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Students' Critical Thinking Skills in the Learning Strategy Course

Nurfaizah*, Khamim Zarkasih Putro, Dhiarti Tejaningrum
FITK, Universitas Islam Negeri Sunan Kalijaga Yogyakarta
Jl. Laksda Adisucipto, Sleman, Yogyakarta, Indonesia
**Corresponding Author. e-mail*: 19204030057@student.uin-suka.ac.id

Abstrak
Critical thinking is a process that aims to make all decisions based on reasonable facts. Critical thinking requires skills in listening and reading which are studied very carefully, can search for and sort out hidden assumptions and explore the consequences of a statement. The purpose of this study is to understand in-depth and describe the implementation of learning in the course of learning strategies to train students to think critically. The subjects of this research are lecturers and students. This research uses a case study qualitative research method. In analyzing the data using the three components of the Miles and Huberman model, namely: data reduction, data presentation, and conclusion. The results of this study indicate that students can think critically in the course of learning strategies and meet several criteria for critical thinking skills, namely students can give simple explanations, students can build basic skills, can conclude, which consists of deductive activities, can provide further explanations on a topic. Problems and students can determine actions and interact with others.
Keywords: critical thinking; learning strategies; college student

Keterampilan Berfikir Kritis Mahasiswa pada Mata Kuliah Strategi Pembelajaran

Abstract
Berpikir kritis adalah proses yang bertujuan untuk membuat semua keputusan berdasarkan fakta-fakta yang masuk akal. Berpikir kritis membutuhkan keterampilan menyimak dan membaca yang dipelajari dengan sangat cermat, dapat mencari dan memilah asumsi-asumsi yang tersembunyi serta menggali konsekuensi dari suatu pernyataan. Tujuan penelitian ini adalah untuk memahami secara mendalam dan mendeskripsikan pelaksanaan pembelajaran pada mata kuliah strategi pembelajaran untuk melatih siswa berpikir kritis. Subyek penelitian ini adalah dosen dan mahasiswa. Penelitian ini menggunakan metode penelitian studi kasus kualitatif. Dalam menganalisis data menggunakan tiga komponen model Miles dan Huberman, yaitu: reduksi data, penyajian data, dan penarikan kesimpulan. Hasil penelitian ini menunjukkan bahwa siswa dapat berpikir kritis dalam pembelajaran strategi pembelajaran dan memenuhi beberapa kriteria keterampilan berpikir kritis, yaitu siswa dapat memberikan penjelasan sederhana, siswa dapat membangun keterampilan dasar, dapat menyimpulkan, yang terdiri dari kegiatan deduktif, dapat memberikan penjelasan lebih lanjut tentang suatu topik. Masalah dan siswa dapat menentukan tindakan dan berinteraksi dengan orang lain.
Kata Kunci: *berfikir kritis, strategi pembelajaran, mahasiswa*

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INTRODUCTION

Education is increasingly showing its existence from time to time. High-quality education is an important factor to bring a developed country (Hamdani et al., 2012). Educational needs now tend to increase (Nurfaizah & Rahman, 2020). In Indonesia, the obligation to take education has been increased to 12 years of compulsory education which is equivalent to high school/equivalent level. In this millennial era, the successors of the nation are not enough for high school graduates, many of them also take steps to study at universities, both private and public. In the face of a dynamic era of knowledge, which is increasingly developing and even advanced, of course, human resources need to have high intellectual skills, including being able to reason logically, systematically, and also critically, carefully, creatively, and have a good attitude when expressing ideas and elaborating. problems (Mardhiyana & Sejati, 2016). Galbreath said that in the era of knowledge, intellectual capital is certainly needed, especially higher-order thinking skills which are a necessity to become part of the workforce in the 21st century. Entering the world of work in the 21st century requires approximately seven skills, namely: 1) critical thinking & problem solving; 2) creativity & innovation; 3) collaboration & teamwork; 4) cross-cultural understanding; 5) communication & media literature; 6) computers & ICT; 7) career & independence (Nawawi et al., 2017). Critical thinking is not just looking at something from one side, but from the other side, from many sides, from various sources, it requires skills from the five senses so that the decisions are believed to be the right ones. Critical thinking is a way of thinking about viewing a subject, assessing content, or understanding a problem skillfully. Critical thinking is also used to choose and analyze between right and wrong (Nawawi & Wijayanti, 2018).

Rosy & Pahlevi (Anugraheni, 2020) said that critical thinking is a person's ability to formulate something and give arguments or opinions, compile reports, conduct deductions and inductions, decide on something to be implemented later, and interact with other people to solve a problem. With this critical thinking ability, a person will be able to regulate and adjust, change and improve his thoughts, so that one can make decisions to act more quickly and precisely (Anugraheni, 2020). For students, critical thinking is certainly needed to increase intelligence, be able to complete tasks, and also have other solutions to solving a problem, this is the opinion of Fieldman (Nurrohmi et al., 2017). Everyone can become a reliable critical thinker. That said, the human brain is constantly trying to understand the experience (Astuti, 2016). Watson & Glaser (Anugraheni, 2020) states that there are four skills in critical thinking, namely: 1) the ability to formulate a problem, 2) the ability to choose appropriate information to solve problems, 3) the ability to develop & choose hypotheses, and 4) the ability to legitimize conclusions & evaluate inferences. Paul and Elder (Hamdani et al., 2012) said, the characteristics of a person's ability to think critically, including 1) being able to solve questions & answers to a problem clearly and accurately; 2) can collect relevant information & use thinking effectively; 3) conclude & get a good solution according to the relevant criteria and standards, 4) have an open mind in understanding the problem, 5) communicate effectively to find a solution to a problem.

Facione (Hamdani et al., 2012) also adds that there are six indicators in critical thinking, namely: interpretation, analysis, evaluation, conclusion, explanation, and self-regulation. The level of someone's critical thinking ability will always be different. Therefore, there are levels in critical thinking starting from the lower level to the higher level. this difference can be seen as a continuity that starts from the lowest to the highest level. According to Elder and Paul (Suparni, 2016), there are 6 levels of critical thinking skills, namely: 1) Unreflective thinking, at this level a person has not been able to assess the results of his thoughts and has not been able to develop diversity in thinking, has not been able to reason. well because they have not realized the right standards for thinking judgments including clarity, accuracy, thoroughness, relevance, and logic. 2) Challenging thinking, thinkers have realized that thinking will be very influential in life, they have realized that quality thinking requires reflection. The thinker has also realized the shortcomings of his mind but has not been able to identify the location of the shortcomings. 3) Beginning thinking, thinkers begin to modify some of their thinking abilities, but on the other hand, they still have limited insight, and they lack systematic planning to improve their thinking skills. 4) Thinking practice (practicing thinking), thinkers analyze the results of their thoughts actively in several fields, but they still have limited insight into deep levels of thinking. 5) Advanced thinking, active thinkers analyze their thoughts and also have important knowledge about problems at a deep level of thinking. However, they have not been able to think at a higher level consistently in all

dimensions of their lives. 6) Superior thinking (master thinking), thinkers internalize basic abilities to think deeply, critical thinking is done consciously, and uses high intuition. They judge thoughts on clarity, accuracy, thoroughness, relevance, and logicalness intuitively.

For educators who in this case are lecturers, it will be a special spirit when providing learning to students who have high learning enthusiasm, enthusiasm, and good response from students, as well as acting classes. Educator competence is defined as the ability of alumni to be able to teach, train, and guide learning citizens who want to develop themselves and their environment through the provision of educational activities outside the school system. Meanwhile, managerial competence is defined as the ability of graduates to be able to identify, plan, implement, evaluate, and develop non-formal educational programs and/or institutions that are developed or organized by community members. Of course, the achievement of these two competencies is carried out by holding meaningful lecture activities for students or students (Tohani, 2021). One of the goals of learning taught by lecturers is to form critical thinking skills. This is certainly in line with the term "If they were fed, then it's time for students to find their food." That is when you become a student, it's time to develop your mindset, and have the initiative to find your information regarding something, not only explained by the lecturer in detail, etc.

In general, during the teaching and learning process on campus, the students are the centers of learning. Those who take over the learning materials, for example by dividing groups for presentations at each meeting, when attending are usually students waiting for educators (lecturers). However, something different happened in the learning strategy course at STPI Bina Insan Mulia Yogyakarta. Based on the results of initial observations by researchers that occurred in the learning strategy course, the delivery of material is still always carried out by educators, from the beginning of learning to the end of learning who dominates learning is the teacher. During the initial observations made during 3 meetings, the researcher also saw that students always came not on time. From this incident, the researcher conducted interviews with educators who teach learning strategy courses. The interview obtained data that the strategy used by educators to take over the learning center was recognized as the only way to keep the material delivered properly for the time being. Because the number of students who took the learning strategy course was only 5 students. If you have to divide the group according to the material for one semester, you have to divide the group several times. Educators also added that online and offline learning is very different. Because, when learning directly in class (offline) students do not do things during online lectures, such as late entry, etc. Offline learning is also easier to convey material and stimulate students' mindsets, if online there are bound to be obstacles such as weak networks, etc.

From the problems that have been described, the purpose of this research is to take a deeper look at the implementation of learning strategy courses in helping students think critically through distance learning (PJJ) or called online learning.

METHOD

This study uses a qualitative method with a case study approach. Researchers use qualitative methods to describe the phenomena that occur in the field by the objectives of this study. The research was carried out under Distance Learning (PJJ) conditions starting from mid-March to the end of June. Robert K Yin (Listriani et al., 2021), calls case studies a strategy of choice for research that uncovers an incident. The focus of case study research is on contemporary phenomena in real-life contexts. The data that the researcher will describe is about the implementation of learning in the learning strategy course in stimulating students' critical thinking. The implementation of this research was carried out at the STPI Bina Insan Mulia college of Yogyakarta. Address at Jl. Jamb. Merah No.116, Soropadan, Condongcatur, Kec. Depok, Kab. Sleman, Special Region of Yogyakarta 55283. In choosing a research location, the researchers based on Spradley (Srianita et al., 2020) namely: a. simple only one single situation, b. easy to do, c. not obvious in conducting research, d. easy to get permission, and e. activities occur repeatedly. Referring to this reason, the researcher is interested in conducting research at STPI Bina Insan Mulia Yogyakarta because the researcher is a field study student there. Informants in a study are those who are considered capable and understand the core of the problem. Therefore, in this study, the informants were lecturers and students. Interviews, observations, and documentation researchers

use as data collection tools will make it easier for researchers to get the facts. For data analysis using the theory of Milles and Huberman namely data reduction, data presentation, and concluding.

RESULT AND DISCUSSION

Result

Learning that is carried out directly or indirectly or in terms of a pandemic called online learning must have a goal to be achieved. This study also aims to see how the implementation of the learning strategy course can make students think critically even though the implementation is online. Based on the follow-up observations that the researchers made on students, referring to the first observation notes, they were not present on time. The researcher decided to dig deeper into information from the students. From the results of these interviews, it can be concluded that the reason they are often late in taking courses is that during the pandemic many of them decide to work. Therefore, there are often clashes between school hours and work hours. Many of them are students who end up missing the material and do not understand the assignments given so they end up being lazy to attend on time because they have not finished doing the assignments given.

To overcome this problem, the lecturer took the initiative to do learning via WhatsApp group (WAG) rather than zoom. However, occasionally lecturers hold meetings via zoom if the situation supports it and there has been an agreement with the students. In addition to signal problems when using zoom, the WAG alternative makes learning more relaxed. Students can work and continue to listen to the material presented by the lecturer at WAG without fear of missing out on the material and can still actively participate in the discussion. Although learning is still the old way, namely the educator becomes the center of learning, it does not dampen the quality of critical thinking in students. They see the problem from various sides which are then used to ask, answer or refute the material discussed more broadly and in-depth. As for the steps in stimulating students to think critically even though learning online, which refers to the results of interviews with lecturers who are in charge of learning strategy courses. He said the initial step was to

> *"Provide a material grid for the next meeting to make students prepare themselves and have a knowledge base at each meeting so that students will learn, and at the meeting next week it will be easy for us to share knowledge. that is obtained from each student, and the advantage is that we get a lot of insight about various sciences with one theme."*

This assumption turned out to be very helpful in bringing students the ability to get references in understanding theory so that they already have an initial foundation in each lesson. This condition can be seen from the results of observations during lectures on learning strategies with the title *"learning strategies through playing, telling stories, and singing."* Educators distribute material in the form of ppt (PowerPoint). The teacher gives time for the students to read the PPT material for some time, then the teacher invites the students to add material about the theme of the day according to their understanding which shows that students respond by referring to the articles they get. However, they do not merely copy and paste articles, students try to provide brief but easy-to-understand and distinctive explanations with their language style that looks more relaxed and does not use standard language. In this condition, the researcher assumes that students can focus on what the educators command and can understand well between the material and the answers. Even with simple language, students can describe the material well.

The second step is to build basic skills. If in the first indicator students can answer questions from educators, then in this case it is also necessary for students to consider whether the sources obtained can be trusted or not. The results of the observations that the researchers got, educators did not hesitate in providing information in cited explanations. Educators also often provide learning references in the form of links that can be accessed by students personally to gain knowledge that is relevant to the explanations presented by educators. In answering a question or simply refuting even when asking questions, students provide sources of information from what they get. When asked by educators about what aspects of child development? then, students provide answers and where the source of the answer was quoted. In this case, the student answered by referring to the regulation of the Minister of Education and Culture of the Republic of Indonesia No. 13 of 2013 then continued with the contents of the main answer. In building basic skills, it is also necessary to observe and consider an observation report. When

educators discuss early childhood learning styles according to Piaget, children are active builders of their thinking (cognitive-logical). Children have ideas about something, it can be right or wrong, and early childhood will learn from their mistakes.

From the explanation by the educator during the question-and-answer session and discussion, students expressed the observations they saw in their environment. To what was revealed by Dewey, the knowledge learned should not be information that is widely available in textbooks, but knowledge becomes useful (useful) and alive (alive) when applied and developed as a solution to some problems (Ayubi et al., 2018). Students explain that when early childhood makes mistakes, the theory that Piaget revealed is true, namely that children will hone their experience from their mistakes for future improvement. In addition, students explain that if there is a deviation in behavior from adults towards mistakes made in early childhood in a bad way, it will cause a new problem for children both now and in the future. From the results of this observation, the researcher assumes that students can build basic skills well.

The third indicator is concluding, in practice, students will conclude the meaning between what is meant by theory and what the facts in the field look like. The results of the observations on the second indicator explain that students must know that the reference sources obtained can be trusted and are also strengthened by the results of their observations. From these two students will draw conclusions based on cause and effect, facts and opinions, and right and wrong. The researcher continued the example of the second indicator, students continued that if the child was always restrained, he could not be wrong in doing various things, even to the point that he was often prohibited from doing anything, then what happened was that the child would become passive, did not have the mentality to do something, was always afraid to try, looked no spirit. This incident is not just a theory but has been proven to be real and was found in the environment of one of the students who told this incident, all of these are the effects of negative adult responses to children's development in the future. From the theory combined with reality, students can conclude that as the present generation for the future, as adults, they must know that the principle of learning in early childhood is to learn from their mistakes. Do not often prohibit and even curb because this will have a bad impact on early childhood.

The fourth indicator is to provide further explanation, in this case, students can define terms and consider a definition, as well as define assumptions. In this case, the researcher takes observational data when the teacher presents the material in the form of a PowerPoint with short terms and the educator tries to provoke students to explain the meaning of these terms. From the results of observations, it turns out that students can explain in their language these terms and provide examples of activities according to the terms in question. Although the researcher realizes that this explanation is not the result of thinking outside their heads and that explanation still has to open other notes, this needs to be appreciated because they are students who still have high enthusiasm to find definitions of terms mentioned in the ppt and explain them in their language. In other circumstances, researchers take an example when discussing the principle of choosing a theme for children's learning. In the ppt, educators only explain the points, during their question-and-answer session students refer to the meaning of the terms referred to in the ppt. When the teacher finished answering the student's questions, other students also added, and from the various definitions and examples shown, in this activity the material presented was an explanation, not a statement. Finally, students have a deeper view of the material being studied.

The fifth indicator can set strategies and techniques, which consist of determining actions and interacting with others, such as being able to uncover problems, be able to provide solutions, determine actions, and determine strategies. For example, at the theme development stage, the step that needs to be prepared is to formulate a theme that must pay attention to the interests and preferences of children. The student objected to this.

> *"What should be done if you have to pay attention to the interests and preferences of children? whereas in one class, there is not only one child, and all children certainly do not have the same preferences, right?"*

This is an interesting question. Students can reveal the problem well, then in this case the educator gives a quick answer to provoke students to think too. The educator also answered.

> *"If the problem is like this, then we must return to the principles in choosing a theme. There are four principles, namely, close, simple, interesting, and incident. We take the example of an incident, if at that time the learning was carried out during the rainy season*

and an unexpected event occurred, such as a flood in another village, then it could be used as a learning theme. Will the children like the theme that we adopt? Of course, children will like and be interested in discussing this, because they know the news circulating and of course, children will be very enthusiastic because they want to know the cause of the flood."

So how do you go about determining the theme for learning to students? This question from the educator also helps students reveal that if they become educators in the future, the actions they will take must adhere to the principles of early childhood learning (AUD). In choosing the strategy to be used, students also express the need for brainstorming from various parties, this needs to be done to find out opinions from other views.

Figure 1 is an overview of students' critical thinking in the learning strategy course which is rooted in Ennis' deep thinking (Hayati et al., 2016).

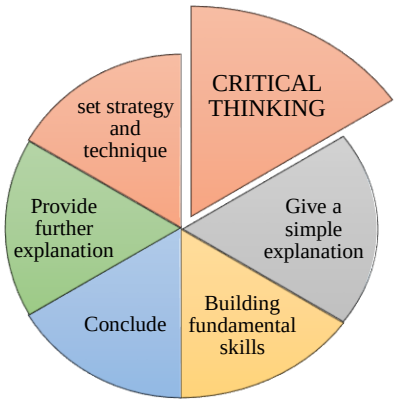

Figure 1. Critical thinking indicator

Discussion

Education is an effort to influence students so that they can interact with the environment so that changes will appear in students as self-application to social life (Yunianto et al., 2021). Education in Indonesia has entered 21st-century learning. There are four 21st-century learning competencies commonly abbreviated as 4C, including critical thinking (critical thinking), collaboration (the ability to work well together), communication (communication), and creativity (creativity). One of the competencies that are part of this research is the ability to think critically. The development of critical thinking as an essential skill in 21st-century learning is uncontested within educational and professional settings (Heard et al., 2020). Halpern (Enciso et al., 2017) says that "defines critical thinking about the current challenge in education which is to prepare high-qualified people who can meet the demands of the labor market." Critical thinking has to do with the current challenges in education that prepare quality people to be able to meet the labor market. Critical thinking aims to try to maintain an 'objective' position (Study, 2008). Robbins (Setiawati & Corebima, 2017) said, "Critical thinking skills are skills that can be learned so that these skills can be taught." The purpose of this statement is that critical thinking is a way of thinking that can be trained, stimulated, developed, and learned and is not an inborn talent.

Critical thinking is trying to maintain an objective position. Critical thinking means having to be able to weigh all sides, be it the strengths or weaknesses of an argument. The ability to analyze and creatively adapt to new situations is at the heart of critical thinking. Paul and Elder asserted that critical thinking provides a vehicle for educating the mind" (Changwong et al., 2018). Paul and Elder also assert that critical thinking provides a vehicle for educating the mind. This means that critical thinking will train one's mind. With critical thinking skills, people will be able to distinguish between correct information and hoaxes, causing them to be not easily fooled by hoaxes. In addition, critical thinking also involves the right logical reasoning and the ability to separate facts from opinions (Basri et al., 2019).

Critical thinking has previously been studied by (Safrida et al., 2018) in the mathematics

education study program. The indicators used for the critical thinking ability test are analyzing arguments, evaluating information, synthesizing evidence, and drawing conclusions. The results of his research showed that from 30 students there were 7 who started to think critically and only 4 students managed to conclude correctly. Then (Santi et al., 2018) examined the critical thinking skills of biology education students in solving environmental problems. The indicators used are the opinions of Paul and Elder starting from formulating goals, identifying information, formulating questions, suggesting answers, linking problems, suggesting solutions, identifying positive and negative implications, and making inferences about problems. The results of his research show that solutions to environmental problems can be realized through critical thinking. Then (Aprilia, 2021) also researched critical thinking in elementary school students. This research aims to determine the effectiveness of contextual-based flipbook science media in improving the critical thinking skills of fifth-grade elementary school students. The results of his research show that critical thinking skills can be stimulated through flipbook science media which contains a variety of interactive, fun, and contextual-based content according to students' daily lives, such as learning videos, and texts with examples of their application in the form of concrete images, quizzes, and various activities. other. From these previous studies, it can be understood that critical thinking can be used and developed in several scientific studies, such as mathematics, science, etc. Critical thinking is also not only devoted to students but also to the elementary school level.

Critical thinking ability is the ability to identify and formulate a problem, which includes determining the essence, finding similarities and differences, and digging up relevant information and data (Aprilia, 2021). The common definition of critical thinking is conveyed by Ennis in the journal (Mahanal et al., 2019) who elucidates it as a reasonable reflective activity that focuses on deciding what to believe and what to do. Critical thinking involves the activities of interpreting, analyzing, summarizing, and evaluating information. In doing critical thinking, of course, you can't look at a problem from one side only. Because, in critical thinking, a person is required to have the skills of listening and reading carefully, seeking, obtaining, and processing is hidden assumptions, and exploring the consequences of a statement (Sulistyowati, 2015). Cuceloglu in the journal (Kanbay et al., 2017) states that, for a person to be able to achieve critical thinking by developing himself/herself, he/she needs to become aware of his/her thinking process, to be able to examine the thinking processes of others and to apply the information he/she has learned in his/her daily life. Kosslyn & Nelson (Shavelson et al., 2019) say "Critical thinking is conceived as the process of conceptualizing, analyzing or synthesizing, evaluating and applying the information to solve a problem, decide on a course of action, find an answer to a given question or reach a conclusion. It comprises different faces like evaluating claims, analyzing inferences, weighing decisions, analyzing problems, etc." Ennis in the journal (Setiawati & Corebima, 2017) mentions "The six elements of critical thinking are focus, reason, inference, situation, clarity, and overview."

As in Figure 1 about the indicators revealed by Ennis, there are 5 indicators of critical thinking. The first is being able to provide a simple explanation. From the results of interviews with educators and observations during learning, there is active learning and students can show their existence in learning. This is evidenced by their ability when appointed to provide simple explanations related to the material discussed in easy-to-understand language. Although there are challenges for educators, namely having to patiently wait for students who are late for lectures during online learning because there are things that students must do (see the Results section).

Next is to build basic skills. The basic skills referred to in this case are the initial knowledge that students know about something which is then matched between the applicable theory and the facts in the field. The results of the observations that researchers obtained were that educators provided knowledge in the form of materials along with access addresses. This makes it very easy for students to learn on their own. After that, in practice, students were not only glued to the links that educators shared, but they (students) also cite other sources relevant to the material. Then, students can understand the basic theory with the facts that exist in their environment.

The third indicator is to conclude. But this is not the final round of critical thinking. However, this is a continuation of the second indicator, namely after knowing between theory and practice in this case it is also necessary to understand based on cause and effect, facts, opinions, and right and wrong. By looking at these several aspects, students can draw conclusions based on clear sources and facts.

After concluding, further explanation is needed. In this case, students exchange ideas, filtering from every reason expressed by their peers. So that the conclusions that have been drawn on the third indicator are not the end of everything but are the next step to open insights from various sides regarding the conclusions that have been drawn.

The last is to set strategies and techniques. Of all the indicators that have been passed, the final stage is determining action. Actions, in this case, can do can also leave. By the results of the facts revealed. As the results of observations that researchers found in the field (see the Results section) when the problem being studied is about early childhood learning, there needs to be careful consideration in providing easy and interesting learning for AUD as well as problems in social life.

CONCLUSION

Revealing a case study on the learning strategy course at the STPI Bina Insan Mulia campus, the results show that students' critical thinking skills have been seen in solving problems ranging from giving simple explanations, building basic skills, inferring the meaning of theory and reality, providing further explanations by considering definitions and assumptions, and set strategies and techniques in uncovering problems. It is hoped that critical thinking skills will not only be successfully applied to learning strategy courses but can also be successful in other subjects.

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