

The Perception of Geography Teacher Candidates on the Board Game as a Media to Increase Learning Interaction Quality

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Abstract

In the recent years, there has been a concern on how to make an innovative learning in the classroom in order to provide supportive learning environment. Such learning environment can be constructed in which it also highly relates to the learning media used by the teacher. Learning media are utilized to transfer lesson into easier way before it was delivered to the students. The main objective of this research was to describe the perception of teacher candidates who were still in the undergraduate degree regarding with the use of board game as one of the learning media. This research was quantitative research and utilized questionnaire to collect the data. The objects of this research were 129 teacher candidates in the Department of Geography Education, Faculty of Teacher Training and Education at Universitas Muhammadiyah Surakarta. The questionnaires were distributed in two days by using simple random sampling by the method of accidental sampling in which it was given to the teacher candidates who came to the lecturer. Descriptive statistics was used to interpret the data. In general, the teacher candidates perceived the potential of the board game as a learning media in order to increase the interaction between teachers and students in the classroom. The teacher candidates also had sufficient understanding on the implementation of the board game.

Keywords: Board games, Perception, Interaction and Learning Process.

1. Introduction

The quality of learning interaction between teachers and students is one of many learning outputs which should be maintained increasingly. It is included in the Law of Republic of Indonesia Number 20 of 2003 regarding with the National Educational System. Chapter IX of Law Number 20 of 2003 regulates the National Education Standards, which includes eight standards of: content, process, graduate competency, educators, facilities and infrastructure, management, financing, and educational assessment.

The Content standard, as mandated by the Law, should be continuously improved and planned to maintain the learning quality in national basis. The Process standard, which includes teachers, students, and learning media, are inseparable components. The three components of education should be synergized consistently in order to engender high-quality learning outputs.

The good educators will surely produce high-quality learning outputs. They can be considered as good when they master four competencies of educator as included in Law Number 14 of 2005. The four competencies are Pedagogic competency, Characteristic competency, Social competency, and Professional competency.

Learning media is an indicator of Pedagogic competency possessed by an educator as it includes the educator's expertise in conducting the teaching and learning process. Furthermore, learning media is one of sensitive issues in the education realm. As a matter of fact, learning media should have a capacity to develop and improve the quality and learning result in the same time. The learning quality, in this case, can be in the form of the interaction intensity between teachers and students.

The interaction intensity level between teachers and students can be constructed through attractive learning media. Learning media have unlimited numbers of variances and they highly depend on the teachers' creativity, especially on contemporary rapid development of technology. It encourages the researchers from various parts of the world to prove that there is a positive correlation between learning media and its output.

Seel as quoted *in* (Gower & McDowall, 2012, p. 91) stated that playing video games is a form of learning process that it forces the students to be active and not only sit still as passive spectator and listener. Video game or game becomes the key aspect to capture the students' attention because in this high technology era, game is closely associated with the high school students. The proximity of students with game cannot be separated from their psychological condition that triggers an understanding inside their minds that playing is more interesting than studying.

The provision of attractive media of course becomes a big opportunity that would be in vain if it is not utilized properly by educators or teacher candidates. Nowadays, the teachers in Indonesia experience a transition period in which the conventional teachers with conservative method of learning and teaching process as well as facilities will be soon replaced by the modern.

The conventional learning media are commonly followed by students who just sit down and listen to the teacher during the learning and teaching process. Such conventional learning process has caused the passivity of students and reduced the quality of interaction between teachers and students. Lack of awareness of the conservative teachers in Indonesia is not merely a failure or incapability of each teacher.

The above issue is a form of the previous legacy of the Indonesian Education System that has shaped the characters of preceding teachers in the past. Such condition also leads to a teacher-centered learning process. Teacher-centered learning process is a learning process where the main source of knowledge is the teacher, and the students are not allowed to have ideas or opinions; therefore, it will eventually further damage the quality of interaction between teachers and students.

It becomes a huge responsibility for the next generation of teachers to do a systemic change from the top to the bottom related to the methods of learning process. Recently, the teacher candidates in Indonesia are prepared to exploit the technology in order to present interesting learning media for students as an important part of the learning-teaching process. The Faculty of Teacher Training and Education (FKIP) at Universitas Muhammadiyah Surakarta (UMS) is one of academic communities that focus on education field and has special interest regarding with this issue.

The Faculty of Teacher Training and Education of UMS (FKIP UMS) has several study programs and one of them is the Department of Geography Education. The students of this study program are one of many communities of Indonesian teacher candidates who are prepared to have awareness on the importance of capturing students' interest through their learning media. The example of preparation conducted in the study program is the integration of ICT development courses TIK for learning and practice of geographic information system (*Sistem Informasi Geografis/SIG*) in some lectures with other courses.

The researcher had intention to understand and describe the perception of teacher candidates on the number-based and simple calculus board games when the game is implemented in the actual learning process. Each teacher candidate, surely, had different opinions in relation to the method. This research aimed to provide the general opinion of the teacher candidates regarding with the use of board game to increase the interaction between teachers and students.

2. Literature Review

2.1 Learning Interaction

Learning process is an interaction process of two-ways transfer of knowledge by teachers and students. The interaction of teachers and students is done intensively as an effort to produce the learning output. Teachers provide direction and suggestion for the students' development, in which frequently, the discussion of constructive remarks related to the possible role and involvement of students could not be ignored (Serdyukov & Hill, 2013, p. 62).

Recently, the development of technology opens the vast opportunity to conduct learning outside the class, even at home through the online media. Such learning process can have both positive and negative impacts which should be considered genuinely before the implementation. The advantage of such learning process includes the flexibility of the space and time to conduct the learning process.

On the contrary, electronic learning could decrease the quality of education due to the minimum direct interaction between teachers and students. Vygotsky *in* (Serdyukov & Hill, 2013, p. 56) added that this aspect might have a bad impact on the learning outputs since education is considered as a group activity that requires each group member to ensure the occurrence of interaction. Online education also has a potential drawback due to the absence of interaction between teachers and students since not the entire learning process can be done through indirect communication.

Face-to-face interaction enables teachers and students to build a connection that will ease understanding between them. Learning media serve as the bridge for teachers and students to transfer the materials as well as to communicate it easily. In addition, learning media is perceived to have high influenced to the intensity of interaction inside a classroom. Moreover, the quality of education can definitely be achieved if the teachers provide intensive quality time and are have high motivation to make an innovation and research (Dio, 2015, p. 110).

2.2 Game

Rosas, R *in* (Juan & Wei, 2015, p. 5594) explained that game is a custom toy, intentionally made for several objectives such as education and entertainment for both adults and children. In fact, modern life style cannot be separated from games as games have been parts of humans' lives complexities. The flexibility of game, both in digital and non-digital form, is then utilized

by researchers who focus on the educational field to make them as learning media, besides serving as entertaining image attached to games.

Games are available in both digital and non-digital form. In the midst of the development of digital games that can easily be found in electronic devices, such as smart phones, personal computers, and tablets, some conventional games are still popular nowadays. Board game is a type of game played on top of a table by minimum of two persons who compete to win the game. The use of board game in educational field has been implemented to facilitate the conduct of learning process (Juan & Wei, 2015, p. 5594).

The indicator of board game as learning media basically lies in the content of game material. The game material can be modified and adjusted to the proper learning material for students. Therefore, such learning strategy makes the learning material to be more interesting for the students if compared to the material provision by applying common media.

The students' interest will then develop into positive interaction where teachers have the responsibility to maintain the positive trend. In this research, the board game was the adoption of number line that was used to perform simple calculus. This board game was expected to capture the students' interest to finish simple mathematical calculations. Furthermore, Kolb *in* (Haan & Sato, 2016, p. 6) stated that learning by game will make the players interact with the rules of game and other players, which will provide a lot of benefits for discussion. In addition, their experiences can be transformed into a knowledge.

2.3 Previous Studies

There were some studies that had been conducted by researchers throughout the world with some similarities with the current research. The previous studies also portrayed the educational conditions in the respective countries. The use of board game became the main issue, even though there were differences on the type of board game used in previous studies.

A study conducted by Wu, Chen and Huang (2015) aimed to investigate whether the digital board games could enhance EFL student motivation and provide authentic learning experience. There were 96 Taiwanese EFL students participated in this study. The results of this study showed that the use of digital board games was able to increase students' motivation as well as an opportunity to have genuine communication in EFL classroom.

Dio (2015) carried out a study to describe and assess mathematical games developed by Senior High School students as potential teaching device in enhancing students' understanding of the mathematical concepts and processes. The results of the study showed that both teachers and students agreed that mathematical games could improve students' understanding on the mathematical concepts.

3. Research Method

The design of this research was a quantitative research. According to Sugiyono (2013) it is also called as a discovery research. Statistics was used in this research because the data were in the form of numbers, in which they were the main reason the research used quantitative approach (Mahmud, 2011, p. 85).

The respondents in the research were the students of the Department of Geography Education at Universitas Muhammadiyah Surakarta who were also the geography teacher candidates. There were 129 students who were divided into some sessions within two days as the respondents of this study. The technique of sampling in this study was simple random sampling.

The research instrument was a questionnaire consisted of several questions. The first question was related to the previous senior high schools of the respondents. The second part was concerned with the respondents' understanding on board game. The third question was related to the respondents' perception on the learning interaction and the last question was about the respondents' understanding of board game as an innovation in learning media. The questions included in the research tool were compiled based on the research variables. The collected data were subsequently analysed using descriptive statistics.

4. Result

4.1 Respondent Identity

Learning media are important parts in the learning-teaching process and cannot be utterly ignored by educators. Learning media play their main roles as a means to expedite the provision of learning materials for the students. The main focus of the existence of learning media is the students. Besides facilitating the educators or teachers, the media are expected to ease the students in receiving the materials and to increase the students' activity in receiving education inside the classroom. The following table presents the data of senior high school educational background of the teacher candidates.

Table 1. School Type of Teacher Candidates

SMA (Senior High School)		SMK (Vocational High School)	Mean of Age
IPA (Sciences)	IPS (Social Sciences)		(in months)
27	94	8	233

The TThe teacher candidates who served as samples in the research had varieties of educational background. The educational background was divided into three group where the respondent were enrolled in high school. From the total of 129 repondents, 73% of teacher candidates graduated from social sciences program, 21% graduated from sciences program, and 6% graduated from vocational high school. The mean age of the teacher candidates when the research was conducted was 233 months.

4.2 Understanding of Board Game

The understanding of learning media was also applicable for those whose status were teacher candidates at the time. The knowledge of learning media was obligatory to be mastered by them according to their respective educational field as a form of readiness before they actually involved in the actual field. The readiness of actual learning-teaching process could be seen through how the candidated prepared themselves when they were still in undergraduate degree. The data analysis based on descriptive statistics presented the perception of the teacher candidates on board game as a learning media. The result was as follows.

Table 2. Number of Teacher Candidates and the Perception on Board Game.

Low (scale 2)	Relatively Low (scale 4)	Moderate (scale 6)	Relatively High (scale 8)	High (scale 10)
19	62	141	184	110

The above table showed the distribution of teacher candidates' perception on the board game, which also showed their opinion on the board game. There were 184 teacher candidates or 36% of the total 516 teacher candidates (accumulation of 4 questions) who perceived that board game could be a reliable medium as one of the alternatives for learning media. The teacher candidates who assumed the incapacity of the board game as in the learning process was only 4%.

Sixty-two teacher candidates or 12% stated that the use of board game as learning media would be less optimal. Furthermore, 27% believed that this learning media would be relatively reliable, and the remaining (21%) inferred that board game could be implemented effectively. There was significant gap between the opinions of teacher candidates who agree on the reliability of the board game and those who disagree, which was 68% of total teacher candidates as the respondents of this research.

4.3 Understanding of Learning Interaction

Interaction in learning process is a communication form performed between the students and teachers when learning process is carried out. The research also aimed to discover the respondents' understanding on the learning interaction inside the class. The collected data is presented in the following table.

Table 3. Number of Teacher Candidates and the Perception on Learning Interaction

Low (scale 2)	Relatively Low (scale 4)	Moderate (scale 6)	Relatively High (scale 8)	High (scale 10)
1	7	42	190	276

The table showed the answer distribution based on the distributed questionnaire related to the understanding of 129 teacher candidates of the Department of Geography Education on learning interaction. There were 276 or more than 50% teacher candidates (accumulation of 4 questions) believed that interesting, efficient, and effective provision of learning materials was highly required to maintain a qualified learning process. There were 8% and 37% who stated respectively that interaction was moderately and highly required in the learning process. The above table also shows that only 1% of teacher candidates mentioned the insignificance of the interaction and almost none of the respondent stated that interaction was insignificant in conducting the teaching and learning process.

4.4 The Use of Board Game

A teacher candidate should be creative in preparing educational conduct. Creativity could be in the form of innovation that was realized in the use of varieties of learning media. Board game was one of learning media that was commonly used. The following table presents the opinions of teacher candidates on the use of board game.

Table 4. Number of Teacher candidates and the Perception on the Use of Board Game

Low (scale 2)	Relatively Low (scale 4)	Moderate (scale 6)	Relatively High (scale 8)	High (scale 10)
19	85	244	296	130

The above table showed the numbers of teacher candidates and their perception on the use of board game. There were 670 teacher candidates (the accumulation result of six questions)

or 87% of teacher candidates believed that board game could be included in the category to expedite and simplify student-teacher interaction. Furthermore, the numbers of teacher candidates also believed that board game was flexible as it could be made and used everywhere.

The highest number, which was 296 teacher candidates, assumed that the board game had several functions. There were 13% of teacher candidates of the accumulation result of six questions questionnaire stated that board game could be included in the learning media with a capacity to increase the teaching interaction, but it was difficult to be implemented. The numbers of teacher candidates who believed that this media was still lacked of many aspects and could not be implemented in the learning process were 11% and 2%, respectively.

5. Conclusion

Based on the data processing and analysis, as many as 129 teacher candidates in the Department of Geography Education believed that as a learning media, the board games could be implemented to expedite and simplify the learning process. Furthermore, it also assisted the educators to increase the interaction between the teacher candidates and their students.

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