E-module media and educational technology based on gamification for students of the Faculty of Tarbiyah and Teacher Training IAIN Palopo

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Abstract: The research examines the development of gamification-based e-modules for media and educational technology, conducted at the Faculty of Tarbiyah and Teacher Training, IAIN Palopo, with 103 students as participants. This study employs a Research and Development (R&D) approach, utilising the ASSURE development model, which encompasses six stages: Analyse, State, Select, Utilise, Require, and Evaluate. Data collection methods include observation, questionnaires, documentation, and product validation. The researcher used both quantitative and qualitative analyses for data evaluation. The research resulted in creating a gamification-based e-module for media and educational technology, developed through the six stages of the ASSURE model. These stages involved needs analysis, development processes, and product finalisation. The product's validity was assessed by language experts (86.67%), media experts (88.89%), and material experts (97.12%), all indicating that the e-module is valid and suitable for use. The practicality test yielded a score of 79.76%, showing that the e-module is practical and effective in enhancing student learning.

Keywords: e-module; educational media and technology; gamification.

Introduction

Gamification is an engaging educational method that can enhance student participation and motivation. The concept of neuroeducation supports this approach by emphasising the importance of understanding the brain processes involved in motivation and learning. Educators can create more stimulating learning environments, particularly in education, by incorporating game elements into educational activities (Shaliha & Fakhzikril, 2022). It suggests that gamification is beneficial for encouraging students to participate actively and stay motivated. Overall, the gamification method can improve the effectiveness of educational interventions (Nurita et al., 2024).

Education is a deliberate effort to prepare students for future roles through teaching, instruction, or training. The government strives to improve national intelligence and development through educational programs. Education is essential because a country cannot manage its natural resources without it. If Indonesian children lack sufficient capabilities, they may hinder the nation's progress (Fatoni, 2020).

Gamification has attracted attention because it can potentially increase student engagement and motivation in e-learning (Suparmini et al., 2024). Gamification means incorporating game elements, such as narratives and rewards, into non-game contexts, such as online learning (Ortega-Arranz et al., 2019). Research has shown that gamification in online learning primarily aims to enhance student motivation and engagement, which will lead to improving student abilities in e-learning activities (Panagiotarou et al., 2020). Gamification has proven to enhance students' ability to think critically, creatively, and solve problems in online learning. The incorporation of gamification elements impacts the outcomes of online interventions, indicating that it can improve the quality of educational modules (Taramarcaz et al., 2022).

In short, e-learning gamification has shown potential to enhance students' skills, engagement, and motivation. Overall, gamification in e-learning seems beneficial, although some obstacles exist, such as enhancing motivation. One way to increase motivation is by providing engaging learning materials.

Students need instructional materials that they can use independently. These materials are often referred to as self-study materials, which usually include modules. Modules consist of educational activities designed to help students achieve their learning objectives. They are organised methodically and comprehensively (Maryam et al., 2022). The language of the module must be easy to understand so that students can teach it without the help or guidance of a teacher (Izzah et al., 2024).

Although many developments have occurred, the most effective type of interactive module for enhancing students' learning experiences and outcomes remains unclear. When developers create interactive modules, they focus solely on the user experience, neglecting the context or conditions required for users to view the material directly. By creating interactive modules, developers enable students to engage in enjoyable sports activities (Hussein et al., 2023). Furthermore, gamification is an educational approach that uses game principles, specifically in education, to develop a new understanding of phenomena (Chugh & Turnbull, 2023). The developers created this module to address traditional and meaningful learning differences. It applies a gamification approach to enhance interactivity and enjoyment in learning. Students can directly engage in learning by participating in and completing a series of game challenges in the module.

E-module, or electronic module, is a learning resource presented in digital form. This module can display various types of media, including images, text, animations, and videos (Dafit & Mustika, 2021). The accessibility of the e-module is one of its advantages; it may be experienced in various locations and at different times, without being constrained by space and time constraints. According to Laili et al. (2019), using electronic modules in the learning process has several advantages. *First*, the module increases student motivation. *Second*, the assessments help teachers and students identify aspects that require resolution or further understanding. *Third,* the learning materials are organised into broader sections over a semester. *Fourth,* the learning

materials adjust to the students' academic level. *Fifth,* the modules present in a form that emphasises student interactivity and dynamism more than printed modules, which tend to be static. Lastly, animations, videos, and audio reduce verbal ambiguities that may arise in printed modules.

Based on the observation results, there are no media and technology course learning modules. The absence of learning modules is like a map without direction in the learning adventure. Without a clear structure and guidance, teachers and students can get lost in the vast ocean of material, struggling to determine their goals and how to achieve them. Learning becomes less effective and efficient, trapped in non-essential matters or meaningless activities. Furthermore, without learning modules integrated with the curriculum, we are like sailing without a compass, at risk of straying far from the actual educational goals. Other problems also arise, such as differences in understanding between lecturers and teachers, difficulties in learning, and monitoring learning progress. Therefore, the learning module is a sturdy educational anchor, ensuring directed, practical, and goal-oriented learning.

The electronic module will be designed for self-directed learning and prioritises students' ability to learn independently. Self-directed learning refers to learning activities carried out by students both within the school environment and outside of it, using methods to study and understand the content (Putra et al., 2017). By understanding the complexity of learning challenges and the evolving needs of students, the use of gamification emerges as an interesting and effective solution to enhance engagement and learning outcomes. This background reinforces the urgency of the need for learning modules that are not only informative but also engaging, challenging, and motivating for students.

The development of a gamification-based E-Module in Educational Media and Technology substantially contributes to the field of instructional innovation, particularly within the discipline of educational science. This research presents a new paradigm in instructional media design by integrating gamification principles with advanced digital technology. This integration enhances aspects of student learning motivation. It shifts the learning focus toward a more adaptive and personalised student-centred approach (Idayanti & Suleman, 2024). The developed E-Module model can stimulate active student engagement, reinforce conceptual understanding through direct feedback mechanisms, and facilitate effective self-directed learning, key challenges in the current higher education landscape.

Offering flexible learning media solutions accessible anytime and anywhere can expand the scope of innovation in educational sciences and accommodate diverse student learning styles. The gamification approach adds value by enhancing affective and psychomotor aspects, which conventional learning media often overlook. Therefore, this innovation contributes to media development and instructional methodology that is more holistic and oriented towards developing 21st-century competencies such as creativity, collaboration, and problem-solving (Mårell-Olsson, 2021).

Furthermore, this study supports the digital transformation in education by offering a model of learning media that aligns with the dynamic evolution of technology and the needs of modern learners. This contribution also lays the groundwork for developing hybrid and blended learning strategies, which are increasingly popular in higher education. By introducing a gamification-based E-Module, this research strengthens the foundation of innovation in educational science development, enabling it to respond effectively to the complex challenges and rapid changes in current and future educational environments (Fatimah et al., 2023).

This research contributes significantly to developing instructional innovation within higher education, particularly in the formal setting of the Faculty of Tarbiyah and Teacher Training at IAIN Palopo. The gamification-based E-Module serves as an engaging and interactive digital learning tool and a pedagogical innovation that

enhances student motivation and involvement in understanding the Educational MediaTech course.

The primary contribution of this research lies in integrating gamification elements into the E-Module; its application remains limited within the formal Islamic higher education environment, the entire time. Additionally, this research supports the development of technology-based learning that aligns with 21st-century demands and is adaptable to various formal education contexts, whether at the university or school level (Praptomo et al., 2024). The implications of these findings encourage educators to adopt innovative approaches in instructional design and provide practical insights for developing effective digital learning media. Therefore, this research offers a tangible contribution to the discourse of instructional innovation and can serve as a reference for developing similar learning models across educational institutions.

By embracing the gamification approach, we hope to create more effective learning modules that achieve learning objectives, stimulate curiosity, and provide students with a more enjoyable and meaningful learning experience. Thus, this research aims to positively impact the development of teaching materials focusing on student engagement and improving learning outcomes. The research seeks to determine the stages of development, the feasibility of the e-module, and the students' responses to the gamification-based e-module for media and educational technology.

Method

The first step in this research was conducting a requirements assessment for the electronic module. A needs analysis is crucial to ensure the e-module aligns with the learning objectives and user requirements. The developers created the e-module in response to the need for more interactive, adaptable, and accessible learning resources among students at the Faculty of Tarbiyah and Teacher Training, IAIN Palopo. According to the questionnaire results, 52.5% of the 103 students who participated in the survey preferred using electronic modules over printed materials as their primary learning medium. Furthermore, students expressed the need for multimedia components, such as instructional videos, to enhance their understanding of the material covered in the module. Ninety-five percent of students indicated that e-modules with videos would improve their knowledge of the subject. Additionally, 81.5% of students requested assessment elements, such as quizzes or questions providing immediate feedback, to help them assess their comprehension independently.

A questionnaire on student competence revealed that a solid conceptual understanding was the most common attribute among students. This finding further highlighted the need for instructional modules based on gamification. However, there was still room for improvement in students' application and problem-solving skills. The learning style questionnaire also showed students' diverse learning preferences, including visual, auditory, and kinaesthetic styles. It suggests the necessity of a module that accommodates all these preferences, indicating that a gamification-based e-module could effectively foster learning engagement (Ramadhani, 2016; Tsai et al., 2018). The demand for interactive learning media highlights the potential benefits of this approach. The lack of curriculum-integrated modules and the absence of structured support for students and lecturers further emphasise this need. An e-module incorporating gamification elements provides an educational experience that is informative and motivating, encouraging students to engage more actively in the learning process (Malamed, 2012).

This research adopts a Research and Development (R&D) approach. It employs the ASSURE development model (Analyse, State, Select, Utilise, Require, Evaluate) as the methodology. The research was conducted at IAIN Palopo within the Faculty of Tarbiyah and Teacher Training, with 103 students participating. This study aims to develop an electronic module for media and educational technology using the Heyzine application. The research also includes validity and practicality testing of the developed product. Primary data were collected through observations, surveys using

questionnaires, and e-module validation by experts. Secondary data, gathered from articles, books, and electronic publications, was also utilised. The data collection methods involved observation, questionnaires, documentation, and validation procedures for the e-module.

Both quantitative and qualitative analyses were employed in the data analysis process. The validation results from language experts, media experts, and material experts, as well as the media practicality survey scores from students, were measured using a four-point Likert scale: 1 for "very little," 2 for "less," 3 for "good," and 4 for "very good." The percentage formula was applied to analyse the data gathered from the validators and students. This approach calculated the e-module's validity and practicality levels based on the percentage of scores from the validation sheets and questionnaires. These results are summarised in Tables 1 and 2, which outline the validity and practicality levels of the e-module.

Table 1. Classification of Validity Categories

Percentage (%)	Category
0 - 20	Not Valid
21 - 40	Less Valid
41 - 60	Quite Valid
61 – 80	Valid
80 - 100	Very Valid

Table 2. Classification of Practicality Categories

Percentage (%)	Category
0 - 20	Not Practical
21 - 40	Less Practical
41 - 60	Quite Practical
61 – 80	Practical
80 - 100	Very Practical

The analysis results on the validation sheets and the product practicality questionnaire serve as a reference to determine the feasibility of the gamification-based media and educational technology e-module and to understand students' responses as users towards the e-module. Analysis of the validation sheets and practicality questionnaires also serves as the basis for decision-making regarding the revisions.

Finding and Discussion

The research begins by conducting an analysis of the e-module needs. The needs analysis of the e-module is an important first step to ensure that the e-module that will be developed truly aligns with the learning objectives and the users' needs. The development of the e-module is based on the needs of the students of the Faculty of Tarbiyah and Teacher Training at IAIN Palopo for more interactive and accessible learning materials. The survey found that 52.5% of students out of 103 respondents preferred e-modules over printed modules as the primary learning medium. Students also expect multimedia features, such as instructional videos, to clarify the content in the module. As many as 95% of students stated that the e-modules equipped with videos would help them understand the material better. In comparison, 81.5% expect an evaluation feature in the form of quizzes or questions that immediately display the results, so that they can assess their understanding independently.

The student's need for gamification-based teaching modules is also supported by A questionnaire related to the characteristics of student competencies that reveal a quite good competencies in conceptual understanding as the most dominant dimension,
while consecutively on the skills of applying knowledge and the ability Problem-solving needs to be further improved. In addition to those results, the reality According to the student learning style questionnaire, the three learning styles, namely visual, auditory, and kinesthetic, are possessed by students; therefore, a relevant

module is needed with those three learning styles. The students' desire to have media Interactive learning shows that gamification-based e-modules can be an innovative solution to enhance learning engagement (Ramadhani, 2016; Tsai et al., 2018). This need is also driven by the lack of learning modules aligned with the curriculum and the absence of structured guidelines for students and lecturers. Modules integrated with gamification elements are expected to provide informative learning experiences and motivate students to be more active in the learning process (Malamed, 2012).

The process of developing e-modules for media and educational technology based on gamification aims to create interactive, engaging, and effective learning experiences for students. This process includes six stages, starting with analysing learners, which includes students, state standards and objectives, selecting strategies, technology, media, and materials, utilising and developing the E-module, disseminating the E-module to the students and lecturer, and evaluating and revising. In more detail, the process is as follows:

1. Analyse Learners

The initial stage in the ASSURE model is understanding the characteristics of the users, that is, students. This analysis includes identifying students' preferences for interactive digital learning media. An analysis of student needs regarding digital learning media, such as e-modules, revealed that 95% of students require instructional media, including educational videos, to help clarify the material presented in text form. Furthermore, 81.5% of students expressed the need for learning media that includes evaluation questions with instant feedback. Based on this needs analysis, it is appropriate to provide learning media that incorporates videos and evaluations with immediate scoring, namely, a gamification-based e-module. This type of e-module is supported by text or instructional content, videos, images, and quizzes or games for evaluation purposes. Based on the survey results, the majority of students prefer e-modules with multimedia content, such as videos and interactive quizzes that provide immediate feedback. The survey results also indicate that students still need to improve their problem-solving skills and the ability to apply knowledge. It is also revealed that students possess all three learning styles (visual, auditory, kinesthetic); therefore, modules relevant to these three learning styles are needed. The students' desire indicates that the gamification approach is highly relevant to enhance their learning experience (Hidayat & Khotimah, 2019).

2. State Standards and Objectives

The activity in the second stage, which states standards and objectives, involves formulating learning objectives for each chapter in the developed e-module. The formulation of learning objectives refers to the RPS (Semester Learning Plan) for the media and educational technology course. The media and educational technology course is an odd semester course weighing 2 SKS (Semester Credit Units), conducted over 16 meetings. The formulation of learning objectives, or sub-CLO (Course Learning Outcomes), is derived from the main CLO and represents the final competencies students are expected to achieve throughout the course.

Table 3. CLO

Table 3. Course Learning Outcomes (CLO)

Course Learning Outcomes (CLO)	
CLO-1	Showing a responsive attitude towards the assigned tasks and responsibilities.
CLO-2	Applying information and communication technology in lesson planning, lesson implementation, lesson evaluation, and management of PAI learning.
CLO-3	Demonstrating skills in information literacy, media literacy, and utilising information and communication technology for the development of knowledge and work skills;

Course Learning Outcomes (CLO)	
CLO-4	Able to develop media, tools, and teaching materials for PAI learning;
CLO-5	Applying knowledge and skills in information technology within the context of scientific development and the implementation of expertise fields effectively and efficiently for PAI learning in schools/madrasahs.

Table 4. Sub-CLO

	Sub-Course Learning Outcome
Sub-CLO 1	Sub-CLO 1: Able to explain the concept of media and learning technology [C2, A2] (CLO-2) (CLO-3)
Sub-CLO 2	Sub-CLO 2: Able to explain the classification of learning media [C2, A2] (CLO-2) (CLO-3)
Sub-CLO 3	Sub-CLO 3: Able to explain the development and use of learning media [C2, A2] (CLO-2) (CLO-3)
Sub-CLO 4	Sub-CLO 4 Able to describe print media [C2, A2, P3] (CLO-4) (CLO-5)
Sub-CLO 5	Sub-CLO 5 Able to describe and create graphic media [C2, A2, P3] (CLO-4) (CLO-5)
Sub-CLO 6	Sub-CLO 6: Able to describe and create audio and video media [C2, A2, P4] (CLO-4) (CLO-5)
Sub-CLO 7	Sub-CLO 7 Able to explain and develop computer-based media [C2, A2, P2] (CLO-4) (CLO-5)
Sub-CLO 8	Sub-CLO 8 Able to understand and develop e-learning [C2, A2, P4] (CLO-4) (CLO-5)
Sub-CLO 9	Sub-CLO 9: Able to understand and develop evaluation media and media evaluation [C2, A2, P4] (CLO-4) (CLO-5)

The developed e-module contains nine chapters with different titles or topics. The learning objectives are formulated based on the Semester Learning Plan (RPS) for the Media and Educational Technology course. Each chapter in the e-module is expected to achieve the Course Learning Outcomes (CLO) established, covering a basic understanding of educational technology and the ability to develop technology-based learning media (Ashari & Puspasari, 2024).

3. Select Strategies, Technology, Media, and Materials

Selecting strategies, technologies, and materials is the third stage of the activity, which will be detailed in the e-module based on the characteristics of the students and input from the lecturers. The strategies used are constructivism and contextual, along with the cooperative approach, project, and lecture methods. Meanwhile, the technology used in the development of the e-module is the Heyzine application. The Heyzine application is an online application that can convert PDF documents into interactive flipbooks. The media displayed in the e-module consists of images, videos, and quiz or game applications. The material presented in the e-module includes:

a. Chapter 1: Concepts of Media and Educational Technology
b. Chapter 2: Classification of learning media
c. Chapter 3: Development and use of media
d. Chapter 4: Printed Media
e. Chapter 5: Graphic Media

f.   Chapter 6: Audio and visual media
g.   Chapter 7: Computer-based media
h.   Chapter 8: E-Learning
i.   Chapter 9: Evaluation of media and media evaluation

There are nine chapters in the e-module, each with sub-chapters studied from various sources, including books and articles. Selecting strategies, technology, media, and materials involves a constructivist and contextual approach. Cooperative learning strategies, projects, and lectures are implemented to support interactive and collaborative learning. The leading technology used is the Heyzine application, which allows the conversion of PDF documents into interactive flipbooks. The material displayed in the e-module consists of text, images, videos, and interactive quizzes or games designed to help with independent and enjoyable understanding of the material (Chugh & Turnbull, 2023).

4.   Utilise and Develop E-module

In the fourth stage, the researchers start developing the e-module, based on the chapter titles that had been arranged in the previous stage. Various materials from different sources have been reviewed based on the chapters and sub-chapters contained in the e-module. In addition to reviewing the material, the researchers also selected images, videos, and quiz or game applications that can be used in the e-module. Moreover, the researchers also prepared evaluation questions that would be included in the selected quiz or game applications. All designs (layouts) of text, images, videos, quizzes or games are created using Microsoft Word, imported into Canva, and finally into Heyzine.

All components, including layout design and material structure, are arranged to ensure accessibility and readability. After completion, the e-module was validated by three validators, namely media, material, and language experts, to assess its feasibility before further testing on students (Oktavia et al., 2018). As for the validation results from the three validators who filled out the validation sheets, the results were obtained and are valid for use after revisions were made first, based on the validators' suggestions.

Table 5. Sub-CLO

Num.	Expert Validator	Percentage (%)	Category
1	Medias	86,67	Very Valid
2	Material	88,89	Very Valid
3	Language	97,12	Very Valid
Average		90,89	Very Valid

The research results indicate that the module has been validated in several key aspects: language, media, materials, and practicality by students. Validation by language experts achieved a very valid criterion with a percentage of 86.67%, reflecting the clarity and appropriateness of the terms used. The media validation in this module received a percentage of 88.89%, indicating good visual appearance and accessibility. Material validation shows a percentage of 97.12%, categorising the material as very valid with high completeness and alignment with learning standards. The validity test results indicate that the e-module is suitable for use. However, some revisions were made according to the validator's suggestions.

5.   Require Learner Participation

In the fifth stage, the researcher starts distributing the e-module to students enrolled in the media and educational technology course and the lecturers teaching the course. This stage aims to engage students in the use of the e-module actively. Students are involved not only as users but also as evaluators who provide feedback on the practicality of the module in the learning process. They access and utilise the e-module for independent study and under the lecturer's supervision. This involvement helps to gather empirical data on the effectiveness of the e-module in supporting the learning process (Suarsana & Mahayukti, 2013). The e-module that is distributed has passed

validation and revision and is declared valid. The purpose of distributing the e-module is to conduct limited trials so that the practicality test results of the developed e-module can be obtained. The results of the practicality test of the e-module distributed to students can be seen in Table 6.

Table 4. Results of Practicality Testing

Num.	Aspect	Score	Maximum Score
1	Readability	729	840
2	Ease of Use	720	840
3	User Engagement	720	840
4	Relevance	376	420
5	Learning Motivation	732	840
6	Aesthetics	743	840
7	Understanding of the Material	381	420
Amount		4020	5040
Percentage (%)		0,7976	79,76
Category		Practical	

Based on Table 6, overall, with a total score of 4020 out of 5040, the e-module received a percentage of 79.76% and was categorised as practical. This indicates that the e-module is relevant to students' needs and can enhance motivation and engagement in the learning process (Tsai et al., 2018; Hussein et al., 2023).

6. Evaluate and Revise

The final stage of the ASSURE development model is evaluation and revision. The evaluation and revision stage results are obtained from the validation tests and practicality tests. The results of the validation and practicality tests were analysed by the researcher, leading to several recommendations:

a. Pay attention to the use of bullets
b. The writing of foreign languages that has not been italicised
c. Some evaluations cannot be accessed directly
d. The video display needs to be considered
e. Addition of game application types in the evaluation

After conducting an analysis, based on the evaluation results, revisions were made to optimise and enhance the appearance of the e-module. It is also concluded that the gamification-based media and educational technology e-module is feasible for the lecture process as teaching material in the FTIK IAIN Palopo environment.

The final evaluation is conducted to assess the strengths and weaknesses of the e-module based on feedback from validity and practicality tests. The evaluation was conducted by considering the module's visual, linguistic, and interactive aspects. The validators provided several suggestions, including adding quiz variations and making minor revisions to the visual appearance, all of which were implemented to enhance the e-module's quality before its wider dissemination (Sugianto et al., 2017).

The e-module's validity was tested by three validators who assessed the aspects of language, media, and content. Based on the validation results, the gamification-based e-module received an average score of 86.67% for the language aspect, 88.89% for the media, and 97.12% for the content, all rated in the very valid category. The language aspect ensures the clarity and consistency of terminology, and the media aspect evaluates the visual quality and accessibility. In contrast, the content aspect assesses the alignment of the material with learning objectives and the integration of gamification elements (Firdaus & Setiani, 2008; Hidayat & Khotimah, 2019). The validity test results indicate that the e-module is feasible for use. However, some revisions were still made according to the validator's recommendation.

Based on the findings of the conducted research, it can be stated that the development of the Gamification-Based Educational Media and Technology E-Module for students of the Faculty of Tarbiyah and Teacher Training at IAIN Palopo through

the ASSURE development model has proven to be practical and feasible to use. The ASSURE model's six stages, from student needs analysis to evaluation and revision, have been successfully implemented systematically and comprehensively.

The validity of this e-module was assessed from three main aspects: language, media, and content. The experts involved in the validation process categorised all three aspects as highly valid. This indicates that the e-module's content is substantively and pedagogically appropriate, complies with communicative language standards, and features an interactive and appealing media design. Practicality tests also showed that the e-module is very practical for students to use during the learning process. Positive user responses indicate that applying gamification in the e-module can enhance learning motivation, active student engagement, and understanding of educational media materials and educational tech.

The implications of these findings suggest that integrating gamification approaches into digital learning media, particularly in the form of e-modules, is a strategic innovation in addressing the challenges of 21st-century learning. Students, as a digital generation, require adaptive, engaging, and contextual media to suit their characteristics. Therefore, gamification-based e-modules can serve as an alternative solution to improve the quality of learning in higher education environments, including at the Faculty of Tarbiyah and Teacher Training at IAIN Palopo.

Further development of this e-module can also be directed toward integrating more complex interactive features, such as simulations, level-based challenges, and instant feedback. Therefore, gamification will be a mere embellishment in learning and an effective pedagogical tool to enhance overall learning outcomes.

Conclusion

Based on the research conducted, it is concluded that the gamification-based media and educational technology e-module for students of the Faculty of Tarbiyah and Teacher Training at IAIN Palopo was developed using the ASSURE model, which consists of 6 stages: analyse learners, state standards and objectives, select strategies, technology, media, and materials, utilise and develop the E-module, require learner participation, and evaluate and revise. The validity test from 3 validators, namely language, media, and subject matter experts, obtained very valid results, indicating that the gamification-based media and educational technology e-module is deemed feasible for teaching. Meanwhile, the practicality test of the e-module obtained practical results; thus, it can be stated that the gamification-based media and educational technology e-module for students of the Faculty of Tarbiyah and Teacher Training at IAIN Palopo received a positive response, the e-module was well-received and effective in supporting student learning.

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