

## **Preliminary Research on Development of Mobile Games-Based Social Studies Learning Media to Develop 21<sup>st</sup> Century Skills**

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### **Abstract**

Social studies learning will lose its dignity when it does not adjust with the characteristics of generation Z students who are unique and have main characteristics that cannot be separated from gadgets. The objectives of this study are to reveal the social studies learning media during the covid-19 pandemic and after, the characteristics of learners in using mobile phones, and 21<sup>st</sup> century skills possessed by students. This research was conducted in a junior high school in Jember Regency, East Java, Indonesia, with 75 students and the teacher participating as the respondents. This research was conducted under descriptive qualitative method with data collection using interviews, documentation, observation and questionnaires for 21<sup>st</sup> century skills, while data analysis used triangulation techniques. The results showed that students at the school liked to play games via mobile phones for at least 1 hour per day. Furthermore, social studies learning in schools has not evaluated the skills of the 21<sup>st</sup> century holistically. When collecting data using the questionnaire, it was found that the 21<sup>st</sup> century skills possessed by students were at below average level with a score of 2.67 with a maximum scale of 5. The conclusion of this study recommends the need for social studies learning media that is in accordance with the characteristics of generation Z learners who like to play games by developing social studies learning media based on mobile games in order to develop students' 21<sup>st</sup> century skills.

**Keywords:** Preliminary Research, Mobile Games, Social Studies Learning, 21<sup>st</sup> Century Skills

### **Introduction**

Preliminary study is the first step and is the most important part in conducting research. Through this stage, researchers can find out a clearer and sharper picture regarding the focus of the research being studied (Pauline-Graf & Mandel, 2019). Preliminary study carried out by the researcher is started from literature review to obtain supporting theories and analyzing research results relevant to the planned topic to determine the position of researcher among the previous studies. The next step is to review the research subjects and objects to obtain factual and comprehensive data. Therefore, the researcher describes the flow of a preliminary study conducted in Junior High Schools in Jember Regency, involving 75 students and social studies teachers.

The topic chosen by the researcher is social studies learning that is in accordance with the characteristics of junior high school students who are able to accommodate 21<sup>st</sup> Century skills. The characteristics of junior high school students are Generation Z which is unique compared to the previous generation. The term digital generation is attached to this generation, in which they accept the digital world as something unique and it has become daily in social life since birth (Pratikto and

Kristanty, 2017). The results of Zis et al. (2021) show that Generation Z uses mobile phones for at least 4 hours per day and up to 18 hours at most, either to view incoming messages or to surf in cyberspace. In the same vein, activities on social media are the most dominant portion of activity on the internet, the portion for doing school assignments and playing games through gadgets has an almost balanced portion (Adriyanto, et al. 2019).

Generation Z in learning activities likes something practical, fun and of course based on digital information technology (Rakhmah, 2021). In order to adapt learning to cognitive development and learner characteristics, it is necessary to integrate learning materials towards digitalization. The integration of social studies learning materials in the digital world can be done through digital textbooks, interactive digital learning media, and Augmented Reality-based media as well as in the form of educational mobile games (Rahmawati and Ragil, 2022). Integrating digital games in learning is not a new thing. Based on the report of Shahidi, et al. (2021), the learning model in using educational games is indeed feasible to be adopted and has an effect on the world of education in this digital age. Empirical evidence of the current situation regarding the application of learning models in the flow of educational game interactions shows 1,405,310 articles discussing game-based learning.

Through various studies conducted by the National Council for the Social Studies (NCSS), important skills in 21<sup>st</sup> century Social Studies education that must be integrated into the education system are Learning and Innovation, Digital Literacy, and Career and Life skills (Farisi, 2016). It is in accordance with the general foundation of the main concepts of 21<sup>st</sup> century skills belonging to Triling and Fadel (2009) and P-21 Partnership for 21<sup>st</sup> Century learning (2011). Social studies education in Indonesia as a subject has the nature and objectives that are in line with 21<sup>st</sup> century skills competencies.

Referring to the explanation of Somantri (2001); Sapriya (2012) and Al Muchtar (2016), that social science education is able to foster learner skills with the ability to solve problems, make decisions, participate in community activities, the ability to compete, think critically, collaborate, be creative, innovative and become good and smart citizens. These competencies can be properly transformed to students if social studies learning is packaged properly and follows the characteristics of cognitive development and student learning styles.

Based on some of the descriptions above and to obtain comprehensive and factual data, the researcher conducted a preliminary study at one of the junior high schools in Jember Regency, in order to obtain data related to: social studies learning that had been implemented so far, the characteristics of learners in using mobile phones, and 21<sup>st</sup> century skills possessed by students.

### **Materials and Methods**

The method used in this study refers to the general concept of a descriptive qualitative approach using naturalistic data without intervention and manipulation (Moleong, 2013; Nassaji, 2015) to obtain factual and comprehensive data about the characteristics and learning styles of students as well as social studies teaching and learning activities in one of Junior High Schools in Jember..

The data collection technique used is in the form of direct interviews with teachers and students to enrich the research data in detail (Barrett and Twycross, 2018). Interviews were used to obtain data on the social studies learning process in more detail and depth. Observations were carried out directly during the social studies learning process, both online and offline with a focus on the use of the learning media used. Documentation in the form of student learning outcomes such as report cards and assignment scores is used to determine the evaluation of skills aspects. Meanwhile, learning tool documents such as Syllabus and Lesson Plans are used to view written documents re-

lated to the media used in social studies learning. Meanwhile, the 21<sup>st</sup> century skills questionnaire and the learning characteristics of Generation Z are designed as well as possible with the right indicators to obtain data that can be answered as easily as possible by learners (Hyman and Sierra, 2016).

The data analysis used is the triangulation method to obtain the reliability and validity of the data (Carter, et al, 2014). The results of interviews, observations, documentation, and questionnaires were used to obtain accurate data conclusions. In particular, the data obtained from the questionnaire were used to clarify the characteristics of students as Generation Z and aspects of 21<sup>st</sup> century skills.

### **Results and Discussion**

A descriptive analysis study was carried out by researcher to obtain data on the needs of teachers and students in social studies learning through learning observations during the pandemic period and face-to-face learning, interviews with teachers and students are used to find out the motives, reasons for participants in doing something in learning. Documents are used to confirm written factual data. Furthermore, to find out the characteristics of generation Z students in terms of the use of gadgets and see the 21<sup>st</sup> century skills possessed by students, the questionnaires were distributed closed and semi-open.

#### ***Analysis of Social Studies Learning***

The observation results show that the social studies learning media used during the pandemic uses Google Classroom, WhatsApps Groups, and some refreshments through Quizziz. During face-to-face learning, students' enthusiasm for learning was found, but the real changes that appeared were students felt awkward and had difficulty expressing themselves. This is because they have been accustomed for the past 2 years to the learning process carried out through the help of technology (online).

In the 2022/2023 academic year, learning has returned to its nature with face-to-face learning, while the learning media used by the 8th grade Social Studies teacher in Association of Southeast Asian Nations (ASEAN) materials still uses student books and the ASEAN Map visually and has not optimized digital media according to the characteristics of Generation Z learners. Aspects of skills assessment What teachers do in project-based assignments is limited to digital literacy skills using internet resources, skills to innovate, collaborate, communicate and solve problems in aspects of learning and innovation, while the aspects of life skills and career skills of students have not been touched by teachers.

The social studies learning atmosphere that occurs can be confirmed in the results of interview between researcher and teacher and students. According to one of the interviewed teachers (Mrs. N.S), Social studies learning outcomes experienced a decline in learning outcomes during the Covid-19 pandemic, which was caused by the difficulty of teachers and students adapting during online learning. The teacher also believes that innovation in learning activities is needed, both in the form of interactive and fun learning methods and media. Another obstacle caused by online learning is also the low interest in student learning, such as student delays in submitting assignments.

Based on the results of interviews with student IP (Respondent 1), online social studies learning during the pandemic is also very problematic. The students are required and forced to study independently and seem monotonous with the tasks given. Even to ask about the material that has not been comprehended, students feel reluctant and doubtful. The same thing was conveyed by student M (Respondent 2). When he questioned through WhatsApp Groups about material that had not been understood, the chat was often missed and the response was slow and sometimes the

teacher did not read it, so he was reluctant to ask questions anymore (Wirawan and Sukarini, 2021). On the other hand, based on interviews with students IP (Respondent 1), M (Respondent 2), MI (Respondent 3), B (Respondent 4) and R (Respondent 5), it is known that the five students like to play online games such as Free Fire, Mobile Legends and Pub G. Of these five students, 3 of them did remedial in social studies learning.

Several documents that have been obtained in the preliminary study are Syllabus, Lesson Plans, Teacher's Book and Student's Book, assignment scores, report cards, and learning media used by Social Studies teachers. Syllabus and Lesson Plans used by Social Studies teachers refer to the results of the subject teacher conference of social studies in Jember Regency by modifying learning methods according to students' learning styles, learning outcomes during the academic year 2021-2022 show that with the minimum completeness criteria of 70, it turns out that 55% of students do remedial. To measure aspects of teacher skills using project assignments and measuring skills in asking, answering and analyzing, which are carried out by teachers in accordance with the spirit of the 2013 curriculum in Indonesia (Wening, 2013). However, if we compare it with 21st century skills that must meet the elements of Learning and Innovation, Digital Literacy, and Career and Life Skills, it can be concluded that what the teacher does is only based on two aspects. It has not measured aspects of Career and Life Skills in accordance with the nature and purpose of social studies philosophically which prioritizes aspects of life skills and equips students to determine life at a higher level (Al Muchtar, 2014).

Through triangulation data analysis, it can be seen that the social studies learning that has been carried out so far in Junior High Schools in Jember Regency has not optimally equipped students with 21st century skills according to the demands of the times, because important aspects of 21st century skills, namely career and life skills, have not been obtained. attention. The learning styles and characteristics of students who like to play games through mobile phones have not been used optimally to provide a pleasant social studies learning experience, such as the use of social studies learning media based on mobile games.

#### ***Analysis of 21<sup>st</sup> Century Learner Characteristics and Skills***

The description of the learning style of generation Z students who dominantly use mobile phones in daily activities and likes to play games through their gadgets must be immediately facilitated in social studies learning activities. Preliminary study questionnaire data shows that of 75 junior high school students in Jember Regency studied, 93% or 70 students want and agree if social studies learning is integrated with the use of mobile games.

The complete description of student activities in the preliminary study of the use of *mobile phones* can be seen in the following table.

**Table 1. Use of cellphones by junior high school students in Jember Regency**

No	Aspect	Results		
1	Cellphone Ownership	86.6% Private	9.3% Owned by Parents	4% Sibling's
2	Duration of cellphone use per day	60% > 5 Hours	29% 3-4 Hours	11% 1-2 Hours
3	Order of Access to <i>Mobile Use</i>	1 Social Media	2 Games	3 School work
4	Playing games via cellphone	55%	42%	3%

No	Aspect	Results		
		Often	Seldom	Not
5	Duration of playing games per day	14.7% >5 Hours	33.3% 3-4 Hours	59% 1-2 Hours
6	Responses to the use of social media learning media based on mobile games	93% Agree	7% Don't agree	

The results above show that gadgets are an aspect that cannot be separated from the life of generation Z today, this is reinforced by the research of W. Widodo, et al (2020) which states that generation Z uses mobile phones in almost every breath of life. The characteristics of generation Z students are very different from those of generation Y. Generation Z is more independent and needs different treatment (Dwidienawati and Gandasari, 2018).

The analysis on the 21<sup>st</sup> century skills aspect that has been carried out in the initial measurement obtained an average score of 2.74 on a maximum scale of 5. These results indicate that the 21<sup>st</sup> century skills aspect of students in Junior High Schools in Jember Regency is in the below average category. This guide refers to the Likert scale and the 5-scale measurement guideline (Joshi, et al, 2015)

Based on the results of the preliminary study conducted, it was obtained data that the needs and learning styles of students in Junior High Schools in Jember Regency were the integration of social studies learning materials in information technology or the use of mobile phones in learning. It was identified that students like to play games with a minimum playing time of 1 hour per day. The aspects of 21<sup>st</sup> century skills which are the minimum basis for learning in the 21<sup>st</sup> century are still below the established criteria.

### Conclusions

Social studies learning in the 21<sup>st</sup> century requires a new breakthrough to answer the demands of the times which require students to have 21<sup>st</sup> century skills and be able to follow the characteristics and learning styles of Generation Z who like to play games through gadgets. The integration of learning materials and social studies learning media into mobile games based-learning is a necessity which can bridge the needs and learning styles of students and can meet the demands of 21<sup>st</sup> century education which includes all three aspects; Learning and Innovation, Digital Literacy, Career and Life Skills. Therefore, this study recommends further studies to design and develop Social studies learning media based on Mobile Games that can develop the 21<sup>st</sup> century skills of students in junior high schools.

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