



The Use of Moral Dilemmatic Animation Story in Moral Cognitive Learning

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Abstract

The use of technology-based learning media provides a challenge for students to be able to solve various learning materials and improve their thinking skills. The purpose of this study was to describe the increase in moral judgment through moral dilemma stories in the form of animations used in moral cognitive learning. This study uses quantitative to measure students' level of understanding related to narrative texts before being tested on students and qualitatively to explore moral considerations in 50 students. The results showed that the results of the gap test using the Close Test Procedure theory were above 60%, which means that the reader is at the independent/free level. While the results of using animated stories of moral dilemmas require an increase which is explained in the moral considerations table before using animated stories and after using animated stories. The other supporting factors that emerged in the study were the incorporation of the results of thinking, past experiences, finding new problems, and adjusting moral considerations from the results of thinking. It can be concluded that the existence of narration and animation (visual) can be better understood by students in making moral decisions, animation is one of the right media solutions in conveying moral cognitive learning content that has not been encountered in basic education in Indonesia.

Key Words: Moral Dilemma Story, Animation, Moral Cognitive Model.

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Introduction

The need concerning the use of technology needs to be balanced with the educational content so that the students are not only good at operating media technology but also good at improving intelligence in using IT. According to the World Economic Forum 2016 (In Hasanah, 2019) stated that in facing the 21 century, students need more than traditional academic learning models. They have to be excellent in collaborating, communicating, and problem-solving, some skills that are developed through traditional social and emotional learning. Added with the mastery of traditional skills, social and emotional skills will provide the students to be successful in the fast-growing digital economic era. One of the aspects supporting the development of

ability in collaborating communicating and problem-solving is by helping the students' moral development to grow optimally.

Aside from the academic problem, when it is reviewed sociologically, to make a balance with this era and the development in the disruption era, digital technology cannot be put aside in the education world. According to Permadi (Fadlurrohman et al., 2020) said that this disruption era demand human being to think innovatively and creatively. This is the condition we cannot avoid yet it can be a chance so it needs to be prepared as well as possible. The use of the *Internet of Things* (IoT), *big data*, *cloud database*, *blockchain*, etc will change the human life pattern.

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When it refers to the *21st Century Partnership Learning Framework* (Trilling, B., & Fadel, 2012) stated that education in the 21st century has to be able to create mastery outcome, the first is to have *learning and innovation skills* which include: 1) The ability to think critically and able to solve the problem (*expert thinking*); 2) Able to communicate and collaborate; 3) Have creative thinking and be able to innovate (imagine to find new things).

Second, the *outcome* resulted must have *Digital literacy skills* ability which includes; 1) *Information literacy* (able to access information effectively and efficiently, evaluate information critically and competently, and use the information accurately and creatively); 2) *Media literacy* (able to use the media as good as possible for the learning process and use the media making device to create something); 3) *Information and communication technology (ICT) literacy* (able to use digital media as access to dig information and to communicate).

Third, develop *Career and Life Skills* which include; 1) *Flexibility and Adaptability* (able to adapt well in the environment and the work-life); 2) *Initiative and Self-Direction* (independent, have high motivation and initiative) 3) *Social and Cross-Cultural Interaction* (able to socialize and interact with individual who has different social value); 4) *Productivity and Accountability* (have the skill as a hard worker and have the responsible attitude); 5) *Leadership and Responsibility* (have a leadership mind and responsible).

When it is seen psychologically, according to Piaget level development of elementary school students with the age of 7-11 years old is on the development stage of concrete operational. Concrete operation is an activity related to a real concrete object. A kid has the ability to logical reasoning however kid cannot solve abstract problems (Santrock, 2018). While according to Goodman preschool students egocentric are not able to do moral reflection because the concrete operation is needed to the kids for moral understanding to share, take-turn and take other people's point of view (DeVries, Zan, & Hildebrandt, 2002; Mcelwain et al., 2010). Based on the based assumption that has been explained, there is a need for the development of media that became a good bridge theoretically, sociologically, and psychologically so that it can develop a new concept on the education background.

Development concept that can be used as an interesting learning media is through animation. The concept of development moral dilemma with animation media refers to the result of research by

Mayer, R.E., & Anderson (1991) about animation and narration showed that narration and animation have higher effect value. Then (Mayer, R.E., & Anderson, 1992; Faiz et al., 2021) about animated instruction in teaching that can help the students to build a relationship between the words and the picture in the learning wherein, where the result showed that the students who get narrative explanation together with animation have a higher score than the students who are given only narration or animation (Munir, 2017).

Next, research that was done by Mousavi, S.Y., Low, R., & Sweller (1995) make a study about the decreasing of cognitive mode content on audio and visual. The result of the research showed that the various sources of information create great cognitive content, the effective cognitive capacity can be increased if it uses audio and visual. Next, research was done by Kalyuga dan Chandler (2000), the students who choose the instructional design in form of diagrams and text with audiovisual shows that the internship achievement was better than the others. Research by Kalyuga, S., Chandler, P., & Sweller (2000) shows that the students who choose diagram instructional design have better achievement than those who choose instructional design audio. It can be concluded that the teaching-learning process using narration and animation is proven to be effective in increasing the result of the study. Narration and animation technique can be developed in the teaching-learning process because it is proven to increase the result of the study (Munir, 2017). Hence, narration and animation (visual) can be more understood by the students because the discussion context is more concrete than only with narration text. Furthermore, if the method is applied to the students in the age of elementary school who could not convey their abstract thought concretely, animation can be the appropriate media.

The use of technology-based learning media gives the challenge to the students as what is told by Bonk dan Dennen (2003 in Munir, 2017) in a field theory stated that if students were faced with something challenging in the learning process, the motivation and tendency to try again will increase to achieve the highest goal in the learning. One of the functions of learning media is a learning aid, which affects the situation, condition, and environment of learning to achieve the objective of learning that was created and designed by the teacher. The media can also clarify the message so that it is not too verbal (in written form and only spoken word). Making use



of the media appropriately and varied will decrease the passive attitude of the students (Nurdyansyah, 2019). It can be said that learning media is all of the things that can be used to convey the message (learning material). So that it can stimulate the attention, interest, thought and feeling of the students in a learning activity to achieve the learning goal (Nurdyansyah, 2019).

Interactive learning media is based on the thought that the learning activity will run well, effectively and fun if it is supported by the learning media that can attract the interest and attention of students, moreover it can be operated directly by students, like computer devices or android. Learning methods using computer devices or android tend to be liked by the children (Fikri & Ade Sri, 2018). The learning process designed with media technology gives a higher interest feeling as Hilir (2021) stated that the use of technology media in learning will be more fun to the students and make the learning process meaningful. This is because the use of media technology has a connection with the thinking level of students as a human that follows the level of development which starts from simple thinking to the level of complexity. Next is the media as the learning aid can fasten the message delivery from the material taught so that it can increase the result in the learning process. The presence of technology media in the learning process is believed to give a positive effect as said by Hilir (2021) where the role of the media can increase the learning motivation and increase the quality of cognitive moral learning. As the result, the teacher as a facilitator has to be able to develop and change the learning paradigm by giving chance to the students to be active in the learning process. The use of technology as media can help the fluency, effectivity, and efficiency in achieving the learning goal. With those assumptions, the researchers are interested to develop students' moral consideration with moral dilemma story used technology media so that it gives better effect for the students' moral consideration.

Animation media which is developed in moral cognitive learning gives facility in the learning process which has a high quality and makes use of *the best possible educational technology*. The application of digital technology has revolutd model and learning approach from the traditional model in the class to the accessible anytime anywhere model. Education becomes available in many places and it is not limited by the classroom walls (Direktorat Jenderal Pembelajaran dan Kemahasiswaan, 2018). To maximize the ability had

by the Alpha generation effectively, the education system must be completed with the requirement of human resources who have the ability deals with the use of the technological device so that they can assist and teach students to get positive learning result (Syamsuar & Reflianto, 2019). Lembaga *Board International Education Advisory* (2017; Syamsuar, S., & Reflianto, 2019) stated that if the fast development of technology media is not followed with the development of the human resources who can't make use of it, it be of course become useless. The development of a moral cognitive model that makes use of the technology media that is appropriate with the psychological and sociological condition of students is hoped to be able to give solutions to face various specific amoral conditions and give contributions to moral cognitive learning model and character in the elementary school. With the based assumption explained above, the researchers aimed to make research on the use of animation stories in Cognitive moral learning implied to the students' moral consideration with the theory of Kohlberg.

Research Methodology

This research is mixed research of quantitative and qualitative methods. Quantitative research is used to measure the level of understanding of students toward narrative text before being tested on the students. The result of the text exam then continued to be done in qualitative research. Qualitative research, according to Creswell (2008), is defined as an approach or a search to explore and understand a symptom. Hence, the researchers do the interview and observation process so that the researcher can understand the condition happen directly at the time the research is done. The objective of the study is to see see the result of the examination used animation media containing a story about the moral dilemma for students of Elementary School grade 5. The focus of the research is to test the moral consideration of the students. The researchers do the trial of dilemma moral story use the dilemma moral story which is developed into an animation. To create the data the researchers use interview techniques to get the level of students' moral consideration with the checklist answer provided by the researchers. The research was done in two different schools which are SDN 2 Tukmudal and SDN 4 Kenanga. The choice of those 2 schools was because the schools have the same culture in Cirebon Regency. The data analysis towards the students' answers were done when the collection of



data and afterward. Due to dissatisfaction with some analysis results, the researcher did a re-interview to get credibility (Cohen, L., Manion, L., & Morrison, 2002; Miles & Hubberman, 1992; Faiz & Soleh, 2021). Data analysis was done interactively and continually until the data was finished and surfeited or the same answers. This data was gotten through the process of reduction (data combination) data display (presentation of the data), and data conclusion drawing/verification.

Result and Discussion

The moral cognitive model for the students shows that aside from developing moral consideration and children's cognitive skill process, a moral cognitive model with the moral consideration inside of it makes it possible that the control moral appears internally or comes inside from the students. This thing is to avoid over control or external control which come from the adults as stated by (Allen, 1988). The control will emerge moral education autonomously so that it gives the students the wide space to think. However, it has to be underlined that the role of the teacher still has to exist.

Result of Text Exam Uses Close Test Procedure

Before it was tested, the text was tested first to the students through narrative text with some blank words. The texts trial was done with the students of grade 5 in SDN 2 Tukmudal and Students of grade 5 in SDN Kenanga. To measure the level of understanding of the reading, this research uses *the Close Test Procedure* technique. This technique is a technique that measures the level of readability and comprehension of the readers in understanding the presented text. In this technique, the students are given clues to fill the blank words and have to be filled for what it is asked for so that it can form the complete sentence. *Cloze Test Procedure* was introduced by Wilson Taylor (1956) with the concept of the tendency of people to complete an incomplete pattern to be one complete unity by seeing the parts as a whole (Fry, 2002; Harjasujana & Mulyati, 1997). Through this procedure, students were asked to understand an incomplete discourse to be perfected with the students' language but do not erase the essential meaning from the story. Haskal (in Harjasujana, 1997) stated his concept of how to make steps in *Close Test Procedure* like as follows: 1) Choose the text with approximately 250 words; 2) Let the first sentence and the last sentence in a full sentence not being erased; 3) Start the

omission of the word from the second sentence in every fifth word; 4) If the fifth-word fall to the nominal word, there will be no omission. For the exchange restart from the next fifth count. Based on the criteria the researchers arrange the technique in making the gap test instrument by choosing approximately 250 words of text. Then the researchers do the omission of 30 words, however, the researchers do not stick in the 5 words omission. Next, the researchers change the omitted part with the underlined symbol according to how many omitted words. The steps are; 1) Give one whole text to the students; 2) Ask the students to read and understand the text; 3) Give the text that has been omitted the words; 4) Score the students' answer based on the scoring indicator.

The scoring technique of the gap discourse was using *synonymy methods* or *contextual methods*. This method allows the answers of the respondent related to the use of words that have a similar meaning but it doesn't affect the whole of the discourse or the essence of the discourse still have the same context. The use of this method is more flexible compared to the other methods considering the possibility of differences in students' dialect or the language used by the students in daily life.

The scoring of the gap-filling text test is set with the percentage criteria from the correct answer. The formula used is:

Table. Formula of counting gapped discourse

$$\frac{\text{the number of correct words}}{30} \times 100$$

The next interpretation used the result interpretation from the theory by Rankin, E.F., & Culhane (1969; Harjasujana. Slamet, Akhmad. Yeti, 1997; Fadilah, 2016) that give percentage;

1. The reader is on the level of independence/free if the score percentage of the gap-filling test is above 60%.
2. The reader is on the level instructional if the score percentage of the gap-filling test is between 41%-60%.
3. The reader is on the level of frustrated/fail if the score percentage of the gap-filling test is the same or less than 40%.

The story with a moral dilemma that has been omitted the story consist of 5 stories, are story, 1) With title teacher's faith; 2) Story title parents or my best friend; 3) Title story Doni's dilemma; 4) Title of the story want to join *study tour*; 5) Title



story become football player. Here is the result of gap test discourse story 1 to 5:

Table. Text trial using the theory of *Close Test Procedure*

No	Name of School	Class	Number of students	Story 1	Story 2	Story 3	Story 4	Story 5
1	SDN 2 Tukmudal	5	25	74%	75%	73%	73%	73%
2	SDN 4 Kenanga	5	25	78%	75%	71%	75%	75%

Based on the data on the table above, it shows that the 5 titles consist of 1) With title teacher's faith; 2) Story title parents or my best friend; 3) Title story Doni's dilemma; 4) Title of the story want to join *study tour*; 5) Tittle story become football player, it shows the criteria of reader achievements is on the level independence/free because the percentage of score in the gap-filling test gotten is above 60%. So, based on the result of the gap-fill test using the theory of *Close Test Procedure* Rankin, E.F., & Culhane (1969) show the text/discourse arranged in the research is proper to be used.

Result and Discussion of the use Animation Story

Based on the result of the previous study, the use of 5 moral dilemma stories is only about narrative text

shows the moral consideration on students grade 5 (age of 11 years old) with several 45 people is on the stage of pre-conventional. At this stage, students have a reason deciding to avoid hurtful punishment. Five students succeeded in achieving moral consideration pre-conventional on stage 2. In that stage, 5 students have reason in taking the decision based on the things related to take and give, like want to help because have taken care of them since they were little or they want to help because they have been helped before (Rest, J., Turiel, E., & Kohlberg, 1969; Kohlberg, Duska, R., & Whelan, 1982; Lerner et al., 2003). However, the table of moral consideration level before using the animation story is as follow.

Table. Moral consideration before using animation story media

Level of moral consideration	Story 1	Story 2	Story 3	Story 4	Story 5
Pre-conventional stage 1	45	42	47	42	40
Pre-conventional stage 2	5	8	3	5	6
Conventional stage 1	0	0	0	3	4
Conventional stage 2	0	0	0	0	0

The table shows that the moral consideration of students aged 11 years old or grade 5 is more dominant in the stage of pre-conventional stage 1. Meanwhile, students who can achieve level pre-conventional stage 2 and conventional stage 1 are still rare. The result is strengthened with the result of the interview, the difficulty of students is to abstract the story of moral dilemma to get the decision of moral consideration. Aside from the result, the use of a moral cognitive model with the moral dilemma story method is a new thing they have never encountered before in the process of learning or it is still strange for the students so that moral cognitive model with moral dilemma story is a new thing. Argument from the interview result can be strengthened by the thought of Piaget who stated that when it is reviewed from a psychological aspect the development of students in Elementary

school-aged 7-11 years old is the stage of concrete operational development. Concrete operational is mental action with the relation with a real, concrete object. It means, at this stage, a child has the ability of logical reasoning however they cannot solve the problem abstractly (Piaget, 1932; Withers, 1982; Santrock, 2018). With the assumption from Piaget, the researchers develop moral dilemma stories with animation so that it will make it easier for the students in the moral consideration.

From the result of the development of moral dilemma story media in form of animation, the researchers found there is an increase of moral consideration in the students. The table of moral consideration levels after using the animation story is as follows.



Table. Moral consideration after using story media animation

Level of moral consideration	Story 1	Story 2	Story 3	Story 4	Story 5
Pre-conventional stage 1	23	23	22	7	20
Pre-conventional stage 2	26	23	20	33	20
Conventional stage 1	1	4	4	10	10
Conventional stage 2	0	0	4	0	0

The table shows there are differences in moral consideration through moral dilemma stories made with animation. Students can be more focused and able to increase their moral consideration. The increase has a basic reason that is the students are clearer in the explanation by the existence of audio and visual from moral dilemma story so that it helped the students because the story is more concrete and shaped real. One of the students stated that the existence of animation helped him to think in taking the decision based on moral consideration. So, the narration and animation (visual) can be more understood by the students because the discussion context is more real compared to just narrative text. Furthermore, if it is applied to the students aged in Elementary School who are not able to abstract the thought concretely, the animation becomes one of the suitable media solutions in conveying moral cognitive learning content.

Based on the argument and finding, other aspects support the moral consideration. One of them is the students' imagination aspect. This aspect gives a significant role in students' moral consideration. According to Werhane (1998; Wang, 2019), imagination in the reasoning and moral consideration can help people avoid students' narrow minds about their moral situation and made it possible for them to act more 'moral'. It means that imaginatively, an individual or student can be helped with the existence of imagination reasoning so that it can take the individual to act as a norm in the real life. Furthermore, Garrigan (et al., 2018) stated in his perspective related to imagination, that imagination in moral consideration and decision needs to be supported with the brain nerve completion during moral decision making. The opinion by Garrigan showed that in the process of consideration and reasoning decision-making is affected by one's brain nerves.

Another thing found in this research is the combination of thinking results, past experiences, new problem findings, and adjustment of moral consideration from thinking results. As the theory stated by Sternberg (1985; Yusuf, 2012) stated that in cognitive learning, there are three mental stages to take the decision or moral consideration such as

thinking process, facing experience or new things, and adjusting to the situations they face. The things show the moral consideration taking moral consideration is a product (result) from the application of thinking strategy, overcoming new problems creatively and fast, and adjustment to context by selecting and adapting to the environment.

Thoroughly, Sternberg (1985; Yusuf, 2012) explained the relation to the thinking process. If it is related to moral consideration, mental process (thinking) has a connection, because the taking of moral consideration is the result of thinking which includes: a) *Meta Component*: rule planning, select strategy, and monitor (supervise). For example, identify the problem, attention allocation, and supervise how the strategy is carried out; b) *Performance Components*: carry out the selected strategy. Through this component it makes us able to make perception and keep new information; c) *Knowledge - Acquisition Components*: get new knowledge, like separate relevant and irrelevant information to understand new concepts.

According to Sternberg (1985; Yusuf, 2012), another factor that can develop the maturity of thinking in moral consideration is the existence of *Insight*, or the ability to face new situations effectively and also *Automaticity*, or the ability to think and the problem automatically and efficiently. So, to conclude, moral consideration is affected by 2 supporting factors which according to Sternberg (1985; Yusuf, 2012) include the ability to think in solving the new problem to find effective solution and readiness to face a new problem which is *insight* and *automaticity*. The purpose of the two supporting factors was to create the ability to adapt to the environment *Adapting to an environment* with the demand or environment norm. This ability is important for individual in achieving his life success, like in choosing a career, social skill, getting along well in society Sternberg (1985; Yusuf, 2012).

Thinking quality and past experience give the effect that becomes support in learning moral cognitive. The effect will also bring impact to the consideration and moral decision the students face in confronting dilemma, as stated by Hakam (interview, 20 August



2020 in Cimahi-Bandung) that intelligence, achievement, and skill give effect in moral consideration of a student.

Hence, the cognitive moral learning model with animation media can create a cognitive stimulus that can give *equilibrium* shake as what was stated by (Duska, R., & Whelan, 1982) that by creating cognitive stimulus in moral education program, it can give *equilibrium* shake for someone by creating a situation for an individual to be able to feel the presence of real conflict in solving the problem. Aside from the use of animation story of moral dilemma in moral cognitive learning, it showed that there is increasing in students' moral consideration so that even the result of the research showed the increase of moral was stimulated by the moral dilemma story in form of animation, it doesn't mean that the students do not have the basic moral consideration. The researchers ask the reader that we also need to justify the statement by de Oliveira-Souza & Moll (2019) that human being is a creature with moral, have moral experiment covers every side of daily life. The moral quality differs from the consideration and responsibility of the moral choice.

Conclusion

It can be concluded that the presence of narration and animation (visual) can be more understood by the students in taking the moral decision, animation becomes one of appropriate media solution in conveying cognitive moral learning content with the purpose to increase students' moral consideration which has not much seen in elementary education in Indonesia. The conclusion can be proved with the increase of moral consideration from level pre-conventional stage 1 to the pre-conventional stage 2, aside from that, there is the transition from pre-conventional stage 2 to conventional stage 1. Even some students increased in the conventional stage 2. Hence, the cognitive moral learning model with the use of animation media can create a cognitive stimulus that can give *equilibrium* supported by the result of thinking, experience, finding of new problem, and adjustment of moral consideration from the result thinking.

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