

Digital Storytelling and Think-Pair-Share to Improve the Ability of Critical Thinking

Dini Ayu Lestari, Siswandari Siswandari and C. Dyah S. Indrawati

Universitas Sebelas Maret, Surakarta, Indonesia

dniayulest@gmail.com, namaku_ndari@yahoo.co.uk, ciciliadyahsulistyanningrum@yahoo.com

Keywords: Digital storytelling, Think pair share, Critical thinking.

Abstract: The purpose of this research is to develop digital storytelling learning media in the form of website storytelling as an effort to improve critical thinking ability of high school students. One of the learning models that educate students to think critically is the think pair share model. According to previous research, digital storytelling has an effect on improving students critical thinking skills. The method used in this research is the method of Research and Development applying media for students in high school. This study is examined by the steps of the preliminary research procedure, the development and testing stage. Data analysis technique used in this research is simple descriptive analysis. This study compares the pretest post test results to find out the results of the study. This research is expected to improve students' critical thinking ability in economic learning.

1 INTRODUCTION

The ability of critical thinking in solving problems can prepare students to live their careers and real life (Ramdani, 2012). Filsaime (2008) outlined the importance of critical thinking in human daily activities and states that only capable individuals have the ability to continue to grow. Basically, since childhood, people already have tendencies and skills to think critically. As a rational being, human beings are always compelled to think about the things around them. The tendency of humans to give meaning to various things and events around them is an indication of their ability to think (Paul, 1994).

This tendency can be found in a small child who looked at various objects around him with curiosity. By look at him we can gain an understanding of how children think and give meaning to the environment. We can also see how they experiment with everything that provokes his curiosity and draws conclusions from the things he meets. With an understanding of the cognitive condition of learners and their high learning ability, it can be concluded that education for critical thinking should have been given to children since very young, in addition to preparing them in adulthood later, also to familiarize openness to various information from an early age. Indarti et al. (2013) reveals that when students are accustomed to selecting and trying to process the information they

have acquired, they will be trained to solve problems, think critically, creatively, systematically and logically. Lack of critical thinking education can lead learners to the habit of doing various activities without knowing the purpose and why they are doing it. This habit is already often seen in the less educated students do not even get the education of critical thinking.

The purpose of this research is to develop digital storytelling learning media with think-pair-share that are eligible to be used in the learning process to determine the effectiveness of digital storytelling media based on think pair share in an effort to improve students' critical thinking skills on the economic subjects. The method of research that will be used is a research and development method (R & D). Research and development according to Borg & Gall (2007: 58) is "an industry-based development in which the findings of the research are processed and tested, evaluated and Refined until they meet specific criteria of effectiveness, quality or similar standards."

2 LITERATURE REVIEW

2.1 The Ability of Critical Thinking

Thinking according to Plato is speaking in the heart. "Thinking is putting the relationship between the

parts of our knowledge". Ennis pointed out, "The definition of critical thinking is reflective thinking by emphasizing decision-making about what to believe or do". Implicitly, critical thinkers evaluate the implicit thoughts of what they hear and read, examine the process of self-thinking when writing, solving problems, making decisions, or, or developing a project (Surya, 2013: 159). Alec Fisher (Ennis) stated "Critical thinking is a sensible and reflective thinking that focuses on deciding what to believe or do."

According to Webster's New Encyclopedic All New 1994 Edition cit, Amri (2010: 62), "critical" is "implement or practice the careful assessment and objective" so that "critical thinking" can be interpreted as thinking that requires precision in making decisions.

Another definition given by Ennis (Suryanti et al, 2008: 31) is critical thinking is a process that aims to make sensible decisions about what we believe and what we do. Critical thinking is one step higher level thinking into four groups which include problem solving, decision making, critical thinking, and creative thinking (Amri & Ahmadi, 2010). Wijaya (Suryanti et al, 2008) says that critical thinking skills as part of thinking skills should be owned by every member of society, because there are so many problems in life that must be done and resolved (Amri and Ahmadi, 2012: 66).

Based on the above opinion it can be concluded that critical thinking describes an active process of thinking, or not just take for granted the ideas of others. Critical thinking shows that there is reason to believe in something and for that ability is part of the critical thinking skills that learners must have in order to solve all problems.

Hendra Surya (2012: 179) stated that critical thinking steps that can be grouped into 3 namely: (1) Recognition of problems, assessing information, and solving problems or drawing conclusions, (2) Assess relevant information, (3) Troubleshooting or drawing conclusions.

Wahab Jufri (2013: 104) states that the indicator of critical thinking skills is to formulate problems, give arguments, deduce, induce, evaluate, make decisions and determine actions. Facione (1990) in Liliyasi and Tawil (2013: 9) identified 6 critical thinking skills, namely interpretation, analysis, evaluation, inference, explanation, and self regulation. While Henri (1991) which quoted by Liliyasi and Tawil (2013: 9) identifies critical thinking skills in 5 dimensions, namely basic clarification, in-depth clarification, inference, assessment, strategy, and tactics.

Based on the aspect of students' critical thinking skills which have been proposed, this research uses aspects of critical thinking skills according to Facione's (1990) opinion in Liliyasi and Tawil (2013: 9) is interpretation, analysis, evaluation, inference, explanation, and self regulation.

2.2 Review of Learning Media

2.2.1 Definition of Learning Media

Media serves as an intermediary in the dissemination of information from the sender of information to the recipient information. According to Anderson which quoted by Sukirman (2012: 28) Media learning is a medium that allows the realization of a direct relationship between the work of a subject developer with the students. Learning media is a means or educational tool that can be used as an intermediary in the learning process to enhance effectiveness and efficiency in achieving teaching objectives (Sanaky, 2013: 4). Meanwhile, according to Gerlach & Ely that when understood in broad outline is human, material, or events that build conditions that make students able to acquire knowledge, skills, or attitudes. In particular, the meaning of media in teaching and learning process tends to be interpreted as graphic, photographic, or electronic tools to capture, process and rearrange visual or verbal information (Arsyad, 2013: 3). Winkell quotes from De Corte (2005) who stated that instructional media is a non-personal (non-human) means used or provided by faculty who play an important role in teaching and learning, to achieve the instructional objectives.

Based on the above opinion, it can be drawn understanding of instructional media which is anything that can be used to communicate the message to students centered on the students so that students are more motivated to learn through discussion of material that students are interested in.

2.2.2 Characteristics of Learning Media

According to Bretz which quoted by Sadirman (2006: 2) identifies the main characteristics of instructional media, among others: (1) Sound, is distinguished also be a broadcast media (telecommunications) and the recording media. 2) Visual, divided into three namely images, lines, and symbols that are one continuum of the form that can be caught by the sense of sight.

According to Gerlach and Ely which quoted by Arsyad (2013: 15-17), there are three characteristics of the media, namely: Marks fixatives (fixative

property), manipulative (manipulative property), characteristic Distributive (distributive property).

Based on the above opinion, it can be drawn characteristics of good learning media which is a learning medium in the form of learning aids that can be sound, pictures, recordings, film or video, lines, symbols that may be changed in the form of objects in the form of a summary of events later Displayed again as an overview.

2.2.3 Learning Media Functions

There are several functions of learning media according to Rusman (2012: 162) in the learning include: (1) As a tool in the learning process, (2) As a component of sub learning, (3) As an influence in learning, (4) As a game to draw the attention and motivation of students in learning, (5) Improve results and learning process, (6) Reduce the occurrence of verbalism, and (7) Overcoming the limitations of space, time, energy, and power of the senses.

According to Levie & Lentz in Sukirman (2012: 38-39) There is a function of learning media that is: (1) attention function, (2) affective function, (3) cognitive function, and (4) compensatory functions. Based on the above opinion about the function of instructional media, it can be drawn the function of instructional media as an effort in improving motivation, interest in learning students in presenting lesson discussion information submitted by teachers in achieving learning objectives planned before learning.

2.2.4 Benefits of Learning Media

According to Sanaky (2013: 5) there are benefits of learning media as follows: (1) Learning will draw more attention so as to motivate students to learn, (2) Learning materials will be more clear meaning that can be better understood by students and enable students to master the goal of learning better, (3) The learning method will be more varied, not solely verbal communication through the narrative of words by the teacher does not run out of steam, especially when teachers teach each lesson, and (4) Learners do more learning activities, because not only listen to the teacher's description, but also other activities such as observation, performing, demonstrating and others.

Based on the above opinion, it can be drawn benefit from the use of learning media in the learning process which is to improve student motivation in teaching and learning process so that students achieve optimal results.

2.3 Review of Digital Storytelling

2.3.1 Definition of Digital Storytelling

According to Echols which quoted by Aliyah (2011) storytelling consists of two words is story and telling. The merging of two word storytelling means telling stories or telling a story. Additionally, as proposed by Malan, storytelling is telling a story based on oral tradition. Storytelling is an attempt by storytellers in conveying the contents of feelings, thoughts, or a story to children as well as orally. While in the Great Dictionary of Indonesia (Ikranegekata & Hartatik), the story is a story, a fairy tale, a speech depicting a process of events at length, a play that presents the course of events, the play embodied in the show (about drama, film, etc).

Based on the above opinion, it can be understood that storytelling is an art of narrating the stories in verse or prose, which is performed or led by one person in front of the audience directly where the story can be narrated in a way described or sung, with or without music, pictures, or with other accompaniments that may be learned orally, either through printed sources, or through a source of mechanical recording.

2.3.2 Benefits of Digital Storytelling

According to Hibana which quoted by Kusmiadi (2008) The benefits of this storytelling activity are: (1) Develop fantasy, empathy and different kinds of feelings, (2) Grow interest in reading, (4) Build closeness and harmony, (5) Instructional Media.

The other benefits for children with storytelling, among others are: (1) Develop thinking power and imagination of children, (2) Develop children's speaking skills, (3) Develop child socialization, (4) Means of communication with the child's parents, (5) Media therapy for children with problems, (6) Developing a child's spirituality, (7) Grow motivation or life spirits, (8) Embedding values and character, (9) Building inner contact between educators and students, and (10) Build characters, (11) Developing cognitive (knowledge), affective (feeling), social, and cognitive aspects (appreciation).

2.4 Think Pair Share Learning Model

Think Pair Share learning model originally developed by Frank Lyman, et al at the University of Maryland pad 1985 (Majid, 2013: 191). Think Pair Share has

procedures set out explicitly to give more time to the students to think, respond, and help each other.

According to Lie (2008: 57) that Think Pair Share is a simple cooperative learning model that provides an opportunity for the students to work on their own and in collaboration with others. The advantages of this learning model, which is able to optimize student participation.

The stages in the learning Think-Pair-Share by Ibrahim (2000: 26-27) as follows: (1) Thinking; The teacher asks questions related to the subject matter. Then the students are asked to think about the question or issue independently for a few moments, (2) Pairing; The teacher asks students to pair up with other students to discuss what he or she has been thinking at the first stage. At this stage, each member of the group compares their answers or thoughts by formulating the answer that is considered the most correct or most convincing, (3) Sharing; In the final stages, the teacher asks the couple to share with the whole class what they have been talking about, the sharing skills in the whole class can be done by appointing a couple who voluntarily willing to attach the work of the group or take turns with a partner until about a quarter of couples have the opportunity to report.

Cooperative learning model Think Pair Share encourages students to be familiar with the activities of other people share your opinion with the expected students can gain a lot of knowledge, because it will be the students will get a lot of different learning experiences during the learning process.

According to Lie (2008: 86), there are some advantages methods Think Pair Share (TPS) which are increase student participation in learning, suitable for simple tasks, provide more opportunities for the contribution of each group member, interaction between partners is easier, easier and faster to form the group

Here are the stages model Think Pair Share developed researcher:

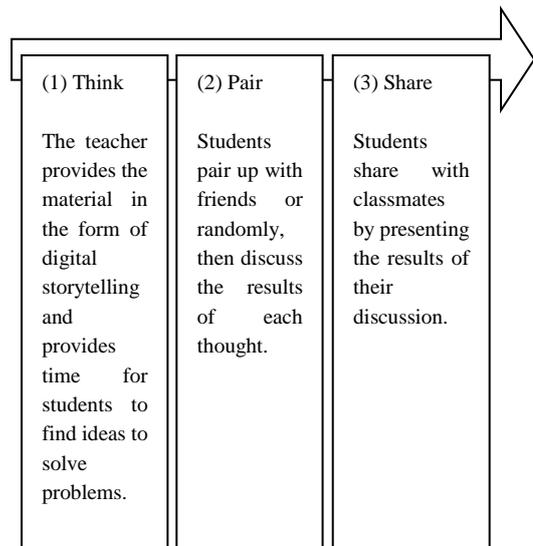


Figure 1: Schematic of the think pair share learning model

Think Pair Share cooperative mode on digital learning media storytelling explanation:

1. Thinking; the teacher explained the plan and purpose of learning and then presents the problems relating to the subject matter. Then the students are asked to think about the issue independently for some time.
2. Pairing; the teacher asks the students pair up with other students to discuss what he thinks in the first phase. At this stage, each member of the group compares their answers or thoughts by formulating the answer that is considered the most correct or most convincing.
3. Sharing; the final stage is done by sharing or presenting the results of the discussion. Activity is stopped according to the accumulated time during the learning and the teacher's targeted conclusions.

3 METHODS

On this research, researchers using research and development method by Borg and Gall. The research and development procedure consists of three steps: preliminary, development, and evaluation.

The Preliminary step is literature study and preliminary study. The development step is to design the product, after the initial product is finished, then the expert validation consisting of media validation, language validation, material validation and validation of practitioners. After validation, then

continued with product trial. The first trial is a group trial, and then the product is revised again. After the product has been revised, it will be continued with a field trial, after completion of field trials, if anything needs to be revised, the product will be revised again. The evaluation stage is the final step in this research and development, at this stage the effectiveness test media developed, effectiveness test carried out in two classes, namely experimental class and control class. Experimental class is a class that gets treatment with the media of development, while the control class is a class that is taught with ordinary or without getting treatment with learning media development results.

This research and development was conducted in Senior High School in economic subject to know whether digital learning storytelling media is feasible and effective to improve the critical thinking ability of senior high school students.

4 RESULTS AND DISCUSSION

A statement by Scriven & Paul, presented at the 8th Annual International Conference on Critical Thinking and Education Reform, Summer 1987. Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by observation, experience, reflection, reasoning, or communication, as a guide to belief and action. In its exemplary form, it is based on universal intellectual values that transcends subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness.

Critical thinking demands a vigorous effort to examine every assumption or assumptive knowledge on the basis of its supporting evidence and the subsequent conclusions it brings. Thinking critically is that deeply or actively think together to seek truths or reasons about a knowledge so that it can be trusted.

As stated above that critical thinking is an important part of one's life aspect, including students. As an illustration, it is easy to teach students about an information, for example the definition of human needs. Teachers are also easier to evaluate, simply by making a problem around the definition of human needs. And for students do not even feel the need to understand the definition of human needs, but simply memorize the definition given by the teacher. The question is, is it useful for students outside of school? What does a student get for a life when the student has graduated? The answer is of course nothing useful

for the students in his life except for just a few. Therefore there must be a paradigm shift in teaching from just giving information to teaching how to find information and using it for other useful things.

In the preliminary study that researchers have done in one of the high school, obstacles experienced in teaching critical thinking skills on economic subjects is due to the still frequent learning that is still centered on the teacher (teacher-centered), The teacher is too lazy to design a learning activity that gives students the opportunity to actualize themselves. So that students become not interested to learn economic lessons that are being taught by teachers.

Another constraint is on a scoring system, a classic but difficult to solve. During this time more assessment toward low-level cognitive abilities. The students are said to be successful if students pass the test and get good grades. Until now this problem is still a polemic and there is no good solution.

To teach critical thinking skills can be done with various methods. For example by applying a constructive learning model. The model of learning done in schools in general has been using the paradigm of constructivism. The existing learning, emphasizing the main activities that affect the success of educational attainment goals. Constructivism Learning is that in the learning process students learn together with the group and help each other so that students can interact actively and positively in the group. The purpose of group formation is to provide opportunities for students to be actively involved in the thinking process. One model of cooperative learning that allows students to be actively involved in thinking and learning activities in pairs is Think Pair Share (TPS).

Cooperative learning type of TPS designed as an effort to influence the pattern of student interaction in learning. In the learning process, the teacher asks a question or problem associated with the lesson, and asks the student to take a few minutes to think of the answer or problem. The second step is pairing, then the teacher asks students to pair and discuss what they have gained. Furthermore, in the final step the teacher asks the couples to share with the whole class that the students have been talking about in the on going lesson.

According to Laura, quoted by Septriana & Handoyo (2006: 48) the advantages of the TPS model is easy to apply to various levels of thinking ability and in every opportunity so that it can be applied at every level of education. Another advantage is optimizing students 'participation in learning, improving knowledge, improving students' mindset,

students can review and solve problems from different points of view, but the purpose of the answers go in the same direction, in addition to training teachers in formulating problems that In accordance with the cognitive level and cause curiosity of students to be interested to learn and find a solution (Alma, 2009: 91).

The advantages of the TPS learning model can be used as a reference for the development. Learning digital storytelling media based on TPS learning model is a learning media that can help train students' attitude and thinking ability.

In previous research conducted by Yang & Wu (2013), The results of this quasi-experimental study suggest that after 20 weeks of DST instruction, senior high school students demonstrated significant improvement in critical thinking. Interpretation and evaluation of arguments (as measured By Butthe-CTT-I) and task value and self-efficacy (as measured by the MSLQ). Furthermore, qualitative feedback from interviews with the instructor and students support the potential of DST as an approach for fostering collaborative second language learning in an environment that fosters higher order thinking and learning motivation.

Research conducted by Yang & Wu can be used as a reference to develop a digital learning-based storytelling think pair share this. Attitudes and students' thinking ability can be developed through the steps used in the think pair share learning model. These steps give students more time thinking, responding, and helping each other, and are supported with drawings aimed at training students' skills to solve problems and seek solutions in a row. The learning is indicated in the attitude and empowerment ability of thinking and interest and interest of student so that student learning result can rise significantly.

5 CONCLUSIONS

Critical thinking skills is a competence that must be trained to the students. In a preliminary study that researchers have done in Senior High School, researcher has found that critical thinking skills in economic subjects is still low because of the frequent learning that is still centered In teachers (teacher-centered), the teacher is too lazy to design a learning activity that gives students the opportunity to actualize themselves. So that students not become interested to learn and understand the economic lessons that are being taught by teachers.

This research produces an idea to develop a learning media that is integrated with a model of

learning think-pair-share, so that it can help improve the critical thinking skills of students in economic subjects in senior high school. The media developed is a digital storytelling learning media with think-pair-share model. The results of this development will be used in the economic learning process as an effort to improve the ability of critical thinking students in senior high school.

ACKNOWLEDGEMENTS

Special thanks to magister of economic education universitas sebelas maret surakarta and people who supported me when working on this paper.

REFERENCES

- Arsyad, A., 2013. *Media Pembelajaran*. Jakarta: PT. RajaGrafindo Persada.
- Baker, M., Rudd, R. 2001. Relationships between critical and creative thinking. *Journal of Southern Agricultural Education Research*, Vol. 51, Number 1, 01,
- Ennis, R. H., 2011. *The Nature of Critical Thinking: An Outline of Critical Thinking Dispositions and Abilities*. Prentice Hall: University of Illinois.
- Fisher, Alec., 2011. *Critical Thinking*. Cambridge University Press.
- Filsaime, D. K., 2008. *Menguak rahasia berpikir kritis dan kreatif*. Jakarta: Prestasi Pustaka.
- Rusman. 2012. *Model-Model Pembelajaran*. Bandung: Rajawali Pers.
- Sadik, A., 2008. Digital storytelling: a meaningful technology-integrated approach for engaged student learning. *Educational Technology Research and Development*, Vol 56, No 4.
- Sanaky, H., 2013. *Media Pembelajaran Interaktif-Inovatif*. Yogyakarta: Kaukaban Dipantara
- Sukirman., 2012. *Pengembangan Media Pembelajaran*. Yogyakarta: PT. Pustaka Insan Madani.
- Aliyah, S., 2011. *Kajian Teori Metode Storytelling Dengan Media Panggung Boneka Untuk Meningkatkan Kemampuan Menyimak dan Berbicara Anak Usia Dini: Studi Eksperimen Quasi di TK Negeri Pembina Kabupaten Majalengka*. Tesis Universitas Pendidikan Indonesia.
- Borg, W. R., Gall, M. D., 2003. *Educational research: an introduction (7th ed.)*. New York: Longman, Inc.
- Buchari, Alma. (2009). *Manajemen Pemasaran dan Pemasaran Jasa, Cetakan kedelapan*. Bandung: Alfabeta.
- Handoyo, B., Septriana, N., 2006. Penerapan Think Pair Share (TPS) Dalam Pembelajaran Kooperatif untuk Meningkatkan Prestasi Belajar Geografi. *Jurnal Pendidikan Inovatif Volume 2 Nomor 1*.

- Ibrahim, M., 2000. *Pembelajaran Kooperatif*. Surabaya: University Press.
- Alec F., 2009. *Berpikir Kritis Sebuah Pengantar*. Terj. Benyamin Hadinata. Jakarta: Erlangga
- Yang, Wu., 2011. *Digital storytelling for enhancing student academic achievement, critical thinking and learning motivation (a year-long experimental study)*. Institute of Education & Centre for Teacher Education, National Cheng Kung University, No. 1, Ta-Hsueh Rd., Tainan 701, Taiwan, ROC

