

# The Practicality of Macromedia Flash-Based Learning Media to Improve Students Critical Thinking Skills Senior High School Students

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## Abstract

Interactive learning resources contribute to the success of the learning process and students' critical thinking skills but have not been developed equally in every subject. This study aims to obtain the practicality of Macromedia Flash in improving the critical thinking skills of Kurau 1 State Senior High School students. This type of research is a Tessmer formative test with research subjects of 30 students of Kurau 1 State Senior High School. The research data were analyzed descriptively, practicality data included the use of instructional media and student responses, showing that Macromedia Flash was developed practical for used in learning and could improve the critical thinking skills of senior high school students.

### Abstrak

Sumber belajar interaktif memberikan kontribusi terhadap kesuksesan proses pembelajaran dan kemampuan berpikir kritis siswa, akan tetapi belum dikembangkan secara merata pada setiap mata pelajaran. Penelitian ini bertujuan untuk mendapatkan kepraktisan *Macromedia Flash* dalam meningkatkan keterampilan berpikir kritis siswa SMAN 1 Kurau. Jenis penelitian yang digunakan adalah uji formatif *Tessmer* dengan subjek penelitian 30 siswa SMAN 1 Kurau. Data penelitian dianalisa secara diskriptif, data kepraktisan meliputi keterlaksanaan penggunaan media pembelajaran dan respon siswa, menunjukkan bahwa *Macromedia Flash* yang dikembangkan praktis untuk digunakan dalam pembelajaran serta dapat meningkatkan kemampuan berpikir kritis siswa SMA.

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## A. Introduction

Learning is a process of student interaction with teachers and learning resources in an environment of Law no. 20, article 1, year (2003). So, the compiled curriculum must pay attention to the diversity of regional and environmental potentials. Law no. 20: Pair 36, (2003). Teachers generally still use learning resources available in the market. Learning resources can be made in various forms according to the needs and characteristics of the teaching material to be present. The development of learning resources has a very contribution to the success of the learning process carried out by Prastowo (2015).

Critical thinking is a systematic mental activity carried out by tolerant people with thoughts to broaden their understanding. Johnson (2009: 210). Critical thinkers scrutinize their thinking processes and those of others for the most complete of understood.

Skills (skills) or the ability to act after a person receives a learning experience is in the psychomotor realm. Skills (skills) in the psychomotor real are related to learning outcomes achieved based on knowledge competencies (Kunandar, 2014). Educators have long considered critical thinking skills as desirable educational outcomes. Recently, the identification of skills that must possess in the 21st century is critical's thinking skill. Critical's thinking skills are useful for students for post-secondary education preparation and workforce Lai, (2011). Critical's thinking skills contain a thinking process to analyze arguments and provide interpretations based on correct and rational perceptions, analysis of assumptions and bias of argumentation, and logical interpretation (Yamin, 2013).

Developing critical thinking skills an integration of several development skills such as observation, viewing information from multiple perspectives, analysis, judgemental reasoning, decision making, and persuasion. The development of this capability is more interesting more we can solve complex problems with satisfactory results (Slameto, 2014). The ability to think critically is an activity that collects various information and analyzes this information by using students' basic knowledge to conclude. Puri et al. (2016). So through critical thinking in dealing with problems, students will integrate conceptual's knowledge with procedural knowledge. Besides, students will also use their reasoning as a basis for combining ideas and leading to problem-solving. The teacher-centered learning process will hinder the formation of critical students. Critical thinking skills will not just appear without going through the learning

process. The role of the teacher as a motivator can build students' critical's thinking skills.

Macromedia Flash is a learning medium prepared by a teacher to simplify the learning process because this media can display material images. Learning media not only functions as a teaching aid but also as a learning resource for students (Asyhar, 2012). The use of instructional media can help teachers deliver subject matter, save time for teaching preparation, increase student motivation, and reduce student misunderstanding of the explanations given by the teacher. Therefore, researchers developed learning media to strengthen understanding of the material received in schools, namely by using Macromedia Flash.

According to Arsyad (2011), the practical functions of learning media are:

- a. Learning media can clarify the presentation of messages and information so that they can facilitate and improve the learning process and outcomes.
- b. Learning media can increase and direct children's attention so that it raises learning motivation,
- c. Learning media can overcome the limitations of the senses, space and time,

Learning media can provide students with similar experiences about events in their environments.

## B. Materials and Method

This research is a formative evaluation development research using Tessmer's (1998) design. Development stages include (1) self-evaluation; (2) expert review; (3) individual testing (one-to-one); (4) small group test; and (5) field test. Development research emphasizes formative evaluation so that the development model used aims to produce a prototype Tessmer, (1993). The practicality of this learning media could being see in the results of the assessment, the feasibility of using a learning media, and student responses.

The research subjects were 30 students of Kurau 1 State Senior High School, while the object was Macromedia Flash-based learning media had been declared very valid by three experts. The research data were analyzed descriptive base the average score of each aspect of the assessment by the observer with a formula (Sugiono, 2013):

$$\bar{X} = \frac{\Sigma X}{n}$$

Keterangan :  
 $\bar{X}$  = Skor Rata-Rata  
 $\Sigma X$  = Jumlah skor  
n = Jumlah aspek

Measured by the modified category from Sugiono (2013) is presented in Table 1 below.

**Table 1 Product Implementation Category**

No	Score	Information
1	85 – 100 %	Very Practical
2	70 ≤ 85 %	Practical
3	60 ≤ 70 %	Pretty Practical
4	50 ≤ 60 %	Less Practical
5	0 < 50%	Not Practical

(Modified from Sugiono, 2013)

## C. Results and Discussions

Macromedia Flash practicality was obtained based on trials of 10 students (expected practical) and 20 students (actual practical), included data on the implementation of learning media and student responses. The results obtained in the form of the implementation learning media and student responses are present in Table 2 below.

**Table 2 the implementation learning media and student responses**

Parameter	Hope		Actual	
	A	DS	A	DS
<i>Excellence Macromedia flash</i>	90.0	10.0	87.8	13.2
<i>Student Response</i>	90.0	10.0	91.3	8.7

Note: A = Agree; DS = Disagree

Based on the results of student responses (Table 2), the Macromedia flash developed against the resulting statements is hopeful, and students argue that the use of this media in learning is easier to learn, and the material presented contains descriptions and pictures, and colors that match the original object. Arsyad (2011) explained that images with actual colors are an important visual element to give students the impression of separation or certain emotional emphasis. The presentation of Macromedia flash is made simple and in a language that is not too standard, making it easy to learn so that it does not result in inefficiency in learning.

Another advantage of Macromedia flash is that it has an attractive cover design with back sound and accurate navigation buttons that make it easy to use and provide attractiveness when the buttons are used that will provide a varied sound, making students not bored using Macromedia flash, a complete presentation of material and at the end of each slide. There are statements that students can be interested in and not bored in using this media, Macromedia flash can also be used in various types of laptops, notebooks, computers, and others, and Macromedia flash can be used in Offline mode or don't need to use the internet so that it can be accessed whenever so students can indirectly repeat

the pages contained in Macromedia flash, the size of this media is not too large so it is easy to save, explained by Akbar (2013) that good learning is carried out interactively, inspirational, fun, challenging and motivating si self to actively participate. This is also supported by Arsyad (2011) explaining that the media to be chosen in the learning process must also be easy to see and attractive so that students are moved and motivated to pay attention to the messages conveyed through the media.

That also supports the results of observations on the implementation of Macromedia flash. Based on the results of student implementation by observers (Table 2), the actual average results were 87.8%, agreeing, and only a few who disagree (13.2). That shows that Macromedia flash developed according to students' is practically used to improve students' critical thinking skills in learning.

The advantages of Macromedia flash in developed are practically used based on the feasibility of using Macromedia flash. The existence of instructions for use allows students to know the steps of operating learning media coherently from start to finish, which easy to be able to convey information systematically. Some students also seem to find new pictures that can provide new knowledge for students. The existence of statements at the end of each page makes students improve their critical thinking skills. Practical learning media are learning media that can produce useful and focused learning on students through the use of proper procedures, their implementation is done correctly, according to the learning objectives, and doing other creative things for students (Satrio, 2008).

Based on the results of the students' actual responses, it is has been found that an average of 91.3% agreed, and only a few disagreed (8.7%). Students agree with the Macromedia flash because they can understand the material easy to be presented. Similar research was also carried out by Hadijah (2018) regarding the analysis of student responses, which in this study showed that 88% of students responded positively to the use of interactive multimedia in the learning process because learning activities carried out with interactive multimedia were more active and felt fun for students.

Practicality is a criterion for the quality of teaching materials seen from the level of ease with which teachers and students use the teaching materials developed, Nieveen (1999). Tessmer (2014) states that the practicality test is focused on data about students' abilities to confirm the success of improving product results before field testing.

Based on this theory, the practicality of the developed Macromedia Flash base on the student's response assessed by the students and the media's feasibility that is observed by the observer.

## D. Conclusion

The results of the research on the practicality of Macromedia flash learning media showed that the actual average media implementation results were 87.3% agreed, and only a few expressed disagreement (13.7%). Meanwhile, based on the results of students' responses to Macromedia flash, the actual average results were 91.3% agree, and only a few disagree (8.7%). That shows that the developed Macromedia flash is practical to use in learning to improve students' critical thinking skills. The development of Macromedia flash has several weaknesses, this weakness is the process of making the application often crashes, and when implementing it, students must at least have a laptop. Therefore it is suggested in further research to choose the right school to maximize implementation results.

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## F. References

- Akbar, S. (2013). *Instrumen Perangkat Pembelajaran*. Bandung: PT Remaja Rosdakarya.
- Arsyad, (2011). *Media Pembelajaran*. Jakarta: PT Raja Grafindo Persada.

- Asyhar, R. (2012). *Kreatif Mengembangkan Media Pembelajaran*. Jakarta: Gunung Persada (GP) Press.
- Hadijah, S. (2018). Analisis Respon Siswa dan Guru terhadap Penggunaan Multimedia Interaktif dalam Proses Pembelajaran Matematika. *Jurnal Numeracy* 5(2), 176-183.
- Kunandar (2014). *Penilaian Autentik (Penilaian Hasil Belajar Peserta Didik Berdasarkan Kurikulum 2013) Suatu Pendekatan Praktis Disertai dengan Contoh*. Rajawali Pers: Jakarta.
- Lai, E.R. 2011. *Critical Thinking: A Literatur Review*. Research Report.
- Nieveen, N. (1999). *Design Approaches and Tool in Educational and Training: Prototyping to Reach Product Quality*
- Satrio. (2008). Pengertian Efektifitas. <http://id.shyoong.com/businessmanagement/human-resources/pengertian-efektifitas/>.
- Slameto. (2010). *Belajar dan Faktor yang mempengaruhinya*. Jakarta: Rineka Cipta.
- Sugiyono. (2012). *Metode Penelitian Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta.
- Tessmer, M. (1993). *Planning and conducting formative evaluations: Improving the quality of education and training*. Psychology Press.
- Yamin, M. 2013. *Paradigma Baru Pembelajaran*. Referensi: Jakarta.Office.