

Interactive Learning Innovation: Training Critical Thinking through a Modified Mafia Game at SMK PGRI 6 Malang

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Abstract

Instructional media serve as a means of communication in print or audiovisual form. This has also been evidenced in the results of interviews and observations conducted by the researchers, which show that students feel bored and appear passive when learning using PowerPoint presentations or lectures. Hence, one of the solutions offered by the researchers is to use game media. One of the games that can be used as a medium to train critical thinking is the Mafia game. This research aims to develop a prototype medium by modifying the Mafia game to enhance students' critical thinking, making the teaching and learning process both beneficial and enjoyable. This research is a development study employing the Research and Development (R&D) method. The process of creating the Mafia game media involves several stages of research and development following the Borg & Gall (1983) model. The research began with a needs analysis of the instructional media used by teachers. In the planning stage, activities included compiling materials and designing game cards. In the product development stage, the researchers printed a total of 30 game cards (4 Mafia, 3 Doctor, and 23 Citizen). Future recommendations from this research and development include testing the product's accessibility with potential users.

Keywords: prototype development; Mafia game; critical thinking

1. Introduction

Critical thinking is a necessary skill for everyone in life. Students need to be trained in critical thinking to handle various challenges around them (Husnidar, Ikhsan, 2014). Generally, critical thinking involves the ability to examine information from various sources, manage and creatively and logically address the information, analyze, and draw conclusions (Moon, 2007).

Critical thinking is essential for students to become characterful human resources (Hidayah et al., 2020). Critical thinking means examining, questioning, connecting, and evaluating every element in a situation or problem. It allows students to create and evaluate their own opinions and beliefs; critical thinking is a systematic process (Elaine, 2012). With critical thinking skills, students can carefully navigate ever-changing situations. Critical thinking should be applied in the learning process as an educational goal to serve as an experiential foundation for future competitiveness (Rachmawati & Rohaeti, 2018). However, the authors observe that many students lack critical thinking skills, which can occur due to difficulties in understanding existing concepts.

Critical thinking can be formed by combining several habits such as: a) Curiosity, where an individual with curiosity never feels satisfied with the information they already have and will continuously seek out information from any source and study it; b) Humility, where an individual with humility easily accepts new information and becomes a good learner as they do not think they already know everything and still need new knowledge; c) Skepticism, which means requiring evidence for every piece of information received; d) Rationality or logic, which helps in identifying the correct reasons why something happens despite the presence of skepticism; e) Creativity, as critical thinking inevitably involves creative thinking in facing

situations; f) Empathy, where a critical thinker will view problems from different perspectives, thus gaining many new ideas from others' viewpoints (Rahardhian, 2022).

Mayer (2002) states that students' critical thinking skills can be developed through the use of appropriate instructional media, which can determine the success of developing these skills. Hendi et al. (2020) found that the development of interactive learning media based on metacognitive strategies is feasible and more effective in enhancing students' critical thinking skills. Landina & Agustiana (2022) created a digital flipbook based on case studies that train students' critical thinking skills, increasing their curiosity and aligning with their characteristics to attract their attention to learning. Thus, it can be concluded from these studies that instructional media play an essential role in developing students' critical thinking.

Critical thinking skills can be developed through instructional media. By selecting the appropriate instructional media, students can enhance their critical thinking abilities. Instructional media can be applied in every subject, especially in providing guidance services. Guidance services often seem tedious and less important to some students compared to core subject learning in vocational schools. Using engaging instructional media such as educational games will interest students. Instructional media, as a means of communication in print or audiovisual form, occupy a significant position as a component in the educational system (Luh & Ekayani, 2017). Critical thinking must be instilled and practiced from an early age. Educating children in critical thinking skills can be done in various ways, both at home and in school. Critical thinking skills education can be implemented during learning (Wulandari et al., 2023).

The authors conducted interviews to gather information on students' needs in the guidance service process. Students expressed that they prefer a fun and non-monotonous learning process. Students tend to be lazy to learn if the teacher only explains the material through lectures or assignments. The five students who served as our informants stated that they are more interested in learning while playing, where the instructional media used is a game. In addition to interviews, the researchers also observed several classes at SMK PGRI 6 Malang.

When learning with PowerPoint presentations or watching educational videos from YouTube, many students appeared passive and did not pay attention to the teacher's explanations. Students chose to engage in activities outside of learning, such as playing on their phones, joking with friends, and so on. However, when the teacher used game media as a teaching strategy, students actively participated in the learning activities.

At SMK PGRI 6 Malang, innovative game media have already been used as instructional media during guidance services. The guidance counselor showed games that have been used, such as a ping pong ball game that involves placing the ball into a glass according to the provided material, and using wordwall features. These games are frequently used in guidance services, making students feel bored and seeking other game innovations.

Therefore, a prototype modification of the Mafia game was developed to train students' critical thinking. Mafia is a social strategy game played by several players, proven to enhance problem-solving and critical thinking skills. The Mafia game enables members to think logically and comprehensively identify the logic behind every statement made by each member (Song et al., 2022).

The Mafia game was chosen as the prototype product because it is trendy among teenagers. In the Mafia game, many characters are played, including doctor, mafia, and citizen. The Mafia game is played in groups involving many people, which will build students' learning enthusiasm. Additionally, the Mafia game has never been developed and used as an instructional media strategy at SMK PGRI 6 Malang.

2. Method

2.1. Research Approach and Model

The method used in this research is the Research and Development (R&D) method. The R&D method is employed in research aiming to produce a specific product and to test the feasibility and effectiveness of that product. This research employs the Borg and Gall (1983) development model, which comprises ten steps: preliminary study (research and information collecting), planning, preliminary product development, preliminary field testing, main product revision, main field testing, operational product revision, operational field testing, final product revision, and dissemination and implementation of the final product (Assyauqi, 2020).

2.2. Research Procedure

The research and development model used in this study is oriented towards the Borg & Gall (1983) development model, which consists of several steps: (1) research and information Collection: In this stage, initial data is collected to gather information, (2) planning: this stage involves the capability to conduct research, design research, and set the goals to be achieved, (3) preliminary product development: In this stage, the preliminary product format is developed, including the development of instructional materials and evaluation instruments. The research and development flow in this study follows the stages of Borg and Gall (1983) showed in figure 2.1.

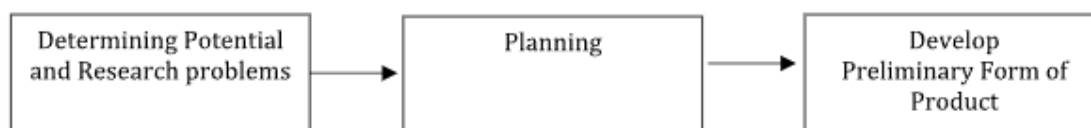


Figure 2.1 The research and development flow

2.3. Product Specifications

Media is defined as a tool or intermediary used for convey information that is in accordance with the desired goal. Media learning is all the tools used to convey it information from the sender of the information to the recipient of the information so that it can encourage the development of thoughts, feelings, attention and motivation to learn (Widya, et.al, 2023). This development research produces products in the form of mafia card media with the following specifications; mafia cards made of 310 gram art paper, the type of paper usually used for printing card, the size of the mafia card is 6 cm x 9 cm, this mafia card is divided into 3 parts, namely: mafia, doctor, citizen, total of 30 cards. There are 4 mafia cards, doctor has 3 cards, and citizen has 23 cards. Mafia card media in glossy so the lamination is durable and long-lasting and doesn't tear easily. In the empty box below the image is specifically for the material that will be provided, and is the media for this mafia card. Students can use it to study inside the classroom or outside the classroom.

3. Results and Discussion

3.1 Result

The process of creating the mafia game media was carried out through several stages of research and development using the Borg and Gall (1983) model. However, in this study, the process only reached the third stage due to time constraints and a lack of human resources. In the first step, the preliminary study, the researchers conducted interviews and observations. We interviewed five students from XI Office Management and eleven students from XI Accounting and conducted observations in the XI Office Management and XI Accounting

classes. The results of the interviews and observations indicated that students felt bored and appeared passive when learning using PowerPoint presentations or lectures. Students expressed a desire for games in the learning process. Games are rarely provided by guidance counselors, who often deliver services in the form of story-sharing and material explanations through PowerPoint presentations. When we observed these classes during lessons using games, students were more active compared to when they did not use game media because they were passive during the learning process. Piaget's delivery serves as the basis for determining the potential and problems of the research. We made plans, developed the prototype product, and found that Bruner's theory that children should have an active role during classroom learning (Fitriyanto, 2019) was fundamental to our approach.

The second step is planning. This planning stage is the researcher designing a plan that will be carried out based on the results of collecting information on previous stage. We organize the materials used in this game based on planning of the guidance and counselling service program that has been prepared. Then the researcher designs of mafia game media using the canva application. Researchers use a template taken from the Canva application which is related to game cards. Existing templates edited to suit your wishes. The researcher added an image supports such as images of mafia, doctors and citizens taken from the internet. Component contained in the mafia game cards are images of the mafia/doctor/citizen, textmafia/doctor/citizen, empty column for material, required borders.

The third step is product development. At this stage the researcher develop the initial form of the product that will be produced (Maydiantoro, 2021). After The design was carried out, the researcher printed the product in the form of a total of 30 playing cards (4 mafia, 3 doctors, and 23 citizens). This card is printed at 6x9 cm for convenience when used and save costs in research and development.

3.2 Discussion

At the initial stage, the needs analysis indicated that students required engaging media for learning. This is because students are more enthusiastic and active when learning with appropriate educational media. The desired learning media was games. Although SMK PGRI 6 Malang had previously implemented game media in the guidance services process, there had been no new innovations in game media that could be used for guidance services at the school. Therefore, the researchers developed a prototype mafia game as an innovative guidance service media.

During the planning stage, the researchers prepared the materials. The materials prepared were those discussed and provided during the guidance service process. The researchers identified and listed keywords relevant to the topics that would be discussed during the service provision. These keywords were selected based on the students' abilities, ensuring that the chosen words were easy to understand and familiar to avoid any confusion among the students. These keywords would later be attached to the empty sections of the mafia game cards labeled 'citizen' and 'doctor.' The materials and keywords discussed during the service provision. These keywords were selected based on the students's abilities, ensuring that the chosen words were easy to understand and familiar to avoid any confusion among the students. These keywords would later be attached to the empty sections of the mafia game cards labeled 'citizen' and 'doctor.' The materials and keywords discussed during the guidance services were derived from existing literature. The researchers compiled these materials and keywords based on the students's needs. In addition to organizing the materials and keywords, the researchers also designed the mafia

game cards. They sought design references from the internet, carefully selecting images, shapes, fonts, and colors that matched the criteria of the prospective product users, ensuring that the designs were appropriate and appealing.

According to McGonigal, a game has four key elements: a goal, rules, a feedback system, and voluntary participation (Hidayat, 2018). Therefore, the researchers ensured that the prototype product encompassed these four essential elements. The first crucial element is having a goal, which fosters a sense of responsibility in students to achieve the desired outcome or reach a specific objective. The second element is rules, which set the boundaries for the steps to be taken during the game and encourage players to explore various strategies to accomplish their goals. The third element is the feedback system, which includes points, scores, or ratings that indicate how close the players are to their objectives and provide motivation for the students. The final element is voluntary participation, which refers to the aspects that attract players to engage in the game. Therefore, the researchers designed and developed the game to align with these four fundamental elements.

Researchers developed this mafia game card, consisting of 30 cards with 4 cards says mafia, 3 cards say doctor, and 23 cards say citizen. Mafia card intended for player members who become mafia, doctor cards are intended for players who becomes a doctor and citizen cards are intended for players who become citizens. In the card has an empty column which can later be filled with clues to the material discussed on the provision of guidance services by pasting them in an empty column. This material is attached only to doctor and citizen cards. Clue in the form of this material is used as a guide for each player. Steps mafia games as follows; (1) Form a group containing 8-10 player members, (2) In one group you will get different characters such as mafia, doctor and citizens, (3) Cards are dealt and each player gets 1 card randomly, (4) Card opened and can only be seen by the player himself. (5) The players will roll 1 questions to find out the keywords or clues contained in the card. (6) The game will be divided into 2 times, day and night. (7) During the day, the citizens will discuss to find out what mafia is circulating. (8) At night, the mafia will trying to kill sleeping citizens. (9) The Mafia has a goal to kill all the citizens and doctors and guess the keyword at the end of the game. (10) Citizen and the doctor tries to expel and kill the mafia from his city. (11) Doctor works at night to protect citizens from being killed by the mafia. (12) This game will be finished and won by the mafia if the mafia succeeds in killing all the citizens or this game is won by the citizen when the citizen succeeds in killing all the mafia.

Submission of questions regarding clues or keywords was carried out during the discussion session on midday. Citizens will pay close attention to every question asked and the answers delivered, and the expressions of each player. If from a question or answer what is conveyed is deemed not to be in accordance with the existing keywords, then the player can suspected of being a mafia. Material that is the keyword on the mafia game card adjusted to the guidance service material that will be discussed at the guidance meeting. This game can be played repeatedly until the guidance service time finished. At the end of the game students can be asked to conclude the activities they have done, and what new things you get when learning using learning media mafia games. Of the total of 30 cards available, all of these cards may not be used and adjusted to the number of player members.

In this game, apart from the players, there is also a facilitator or person lead the game. This facilitator must understand and master the mafia game well. The guidance and counseling teacher can be used as a facilitator to control the course of the game. This matter adapted to the role of guidance and counseling teachers in implementing guidance and counseling for

provide assistance to students in accordance with the limits of their authority (Mulyati & Kamaruddin, 2020).

4. Conclusion

In this research and development process there are 3 of the 10 stages of the R&D method from Borg and Gall (1983) which must be passed according to the stages. Results from research and the development that has been carried out shows that up to stage 3 was produced with the prototype product is a modified mafia game card. Researchers provide suggestions to examine more deeply the relationship between mafia games and thinking abilities critical students. Suggestions for guidance and counselling teachers to be able to take advantage of the use of media products learning mafia games well. Further suggestions from this research and development namely testing product accessibility from potential product users and continuing the research steps up to step 10 of the Borg & Gall (1983) model.

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