

## LECTURERS' PERCEPTION ON STUDENTS' CRITICAL THINKING SKILLS DEVELOPMENT AND PROBLEMS FACED BY STUDENTS IN DEVELOPING THEIR CRITICAL THINKING SKILLS

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### ABSTRACT

*Critical thinking emerges when learners attempt to use their background knowledge to construct meaning through interpreting, analyzing, and manipulating information in responding to a problem or a question that requires more than a single correct answer. Two factors that affect the improvement of the students' critical thinking skills are lecturers' activities and students' activities. This study was a descriptive quantitative study which aimed to investigate (1) how lecturers perceive the development of students' critical thinking skills and (2) drawbacks or obstacles that hinder the development of students' critical thinking skills. The type of this research is a survey research with the descriptive quantitative approach. The research samples were taken from the population by using purposive sampling technique. Data was collected using a questionnaire, an observation sheet, and interviews. The research findings are 32.05% of the lecturers evaluated their students' critical thinking skills; therefore, promoting lecturers' awareness of developing students' critical thinking skills is necessary. In addition, the results of the present study also indicated that the development of students' critical thinking skills could interfere with many aspects including lecturers, students, frequencies of scientific meetings, and facilities.*

**Keywords:** Awareness, critical thinking, lecturers' perception

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### INTRODUCTION

Critical thinking is one of higher order thinking skills (HOTS) that are known to play a crucial role in moral, social, mental, cognitive, and science development (Arends, 1997; Pieterse, Lawrence, & Friedrich-Nel, 2016). Every human being has a potential to grow and develop to become a critical thinker because thinking indeed has a relationship with self-organization patterns that exist in every creature including humans (Zubaidah, 2010). According to Johnson (2002), critical thinking is not something that is difficult to put in practice and it does not belong to the high intelligence quotient (IQ) people only, but critical thinking can be performed by anybody.

Ennis (1991) refers critical thinking to rational and reflective thinking which emphasizes on decision making based on what to believe or what to do. Critical thinking can be easily performed by someone who has

characteristics as a critical thinker. Critical thinking allows students to take a closer look at a number of different or similar opinions to theirs.

As a result, they can make a scientifically true judgment based on the contradictory arguments and be confident in making decisions (Hasruddin, 2009). Critical thinking is best understood as the ability of thinkers to take charge of their own thinking (Fahim & Masouleh, 2012).

Critical thinking is related to the cognitive development of an individual (Papp et al., 2014; Tew, 2015; Tice, 2000; Vong & Kaewurai, 2017). Creating a learning environment which allows students to be independent can accelerate the students' cognitive development (Arends, 1997; Zumbunn, Tadlock, & Roberts, 2011). Students' learning achievement can be measured by the way they memorize and repeat facts and disconnected knowledge (with a particular application), catch the opportunities

to understand difficult concepts and complex notions, evaluate new ideas, and formulate an essence of their own knowledge (Zubaidah, 2016). Teachers and lecturers can use learners' responses to evaluate their readiness to learn and introduce new concepts by challenging the students' viewpoints (Bolstad, 2011).

Perception is a complex process through which individuals accept or summarize information from their environment (Kaymaz, 2012; Soekamto & Winataputra, 1997). Causal attribution theory is a cognitive theory which suggests that individuals are able to make conscious and rational decisions (Malle, 2011; Weiner, 1992). Individual differences include various styles of consistent causal perception across situations (Schunk, Pintrich, & Meece, 2012). Good lecturers' performances and high learning motivation will strengthen students' to achieve their goals (Amin, Corebima, Zubaidah, & Mahanal, 2017a).

Learning approaches and methods used in the classroom should be able to promote students' positive perception (Lufri, 2004; Zuljan & Vogrinc, 2010). Creating a fun, comfortable, and safe learning environment is very important in building students' perception. Students will feel more motivated when they learn in a fun and positive environment (Amin & Adiansyah, 2017). A research conducted by Widyowati has shown that critical thinking ability has a significant correlation with students' responses. If students can provide good responses towards learning process, they can also achieve well in learning (Widiyowati, 2015).

Teacher-centered learning will result in inhibiting the development of students' critical thinking skills (Amin & Corebima, 2016). Students will feel that it is mandatory to follow the lesson. As a result, their independence, concept mastery, attitude, moral are not developing, proven by the fact that they obtained low scores in final exams (Danial, 2010; Sardiman, 2014). Compared to the middle school teachers, lecturers should be more ready to implement learning models or strategies which can improve students' thinking skills since lecturers are responsible for training prospective teachers both in the college and the workshop (Corebima, 2016).

This research aimed to investigate (1) how lecturers perceive the development of students' critical thinking skills; (2) drawbacks or obstacles that hinder the development of

students' critical thinking skills. The results of the current research are expected to be a reflection for biology lecturers, teachers, students, and education practitioners to improve their awareness the importance of improving students' critical thinking. Furthermore, the lecturers and teachers can be more selective in implementing learning models or strategies which suit learners' needs, such as the ones that can promote the 21<sup>st</sup>-century skills, including critical thinking skills.

## METHOD

This descriptive quantitative study was conducted from December 2015 to June 2016 in Faculty of Tarbiyah, Universitas Islam Negeri Alauddin Makassar (UIN Alauddin Makassar); Faculty of Teacher Training and Educational Sciences, Universitas Pejuang Republik Indonesia Makassar (UPRI Makassar); Biology Education Study Program, Sekolah Tinggi Keguruan dan Ilmu Pendidikan Pembangunan Indonesia Makassar (STKIP PI Makassar); and Biology Education Study Program, Sekolah Tinggi Keguruan dan Ilmu Pendidikan Yapim Maros (STKIP Yapim Maros). The samples were taken by using purposive sampling technique. The criteria for selecting the samples from the university were: (1) the lecturers from accredited biology education program, (2) the lecturers had a minimum academic position as an expert assistant, and (3) biology lecturers had more than three years of teaching experience. The distribution of research samples is presented in Table 1.

**Table 1.** Research samples

No	College/Univ. Names	Number of Respondents
1	UIN Alauddin Makassar	12 lecturers
2	UPRI Makassar	11 lecturers
3	STKIP PI Makassar	15 lecturers
4	STKIP Yapim Maros	10 lecturers
Total number of respondents		48 lecturers

A questionnaire was used as the main instrument to elicit the lecturers' perception on the development of students' critical thinking skills and to find out the obstacles faced by the students during the process. Data was also collected through observation and interviews. The questionnaire was initially validated (construct validity) by the experts of learning.

## RESULTS AND DISCUSSION

### Lecturers' Perception on the Development of Students' Critical Thinking Skills

The results of the questionnaire related to the lecturers' perception on the development of students' critical thinking skills are summarized in Table 2. The results shows that only 32.05% of lecturers evaluated their students' critical thinking skills. In fact, students' critical thinking skills need to be trained in order that

students are able to solve problems and make a better decision (Caroll, 2004; Pieterse et al., 2016). Critical thinking skills are necessary because they add meaning to life. Critical thinking skills are used to achieve a critical evaluation of what should be accepted or what should be done based on logical reasons. Therefore, lecturers have to promote critical thinking skills of the students in the classroom (Shim & Walczak, 2012; Swartz & Perkins, 1990).

**Table 2.** Results of the Questionnaire

No	Statements	UIN Alauddin (%)	UPRI Makassar (%)	STKIP PI Makassar (%)	STKIP YAPIM Maros (%)	Average (%)
1	Understand the advantages/importance of students' critical thinking skills.	66.67	36.36	46.67	50.00	49.93
2	Implement an innovative learning model or strategy to develop students' critical thinking skills.	50.00	27.27	40.00	40.00	39.32
3	Understand the importance of evaluating students' critical thinking skills.	58.33	27.27	40.00	40.00	41.40
4	Evaluate students' critical thinking skills.	33.33	18.18	46.67	30.00	32.05
5	Understand indicators used to evaluate students' critical thinking skills.	41.67	27.27	46.67	40.00	38.90
6	Be informed with the types/characteristics of concepts that students consider difficult.	50.00	45.45	53.33	50.00	49.70
7	Understand the difficulties that students face in developing their critical thinking skills.	58.33	45.45	40.00	50.00	48.45
8	Understand the efforts to overcome problems faced by students to develop their critical thinking skills.	41.67	36.36	40.00	40.00	39.51
9	Help students practice their interpretation skills.	33.33	18.18	26.67	30.00	27.05
10	Help students practice their analysis skills.	41.67	27.27	26.67	30.00	31.40
11	Help students practice their inference/conclusion drawing skills.	50.00	36.36	33.33	50.00	42.42
12	Help students practice their evaluation skills.	41.67	27.27	33.33	40.00	35.57
13	Help students practice their explanation skills.	66.67	45.45	53.33	50.00	53.86
14	Help students practice their self-regulation skills	33.33	18.18	20.00	20.00	22.88

One thing can be done to improve students' critical thinking skills is to implement an innovative learning model or strategy. However, research findings indicated that there were only 39.32% of the lecturers were successful in implementing a variation of learning model or strategy in the classroom. Teachers and lecturers should conduct critical thinking activities in order to improve students' competencies. The results of a survey have proven that most of the classroom activities conducted by lecturers in Makassar are dominated by lectures (58.13%), discussion (18.47%), question and answer (21.37%), demonstration (1.89%), assignment (13.96%), experiments (11.72%), and others (2.63%). According to Amin, Corebima, Zubaidah, & Mahanal (2017b) the high percentage of lectures suggests that the lecturers should improve their competence and professionalism so that they can improve the quality of learning in their classroom.

Learning models, strategies, methods, or techniques used by teachers in the classroom have to meet students' learning styles, students' characteristics, the characteristics of learning materials, and emphasize on students' activities. In fact, research findings reported that only 39.51% of the lecturers understood how to overcome problems related to the improvement of their students' critical thinking skills. Students' critical thinking skills can be improved by providing them with problem-solving, analyzing, evaluation, and self-regulation training because research findings have suggested that the efforts to develop students' interpretation, analyzing, evaluating and self-regulation skills were less than 37%. According to the results of the study conducted by (Amin et al., 2017b), 78.11% of university students faced obstacles in writing a discussion based on the results of the practicum observation. The students found problems in interpreting, analyzing, and connecting the results with the existing theories.

Two factors that might affect the development of students' critical thinking skills are lecturers' activities and students' activities (Sulistyowati, 2015). College students should explore their potentials and develop their critical thinking skills to be able to accomplish learning goals and solve daily problems. Critical thinking skills are encouraged by intrinsic and extrinsic motives. Someone's personality and cultural background may affect

his efforts to think critically about a problem in his life (Hassoubah, 2007; Stevenson, 2011). Kashdan & Silvia (2008) point out that curiosity and interests can make learners act according to their intrinsic motives, especially when exploring and learning a new thing.

Generally, critical thinking is marked by the ability to think appropriately, systematically, and logically about a concept or belief as well as to take an action and solve problems based on a conceptual and argumentation analysis mechanism (Cosgrove, 2012). Ennis (1991) categorizes critical thinking activities into: (1) providing simple explanations, directing questions to a particular focus, analyzing and asking questions, answering questions about an explanation or statement; (2) building basic skills, such as skills to consider a reliable source or observation results; (3) drawing a conclusion that is to do a deduction, induction or to make and determine the value; (4) providing further explanations, such as identifying terms, other related definitions and dimensions, and assumptions; and (5) setting up strategies and techniques including deciding what to do next and how to interact with others. In fact, 38.90% of the lecturers were able to understand indicators to evaluate students' critical thinking skills. This can be an obstacle factor for the lecturers to evaluate and improve the students' critical thinking skills. Therefore, workshops, seminars, or other scientific meetings should be provided for the teachers and lecturers so that they could understand and improve their critical thinking skills.

### **Problems Faced by the Students in Developing Critical Thinking Skills**

The results of a descriptive analysis of problems faced by the students in developing their critical thinking skills are presented in Table 3. Students' lack of interest in reading (71.10%) is one of the reasons of why they only have little knowledge. Corebima (2009), reported that the majority of university students did not read before the class began. As a result, learning model and strategies implemented could not successfully improve the students' level of understanding. This might also result in students' inability to promote their analysis and argumentation skills. It can be seen from the result of the research that indicated that most of the students were unable to provide good arguments (70.68%). Critical reading skill provides the basis to understand concepts.

Equipped with good critical reading skills, students will be able to analyze and make arguments with good quality. Promoting questioning in learning is seen in the lecture

activities to encourage, guide, and assess the student's ability to think (Suryawati, Osman, & Meerah, 2010).

**Table 3.** The results of a descriptive analysis of problems faced by students in developing their critical thinking skills

No.	Statements	UIN Alauddin (%)	UPRI Makassar (%)	STKIP PI Makassar (%)	STKIP YAPIM Maros (%)	Average (%)
<b>Students' Aspects</b>						
1	Lack of background knowledge and preparedness to follow the lesson.	58.33	72.73	73.33	70.00	68.60
2	Lack of interest in reading learning materials.	58.33	72.73	73.33	80.00	71.10
3	Lack of confidence and bravery to get actively involved in classroom discussions.	41.67	63.64	66.67	70.00	60.49
4	Lack of ability to direct the focus of the question.	58.33	81.82	80.00	70.00	72.54
5	Lack of ability to ask higher order questions related to learning materials.	66.67	81.82	66.67	60.00	68.79
6	Lack of responses towards lecturers' or other students' questions.	50.00	63.64	60.00	70.00	60.91
7	Lack of ability to provide good arguments.	66.67	72.73	73.33	70.00	70.68
8	Lack of self-reflection at the end of the lesson.	41.67	63.64	60.00	50.00	53.83
9	Study for high grades and graduation only.	58.33	81.82	86.67	70.00	74.20
10	Lack of motivation and enthusiasm to review materials/concepts outside the classroom	66.67	81.82	80.00	60.00	72.12
<b>Lecturers' Aspects</b>						
1	Prioritize the completeness of the learning materials.	50.00	72.73	60.00	50.00	58.18
2	Dominate the classroom with lectures and students' presentation tasks.	58.33	81.82	66.67	70.00	69.20
3	Use unvaried learning models/strategies.	58.33	81.82	66.67	80.00	71.70
4	Pay less attention to students' learning styles.	66.67	54.55	53.33	60.00	58.64

No.	Statements	UIN Alauddin (%)	UPRI Makassar (%)	STKIP PI Makassar (%)	STKIP YAPIM Maros (%)	Average (%)
5	Pay less attention to the use of media in learning.	41.67	63.64	60.00	60.00	56.33
6	Do not involve students in self-constructing materials.	66.67	81.82	60.00	70.00	69.62
7	Students are not active in the classroom.	66.67	72.73	66.67	60.00	66.52
8	Do not ask questions that can promote students' critical thinking skills.	50.00	72.73	73.33	70.00	66.52
9	Not familiar with assigning students to write a journal or reflection after the lesson ends.	33.33	63.64	60.00	50.00	51.74
10	Do not promote inquiry and experimental activities in the classroom.	41.67	81.82	80.00	70.00	68.37
<b>Other Aspects</b>						
1	A few scientific workshops, training, and meetings held to give information to the lecturers about how to develop students' critical thinking skills.	33.33	72.73	53.33	60.00	54.85
2	Lack of supporting facilities, such as laboratories, libraries, LCD, and many others.	33.33	63.64	60.00	70.00	56.74

The number of students who lack self-confidence and bravery to get actively involved in the classroom discussion reached 60.49%. This data suggests that the lecturers should improve students' self-efficacy and encourage them. Providing both verbal and non-verbal reinforcement is necessary. The results indicated less varied students' activities in the classroom (66.52%), only 31.63% of the activities were dominated by inquiries and experiments.

Alghamdi and Hassan (2016) says that fun learning climate and good self-confidence will result in students' feeling comfortable and positive about learning materials and activities. Varied learning models can also motivate students. The learning environment should support students' interaction and students'

communication which are free from anxiety and stress. It aims to encourage students to find a solution to every problem that arises, evaluate arguments, and predict consequences.

Students' less developed critical thinking skills may result from the traditional learning strategies which cannot engage students actively in classroom activities (DeWaelche, 2015; Klimovien, Urboniene, & Barzdžiukien, 2006). Learning journals or reflection activities can be the solutions to this problem since these activities allow teachers and lecturers to monitor students' metacognitive level and critical thinking skills. The ability to think critically gains an ever greater saliency as a prime goal of student and teacher education (Birjandi & Bagherkazemi, 2010).

One of the important aspects of the 21<sup>st</sup>-century learning is its effectiveness which means that lecturers can promote their students' critical thinking skills (Scott, 2015; Yen & Halili, 2015; Živkovic, 2016). Various conditions that have been outlined above should become a reflection for lecturers, students, and stakeholders to keep improving their self-quality, learning quality, and life skills in facing challenges in the 21<sup>st</sup>-century challenges. The teachers and lecturers who have a good understanding of pedagogy are able to understand what is needed in teaching (Tumewu, 2016). Learners who possess critical thinking skills construct knowledge which is favorable for their life; thereby, they are able to improve their motivation in solving issues faced every day (Lai & Viering, 2012).

## CONCLUSION

The results of the current research have indicated that (1) lecturers' perception on the development of students' critical thinking skills should be improved because only 32.05% of the lecturers evaluated their students' critical thinking skills; (2) there were many obstacles that the students faced in developing their critical thinking skills; the drawbacks may come from the lecturers, students themselves, frequencies of scientific meetings, and facilities provided by the institution. These findings suggest that the lecturers, students, stakeholders, and practitioners should keep improving their self-quality, learning quality, and education quality in Indonesia in particular.

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