



Development of TANGGUH Gamification (Traditional Games in Indonesian Historiography) in Indonesian cross-cultural courses and its impact on the growth of national identity awareness

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Article Info

Article history:

Received 05 November 2024

Revised 20 February 2025

Accepted 21 March 2025

Available online 01 September 2026

Keywords:

TANGGUH gamification,
Indonesian historiography,
Cross-cultural courses,
National identity awareness

Abstract

This research develops the gamification of TANGGUH (Traditional Games in Indonesian Historiography) as a learning medium to increase student involvement in history learning, cross-cultural understanding, and preservation of local wisdom in Indonesia. This gamification integrates traditional games in Indonesian Cross-Cultural courses to strengthen students' national identity. This research uses the Research and Development (R&D) method with the ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. In the Analysis stage, the needs of students in understanding the value of local history and culture are identified. The Design stage produces a learning media design that combines traditional games with gamification elements to create an interactive learning environment. In the Development stage, the TANGGUH application was validated by material and media experts with high feasibility results, obtaining a score of 4.53 for material validation and 4.46 for media validation. In the Implementation stage, the trial with 21 students based on 10 indicators resulted in an average score of 4.21 showing very high effectiveness. The findings of the study show that the integration of traditional games as teaching materials in the context of history, culture, and local wisdom significantly enriches the learning experience of students. The results of the questionnaire showed an increase in national identity awareness from 3.12 to 4.27, with an N-gain score of 1.15, signaling a significant change. Therefore, TANGGUH gamification has proven to be effective and worthy of use in history learning and contributing to strengthening national identity and appreciation of Indonesia's cultural heritage.

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Introduction

Education is an important instrument in forming awareness of national identity among students. History is a subject that has an important role in introducing the identity and cultural richness of a region to future generations. Indonesia is rich in cultural diversity and local history, understanding and strengthening national identity is very important (Albantani et al., 2018; Chattopadhyay, 2011; Soedarsono, 2013). One approach that can be used to achieve these goals is through changes that are applied to the learning process (Barton & Levstik, 2004). The reconstruction of historical values as a whole and thoroughly built through history learning aims to understand national identity (Hudaidah et al., 2021). The process of learning history that teaches stories about the homeland, starting from the habits or traditions of the people's lives, culture, and ideology, is expected to create a sense of pride in the country (Brata, 2023; Manning et al., 2024). This condition, especially in learning Indonesian cross culture courses, is often faced with challenges such as the lack of student involvement and interest in learning local history and cultural material (Bhavana, 2010; Sulistyono et al., 2023).

Limited resources and conventional teaching methods are often unable to motivate students to understand and appreciate their nation's cultural and historical heritage (Susanti et al., 2021; Susanti & Miftahuddin, 2021). In the era of advances in information technology, universities as pillars of academics must keep pace with the growing demands of the world and globalization (Altbach et al., 2009; Terentieva, 2018). Currently, the use of information technology in history learning is not only needed to facilitate the delivery of material and align it with the characteristics of students, but also to prepare them to acquire skills as a standard achievement for graduates. The Department of History, State University of Malang specifically accommodates these needs through a scientific vision that has been established. This vision mandates the implementation of history education that is innovative, adaptive and has integrity as a response to the development of history education in the 21st century. The aim is to strengthen character development based on Local Archipelago Wisdom while contributing to the development of science and technology in the context of adaptive and innovative history education. provide solutions to various historical, societal and local wisdom problems of the archipelago, supporting the implementation of history education in the 21st century (Hasan, 2019; Sandhu, 2019).

The 21st century approach emphasizes skills in using technology. The requirements that must be mastered in 21st century learning are the 4Cs of Critical Thinking, Communication, Creative Thinking, and Collaboration (Sujarwo et al., 2022). This skill becomes a provision in implementing learning using technology, one of which is history learning. Not many people have studied local history in history learning. One form of local history is traditional games (Hanipah, 2023). These problems emphasize the importance of developing innovative teaching strategies such as using technology to package traditions and traditional games as teaching media in local historical and cultural contexts. Traditions and traditional games are an integral part of Indonesian culture and can be a powerful tool for teaching and strengthening awareness of national identity (Aisyah et al., 2019; Iwandana et al., 2018; Setyawan & Doyo, 2020). Indonesia is a country rich in cultural heritage, with diverse traditions, languages, and beliefs (Lan, 2011). This is a real challenge amidst the onslaught of modernization and globalization (Zarbaliyev, 2017). Utilizing traditions and traditional games as teaching materials is an effective way to introduce students to the diversity of Indonesian culture (Counsell, 2011; Sulistyanto et al., 2023; Yuniasih et al., 2023). This allows them to understand and appreciate the rich culture that exists in the country.

Traditional and traditions games provide opportunities for students to be actively involved in the learning process. In these traditions, they are not only the audience, but also the main actors. This helps to increase their involvement in the educational process, making them more enthusiastic about learning (Ritzko & Robinson, 2011). History is often perceived as a dry and boring subject (Chapman, 2016). But the use of traditional games related to history can help bring the material to life.

Students can learn about historical events through practical experience, making it easier to understand and remember. Introducing students to traditional traditions and games helps them feel a sense of pride in Indonesia's cultural heritage. This can strengthen the nation's identity and make them more willing to preserve and pass on the culture to future generations. In addition, the concept of gamification has also proven to be effective in increasing student engagement and motivation (Karapakdee & Wannapiroon, 2023; Zainuddin et al., 2020). Through the development of learning media that combines elements of tradition, traditional games, and gamification, an interesting, interactive, and immersive learning environment can be created (Landers, 2014; Lin et al.,

2018). However, there has not been much in-depth research on the development of this learning media in the context of Indonesian cross culture courses, and its impact on students' awareness of national identity. From the description above, it can be seen that gamification can generate enthusiasm for learning. In addition, traditional games are very relevant to be used as learning material content that can develop a national identity. Therefore, this research aims to research and develop knowledge and explore the potential of utilizing traditions in traditional games with the concept of gamification to strengthen the national identity of students in Indonesia. The product that will be developed in this research is the TANGGUH application (Traditional Games on Historiography) as gamification in history learning.

Literature Review

TPACK

Technological pedagogical and content knowledge (TPACK), which has developed rapidly, has become an important aspect of learning, one area of which is history learning (Harris & Hofer, 2011). The TPACK model is an effective approach in integrating technology, pedagogy and learning materials to increase student understanding and engagement (Schmidt et al., 2009). TANGGUH gamification in the context of learning is an innovation strategy that is useful for building national awareness. The TPACK model combines three main aspects of learning, including technology by utilizing technology in the development of digital-based gamification (Koehler, 2013). Pedagogy, related to strategies in interactive learning that actively involve students. Content contains an understanding of historical material, cultural values contained in traditional games. The TPACK approach used in TANGGUH gamification is designed not only to convey historical material conventionally. But it also provides an immersive learning experience through traditional Indonesian games that are studied in national historiography.

Gamification

Gamification is a powerful strategy in education, one of which is integrating game elements to increase engagement and learning outcomes. Gamification in its application is useful for increasing student engagement, motivation and learning experience (Ružic & Dumancic, 2015). Elements used in gamification include points,

challenges, rankings, rewards, and interactive narratives. The application of gamification in the context of history learning is important to help overcome the stigma of learning that is considered boring (Barghani, 2020). Game elements, learning experiences are made interesting and interactive to encourage students to engage in the learning process (Kiryakova et al., 2014). In the context of historiography and the development of national identity, gamification plays an important role in making history more accessible, interactive, and relevant for students. TANGGUH gamification contains traditional Indonesian games to strengthen national identity awareness in the Indonesian Cross culture course. The concept of gamification is in line with the approach used, namely, TPACK, which is used for pedagogical strategy and historical content. Gamification transforms the learning experience of learning, into immersive and interactive engagement. The integration of traditional games in Indonesian historiography ensures that cultural heritage is preserved.

Traditional Games

Traditional games are part of cultural heritage that has historical, social and educational values. Traditional games are a characteristic of identity in a certain region or country (Parlika et al., 2018). In the current modern era, where digitalization is rampant, traditional games are increasingly rarely played and are almost extinct (Rianto & Yuliananingsih, 2021). There are changes in lifestyles, technological developments and the lack of preservation and introduction of traditional games in the education system (Husein, 2021). This research seeks to integrate traditional games in gamification. The traditional games presented include, (1). Dakon or congklak, the game that is most often played by people on the island of Java. The game is played using a perforated board and grains that are used as playing tools. (2) Rangku Alu is a game originating from East Nusa Tenggara, played using four bamboo sticks that are moved rhythmically, players in this game have to jump between the bamboo gaps. (3) Balogo, is a game originating from South Kalimantan that is played using coconut shells thrown to hit the target. (4). Groups, this game comes from Sulawesi which comes from a wooden log rolled to reach the finish line (Mulyana & Lengkana, 2019). These traditional game elements are packaged in the form of gamification, to reintroduce these games through interactive digital media. This approach will not only introduce traditional games but also an understanding of the cultural values contained in them.

National Identity

National identity is defined as a nation's collective awareness of cultural values, norms, and history that are unique characteristics that are different from other nations. According to Anderson, (2016) national identity is formed through *imagined communities* where individuals feel they have similarities in their lives, history and national aspirations. National identity is the awareness of individuals or groups as part of a nation (Billah et al., 2023). This awareness is manifested by active efforts in inheriting culture, history, and achieving common goals and ideals. Referring to this explanation, it can be concluded that national identity is not only manifested in the form of a feeling of belonging and claiming to be part of a nation (Triandafyllidou, 1998). However, these feelings and claims must be expressed in the form of real actions. The real action of this feeling of belonging and claim in various case studies shows different forms. The formation of national identity takes place through historical, social and cultural processes that differ in each country so that each nation has its own unique way of building a sense of belonging to its national community and culture (Mayanti et al., 2023). For example, in Indonesia, the nation claims to have an identity that distinguishes it from other nations in the world, namely, Pancasila and Bhineka Tunggal Ika. National identity is formed from the existence of common races, ethnicities but also common historical experiences, the will to live together and cultural heritage that continues to be passed down from generation to generation. National identity includes cultural symbols, national myths, and traditions that are the foundation for the formation of citizens' characters (Brata, 2016). One form of cultural heritage that can be used to strengthen national identity is traditional games.

Methodology

The research method used in the development of Gamification through Project Learning in the course of Indonesian Cross Culture to Strengthen National Identity follows five stages called ADDIE. The ADDIE method stands for Analysis, Design, Development, Implementation, and Evaluation (Branch, 2009). It is a systematic approach used in learning design and development, especially in the context of learning design and curriculum development (Adán et al., 2020; Sugihartini & Yudiana, 2018). ADDIE method

helps learning designers, curriculum developers, and instructors to design, develop, and evaluate effective learning programs.

In the first stage, namely, Analysis stage, researchers collected data through filling out questionnaires and interviews with respondents consisting of students and lecturers. The analysis carried out includes analyzing the needs when in the classroom; the analysis is carried out by filling out a questionnaire, the conclusion of interview transcripts. The results of data analysis will be followed up by developing products according to the needs of the respondents. The results of data analysis showed several main needs. First, students need interactive learning media to facilitate understanding in the context of historical research. Second, based on learning style analysis, students tend to have kinesthetic and visual styles. Third, lecturers need supporting media to achieve Course Learning Outcomes (CPMK) and stimulate student productivity. The second analysis is based on observations from the curriculum, the CPMK Course Learning Outcomes compiled by the curriculum team of the Department of History, State University of Malang, Indonesian Cross Culture Course. The third analysis relates to the analysis of potential, data from literature studies and analysis of the results of questionnaires related to the development of games as learning media.

After the Analysis stage, the research continued to the second stage, proceeded to the Design stage, where material design, prototype design, product usage design (flowchart), and testing design were designed. The research chose CPMK as the basis for content development because it is in accordance with the course objectives and has the potential to strengthen national identity. The results of the Analyze stage became the basis for designing various aspects of gamification content development.

The third stage is Development. In this stage the development of material designs, prototypes, and flow charts is developed into concrete products. The research used Unity software in this process. In addition, the test design is also detailed with activities such as material and media validation. The fourth stage is Implementation, the stage of applying the gamification product in the actual context. Implementation is carried out using the Pedagogical Content Knowledge Technology (TPACK) approach. In this case, this stage involves product testing which is carried out twice with the test subjects of Malang State University history students who are currently taking the Indonesian Cross Culture course in a small group trial with 8 randomly selected students. Furthermore, the implementation stage includes testing on a large group

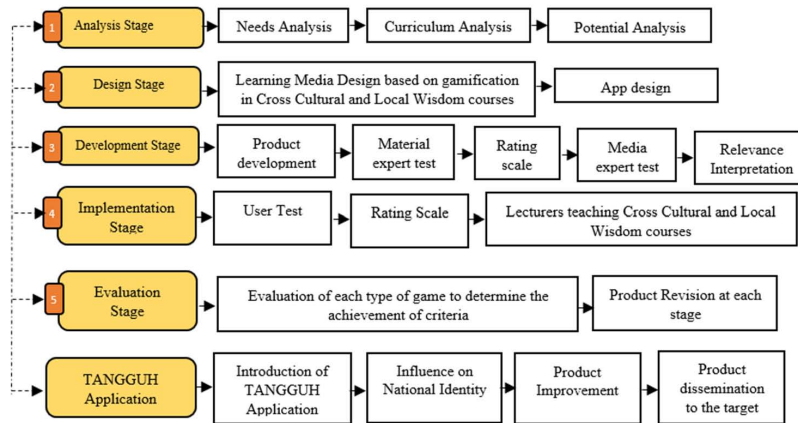


Figure 1 ADDIE research type and design

(field trial) involving 21 purposively selected students. Test group criteria: Currently taking Indonesian cross culture courses in the archipelago. A clear picture of the steps in this research can be seen in [Figure 1](#)

Standard criteria for determining at the validation and product implementation test stages use the interpretation scale formula in [Table 1](#).

Finally, the fifth stage is Evaluation. At the evaluation stage, the developed product will be evaluated and assessed, including material and media validation, as well as test results with student groups. The results of this stage of evaluation will be the basis for refining and developing further gamification products if needed. The evaluation also includes an analysis of the product's impact on increasing students' national identity awareness, which

Table 1 Attainment rate conversion (Koyan, 2012)

No.	Score Range	Classification
1.	$4.01 < x \leq 5.01$	Very good
2	$3.33 < x \leq 4.01$	Good
3	$2.66 < x \leq 3.33$	Good enough
4	$1.99 < x \leq 2.66$	Not good
5	$0.99 < x \leq 1.99$	Very Not Good

is the main objective of this research. By following the AADIE stages, this research seeks to produce innovative and effective learning media products that can strengthen students' national identity through a gamification approach in the Indonesian cross culture course. In principle, the method in this research uses coherent logic as shown in [Figure 2](#).

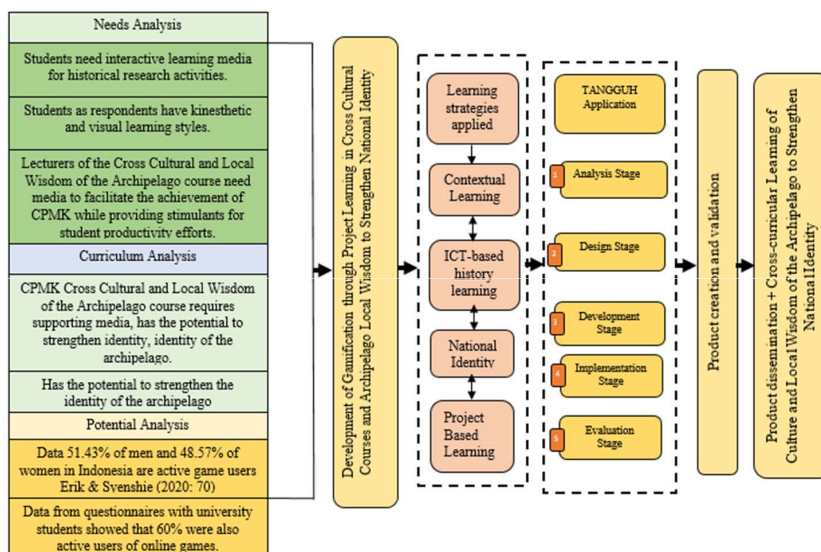


Figure 2 Researcher's problem-solving logic

Results and Discussion

National identity refers to individuals' awareness of their attachment and identity as citizens of a particular country or nation. National identity is very important in strengthening the sense of loyalty to the country (Uberoi, 2018; Van der Meer, 2020). National identity is part of the concept of multiculturalism that provides an overview of how governance and diverse cultures are formed (Walters, 2020). The purpose of national identity, then, is to strengthen the solidarity of a country. National identity not only includes elements such as language, culture, history, values, symbols, and shared experiences that form unity but also a sense of solidarity within a society or nation, as well as the enforceability of laws (Arianto, 2023; Sugeng et al., 2023). In addition, national identity also serves as a foundation to form and maintain national unity and integrity (Sandhu, 2019).

Strengthening national identity is important because it builds unity, maintains peace, increases legal compliance, promotes development and faces external challenges. Awareness of Indonesian identity among the community, the younger generation has declined, which is due to the poorly understood concept of state defense. Multiculturalism is conventionally recognized as a privilege concerning race, culture, and ethnicity. Multiculturalism in Indonesia has become a major discourse and influences policy practice. The grand design concept of national identity comes from national defense, as a concept of building identity awareness among the younger generation. The importance of learning history in the context of CPMK Silang Budaya dan Kearifan Lokal Nusantara is to deepen the understanding of Indonesia's national and cultural identity and to ensure that students have a strong knowledge base to shape a better future for their country.

Development of Gamification through Cross-Cultural Project Learning and Archipelago Local Wisdom to Strengthen National Identity through the needs analysis stage is a crucial first step. The results of the needs analysis using a questionnaire can be seen in [Table 2](#) below:

This analysis concerns three main aspects, namely, awareness of national identity which shows low

achievement at 55 percent, so it is important to develop it. The potential of gamification in history learning received a high response, at 97 percent, which shows that gamification has potential and is needed in learning. Lastly is the importance of traditional games where respondents access whether the content is very relevant and minimally utilized.

Second, is needs analysis by interviewing respondents consisting of students and lecturers. Interview transcripts with respondents revealed several main needs. First students need interactive learning media to facilitate understanding of historical research activities. Second, analysis of learning outcomes shows that students have kinesthetic and visual learning styles. Third, lecturers in the Indonesian cross culture course need supporting media to achieve Subject Learning Outcomes (CPMK) as well as to provide stimulus to students' productivity efforts. The results of this analysis are basic for developing products that meet respondents needs.

The next stage of analysis is curriculum analysis, which aims to determine the urgency of this development from a complete learning aspect (Levander & Mikkola, 2009). At this stage, researchers determine Subject Learning Outcomes (CPMK) as the basis for content development. CPMK was chosen according to what was determined by the UM History Department Curriculum Team and is the main learning objective in the Indonesian cross culture course. The selection of courses and CPMK is based on respondent data, which shows that supporting media is needed and has the potential to strengthen students' national identity.

The third analysis relates to potential analysis, data from literature studies and analysis of questionnaire results related to game development as learning media shows 51.43 percent of men and 48.57 percent of women in Indonesia are active users of games (Lobel et al., 2017). Data from filling out questionnaires with students, obtained the results that 60 percent are also active users of online games. The data obtained from the literature study and questionnaires showed a potential, namely, the development of games as learning media. This potential can be maximized by displaying interesting and interactive features in it, so that users (in this case students) are able to construct their knowledge optimally (Wijaya et al., 2017).

Previous research data show great potential in developing games as a learning medium. Data show that most students are active users of online games. This potential can be maximized by displaying interesting and interactive features in gamified learning content. Thus, users (students) can construct their knowledge optimally.

Table 2 Result of needs analysis for students

Awareness of National Identity	The potential of gamification in history learning	The importance of knowledge of traditional games
55%	97%	92%

The results of the needs analysis become the basis for designing various aspects of gamification content development, including material design, prototype design, product use design (flowchart), and test design.

TANGGUH Gamification Design (Conceptual Desing)

TANGGUH gamification designs contain applications designed using Unity software. Cognitive features in the development of TANGGUH gamification include: Instructors present teaching materials and explain the benefits of digital technology in learning activities. The instructor asks students to install the app. Students are presented with information and procedures for using the application (in the form of a guidebook). After opening the application, after opening the initial menu, students are required to open the Subject Learning Outcomes (CPMK) menu and understand the contents. Furthermore, students are asked to open the profile menu as a means to better recognize the developer's profile. When students open the CPMK menu and Developer Profile, the instructor creates the class as a database to store answers and set rankings on the leaderboard.

Reading CPMK here aims to make students aware of the purpose of presenting TANGGUH gamification in learning. CPMK here is a benchmark for success in learning. The next step, after finishing reading the CPMK and Developer Profile, students are asked to log in by filling in their personal data. Especially for class data, students must fill in such according to the name given by the instructor. This is because the class name is the code that becomes the database to store answers and to organize rankings on the leaderboard. When they log in, students will be presented with a 3D character animation display that invites them to go around various traditional games in Indonesia. Then after the animation is finished, students are presented with a mission display to complete all stages containing various traditional games in Indonesia. There are three stages in TANGGUH gamification, including: the traditional game of Dakon/Congklak, the second stage of the Rangku Alu game, and the third stage of Balogo. This game was selected.

Design of the first stage traditional game of Dakon/Conklak

In the first stage, students were shown animations about the traditional game Dakon/Congklak (Figure 3). The first stage contains about; a. Materials, b. Games, c. Quizzes, d. Historiography. In the material submenu, students are presented with a display in the form of

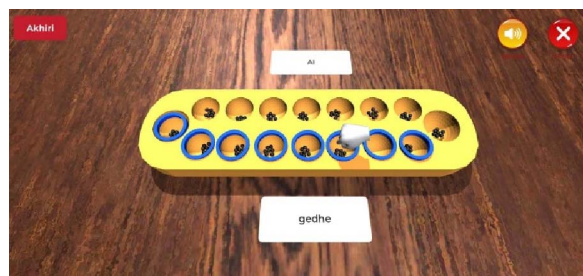


Figure 3 Traditional game Dakon/Congklak

a motion graph containing illustrations related to the content of the material. In addition, several types of audience information are also presented to accommodate differences in learning styles. The information viewer that will be entered into the app includes videos and audiobooks. When in the submenu, students are required to read all the material to the end. If they do not finish reading, then students cannot access the other menus in front. When students read all the materials presented, a navigation button will appear as a guide to the next menu. If the navigation button appears, students are directed to the stage 1 menu to select the game menu.

In the first game that appears is information about the history of the traditional game that has entered this stage 1 game. Furthermore, students read and understand information related to the history of traditional games. Students are then presented with information on how to play it. In this section, every detail of the rules of the game will be displayed along with illustrations. After students understand the game instructions that have been presented, then the game can begin.

The design of the second stage traditional game of Rangku Alu

At the beginning of stage II of the Rangku Alu game (Figure 4), students are required to start from the material first. After students select the menu, a display containing motion graphics will appear around the



Figure 4 Traditional game of Rangku Alu

content of the material. In addition, several types of audience information are also presented to accommodate differences in learning styles. The information viewer that will be entered into the app includes videos and audiobooks. Then after finishing reading the material, students will be directed to the next section, namely, the information menu containing the history of the Rangku Alu game. After reading and understanding information related to the history of the traditional game of Rangku Alu, students were then presented with information on how to play it. In this section, every detail of the game rules will be displayed along with illustrations.

The third stage design traditional Balogo game

In this section, students will be presented with material related to the traditional game of Balogo (Figure 5). The concept of the Balogo game incorporated into this application is inspired by several Golf games on the Google Playstore. When starting the Balogo game, students will be presented with an initial display that contains, a. Material, b. Games, c. Quizzes, d. Historiography.

In this section, information about the game procedure (guide) which contains explanatory text and illustrations is presented. When students have finished reading the tutorial, they will be directed directly to the game settings. Before starting, a pop up notification will be displayed explaining that students have been given pen paintings and ink of various colors. After that, students are asked to choose one of the logos with the shape and engraving they like. The logo that has been selected is then colored. Logo coloring must be done as a means of introducing traditional arts to students.

At each stage of gamification, TANGGUH strives to present gamification as a form of teaching. When using this gamification, students will be presented with some information related to local and cross-cultural wisdom in the archipelago and equipped with interesting traditional games. The position of the traditional game is currently experiencing extinction. This is due to modernization and

transformation to modern games even though traditional games teach many wise aspects and values. Among them are teaching physical, motor, cognitive, socio-historical skills and national identity. There are messages, advice conveyed by parents in ancient times, which are expressed through traditional games. These three games were chosen because of their almost extinct existence, so TANGGUH gamification is designed to introduce, provide information and practice how to play through virtual spaces. The three games chosen in this stage, namely, congklak/dakon, and rangku alu, are not only important for cultural preservation, but also to develop the character and skills of students, strengthen national identity and to bridge different generations.

TANGGUH Gamification Development (Validation and Implementation Test)

Material designs, prototypes, and flowcharts are developed into real products using Unity software. In addition, product testing planning is also carried out by material validation, media validation, small group trials and field trials. In developing Gamification through Project Learning in the Cross-Cultural and Local Wisdom of the Nusantara, Nusantara to Strengthen the Nation's Identity, a number of important values are the basis for creating meaningful learning experiences. First, a sense of belonging is key to making students feel like they are an integral part of Indonesian society. By using gamification, the learning experience becomes inclusive and motivates students to feel emotionally connected to Indonesian culture and history. In addition, nationalism is the main focus in content development. The prototype of the TANGGUH game application was successfully developed according to the design and specifications of the product, see Figure 6 below,

Through gamification, content development must be able to encourage students' understanding and appreciation of national values. Elements that reflect



Figure 5 Traditional game Balogo

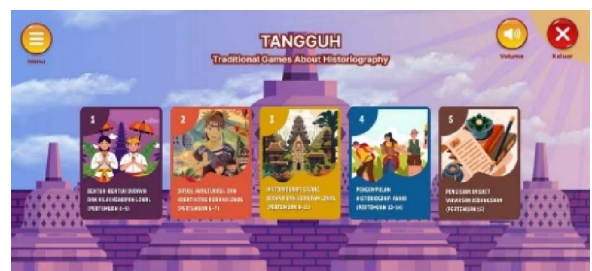


Figure 6 The first menu display of the TANGGUH App

the spirit of nationalism can be incorporated into games and learning materials to motivate students to feel more connected to their country. The ideal representation of Indonesian identity is also important in this context, where gamification must reflect the nation's positive values and aspirations such as unity, diversity and the spirit of achieving common goals. In addition, national background and consensus need to be considered in content development. The learning experience should create an environment that stimulates students to feel that their cultural background is valued and that they have something in common with fellow students in line with the national consensus on Indonesian values, history, and culture,

Content development must ensure that the learning experience reflects the views agreed upon by the Indonesian people at large. By integrating these values in gamification, the learning experience becomes more meaningful, reinforces students' national identity, and awakens a spirit of patriotism.

Furthermore, the prototype of the TANGGUH game application is assessed by experts through validation activities. This activity is to provide an assessment of elements including validity in terms of content or materials (Figure 7) and in terms of packaging and/or media (Figure 8). Material validators are selected based on criteria, including understanding of local history materials, local wisdom, and history learning. The validator of the material in this study is Dr. Dewa Agung Gedhe Agung, M.Hum as a history lecturer at the State University of Malang. Lecturers for material validation are selected based on the group of expertise. The validators of this material are experts in the field of cultural preservation and local wisdom. Material validation aims to assess the content of the material in TANGGUH gamification as feasible and valid. Validators have the right to assess according to existing criteria, provide suggestions and comments. In the validation

process, a process of improvement will be carried out by the researcher, in accordance with the suggestions of the material validator. Furthermore, after the material is declared feasible, it is continued with media validation.

The media validation process is carried out to find out whether TANGGUH gamification is feasible and valid for use or not, based on the criteria that are already available. Media validation is carried out by media experts in the field of history learning. The media validator in this study is Aditya Nugroho Widiadi, S.Pd., M.Pd., Ph.D. The field of expertise of media validators is history learning innovation, history learning technology and learning media. After the assessment, the researcher will revise until the TANGGUH gamification media is suitable for use as a history learning medium. The results of the material and media validation activities can determine whether the product is valid or not, so that it can be continued to the next stage, namely, implementation and evaluation (Sugiyono, 2013).

Data from the results of material validation showed a number of 3.85, which showed good and excellent validity, while media validation showed 4.7, which showed very good validity according to the reference category interval. Based on the results of material validation, criteria related to contextual aspects were obtained, namely, material relevance, material clarity, and games that met the research criteria, namely, good and excellent. Advice from material expert validation: In the future, the material presented can be updated so that more information is presented. The duration of the presentation of the material in learning.

The data from the results of media validity include 3 aspects, namely: The structural aspect reached 4.7, the learning design display reached 4.6, and visual communication reached 4.1. The results show an average media quality of 4.5, which means it is included in the very good criteria. Validation by media experts provides suggestions related to product innovation being good,

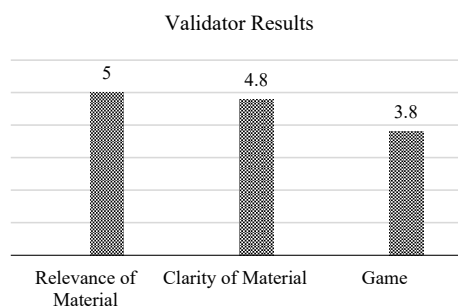


Figure 7 Graph of material expert validation results

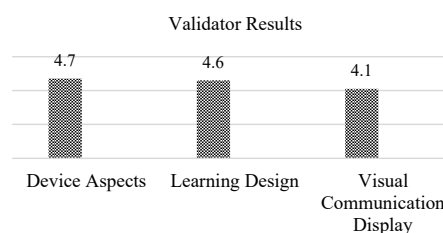


Figure 8 Graph of media expert validation results

but it is necessary to think about the sustainability of the application by updating features, storage capacity and ease of access not only through Android but other devices. The next step is for the research team to make improvements according to suggestions and comments from the material and media validators. This is done to improve the quality of gamification products until they are declared feasible and valid for use in learning. After being declared feasible and valid to be used as a medium in learning local and cross-cultural wisdom courses, the next stage is to test prospective student users who are taking the course.

The next stage is a small group trial involving 8 randomly selected students. The results of the small group trial were used as a tool to evaluate TANGGUH's gamification products regarding effectiveness and practicality. Furthermore, the researcher made revisions according to the suggestions and comments of potential users. After being declared effective and practical, researchers conducted a large group trial. Meanwhile, testing in large groups (field trials) involved 21 students who were selected using purposive sampling. This stage is part of the implementation of the product to determine its quality and suitability (Gall et al. 1996; Putra et al., 2020). The results of the product use trial and user recapitulation can be seen in Table 3,

The results of the gamification media implementation trial combined with traditional games (Dakon/Congklak, Rangk Alu, Balogo, Golong-Golong) based on student participation showed a range of 4.27, which indicates that the assessment of the TANGGUH application is very high. The student admitted that he was happy, the application was easy to use, very helpful in the process of understanding the local culture and wisdom of the archipelago through the visualizations presented. However, to install this app, storage space is required. The indicators of implementation results show the enthusiasm of students to explore, solidify ideas and strengthen their understanding of learning materials. At a later stage, the product will be applied in real-life situations. The research and development of the TANGGUH Application has the potential to support 21st century learning with technology that can help the student learning process. The development of this application accommodates a learning approach with the TPACK (Technology Pedagogy Content Knowledge) model, a collaboration that is able to accommodate the use of technology and applications, teaching with new models and content created to introduce the identity and local wisdom of the archipelago to strengthen the national identity.

Conclusion and Recommendation

The application of gamification in Indonesian cross cultural courses by involving digital games that include traditional Indonesian games is an interesting step to increase interest in learning and strengthen students' understanding of local culture. Gamification in learning is the first step to encourage the implementation of technology-based learning. This is appropriate in encouraging 21st century learning which requires the use of technology. The learning model using gamification in courses is able to encourage lecturers to integrate knowledge, pedagogy and content with technology. This form of teaching is called Technology Pedagogical Content Knowledge (TPACK) as a learning technique that emphasizes technology and applications.

Research on cultural content development and product development in the form of applications as learning media in the Indonesian cross cultural courses provide opportunities to disseminate cultural products and local wisdom widely in the public domain. The application of gamification in learning provides a positive opportunity to learn about local culture and wisdom in Indonesia, as a form of gratitude for the diversity of the Indonesian people. In this way, it is hoped that a sense of pride and love for national identity will emerge. This research and development produces a product in the form of the TANGGUH application. Products are developed, not only based on existing problems, but also based on the results of needs and curriculum analysis. The results show that it is necessary to develop game applications for history learning that utilize traditional game content. Products that are successfully developed undergo the next stage, namely validation. The material and media validation test results obtained a feasibility level of 40.01–4.8 with very high validity according to the interval. In the temporary implementation phase, 21 users received a rating of 4.27 with very good qualifications. The TANGGUH application with a gamification model is effectively used in history learning in the subjects of Culture, Local Wisdom of the Indonesian Archipelago and is suitable for use as an educational medium in public spaces.

However, this research is still limited to the implementation of four traditional games only, while there are many other traditional games that have the potential to be included. Future research can expand its scope by including other traditional games to enrich the cultural learning experience. By including a greater variety of games, this application can provide a more comprehensive representation of Indonesia's cultural

heritage. Furthermore, a wider implementation trial will be conducted to measure the development of national identity through gamification of history learning with the TANGGUH game. The TANGGUH application can be used as a learning media in Indonesian cross-cultural courses and can be a reference for further research on gamification in history education, cultural preservation, and digital learning media.

Conflict of Interest

The authors have no competing interests to disclose.

Fundings

This research was financially supported and funded from (LP2M) State University of Malang.

Acknowledgments

Thank you to (LP2M) State University of Malang for providing support and funding. Thank you to the Collaborative Research team from UNY and UPI for their collaboration until this research was completed, ease of data exploration.

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