

Implementation Of Experiential Learning to Improve Student Critical Thinking Skill of Vocational High School

Alif Mundi Adi¹, Wahyu Lestari²

^{1,2}Universitas Negeri Yogyakarta

alif.mundi2015@student.uny.ac.id¹, wahyulestari.2020@student.uny.ac.id²

Abstract: This research aims to improve critical thinking skill of X AKL 1 graders of *SMK Negeri 2 Magelang* with experiential learning implementation. This research is classified as Classroom Action Research (CAR) that conducted with two cycles. Data collection techniques used are test and field notes. Based on the results of the study, it can be concluded that the implementation of experiential learning can improve the critical thinking skill of X AKL 1 graders of *SMK Negeri 2 Magelang*. In cycle I, the average value of students' critical thinking skill was 44.8 at the pretest increased by 29 or 64.73% to 73.8 at the posttest. In cycle II, the average value of students' critical thinking skill was 51 at the pretest increased by 30.9 or 60.59% to 81.9 at the posttest. The students' learning completeness cycle I was 6% at the pretest increased by 57% to 63% at the posttest. While in cycle II was 18% at pretest increased by 67% to 85% at posttest. The suggestion recommended in this article is that experiential learning methods can be used by teachers to improve students' critical thinking skills. For other researchers, they can also conduct similar research and examine student responses to the implementation of experiential learning for improvement and refinement in the application of the method.

Keywords: Critical Thinking Skill, Experiential Learning, Classroom Action Research

Abstrak: Penelitian ini bertujuan untuk meningkatkan kemampuan berpikir kritis siswa kelas X AKL 1 SMK Negeri 2 Magelang melalui penerapan metode pembelajaran experiential learning. Penelitian ini merupakan Penelitian Tindakan Kelas (PTK) yang terdiri dari dua siklus. Teknik pengumpulan data yang digunakan yaitu tes dan catatan lapangan. Berdasarkan hasil penelitian, dapat disimpulkan bahwa penerapan experiential learning dapat meningkatkan kemampuan berpikir kritis siswa kelas X AKL 1 SMK Negeri 2 Magelang. Pada siklus I, nilai rata-rata kemampuan berpikir kritis siswa yaitu sebesar 44.8 pada pretest meningkat sebesar 29 atau 64.73% menjadi 73.8 pada posttest. Pada siklus II, nilai rata-rata kemampuan berpikir kritis siswa yaitu sebesar 51 pada pretest meningkat sebesar 30.9 atau 60.59% menjadi 81.9 pada posttest. Ketuntasan belajar siklus I yaitu 6% pada pretest meningkat 57% menjadi 63% pada posttest. Sedangkan ketuntasan belajar siklus II yaitu sebesar 18% pada pretest meningkat 67% menjadi 85% pada posttest. Artikel ini memberikan rekomendasi kepada guru bahwa metode experiential learning dapat digunakan untuk meningkatkan kemampuan berpikir kritis siswa. Bagi peneliti lain juga dapat melakukan penelitian serupa dan mengkaji respon siswa terhadap pelaksanaan experiential learning untuk perbaikan dan penyempurnaan dalam penerapan metode tersebut.

Kata Kunci: Kemampuan Berpikir Kritis, Experiential Learning, Penelitian Tindakan Kelas

INTRODUCTION

Today, education is changing. Education is required to be able to produce graduates who are adaptive and responsive to the challenges of the era. Educational institutions are required to not only prepare the skills of students to be ready to compete in the world of work, but also to form the critical thinking skills and excellent character of students (Manurung, 2019). In the 21st century, job seekers are required to have various competencies that can support their productivity. Organization for Economic Co-operation and Development (2003) defines competencies more than knowledge and skill. Competencies include the ability to meet complex requirements by using and mobilizing psychosocial resources (including skills and attitudes) in specific situations. For example, the ability to communicate effectively is a combination of language skills, hands-

on IT skills, and interpersonal skills (OECD, 2003). Then what kind of competencies are needed in the 21st century?

The US-based Partnership for 21st Century Skills (2008) identifying competencies that needed in the 21st century. They refer to these competencies as “*The 4Cs*” which includes *communication, collaboration, critical thinking, and creativity* (Partnership for 21st Century Skills, 2008). These four competencies are important to be taught in the context of the study in the 21st century. In line with the statement from the US-based Partnership for 21st Century Skills, Care et al (2012) classify competencies needed in the 21st century into four, namely *ways of thinking, ways of working, tools for working, and skills for living in the world*. Thinking includes creativity, innovation, critical thinking, problem solving, and decision making. Working styles include communication skills, collaboration and teamwork. Working tools include awareness of global and local citizens, life and career development, and a sense of responsibility for both people and society. On the other hand, skills to live in the world include skills based on information literacy, acquisition of new information and communication technology, and ability to learn and work in digital social networks (Care et al., 2012).

As explained in the previous paragraph, one of the important abilities mastered in the 21st century is critical thinking. According to Fisher (2009), critical thinking is an active process in which a person plays a role in thinking more deeply about something in himself, asking questions for himself, finding relevant information for himself, and so on. Rather than being passive by accepting things and information from other people. John Dewey’s statement above was later developed by Edward Glaser. According to Glaser in Fisher (2009), critical thinking is thinking deeply about problems that are still within reach of someone’s experience to examine assumptive beliefs or knowledge based on supporting evidence and subsequent conclusions that result from them.

Furthermore, there are other opinions regarding the definition of critical thinking that is widely used. Critical thinking is rational and reflective thinking that focuses on deciding what to believe and what to do (Ennis, 2000). Reasonable means that everything must be based on the right, actual, sufficient, and relevant evidence. While reflective means to consider, think about or re-examine everything that is faced before making a decision. In this definition, there is the word “decide ... what to do”. It shows that decision making is an important thing of Critical Thinking. Robert Ennis in his article (2000) explained that there were five groups of indicators of critical thinking skill. They are elementary clarification, giving reasons for a decision (the basis for the decision), concluding (inference), further clarification (advanced clarification), as well as allegations and integration (supposition and integration). In line with the opinion according to Robert Ennis, Nitko & Brookhart (2011) argued that there are five indicators of critical thinking, namely basic clarification, basic support assessment, making conclusions, making further clarification, and applying strategies and tactics to solve the problems.

According to Bloom’s taxonomy of the dimension of the thinking process that revised by Anderson & Krathwohl (2001), critical thinking skill is included in analyzing (C4), evaluating (C5), and creating (C6) domain. They are often known as Higher-Order Thinking Skills (HOTS). The instrument that can be used to measure this ability is HOTS question. HOTS questions are evaluation tools used to measure more advanced thinking skills: memory, reformulation, or thinking ability that is not just quoted (see *Doing Without Processing*). Therefore, we can conclude that HOTS questions can be used to measure critical thinking ability.

In Indonesia, the development of critical thinking skills is actively carried out. This was marked by the implementation of the 2013 curriculum in primary and secondary education. The learning process in the 2013 curriculum encourages students to use the ability to think logically, critically, reflectively, and creatively. Students are required able to grow and develop into productive, innovative, creative, and affective people to able to compete in the 21st century (Kasim, 2014). One of the education levels that implemented the curriculum 2013 is Vocational High School (SMK).

Researchers observed the learning process in the Accounting class at SMK Negeri 2 Magelang. Observations were made to see and evaluate the learning strategies used by teachers. In addition, the researcher also conducted a documentation study to see students' scores on daily tests. Based on observations made by researchers, the accounting learning process at SMK Negeri 2 Magelang tends to be teacher-centered. The learning method used is the conventional method. As we all know, teacher-centered learning tends to lower-order thinking. In fact, the demands of the curriculum and competencies that must be possessed by 21st century graduates refer to student-centered learning (higher order thinking learning). In addition, the researchers also made observations on student learning activities using the theory of Sardiman (2014). This theory refers to oral activity, visual activity, and mental activity (Sardiman, 2014). Based on the results of activity observations, students only memorized concepts and recorded what was conveyed by the teacher and tended to be passive during the learning process.

Researchers also conducted a documentation study of student learning outcomes. In this stage, the researcher gave accounting HOTS questions that had been validated by three experts, namely accounting teachers, accounting lecturers, and linguists. The questions given are HOTS questions in the form of essays presented using the google form. The researcher took a sample of 36 students of class X AKL consisting of 12 students X AKL 1, 12 students X AKL 2, and 12 students X AKL 3. The researcher then took 12 students from each class who first answered the question. The following table shows a summary of the results of the pre-research data.

Table 1. Pre-Research Data

	Sample		
	X AKL 1	X AKL 2	X AKL 3
S >75	3	8	4
S < 75	9	5	8
Sum	660	780	680
Min	20	20	20
Max	80	80	80
Average	55	65	56.7

Information : S = Score
Source : Data premier processed

Based on the table, it can be seen that the average value of class X AKL 1 sample is 55, the average value of class X AKL 2 sample is 65, and the average value of class X AKL 3 sample is 56.7. Therefore, it can be concluded that the average value of class X AKL 1 sample is the lowest compared to the average value of other class samples.

According to Khairuntika (2015), there are four ways to improve students' critical thinking skills, namely (1) using certain learning models, (2) giving the task of criticizing books, (3) using stories, and (4) using of the Socratic question model. An alternative learning model that can be used by teacher to improve students' critical thinking skills is *Experiential Learning*.

Experiential learning was first developed by David Kolb in 1984. Experiential learning is the result of the development of his *Learning Style Inventory*. This is a learning model that encourages students to acquire direct knowledge and skills through their own experiences. Based on this understanding, experiential learning uses experience as a medium for students to develop skills and abilities in the learning process. In the journal *Experiential Learning: Experience as The Source Learning and Development*, Kolb (1984) suggests that there are four stages of experiential learning procedure described in *Kolb's Experiential Learning Cycle*. The four stages are concrete experience, observation and reflection, forming an abstract concept, and testing in a new situation. Through these four stages, it is expected that learning process will be more effective because the concepts learned by practice. Students' understanding becomes better because it is integrated with what they learn. So, they remember longer.

Based on the above background, researchers are interested in conducting Classroom Action Research (CAR), which implements experiential learning, to improve the critical thinking skills of SMK Negeri 2 Magerang's X AKL I Graders.

METHODS

The research is Classroom Action Research (CAR) conducted with two cycles. The subjects of this study were students of class X AKL 1 SMK Negeri 2 Magelang in the 2018/2019 academic year. While the object of this research is students' critical thinking skills before and after the application of Experiential Learning in the cognitive realm. The research instrument used was a test instrument in the form of pre-test and post-test questions which were designed using HOTS-type questions and field notes. The HOTS questions given are in the form of essays with a total of five questions. This HOTS question has been validated by three expert judgments consisting of linguists and material experts by accounting teachers and accounting lecturers. The data analysis technique in this study used descriptive analysis in the form of analysis of test scores and improvement of students' critical thinking.

Classroom Action Research is a form of reflective research in which certain actions are taken to improve learning practices in a more specific classroom (Hendriana & Afrilianto, 2014). According to Suharsimi Arikunto et al (2016) in class 2 cycle action research, each cycle has four stages which include planning, action, observation, and reflection. These stages can be seen in the following image.

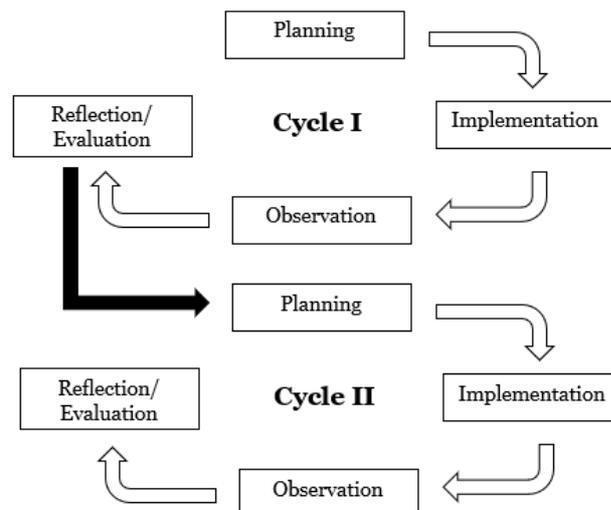


Figure 1. Classroom Action Research Model

At the planning stage in the first cycle, the researcher together with the accounting subject teacher carried out lesson planning such as preparing the subject matter. at the action stage, researchers and teachers carry out the learning process to students by applying the group learning method. During the learning process, the researcher observed the students using observation guide. after learning is complete, researchers and teachers reflect and evaluate to improve the next learning process. In the second cycle, researchers and teachers again carried out four stages of learning, namely planning, action, observation, and reflection. The activities carried out are improvements to the results of the evaluation and reflection carried out in the first cycle.

RESULTS AND DISCUSSION

Cycle I Result

Observations carried out during the learning process took place carried out by researchers in collaboration with an observer. This study focused on students' Critical Thinking skills by giving pretest and posttest questions. The research instrument used was a test instrument in the form of pre-test and post-test questions which were designed using HOTS-type questions and field notes. The HOTS questions given are in the form of essays with a total of five questions. This HOTS question has been validated by three expert judgments consisting of linguists and material experts by accounting teachers and accounting lecturers. Besides, other matters related to the implementation of learning are recorded in the field notes.

Critical Thinking Skills in the application of Experiential Learning are assessed through the results of the pretest and posttest. Students' Critical Thinking Skills are considered to have been completed if they have achieved the minimum mastery of learning basic accounting subjects at SMK Negeri 2 Magelang, which is 75. The following are the results of the pretest and posttest of class X AKL 1 students in cycle I.

Table 2. Pretest and Posttest Results of Class X AKL 1 in Cycle I

Category	Pretest		Posttest	
	Freq.	Percentage	Freq.	Percentage
S ≥ 75	2	6%	20	63%
S < 75	30	94%	12	47%
Total	32	100%	32	100%
Average		44.8		73.8
Enhancement			29	

Information : S = Score

Source : Primary data processed

Based on the table, it is known that there is an increase in the average score of students' critical thinking skills. This can be observed from the increase in the posttest score compared to the score of the pretest. The pretest results show that the average score is equal to 44.8. While the posttest results show the average score of students is 73.8. That is, there is an increase in the average score of 29 or 64.73%. When described in the form of bar charts, the increase in the average score of students' critical thinking skill of class X AKL 1 in cycle I is as follows.

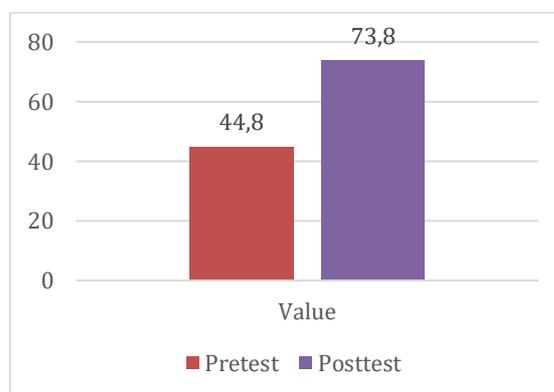


Figure 2. Average Score of Critical Thinking Skills of X AKL 1 in Cycle I

Also, based on table above can be seen that there is an increase in students' learning completeness. The pretest results showed that of the 32 students who took the test, only 2 students or 6% of students had reached minimum mastery learning. The remaining 30 students or 94% of

students have not yet reached minimum mastery learning. On the other hand, the posttest results showed an increase. Of the 32 students who took the test, as many as 20 students or 63% of students had reached minimum mastery learning and the remaining 12 students or 47% of students had not yet reached it. Therefore, it can be concluded that there is an increase in students' learning completeness of class X AKL 1 in cycle I of 57%. The bar chart that shows students' learning completeness of class X AKL 1 in cycle I can be seen in the following figure.

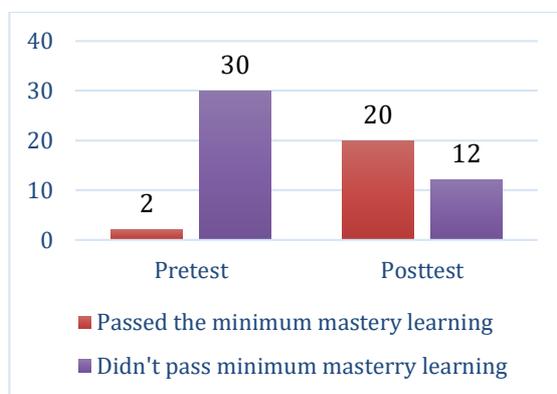


Figure 3. Students' Learning Completeness of Class X AKL 1 in Cycle I

Cycle II Report

Observations in cycle II were carried out during the learning process which was carried out by the researcher in collaboration with one observer. The observation focused on observing students' critical thinking skills by giving pretest and posttest questions. Also, other matters related to the implementation of learning are recorded in the field notes.

Observation of Critical Thinking skill on the application of Experiential Learning in cycle II was done by observing the results of the pretest and posttest of class X AKL 1. Students' critical thinking skill was considered to have completed when they reached minimum mastery learning in basic accounting subject at SMK Negeri 2 Magelang, that is equal to 75. The following are the results of students' critical thinking skills of class X AKL 1 in cycle II.

Table 3. Pretest and Posttest Results of Class X AKL 1 in Cycle II

Category	Pretest		Posttest	
	Freq.	Percentage	Freq.	Percentage
$S \geq 75$	6	18%	29	85%
$S < 75$	28	82%	5	15%
Total	34	100%	34	100%
Average		51.0		81.9
Enhancement			30.9	

Information : S = Score

Source : Primary data processed

Based on the table, it is known that there is an increase in the average value of the critical thinking skill of student class X AKL I in cycle II. This can be observed from the increase in the posttest value compared to the value of the pretest. The pretest results show that the average score is equal to 51.0. While the posttest results show the average score of students is 81.9. That is, there is an increase in the average score of 30.9 or 60.59%. When described in the form of a bar chart, the increase in the average value of critical thinking skill of class X AKL 1 in cycle II is as follows.

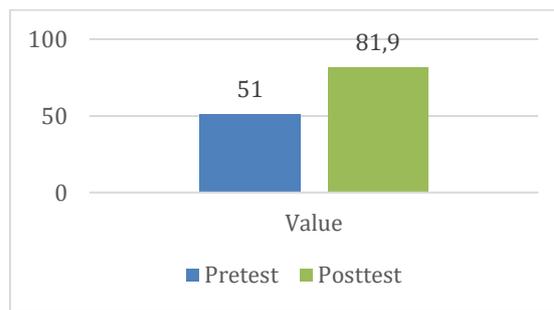


Figure 4. Average Score of Critical Thinking Skills of Class X AKL 1 in Cycle II

Besides, based on table above, can be seen that there is an increase in students' learning completeness. The pretest results showed that of 34 students who took the test, only 6 students or 18% of students had reached minimum mastery learning. The rest, as many as 28 students or 82% of students have not yet reached it. On the other hand, the posttest results showed an increase. Of the 34 students who took the test, as many as 29 students or 85% of students had reached minimum mastery learning and the remaining 5 students or 15% of students had not yet reached it. Therefore, it can be concluded that there is an increase in students' learning completeness of class X AKL 1 in cycle II of 67%. The bar chart that shows the students' learning completeness of class X AKL 1 in cycle II can be seen in the following figure.



Figure 5. Students' Learning Completeness of Class X AKL 1 in Cycle II

Discussion

The results of the pretest and posttest on the application of experiential learning in class X AKL 1 showed an increase. Based on observations it is known that the average value of students increases in cycle I and cycle II. The average value of students in the first cycle increased from the original 44.8 in the pretest to 73.8 in the posttest. While in the second cycle, the average value of students increased from the original 51 to 81.9. This means that in the first and second cycles there was an increase of 29 and 30.9, respectively.

In addition to the average value, completeness of student learning in the application of Experiential Learning both in cycle I and cycle II also increased. In the first cycle pretest, student learning completeness was only 6%. Then increased by 57% to 63% at the posttest. Whereas in the second cycle, students' learning completeness is 18% in the pretest increasing 67% to 85% in the posttest. In cycle II, students' learning completeness has reached more than 75%. That is, according to indicators of the success of the action, the success of the application of experiential learning is very high.

From the implementation of experiential learning in the first and second cycles, student learning outcomes always increase. This increase occurs because teachers and researchers always evaluate each action so that in the next cycle improvements can be made. Students' understanding

also increased because in the first cycle the teacher gave the concept of understanding and students discussed with their own groups, while in the second cycle the teacher also strengthened understanding of students' understanding from the evaluation results in the previous cycle.

Experiential learning can improve students' critical thinking because the learning model meets all three criteria of the learning model that can be used to improve students' critical thinking skills in accordance that has been stated by Dewi & Jatningsih (2015). Dewi mentioned that there are three criteria for learning models that can be used to improve Critical Thinking skills, namely: (1) mastery of the material; (2) internalization; and (3) transfers in different cases. In the Experiential Learning model, mastery of the material belongs to the stages of observation and reflection. Students master the material through a process of observation and reflection independently through various sources. Students associate what they have obtained by the problem. Furthermore, students carry out the internalization process at the stage of forming an abstract concept. At this stage, students try to apply knowledge through making abstractions, developing a theory, concept or law, and procedures about an issue. Finally, students conduct testing in new situations, which means that students apply to different problems. The steps in the experiential learning model indicate the existence of the transfer of learning. The process which then develops student thinking. So that it results in increasing students' critical thinking skills.

CONCLUSIONS

Conclusion

Based on the results of the research and discussion, it can be concluded that the application of Experiential Learning can improve the critical thinking skills of class X AKL 1 SMK Negeri 2 Magelang in the 2018/2019 academic year. This is evidenced by an increase in the average value of students' critical thinking skills and an increase in student learning mastery in cycles I and II. In the first cycle the average value of the pretest was 44.8, increased by 29 or 64.73% to 73.8 in the posttest. In the second cycle the average value of the pretest 51 increased by 30.9 or 60.59% to 81.9 in the posttest. Mastery learning in the first cycle was 6% in the pretest, increased by 57% to 63% at the posttest. Meanwhile, learning completeness in cycle II was 18% in the pretest and increased by 67% to 85% in the posttest.

This research can be used as a reference by teachers to measure students' critical thinking with the classroom action research method. From the results of the evaluation and reflection carried out in the last stage of learning, the teacher will be able to provide the best treatment in the learning process so that the quality of learning can be achieved. This study has a research limitation, namely that what is measured is student learning outcomes in the cognitive domain, so that in the affective and psychomotor domains further research is needed.

Recommendation

Experiential Learning methods can be used by teachers to improve students' critical thinking skills because they have been proven to improve students' critical thinking skills. For other researcher can also examine students' responses to the implementation of experiential learning. The results of the student response questionnaire can later be used for improvement and refinement in the application of the method.

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