



Implementation of News Based Online Learning to Increase Students' Motivation and Critical Thinking Ability on the Study of Ekology

Selly Marlina[✉], Saiful Ridlo, Partaya Partaya

Pascasarjana, Universitas Negeri Semarang, Indonesia

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Abstract

Teacher-centered learning makes students feel unmotivated to learning without the latest innovations in learning. Especially during Covid-19 virus pandemic that makes educational institutions have to dismiss students and make teachers need innovation with new online learning. There needs to be change in the learning process that can arouse student's motivation. Motivation can affect students' critical thinking abilities. The purpose of this study is to analyze differences and enhancement of motivation and critical thinking abilities between group of students who apply of news based online learning compared with not as the control group. This research is a quasi-experimental research with a quantitative approach. The sample of this research are taken through randomize sampling. The results of the t-test showed significant different (sig. 0.01) of motivation between the classes that applied news based online learning with control classes. T-test results also showed significant different in critical thinking (sig. 0.00). N-Gain of motivation for the experimental group was 0.31 while the control group was 0.12. Meanwhile, N-Gain of critical thinking in the experimental group was 0.67, while the control group was 0.33. The results indicate that the application of the news-based online learning can increase students' motivation and critical thinking. Students who were taught with news-based online learning are more active in expressing their opinions and they are eager to participate in learning activities.

[✉] correspondence :
Pascasarjana, Universitas Negeri Semarang, Indonesia
Jalan Kelud Utara III No.37, Semarang, Jawa Tengah, Indonesia
50237
E-mail: sellymarlina9395@gmail.com

INTRODUCTION

Critical thinking has become very popular term in education. Zakiah & Lestari (2019) defines critical thinking as sensible and reflective thinking that focuses on deciding actions that must be believed or carried out. Critical thinking ability especially in biology is certainly an important goal in studying biology because biology is very closely related to daily life that really requires critical thinking. In connection with the critical thinking ability, what needs to be considered is how to create a process that direct students to carry out learning activities and to be able to learn well requires a good process and motivation.

Motivation is a self-driving which leads to learning activities and gives direction to learning activities so the goals has been achieved. One of the roles of motivation for students is to compete to carry out certain activities in achieving certain goals. So that in learning activities if not through a process based on good motivation, or maybe because of fear, forced or just ceremonial, it will produce false, inauthentic and not lasting results (Sardiman, 2012). Motivation will determine the intensity of the learning efforts made by students.

There have been many studies that have examined the motivation and critical thinking abilities of high school students, such as research conducted by Lestari (2014) found that the motivation and critical thinking of students who received learning through the brain-based learning model showed good results. Therefore, it also needs strategies, approaches, learning models that can improve the learning processes that have been implemented so far. Another study conducted by Solikh, Sulisworo, & Maruto (2018) named “the influence of the blended learning model assisted by google classroom on critical thinking skills in terms of self-esteem and intellectual intelligence”. These studies shown good results with the application of learning models and online learning aids in teaching and learning activities.

Observation at SMAN 1 Babakan showed that students look bored while studying biology.

This shows that student motivation is still low which causes students are lacking of enthusiasm in learning. Another factor that causes students to be unmotivated is because of the classroom atmosphere. The place of learning must have the implication that although various components of learning function well if they are not supported by comfortable and good learning environment, they do not provide good results. Another factor is the limited time in class while the subject matter must be taught a lot so that learning becomes limited with time. The Covid-19 virus pandemic in Indonesia requires educational institutions for students to study at home. This makes the teachers and students are carrying out teaching and learning activities with online learning.

Efforts that can be made to meet the challenges of the 21st century that require a lot of critical thinking skills and the existence of the Covid-19 virus pandemic without worrying about the transmission of the Covid-19 virus are by conducting learning utilizing internet technology, which is by using online learning combined with learning models such as news based learning, called News Based Online Learning. The news based learning is taught using the online learning method (E-learning) according to the conditions of the Covid-19 pandemic that is happening.

Kartini et al., (2018) states the advantages of News Based Online Learning in learning biology provide opportunities for students to be educated and trained through online learning instructions that make news as one of a learning resources. Another advantage is students are given the opportunity to express their opinions through a lot of news about various issues originating from the internet, because if students searching for news on the internet it will make it easier and more knowledgeable for students to get news. News can be an additional learning material which is then followed by the assignment (Kartini et al., 2018).

News Based Online Learning needs to be applied in biology lessons to create innovations in online learning in the midst of learning from home due to the Covid-19 pandemic so that

students remain excited and motivated in participating in the teaching and learning process. Purnamasari et al. (2012) who developed news-based learning model in the Basic Concepts of Social Studies state that the application of news-based learning could help improve students' ability to express opinions and assist in improving student learning outcomes. The use of mass media such as newspapers, news from the internet, television as learning media can be used as teaching materials or fun learning supplements. The use of news can contribute to complementing learning.

News can be used to support biology learning. Learning resources that were presented in the form of news about science phenomenon, such as disease, news of forest fires, news of animal extinction, and others. The news-based learning model exists to facilitate students through the use of science news by taking steps to look for the news, read the news, finding problems in the news to criticize the news (Kartini et al., 2018). Students are shown by the ease of finding online news, helping to broaden students' insights (Jin et al., 2015), then the presence of problems in the news encourages discussion in the learning.

Another advantage of the News Based Online Learning learning model is that students can practice facing a problem in existing news, be able to formulate problems in the news, and be able to find solutions and be able to draw conclusions based on their own initial understanding. The existence of these abilities will be able to increase student learning motivation in biology, especially in Ecology material which requires extensive knowledge of ecological issues that are not just in textbooks, but the real problems that exist in the surrounding environment (Nurtjahyani & Setyowati, 2014).

Therefore, learning Ecology through the presentation of news related to ecological problems is an appropriate innovation in introducing students to the context of real

problems which can then arouse students' curiosity and increase student motivation. The purpose of this study is to determine differences and enhancement of motivation and critical thinking abilities between group of students who apply of online learning of news based compared with not as the control group.

METHODS

This research is a quasi-experimental research with a quantitative approach with the Control Group Pretest-Posttest Design. The design of this study was carried out on two groups named the experimental group and the control group. The experimental class applied news based online learning model while the control class used E-Learning without news based learning. LMS which is used as an online media that used the Edmodo application.

This research was conducted at SMAN 1 Babakan Cirebon in the academic year 2019/2020. The sample of this research is the students of class X MIPA 1 as the experimental class and X MIPA 2 as a control class taken through a random sampling. Data were collected through pre-test and post-test data through questionnaires that has a range from 1-5 to determine students' motivation and essay questions with cognitive levels C4-C6 to analyze students' critical thinking skills. Analysis has been carried out using a t-test analysis to find out the differences between the experimental class and the control class and using N-Gain to find out the increase of experimental class and the control class.

RESULTS AND DISCUSION

Based on research that has been carried out, data were obtained to see differences in motivation and critical thinking abilities. The following results of the research are based on the t-test in table 1:

Table 1. t-test results differences in experimental group and control group

		t-test for Equality of Means		
		t	df	Sig (2-tailed)
Critical thinking	Equal variances assumed	7.94	68	0.00
	Equal variances not assumed	7.94	63.32	0.00
Motivation	Equal variances assumed	2.59	68	0.01
	Equal variances not assumed	2.59	66.89	0.01

Based on the results of the t test shown in Table 1, the results showed that the significant level of critical thinking abilities is 0.00 which means less than 0.05 ($p < 0.05$), this means that H_0 is rejected, and H_a is accepted, this showed that there is a difference in students' critical thinking abilities between students who were given the learning model of News Based Online Learning with students in control group.

Based on the results of the t test shown in Table 1, the results showed that the significant level of motivation is 0.01 which means less than 0.05 ($p < 0.05$), this means that H_0 is rejected, and H_a is accepted, this showed that there are differences in students' motivation between students who were given learning with the News Based Online Learning model and control class students.

Increased motivation and critical thinking abilities of students based on the N-Gain test are presented in the following Tabel 2:

Table 2. N-Gain Results

	N Gain	
	Experiment	Control
Motivasi	0.31	0.12
Berpikir Kritis	0.67	0.33

Based on the table 2. The results showed that N-Gain of motivation has increased. N-Gain in the experimental class is 0.31. Based on the interpretation stated by Arikunto (2010: 35) stated that N-Gain 0.31 is included in the moderate category, while N-Gain in the control class is 0.12 which is included in the low category. The N-Gain score of the experimental class showed better improvement than the control class.

Based on table 2, the N-Gain results showed that there was an increase in students' critical thinking abilities. N-Gain in the experimental class has a value of 0.67, based on the interpretation stated by Arikunto (2010) which stated that the N-

Gain value of 0.67 is included in the high category, while N-Gain in the control class is 0.33 which is included in the moderate category. Based on the N-Gain score, the experimental class showed better improvement than the control class.

News Based Online Learning model based on the results of the research has difference in increasing motivation better than the control class. Based on the N-Gain test, it showed that the news based online learning model can improve students' learning motivation and critical thinking abilities compared to the control class.

The application of the News Based Online Learning model can increase students' motivation to be more enthusiastic in learning because news based online learning triggers student motivation according to the indicators of learning motivation stated by Uno (2011) that one of the activities that can increase student motivation is the existence of activities and an attractive environment for students to learn.

News Based online learning is an interesting activity, with interesting activities that will further increase student motivation, because with interesting activities that are liked by students, especially when these learning activities are something new to do, will further arouse student motivation.

Through the news-based online learning model activities that are implemented, these activities make students more enthusiastic in participating to learning because in addition to interesting activities and good environments it is also in accordance with indicators in increasing student motivation that is the desire of students to encourage student learning needs as mentioned by Uno (2011). Students are more motivated to take part in learning that is presented with news in which there are problems, from the news students are trained to look for problem-solving processes.

The syntaxs of news-based online learning activities implemented make students more enthusiastic in participating in learning as stated by Uno (2013: 23) that there is a desire of students to encourage student learning needs, learning with new models are also an innovation activity which are more interesting in learning. News based online learning is also very helpful in the learning process when there is Covid-19 virus that makes students have to study at home, with a conducive and safe learning environment because the application of news based online learning does not require students to gather in the classroom but students can study anywhere so that it allows the students to learn well and safely without worrying about the transmission of the Covid-19 virus.

This research is in accordance with research conducted by Sulisworo & Agustin (2017) which states that learning with online learning techniques can increase learning motivation and student learning outcomes. Motivation can also be a predictor of learning outcomes that students will achieve.

Motivation to learning is one of the factors that play an important role in the learning process. Motivation is a mental force that drives the learning process. Weakening or lack of motivation to learn can weaken student learning activities (Dewi, Isnaeni & Partaya, 2018). Motivation is a central factor of activation and perseverance in cognitive resources needed to behave in a critical way, understanding that critical thinking skill is part of a necessity and hoping it to get successful results (Valenzuela, Saiz & Carracedo, 2011).

Based on the results, learning with the news-based online learning model showed a significant difference between the experimental class and the control class. The results of the N-Gain test also showed an increase in the critical thinking ability of the experimental class that was better than the control class. The application of the News Based Online Learning model is able to improve students' critical thinking ability because of the application of syntax related to critical thinking indicators in the syntax of news based online learning that teaches students to improve their critical thinking abilities as said by Robert Ennis in Nio (2017).

This result was supported by research conducted by Kartini et al., (2017) which states that the application of the news based learning model

can improve scientific literacy, critical thinking abilities, and creative thinking of students. The process of analyzing and solving problems contained in the news in the syntax of news based online learning can foster critical thinking and critical thinking triggers the development of knowledge (Kek & Huijser, 2011).

The syntax of news based online learning since the cutting news process, that is the process of finding news relevant to ecological topics, has required students to think critically and be able to choose the right news sources that can be trusted as true news, not hoax news that is currently circulating. Students are able to sort and choose which news can be taken from reliable sources and relevant to the material being studied, starting from this, students' critical thinking abilities have been trained. Reading and understanding the finer points of news reports are also scientific skills needed in the 21st century. Learning science through news can increase student engagement with science indirectly and provide contextual learning in biology lessons (Kartini et al., 2017).

The syntax in the News Based Learning model teaches students to think more critically in analyzing the problems that are in the news. The news based learning model taught online (E-learning), one of the ways which opens the freedom of expression to students' ideas that do not appear when face-to-face learning because of shame, reluctance, fear or even do not have good verbal skills. Through online-based learning (E-Learning), many types of resources can be optimized to facilitate the learning process including forums, blogs, websites, and wikis (Cheung & Hew, 2011).

This is in accordance with the results of research by Cahyadi et al., (2012) about increasing critical thinking abilities in online discussions shows that online discussions provide sufficient time and space for students so that critical thinking abilities can be improved. Meanwhile, McCormick (2015) states that there is a relationship between motivation and critical thinking. Motivation can encourage ongoing critical thinking activities to stay consistent with persistent learning when facing the challenges of tasks that require reasoning to increase cognitive, affective and psychomotor abilities.

CONCLUSIONS

Based on the research application of the News Based Online Learning model, it can be concluded that the application of the news-based online learning model can increase students' motivation and critical thinking abilities in high school.

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