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#### Abstract

Social Studies is one subject matter which is learned by students in schools. It could attract the students' attention and interest in learning process when teachers utilize technology based instructional media. This study aims to investigate how instructional application promotes the students' critical thinking on social studies in primary school. This study was conducted in one of primary schools in West Java. There were 65 students participating in completing the questionnaire. In addition to the questionnaire, interviews for seven selected students were also done for collecting the data. The results showed that most students felt happy to learn social studies when using instructional application. This study also revealed that instructional application could increase the students' critical thinking skills indicated by their strong statements on sharing opinions, making conclusions, and asking questions. Thus, it is recommended that instructional application should be used by teachers in primary schools so as that students are more interested in learning social studies.

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**Research Article****Promoting Students' Critical Thinking Skills on Social Studies in Primary School: TPACK based Instructional Media \***Ika YATRI<sup>1</sup>  Endry BOERISWATI<sup>2</sup>  Totok BINTORO<sup>3</sup> **Abstract**

Social Studies is one subject matter which is learned by students in schools. It could attract the students' attention and interest in learning process when teachers utilize technology based instructional media. This study aims to investigate how instructional application promotes the students' critical thinking on social studies in primary school. This study was conducted in one of primary schools in West Java. There were 65 students participating in completing the questionnaire. In addition to the questionnaire, interviews for seven selected students were also done for collecting the data. The results showed that most students felt happy to learn social studies when using instructional application. This study also revealed that instructional application could increase the students' critical thinking skills indicated by their strong statements on sharing opinions, making conclusions, and asking questions. Thus, it is recommended that instructional application should be used by teachers in primary schools so as that students are more interested in learning social studies.

**Keywords:** Critical thinking skills, instructional application, primary school students, social studies, TPACK

**1. INTRODUCTION**

In order to produce high-quality education, numerous parties are continually developing learning media as one of the components of learning. There is always a reason behind the creation of learning media. The pace of modern demands and global competitiveness promotes innovation in a variety of ways. Innovation in learning media or technology necessitates ingenuity, particularly from teachers, who are the parties that interact with students directly and create conducive learning environment (Rahmat, 2020), and Social Studies is one of the many subjects where the development of learning media can be used.

In the Indonesian context, social studies is divided into two types, namely social studies education for schools and social studies education for universities. Social studies for schools is the result of simplification of various social sciences and humanities disciplines, as well as basic human activities that are organized and presented scientifically and pedagogically or psychologically for educational purposes. Meanwhile, social studies in higher education is a selection of various social sciences and humanities disciplines, as well as basic human activities that are organized and presented scientifically and psychologically for educational purposes. Thus, the level of difficulty of the materials taught is adjusted to the level of knowledge and interest of students in schools. One thing to consider for the materials in elementary social studies deals with applying disciplinary concepts such

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as Civics, Economy, History, and Geography as well as Anthropology and Sociology which are integrated in instruction (Farris, 2015).

Social studies is a learning that studies and analyzes social problems from various activities in social life. Social studies can also be defined as the subject that combines various social sciences that are structured through educational and psychological approaches as well as their feasibility and meaningfulness for students and their lives (Prayitno, 2019). According to (Rofiq, 2020), social studies is a science that combines a number of selected concepts from other branches of social sciences and is then processed based on educational principles and activated to be used as a teaching program at the school level. In addition, he viewed that social studies describes the interaction of individuals or groups in society starting from the smallest such as families, community associations, villages, sub-districts, regencies, provinces, countries, and even the world. Thus, it can be implied that social studies is a lesson about various social sciences that are simplified for elementary to higher school level education.

Social studies learning is often considered boring as it only applies conventional methods with lectures and the use of textbooks (Passe, 2006). In addition, lack of time allocation for learning social studies is still low (Ollila & Macy, 2019). Social studies learning can be something more positive if teachers are willing to innovate and open up more spaces for students in learning through discussion. Classroom discussions will encourage students to be actively involved and practice their critical thinking skills. Discussions that are able to encourage student initiative can be done by having challenging questions. These types of questions must certainly be distinguished between low-grade and high-grade students or according to the age of the student. Examples of questions that can be given are why the air in the highlands is cold, why the culture in Indonesia is different, or other questions that can provoke students to discuss. In line with this, teachers could use avoiding, diminishing, and embracing as their approaches in teaching social studies (Martell, 2017).

Due to the seeming lack of boundaries in the modern society, we can readily get a variety of information. As a result, many people have problems with various global issues. Each nation faces a problem in preserving its stability across a number of areas due to global issues. Every citizen will encounter this global issue, whether directly or indirectly, voluntarily or unwillingly, and every citizen will, of course, respond in a variety of ways. Maintaining the spirit of citizenship while learning social studies presents significant obstacles. The ability to respond to varied global concerns and ignore the adverse effects that arise is anticipated of social studies education (Byker & Vainer, 2020). The impact of globalization also causes Indonesia's younger generation to reject the nation's excellent ideals and become accustomed to behaviors that go against those principles.

The results of the identification of current social studies learning constraints show that there are at least four social science learning problems, namely (1) disruptive student behavior such as wandering and playing games during learning, unruly, not doing the assignments given to make noise in the classroom, not paying attention, drowsiness, and chatting in class; (2) lack of learning facilities and infrastructure in which books and learning media are lacking; (3) difficulty understanding the material outside the field of science; (4) less varied learning methods (Rahmawati & Zidni, 2019). The social studies learning process in schools so far tends to emphasize mastery of the subject matter as much as possible and does not integrate the social science curriculum to promote the instruction in the elementary classroom (Demoiny, 2020).

The results of researchers' observations at one of Islamic Primary Schools in West Java, Indonesia showed several learning problems in social studies in that school. Social studies learning currently focused on teachers only, namely by using the lecturing method. The teacher had a dominant role in transferring knowledge to students. Students in the classroom only passively listened to what the teacher conveyed. It was not uncommon for students to feel bored following learning in class. Student's boredom was shown by seeking other activities unrelated to learning, such as talking to the

classmates and playing alone. Apart from teaching materials in the form of textbooks, teacher's books and student books, there were no other media used in social studies learning.

These obstacles must be overcome immediately since the challenges of social studies in the future are greater. Social studies learning is required to be more innovative in facing the global community era 5.0. In addition, social studies need to be taught and studied in a cross-disciplinary way in order to develop civic education while improving social thinking skills in students (Abricot et al., 2022). Such rapid changes in the world without being balanced by the speed of educational adaptation will cause its own educational crisis. Whatever changes occur in the future, what must be prepared is the way the students respond and prepare by themselves in the face of those changes. Social studies learning plays a big role in preparing quality human resources for development. This requires social studies learning to make changes in accordance with the demands of globalization. One of them is related to technological innovation.

The use of information and communication technology (ICT) is very important for education in Indonesia. The use of technology can stimulate students' interest in learning. The ability of elementary school students in mastering ICT today is undoubtedly as most students already have their own mobile phones. Students' ability to use ICT is not only used in seeking entertainment, but also in determining the goals of the learning process as well as their future desires (Aparicio Gómez, 2020; Wakil, Rahman, Hasan, & Jalal, 2019). Thus, students' interest in mobile phones is so great that it can be a gap for teachers to integrate technology in social studies learning. Teacher creativity and innovation are needed to create technology-based social studies learning media.

There are several definitions of instructional media according to experts. Instructional media is a tool that can help the teaching and learning process so that the meaning of the message conveyed becomes clearer and educational or learning goals can be achieved effectively and efficiently (Nurrita, 2018). It is further said that the instructional media should be able to encourage students to develop their knowledge competencies, skills and attitudes better (McDougall et al., 2018). Thus, it can be implied that instructional media is a tool used by teachers to deliver lesson materials to students so that the expected learning objectives can be achieved and are able to arouse motivation as well as interest in learning and student competence. Instructional media is said to be good if the media is able to help teachers in achieving learning goals in the classroom.

Talking about technological pedagogical content knowledge (TPACK), it is an approach that integrates technological developments and pedagogy. TPACK-based learning media is the right learning media because with the integration of technology in learning by teachers, learning becomes more effective and efficient. The TPACK framework is a useful tool for measuring the learning environment and displaying complex interactions between technological, pedagogical, and content knowledge (Herring et al., 2016). Knowledge needed by teachers to incorporate technology into their instruction in any subject area is referred to as TPACK. By applying the proper pedagogical techniques and technological tools while delivering content, teachers have an intuitive awareness of the intricate interactions between the three basic components of knowledge such as Content, Pedagogical, and Technological Knowledge (Santos & Castro, 2021). From these ideas, TPACK-based media could benefit to improve students' critical thinking skills.

In the context of the 21st century education, it requires formal schools to apply Critical Thinking, Communication, Collaboration, Creativity (C4) skills. Especially in critical thinking, it is the ability of students to think critically in the form of reasoning, expressing, analyzing, and solving problems (Cottrell, 2017). Critical thinking is shown by the individual's ability to criticize various kinds of phenomena that occur around and judge using the point of view he has. Then the individual is able to position himself from an inappropriate situation, into a situation that favors him.

There are several reasons for the need to develop critical thinking skills in the 21st century: (1) improving cognitive function; (2) preparing for academic and professional life; (3) realistic self-

evaluation (Cottrell, 2017). As a higher order thinking skill (HOTS), students need to be accustomed to critical thinking in order to later be able to solve various problems faced in everyday life. One way to train students' critical thinking skills is to use the right learning media.

Several previous studies have shown that the use of TPACK can actually improve students' critical thinking skills. Goradia (2018) in his study showed that TPACK-based learning design helped students' critical thinking skills. This finding is reinforced by research conducted (Aydoğmuş & Ibrahim, 2022; Shafie et al., 2019) which stated that the learning of TPACK-based instruction was increasing. The other research by Blackwell et al (2016) revealed that teachers were influential for TPACK-based learning effectively in preschool education. This current study emphasizes on social studies which are equipped with TPACK-based learning media in the primary school, and this is rare to conduct. Based on this exposure, a study is needed on the use of TPACK-based learning media in promoting students' critical thinking skills in the primary school.

## 2. METHOD

### 2.1. Research Model

This research used a mixed model in which provided the data quantitatively and qualitatively. It described the percentages of the students' responses to each question, and it presented the results of the collected data of the interviews.

### 2.2. Participants

The participants of the research were the students of one of Islamic Private Schools in West Java, Indonesia. The number of the participants were 65 students. The following is described the participant demography.

**Table 1. Participant demographic information**

Categories		Number of participants (N=65)	Percentage (%)
<b>Gender</b>	Female	33	51%
	Male	32	49%
<b>Age</b>	11	48	74%
	12	17	26%
<b>Distance from Home</b>	< 500 Meters	6	9%
	< 1 Km	16	25%
	< 2 Km	17	26%
	< 3 Km	9	14%
	> 3 Km	17	26%
<b>Interests in Learning Social Studies</b>	Yes	56	86%
	No	3	5%
	No idea	6	9%
<b>The topics which are most liked</b>	Unity in diversity	13	20%
	Public Figures and Inventions	33	51%
	Save Creatures	7	11%
	Globalisation	9	14%

From Table 1, it could be seen that the percentages of the participants were almost equal: 51% for female students and 49% for male students. Most of the participants were at 11 years old (74%). Dealing with their interests in the subject of Social Studies, 86% of the participants liked that subject. Of 86% they mostly preferred Public Figures and Inventions as their favourite topic.

### 2.3. Data Collection Process

The instruments used were the online survey that was filled out by the participants. They chose one of the options available from strongly agree to strongly disagree. After distributing the

questionnaire, the interview was conducted to the eight students chosen for a fifteen-minute interview for each participant. The eight participants were labelled with S04, S09, S11, S16, S17, S22, S32, and S57.

#### 2.4. Data Analysis

A descriptive statistic was employed to assess the questionnaire data once the data had been gathered. The interview data were analysed using a descriptive analysis (Creswell, 2018). First, data collected were reduced for having appropriate responses. Then, the data were displayed and had relevant data to the research questions. Finally, the data were descriptively reported to support the results of questionnaire.

### 3. FINDINGS

#### 3.1 Students' Perceptions of Social Studies

**Table 2. Perceptions of social studies**

No	Question Items (Needs)	D	N	A	Total	Mean	STDEV
1	I feel happy to study social studies.	5%	14%	82%	100%	2.77	0.52
2	Learning process of social studies in the classroom is not exciting.	74%	15%	11%	100%	2.63	0.67
3	Teacher's delivery of social studies materials is boring.	83%	8%	9%	100%	2.74	0.62

In line with table 1, it was found that most students felt happy to learn social studies (82%), meanwhile there were only 5% of students who did not enjoy learning it. Related to the learning atmosphere, 74% of the students were found excited with the learning process of social studies in the classroom. It also revealed that most students disagreed to the statement of what was delivered by teachers on social studies materials was boring.

#### 3.2. The advantages of Instructional Application

**Table 3. The advantages of instructional application**

No	Question Items (Needs)	D	N	A	Total	Mean	STDEV
4	It is easy to use learning application of social studies.	0%	18%	82%	100%	2.81	0.39
5	Learning application of social studies is interesting as it has some features such as pictures, videos, games and quiz.	2%	9%	89%	100%	2.88	0.37
6	Learning social studies with application is enjoyable.	3%	11%	86%	100%	2.83	0.45
7	I understand social studies materials when using the application.	2%	14%	85%	100%	2.83	0.42

In the above table, it indicated that there were more benefits of using instructional application when learning social studies. 82% of the students stated that it was not difficult to utilize the application for learning social studies. In addition, most students found that the applications used for learning social studies contained useful features such as pictures, videos, games, and quizzes (89%). Therefore, 86% of the students really enjoyed learning social studies with that technology. Finally, most students could understand social studies better when using the applications provided by the teacher.

### 3.3. Critical Thinking Skills

**Table 4. Students' critical thinking skills**

No	Question Items (Needs)	D	N	A	Total	Mean	STDEV
8	With learning application of social studies, I can share opinions or criticism on the questions from teacher politely.	2%	14%	85%	100%	2.83	0.42
9	With learning application of social studies, I can make conclusions on the discussed materials.	2%	15%	83%	100%	2.81	0.43
10	With learning application of social studies, I can ask questions to teacher and my classmates.	5%	11%	85%	100%	2.80	0.51

Dealing with the students' critical thinking skills on the use of learning applications, it was disclosed that 85% of the students could share their opinions or critical ideas on the teacher's questions politely. The students were also found that they could make conclusions on the materials to discuss (83%). The students also could address questions to their teachers and classmates after they learned social studies using the applications.

Besides having some results from a questionnaire, there were some ideas from some selected students. When being asked about their enjoyment of learning social studies materials, most of the students gave affirmative opinions as said by S09, S11, S22, and S57.

#### *Do you enjoy studying social studies?*

- S09: "My answer is yes, because we can increase knowledge on social studies lesson which I believe that lesson is exciting and enjoyable".
- S11: "Yes, I am now much more interested in Indonesian history, and this makes me know more about the events in the past time".
- S22: "Yes, because we can know or learn many examples of globalization, discovery discoveries, etc. as well as can add science".
- S57: "Yes, although social studies is not my favourite lesson, I like to learn social studies because I think social studies learning can add and hone about science and history".

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Related to how the social studies subject was boring, most of the students also said that social studies was exciting as the teacher was pleasing, provided some games, and encouraged students to be knowledgeable. However, few students mentioned that teacher gave more tasks than explanations. The followings are some ideas from S11, S16, S22, and S57.

#### *Is the social studies subject material/theme boring?*

- S11: No, it actually depends on the teacher who teaches. But my teacher was quite interesting in teaching
- S16: Yes because there are more tasks than explanations
- S22: No, learning will not be boring because by learning we can become intelligent and have a lot of knowledge
- S57: No, because when I study social studies, there are usually exciting games that I like

When talking about the learning application or technology, most students agreed that learning social studies with application was fun and could be understandable better. As it is stated by S04, S17, and S22.

#### *What do you think about this social studies learning media application?*

- S04: I think this social studies learning media application is fun not boring with it I can understand the material

faster.

S17: Fun, not monotonous, fun and the material is easy to understand so that we have an idea of the material we are studying

S22: It can teach us all about social studies lessons easily understood with all its explanations and examples

The learning application seemed to be influential to promote the students' interests in learning social studies subject. The finding showed that students were not bored and could have positive views on social studies as it was said by S04, S32, and S57. However, S16 responded that it was much better when students learn social studies better by listening and questioning without the use of application.

*After using this social studies learning media application, have you become familiar with social studies material?*

S04: "Yes, because by using the social studies learning media application I became more focused, because it was not boring".

S16: "No, because if it's done by the teacher we can listen and ask questions easily".

S32: "Yes, because there are many interesting things such as the occurrence of wars, the start of the establishment of ASEAN, and knowing the figures of inventors of goods".

S57: "Yes, at first I didn't understand social studies. But, because I am interested in this application, I can become more familiar with social studies learning".

For more benefits of using learning application to learn social studies, all the students believed that they could understand the material faster and have more knowledge. It is stated by S04, S22, and S57 in the following.

*What are the benefits of this social studies learning application for you?*

S04: I became quicker to understand the social studies material given.

S22: The application can provide more knowledge in social studies lessons, of course, easily understood, it can also increase knowledge

S57: This application can teach school students to better understand and have more opinions in social studies learning.

#### 4. DISCUSSION and CONCLUSION

This current study aimed to investigate how instructional application promotes the students' critical thinking on social studies in primary school. The result showed that students in the primary school enjoyed learning social studies in the classroom. It was found as the teacher created a pleasant atmosphere and delivered the materials on social studies clearly. It is in line with what was found by [Anwar et al. \(2022\)](#) saying that students had higher interests in learning social studies in the primary schools.

Another result revealed that the use of learning media or applications provided by the teacher in the instruction of social studies could motivate the students to understand the materials as it contained some beneficial features and it was easy to use. This finding was relevant to the study by [Puspitarini and Hanif \(2019\)](#). They found that the use of technology in the instruction could motivate and improve students' learning process. Another study disclosed that the students who used android-based interactive multimedia would be better in their understanding the lesson ([Humairah et al., 2020](#); [Miaz et al., 2019](#)). The mobile-learning also provided students' opportunities to acquire skills and use the best technological facilities in order to reach learning outcomes ([Abd Samad et al., 2021](#)). Android-based application was believed to improve the students' learning activities ([Murdiono et al., 2020](#)).

The result also discovered that the utilization of learning applications could promote the students' critical skills. Students were able to share their critical ideas or opinions as well as make

their own conclusions on the discussed materials and ask some questions to teacher and their friends. This is supported with the study that yielded that the students' critical thinking skills in the experimental group increased with higher criteria. In addition, they found the students who used electronic interactive teaching materials increased their critical thinking skills (Sinaga & Setiawan, 2022). The other finding showed that mobile-problem based learning app had a positive effect on the critical thinking skills of the students (Ismail et al., 2018).

Based on the results and discussion, it is then inferred that the use of learning application to accommodate the social studies subject in the primary school could promote the students' critical thinking skills. The technology-based media of instruction has been believed to boost the students' interests and motivations in learning social studies better, mainly in promoting their critical thinking skills such as giving critical ideas, making summary, and asking questions. Thus, it is recommended that the increase of students' critical thinking be affected by the utilization of learning apps as the media of instruction in the classroom and in e-learning situations.

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