the integration of the questions into the GimKit platform was considered effective in presenting evaluation activities in a more interactive and engaging format.

The effectiveness of the evaluation tool was also measured through the comparison of pretest and posttest scores using the N-Gain analysis. The results showed an increase in students' learning outcomes after the implementation of the GimKit-based evaluation tool. This improvement indicates that the use of interactive digital evaluation tools can enhance students' understanding of economic system concepts. The immediate feedback provided by the platform also helps students recognize their mistakes and improve their comprehension during the learning process.

These findings support previous research indicating that game-based digital learning platforms can positively influence students' motivation and learning outcomes. According to (Sa'diyah et al., 2024), the integration of game elements in evaluation activities can increase students' engagement and encourage active participation during learning assessments. Similarly, (Yuanta et al., 2025) found that technology-based evaluation tools provide more efficient assessment processes while simultaneously improving students' cognitive achievement.

Therefore, the results of this study indicate that the GimKit-based evaluation tool is not only feasible according to expert judgment but also effective in improving students' learning outcomes in the economic system material.

**Practicality of the GimKit-Based Evaluation Tool**

The third research question focuses on the practicality of using the GimKit-based evaluation tool in classroom learning. Practicality was measured through responses from teachers and students after the implementation of the evaluation tool. The results showed that the majority of students gave positive responses toward the use of GimKit as an evaluation medium.

Students reported that the evaluation activity became more interesting and interactive compared to conventional paper-based tests. The game-based features of the platform, such as real-time scoring and competitive elements, motivated students to answer questions more enthusiastically. These features also encouraged students to remain focused during the evaluation process, thereby creating a more engaging assessment environment.

From the teacher's perspective, the GimKit-based evaluation tool was considered practical because it simplified the assessment process. The platform automatically records students' answers and calculates their scores, allowing teachers to obtain the evaluation results immediately without conducting manual corrections. This feature significantly reduces the time required for grading and enables teachers to provide faster feedback to students.

In addition, the digital evaluation system helps minimize academic dishonesty during tests, as each student answers questions individually through their devices and the system can randomize the questions. The automatic scoring system also provides a more objective evaluation of students' learning outcomes.

These findings confirm that technology-based evaluation tools can improve the efficiency and effectiveness of learning assessment. According to (Warsah, 2022), an effective evaluation system should not only measure learning outcomes accurately but also support the learning process by providing timely feedback to students. Therefore, the practicality results

indicate that the GimKit-based evaluation tool is suitable for classroom implementation and can support more efficient and engaging learning evaluation activities.

## CONCLUSIONS

This study aimed to develop and evaluate a learning evaluation tool based on the GimKit application for economic system material. The results indicate that the tool was successfully designed using the 4D development model, which includes the stages of define, design, development, and dissemination. The needs analysis conducted during the define stage revealed that conventional evaluation methods, such as worksheets and written tests, were still dominant in the classroom and tended to be less interactive and engaging for students. Therefore, integrating a digital game-based evaluation tool like GimKit offers an alternative approach that aligns with students' technological familiarity and learning characteristics in the digital era. The feasibility results from expert validation show that the developed tool meets the criteria of content accuracy, instructional relevance, and media usability, with material experts confirming alignment with learning objectives and economic system concepts, and media experts assessing the platform as user-friendly and suitable for classroom implementation. Furthermore, the implementation results demonstrate that the use of the GimKit-based evaluation tool improves students' learning outcomes, as indicated by the increase in posttest scores compared to pretest scores, reflecting a better understanding of economic system concepts. The game-based features of GimKit, including real-time feedback and competitive elements, contribute to increased student motivation and engagement during the evaluation process. In addition, practicality analysis based on students' responses shows that most students perceive the evaluation activity as more interesting, enjoyable, and motivating than conventional methods, while also providing advantages for teachers by simplifying the scoring process through automatic result calculations, enabling quick and efficient data collection. Overall, the findings suggest that the development of a GimKit-based evaluation tool contributes significantly to the implementation of innovative, interactive, and technology-integrated learning assessments in the digital era, supporting both enhanced student motivation and more efficient evaluation practices for teachers.

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