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Portfolio Assessment as a Metacognitive Strategy to Improve Metacognitive Ability and Skill in Composing Classroom Action Research Proposal

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Abstract: This study was carried out to enhance metacognitive abilities and skills of composing classroom action research proposal of the workshop participants of Teacher Profession Education (TPE). Subjects were participants of the workshop who were alumni of Biology Study Program of State University of Gorontalo, Manado State University and the University of Makassar. The study was conducted over 3 months from July to September 2014. The results showed that, the assessment of the portfolio as metacognitive strategies could enhance metacognitive skills of the workshop participants in developing a proposal of Classroom Action Research (CAR). The participant's average metacognitive skill in the beginning was 78.8%. After the portfolio assessment as metacognitive strategy was applied in 8 sessions, it increased to 94.36%. The improved skill of developing classroom action research proposal after metacognitive strategy was implemented through a portfolio assessment was in Chapter 1, from 42.11-79.14%, Chapter 2, from 69.7-94.6% and Chapter 3 from 66.8-81.6%. Participants obtained an optimal learning experience in developing CAR proposals, among them were to identify problems, to develop methodologies and comprehensiveness of the proposal, to diagnose the difficulties in developing proposals and to obtain valuable input for the improvement of their research proposals.

Key words: Assessment portfolio, ability, metacognitive, skills, CAR proposal, improvement

INTRODUCTION

Teacher Profession Education (TPE) from regulation of the Minister of National Education Republic Indonesia Number 9 of 2010 is a professional program for prospective teachers who have completed an undergraduate program (S-1). This is also a professional education requirement to become professional teachers. The S-1 graduates who are allowed to participate in the TPE program are Sarjana graduates who have taught for one year in the outermost regions and the most lagging regions of Indonesia. They have been through a series of competency tests including Academic Potential Test, TOEFL and the proficiency test of their field of expertise. After they finished teaching in the outermost regions and the most lagging parts of Indonesia, the Sarjanas can participate in the teacher profession education for a year with a wide variety of workshops.

One of the workshops to be attended by the TPE participants is the Classroom Action Research (CAR) proposal preparation workshop. This workshop is expected to train participants in developing a proposal based on real problems in the classroom. The TPE participants of Biology Education study program at the State University of Gorontalo in 2013 consisted of a total of 18 people and the number of participants in 2014 were 14 people. The TPE participants are S-1 alumni of Gorontalo State University, State University of Manado and Makassar State University.

Reflection results of 2013 workshop of CAR showed that participants had difficulty in finding problems in the background, particularly in the problem identification they had difficulty in understanding research methodology and the difficulty in analyzing the results. This is due to the lack of previous experience in classroom action research in the part of the participants. On average, the participants had experience in quantitative experimental research that was based on deductive reasoning. While, the classroom action research is based on inductive thinking and based on the real problems occur in the classroom.

The same problems were experienced by 2014 TPE participants. Among the participants, only three of them had conducted action research in the completion of their final project while 11 others conducted experimental research. This causes most of the participants do not have experience of classroom action research so that they had difficulty in preparing a classroom action research proposal.

Along with the development of cognitive Psychology, teacher's ways to evaluate learning achievement have been developed, especially for the cognitive domain (Shafto *et al*., 2014). During this time,

teachers in evaluating the achievement of learning outcomes only give emphasis on cognitive purposes without regarding to the dimension of cognitive processes, namely metacognitive knowledge and metacognitive skills (Jiang *et al*., 2016). As a result, efforts to introduce metacognition in problem solving to students are very few or even tend to be ignored.

State that metacognitive knowledge is knowledge of cognition (Lorin *et al*., 2001) in general it is similar to the awareness and knowledge of the person's self-cognition. It could be argued that metacognition is awareness of what is known and what is unknown. Meanwhile, metacognition strategy refers to a way to raise awareness about the process of thinking and learning that applies so that when the awareness is there, then one can guard the mind by designing, monitoring and assessing what he learns.

One of metacognitive strategies that can be applied is to increase the awareness of participants in preparing scientific papers (Heyes, 2016). Regarding the issues that have been raised, one of the attempts to do is to train the metacognitive skills of the participants through the metacognitive skill instrument that has been developed to guide the participants to formulate and improve their scientific work. The workshop participants will be given an instrument in the form of questions that indicate metacognitive skills, so, that they will always be able to correct the mistakes, so, that the resulting proposal is in accordance with the provisions. Evidence of research in the form of gradual development of the process will be collected in the form of portfolio.

Portfolio assessment process is one that values the authentic quality of the learning process because it is more meaningful than the final outcome assessment. Intellectual potential of participants needs to be assessed in an authentic manner with a variety of assessment techniques, one of which is through a portfolio assessment. The importance of the portfolio is that the portfolio can provide feedback on student interest, what has and has not been known by the student, the student's learning progress as well as the difficulties experienced by students. The information is needed by a teacher to pack the learning process according to the abilities and needs of students. In connection with this, according to Pheeney the portfolio process is one tool in the assessment of learning that emphasizes the development of learner's learning progress over time. Therefore, it is necessary to carry out this research by applying a portfolio process as metacognitive strategies that will improve the ability of learners to plan their learning progress in generating scientific research.

Metacognitive strategies are related to the way of increasing the awareness of the thinking process during the learning process (Fitrisia *et al*., 2015). If the awareness exists, one can control his mind. Participants can use metacognitive strategies in learning which includes the following three stages, namely: designing what you want to learn; monitoring progress in learning and assessing what is learned. Metacognitive strategies can be applied to any field of study (Kokkinos *et al*., 2015) including the CAR proposal development. It is important to direct participants so that they can consciously control their thinking process in their learning.

Metacognitive strategies can help a person become more efficient in learning (Lei *et al*., 2015) because metacognitive strategies help in finding information, evaluating when in need of additional resources and knowing when to apply different approaches to solve problems. When children begin to master this strategy, they will determine when they learn, what they learn and why they learn. It helps them learn effectively and efficiently in a conscious state as discussed elsewhere.

In relation with that, the problem examined in this study associated with the assessment portfolio as metacognitive strategies (Tarighat and Khodabakhsh, 2016) as discussed elsewhere that can be used to enhance metacognitive skills of workshop participants in developing the classroom action research proposal and assessment portfolios as metacognitive strategies that can be used improve the skills of workshop participants in developing the proposal of classroom action research. The benefit associated with this study is that it can improve the skills of researchers in developing instruments metacognitive strategies, the workshop participants have the experience to develop their portfolio as one of metacognitive strategies in order to develop a proposal of classroom action research with full self-awareness as a learner and it is expected to be able to contribute in the education field, particularly in developing instruments of metacognitive skills that can be used by researchers, professors and teachers in implementing authentic assessment.

MATERIALS AND METHODS

This study is a qualitative study to describe the progress of the development of skills of the participants of the workshop Teacher Profession Eduaction (TPE) to develop a proposal of a classroom action research by applying metacognitive strategies through portfolio assessment (Allan and Driscoll, 2014).

This research was conducted in Biology Study Program of Gorontalo State University at the beginning of the second semester of the TPE program from July to September 2014. The subjects were participants of Teacher Profession Education (TPE) 2014 as many as 14 people. The study background of the participants was S-1 Alumni of Gorontalo State University and Alumni of State University of Manado. Among the 14 participants, three of whom had carried out classroom action research.

Metacognitive skills of the participants was measured through the portfolio assessment in this case, the procedures used to plan, collect and give consideration to the assessment of the portfolio task of preparing an action research proposal of the participant by following the progress of the preparation of the proposal. The assessment is done by using the portfolio assessment-based instruments of metacognitive skills.

The skill of developing a classroom action research proposal is a skill of participants in preparing Chapters 1-3 of the proposal and research instruments according to the criteria set forth in the preparation of classroom action research proposal. Data collection in this study was conducted using the following four kinds of research instruments.

Metacognitive skills were measured by metacognitive-based portfolio assessment instruments by lecturers/researchers and the metacognitive-self-assessment-based instrument by workshop participants.

Task and portfolio assessment rubric were used to assess Chapter 1 and 3 and research instrument of the proposal. Task and rubric were set according to guidelines for writing the CAR proposal.

Metacognitive skills inventory sheet was adopted and customized based on the needs of the researchers using a standard inventory of metacognitive set (Schraw and Dennison, 1994) which consists of: designing what was intended to learn; monitoring progress in learning and assessing what was learned. The questions about ability to design were developed by researchers adjusting things that must be prepared by participants to participate in the workshop when drafting the CAR proposal and things should be prepared by participants in order to understand the action research. Monitoring was the activity to observe the development of proposals that had been made, whether they were in accordance with the input given by lecturers and to evaluate or to assess by themselves whether the proposals made were correct before they were submitted to the supervisor.

The format of the interview was used to explore the intricacies of participants in developing action research which consists of questions of what the difficulties were and how to seek solutions to problems experienced. Participant satisfaction questionnaires were filled out after the workshops of preparation of classroom action research. Participant satisfaction questionnaire was developed by adapting some portions of the questionnaire developed (Tengku, 2013). Peer assessment sheets were used by the participants to assess the research of their peer's proposals. Peer assessment form was developed from the theory of preparing a classroom action research.

Research procedure: The 1st phase, the lecturers (researchers) provided materials on classroom action research proposal preparation and made a discussion of the theory of proposal of CAR gradually from Chapter 1, Section 2, Chapter 3 and preparing research instrument. The workshop was held at the start date of August 12, 2014 to September 7, 2014. The workshop was filled with the provision of material, discussions and exercises gradually until the complete proposals were produced.

Participants prepare proposals according to proposal measures. Then the participants were asked to assess the proposal made using the portfolio assessment instrument guide metacognitive skills-based process designed by the researcher. Participants were asked to improve their proposals in accordance with the existing measures on metacognitive skill-assessment-based instrument. The work of participants was gradually assessed starting from Chapter 1-3 by the lecturers as the researchers and the participants themselves. Further, lecturers provide feedback.

The revised feedback was returned within the next 2 days. During the completion of the proposal participants could consult with the supervisor. Based on the results of improvements, the 2nd stage of a portfolio assessment was carried out. During the proposal revision process, interviews were given to the participants who had difficulties preparing the proposal. Participants interviewed were those who had low score in drafting the proposal.

The 1st stage of the proposal assessment and the results of revision were performed by the participants themselves and the supervisors. This was done, so, that participants were aware of their own performance in developing the proposals. It was expected that the participants knew the weaknesses of the proposals they made.

Data processing techniques: The data of the proposal assessment starting from Chapter 1-3 were in the form of a score which were then converted into the form of nominal figure ranging from 10-100. The value of the class average was then sought. The responses of participants to the questionnaire given after the CAR proposal workshops were in the form of accumulation of the number of 'Yes' and 'No' choices. Further the data were converted to percentage.

RESULTS

Participant's skills in developing proposal using metacognitive portfolio-assessment-based instrument: The workshop participants joined the orientation of the

Table 1: Gained Scores of participants in developing Chapters 1-3

	Chapter 1		Chapter 2		Chapter 3	
Name	Before feedback	Revision result	Before feedback	Revision result	Before feedback	Revision result
D.A	75.0	97.00	75.00	100.00	79.0	86.00
M	69.0	88.00	62.50	100.00	50.0	100.00
HD	53.0	88.00	75.00	100.00	79.0	86.00
WM	50.0	91.00	75.00	100.00	86.0	100.00
RS	56.0	91.00	62.50	100.00	64.0	71.00
CF	50.0	75.00	62.50	87.50	71.0	71.00
SZ	31.0	53.00	50.00	75.00	50.0	50.00
JB	25.0	75.00	50.00	100.00	79.0	86.00
NP	28.0	78.00	75.00	75.00	86.0	100.00
RP	18.0	69.00	75.00	100.00	64.0	71.00
KR	47.0	75.00	75.00	100.00	79.0	93.00
MM	37.5	84.00	75.00	87.50	20.0	71.00
YY	25.0	75.00	88.00	100.00	64.0	86.00
NK	25.0	69.00	75.00	100.00	64.0	71.00
Average	42.1	79.14	69.67	94.64	66.78	81.57

classroom action research materials for 3 days. Further, participants began to write Chapter 1. The works of the participants were checked by supervisors, given feedback and returned for revision. After revising the 1st Chapter, the supervisors corrected and gave score to each participant. The same thing was done to set up Chapter 2 and 3 and research instrument (Table 1).

In addition to Chapters 1-3, the participants had to complete the proposal with Lesson Plan along with student's worksheet, evaluation tools and assessment rubric appropriate with variable to be upgraded. Here are the scores of producing the supplement of the proposal in the form of nominal figures ranging from 10-100 (Table 2).

The common mistakes done by the participants of the workshop were in developing suitable assessment instrument there was no appropriateness between the content of the assessment sheet with the variables intended to upgrade. For example, a variable which was to increase the activeness was wrongly assessed using the observation sheet instruments made for assessing participation, responsibility and carefulness. Supposedly, the assessment sheets were used to measure the activeness were the spirit of asking, answering and responding questions. Another mistake was that the instrument of assessment was not fully made. It was not a complete test instrument or the non-test instruments were not accompanied by an assessment rubric.

Table 2: Gained scores of participants in completing proposal supplement (lesson plan, student's worksheet and evaluation tool)

Name	Before feed back	After feed back
D.A	80.00	90
M	80.00	90
HD	80.00	90
WM	90.00	90
RS	80.00	90
CF	90.00	90
SZ	80.00	90
JB	80.00	90
NP	70.00	80
RP	80.00	90
KR	80.00	90
MM	80.00	90
YY	90.00	90
NK	90.00	90
-	82.14	90

Table 3: Gained scores of participant's complete proposals

Name	Score
D.A	98.00
M	97.00
HD	99.00
WM	99.00
RS	97.00
CF	77.00
SZ	92.70
JB	96.00
NP	96.80
RP	95.80
KR	93.75
MM	99.00
YY	98.00
NK	99.00
Average	95.58

Classroom action research proposal assessment by peer assessment: After the participants had been given time to improve the overall proposal, the assessment was done by the peers. The peer assessment sheets were the ones used for CAR proposal assessment which included the title, the background of the problem, the problem formulation, problem solving, research objectives, the benefits of research, literature review, research setting, planning cycles, relevance and the use of Indonesian language. Results of the assessment are as follows (Table 3).

Participant's metacognitive awareness through metacognitive inventory: Metacognitive skills of participants was measured using metacognitive inventory sheet arranged by researchers by adopting metacognitive

Table 4: Metacognitive inventory sheet

Statements	1	2	3	4
Designing what you are about to learn				
I have goals that, I have to accomplish after attending the workshop on composing Classroom Action Research (CAR) proposal				
I remember back the material of the CAR that, I have ever gained in undergraduate (S-1) education				
I read a theory of how to develop the proposal of CAR whenever I participate in the workshop				
In my mind, I make a plan to be followed in order to prepare a good CAR proposal, considering I have never experienced CAR proposal development				
Monitoring progress in studying				
The feedback given by lecturers on the proposals that I made gradually (Chapter 1-3 and the preparation of instrument) helped me realize the mistake in the proposal that I made				
With the feedback (feedback) given by lecturers, it made me optimistic and motivates me to improve the proposals that I made				
With the feedback (feedback) given by lecturer, I tried to avoid making mistakes, when drafting the proposals in the next stage				
With the feedback (feedback) given by lecturer, I looked for the solution of difficulties when the preparing proposals				
With the feedback (feedback) given by lecturer, I sought information from various sources or media to correct my mistakes in preparing the proposal				
Assess what was learned				
Each time before performing a self-assessment, peer assessment and assessment by lecturers of the proposals that I made, I checked my proposal again whether it was in accordance with the rubric determined by lecturers				
After I attended the workshop proposal, I understood why I made a mistake and I have come to understand how to prepare a good CAR proposal				
After I attended the workshop I can judge the quality of the proposals that I made using portfolio assessment instrument made the lecturers				

1. A: Agree; 2. SA: Strongly Agree; 3. D: Disagree; 4. SD: Strongly Disagree

inventories of Scraw. Further, researchers made adjustments with the intention and the purpose of the study. Here, is the metacognitive inventory sheet used in the study (Table 4).

Participants filled the inventory sheet 2 times in the 4th meeting and in the 18th meeting. Based on the inventory sheet metacognitive, the scores of participants can be accumulated in percentage of the increase as follows (Table 5).

Results of participant's satisfaction questionnaire using metacognitive strategy through portfolio assessment: After the participants underwent a workshop for 3 weeks, they filled out a questionnaire about their satisfaction consisting of 5 questions. The result is shown in Table 6.

Responses to the 1st question show that, all participants liked the workshop model that used portfolio assessment in the developing of CAR proposal.

Responses to the 2nd question show that, 35% of the participants or 5 people who thought that the tasks of portfolio assessment burdened them.

Responses to the 3rd question show that, all participants who thought that, the tasks given were very helpful in training them to prepare a CAR proposal.

Responses to the 4th question show that, all participants got a lot of experience in preparing CAR proposals because the feedback given by the lecturers made the mistakes obvious and should be rectified.

Responses to the 5th question show that, 35% or 5 participants felt that the tasks of evaluating and assessing by using the portfolio assessment consumed their time.

Table 5: Metacognitive awareness of participants after taking part in classroom action research workshop

Names	Meeting 4	Meeting 18 (Last)
Y.Y	75	79
RS	81	98
N.B.T	79.2	98
C.T.	79.2	100
K.A.R	83	100
W.M.J	87.5	100
H.D.	70.8	98
M	87.5	92
R.P	75	94
M.M	77	98
D.L.	77	100
J.C.B.	77	83
S.Z.M	77	100
N.K.	77	81
-	1103.2 = 78.8	1321 = 94.36

Table 6: Response satisfaction score participants at the workshop on research proposal preparation class action

Response of satisfaction	Yes (%)	No (%)
Do you like the proposal workshop model that uses portfolio assessment?	100	-
Does the workshop using portfolio assessment burden you?	64	36
Do the tasks given highly promote your training to write CAR proposal?	100	-
Do you obtain a lot of experience in writing CAR proposal because of the feedback given by the lecturers to see the mistakes that should be revised?	100	-
Do you think that evaluating or assessing tasks through portfolio assessment is time consuming?	64	36

DISCUSSION

The metacognitive skill improvement of the participants through portfolio assessment: Metacognitive skill of participants in preparing the CAR proposal was expected

to improve when the metacognitive strategies were applied using the instrument of the metacognitive skill through portfolio assessment. By using guidelines of instrument metacognitive the participants were frequently reminded of how to develop the CAR proposal properly. This was always reinforced with explanations of the researchers (supervisors) verbally and in writing.

The supervisors applied the metacognitive strategies to the participants to arrange Chapter 1 through the use of the metacognitive-awareness-based instruments in which questions were given as follows.

"Have you done the problem identification before writing the background of the problem? Based on the problem identification, you choose the most urgent problems. Why are you interested in choosing this issue? Do you do the analysis of the problem? Are there any preliminary data on this issue? Are the problems you choose real problems that you or teachers face daily? Is there any benefit if studied with CAR? Is there any support of literature review or the results of previous studies that have been done either by yourself and others? Is the formulation of the objectives clearly outlined and directed, according to the background of the problem and referring to the problem and the way of solving the problems? Do you elaborate the CAR benefits, the additional value or a direct impact or a subsequent one on the ability of your student, on you as teachers and the benefits to schools?"

Metacognitive strategies implemented to train the participants to develop Chapter 2 was described through the metacognitive-awareness-based instrument in the form of questions as follows. Are the theoretical reviews that you arrange in accordance with the variables of the study? Are the systems that you coherently organize derived from the sequence of the title of CAR? Is there any support from the results of previous related studies? Is the formulation of the hypothesis of action appropriate? You can use: If ..... is used .... then ... ..or: By applying ..... then .....

Metacognitive strategies for Chapter 3 were described through the metacognitive awareness-based instruments in the form of questions as follows: Have you explained the research type? Have you explained the setting: location, time and research subject? Do you explain that the action cycle consists of four stages: planning, implementation, observation and reflection? Have, you written what research data will be needed to deal with the problem? Have you written what instrument that will be required for conducting the research? Do you explain what techniques of data collection are used: tests, interviews? Do you explain how the data are analysed? Do you write the criteria to achieve the indicator of success?

After the participants had organized Chapter 1 in the 4th meeting, the participants completed the inventory sheet of metacognitive skills. Based on the data of the metacognitive skill score it showed that the average metacognitive skill of the participants in the workshop was 79.8. The score of the metacognitive skills was expected to increase after the participants were trained to develop the proposals guided by the sheet of process portfolio assessment. After the participants were trained gradually to develop proposals through the supervisor's correction using feedback sheet, it was expected that the participants were aware of mistakes/weaknesses in their work. It would be the basis for the improvement of the proposal, beginning from Chapter 1-3 and the research instrument.

Metacognition is an ability to identify and monitor the process of thinking or cognitive processes of one's self (Donnely and Fitzmaurice, 2005). Thinking about thinking and then employing strategies to enhance and problem solve solutions when there is understanding failure. Thus, the process portfolio assessment instrument is gradually capable of acting as a tool to monitor the participant's process of thinking in the progression of developing a proposal. Supervisor/researcher kept reminding participants to conform to the elements listed in portfolio assessment instrument. By always obeying the guidelines of the portfolio assessment, the participants would always revise the mistakes and try not to make the same mistake. As shown (Baturay, 2015) that the use of portfolios in online courses can help participants to target targets. Participants can reflect on their learning, complete their own work and take responsibility for their learning process with enthusiasm and improve motivation for online English courses. As Shown by evidence of the participant's hard work during the preparation of proposals, the participants refilled metacognitive skill sheets. It was proved that the participant's metacognitive skills: the ability to realize the learning process and what strategy should be used to succeed in learning.

This is in line with the results of (Hulukati and Nusantari, 2012) that metacognitive skills will increase in line with the experience in learning. This shows how important it is to develop the skills of metacognition as a way to regulate thinking so that the participants can succeed in managing learning. The learners were skilful in consciously self-assessing about their abilities, to act more strategically and better than those who were not skilful (Rivers, 2001).

In his study of portfolio assessment in mathematics (Tantang, 2015) showed that a portfolio was very helpful in providing information about student's skills and

understanding and in giving an authentic overview to the teacher about what the student had learned, the difficulties and constraints experienced by students in learning and the type of assistance expected by the students. Portfolio assessment can be used as a tool to validate the information (Lallmamode *et al*., 2016) about the student's understanding of the concept. Assessment of the portfolio can also help students to construct a sense of responsibility in learning, self-monitoring in learning activities, create awareness to improve themselves and make logical arguments.

After 3 weeks, the participants had developed and produced a proposal and then they presented their proposal and obtained feedback/suggestions for improvement from their peers. The improvement results were subsequently assessed by the peers. Afterwards, the participants refilled the inventory sheet of metacognitive skills. Based on the data from the initial evaluation of metacognitive skills it appeared that the average score of the workshop participants was 79.8. After taking a workshop for 3 weeks the average score of metacognitive skills of the participants increased to 94.36. The average score increased to 15.56%.

The portfolio assessment (Herman, 2015) provides an authentic picture to the teacher on what students learned, difficulties and constraints experienced by students in learning and the type of assistance that is expected by the students. All of the information is not easily obtained through the usual test methods. In addition, the portfolio can be used as a tool to validate the information about the student's understanding of the concept. Additionally, through a portfolio, participants learn to evaluate themselves (self-assessment). This is very helpful in building a sense of responsibility in learning, monitoring themselves in learning activities, create awareness to improve themselves and construct logical arguments. Another emerging impact is that students are motivated to learn continuously, happy to follow the lessons and motivated to look for something better. This indicates that the evaluation/process portfolio assessment can be used as a form of metacognitive strategies to enhance metacognitive skills of participants so as to improve the skills of participants in preparing classroom action research proposal.

Participant's skills in developing a classroom action research proposal: Participant's skills in preparing CAR proposals are analyzed in four phases of activities that make up the activities of developing Chapter 1-3 and research instrument. At each stage, the drafts of Chapter 1-3 and research instrument were resulted. Supervisors provided feedback containing corrections and suggestions for improvement. At each feedback giving, the supervisors always explained why there was a mistake and what improvements should be. In the following, the mistakes committed by the participants are described, so, that participants can understand and make improvements.

The participant's mistakes in preparing Chapter 1 are as follows. The CAR problem account was not based on the real problems in the classroom, the problem was based on deductive theory. The identification of the problem and focus on issues were not outlined. The perceived problems in the classroom were not analysed to find the causes of the problem. The determined issue was not supported by the factual data.

Further, after participants submitted the research of Chapter 1, it was found out that four participants (YY, J, NK, SZ) changed the title. Consequently, the participants were late to submit the next chapter compared to the other participants. Supervisors gave a leeway time opportunity and inspected the research of the participants. Two participants raised the studies that had been studied, only different in material. Then it was advisable to add research variable, so, that participants were avoided from plagiarism.

One participant (SZ) did not successfully prepare chapter 1 because he had not managed to find a problem that occurred in the classroom, the problem raised was not a real problem in the classroom and he had not been able to formulate the problems and objectives. Before feedback was given, the average score of Chapter 1 was 589.5/14 = 42.11. After the feedback was given, there was an increase in the average score of Chapter 1 which became 1108/14 = 79.14.

Some of the mistakes made by participants in preparing Chapter 2 are as follows. The completeness of Chapter 2 which had commonly not made by the participants was to present the results of relevant research. Participants should explore the literature such as articles of the results of previous studies that correspond to the action variable or variables to be improved in CAR.

The next mistake was that the participants did not pay attention to the order or sequence in presentation of sub-chapters (sections) in Chapter 2. They should have followed the sequence of variable written in the title. The section order could have also been initiated from variable intended to be upgraded then later the variable of actions or initiated from variable of actions to variable that would be upgraded. The next mistake was that in the presentation of section of Chapter 2 the participants did not explain all of the variables in the study. Supposedly, all the action variables and variables that would be

upgraded were described in detail, so it could be assured that the enhanced variable was the result of the action variable.

The next mistake was that, the action hypothesis was not stated. An action hypothesis was supposed to be put at the end of Chapter 2. An action hypothesis is the accumulation of concepts and relevant research results.

The research of Chapter 2 before being given feedback obtained average score of 69.8. Based on the feedback, the participants corrected mistakes. After being revised, the supervisors reassessed the revision. The assessment result mean was 94.7. The score increased excellently but there were still two participants whose the revisions were not complete because the results of relevant research were not included. After the second revision was given, one of the participants (NP) had managed to present the results of relevant research. One participant (SZ) had not presented the results of research relevant because the research plan was still problematic on the similarity of titles from previous studies and the problem solving was improper.

Common mistakes made by the participants in Chapter 3 was that how the steps of the research were carried out in each cycle was not describe in detail, the procedures or steps to implement the learning did not match the syntax of the selected learning. There was not any explanation of the data, instruments and the techniques to collect data and there were no indicators of success. There was one participant (SZ) who had not managed to put together Chapter 3 well, consequently, more intensive guidance was needed and participants SZ already felt left behind from his classmates. Prior to feedback, the average score of Chapter 3 was 66.8. After the feedback, the average score of Chapter 3 was 81.6.

Feedback giving helped participants realize the strengths and weaknesses of the tasks they were doing. The feedback which was the basis of the next improvement was constantly delivered by the supervisor verbally and in writing. Then it was discussed with the participants so that they could understand what needed correction. The supervisors played important role in implementing the workshop which applying portfolio assessment. The supervisor should prepare all the instruments used to measure the work of the participants. Related to the benefits of this feedback (Ida, 2013) studied the use of portfolio assessment in mathematics learning in elementary school to enhance learning achievement and attitude of students towards mathematics. The study shows that the action of learning mathematics with portfolio assessment involving the parents to give feedback to each of the student's portfolio task can improve student's achievement and student's attitudes toward mathematics. This is evidenced by the increase in the student's average score of mathematics and a positive and a very positive attitude towards mathematics.

This is consistent with the results of research of Sutrisno and Ariestadi (2014) on the application of portfolio assessment in learning research methodology. The result shows that the problems faced by students in preparing the research proposal are: to formulate the title of the research, to make research rational in the background of the problem and theoretical framework, to determine the data collection techniques in each of the variables and data analysis and the spirit factors of the students to complete the task. With the implementation of a portfolio assessment, the performance and activity of students in learning research methodology can be improved.

The assessment of the development of Electronic Portfolio Assessment (EPA) in assessing scientific attitude and concept mastery of high school students in the practicum report on environmental pollution shows that the electronic portfolio assessment includes features that can develop a scientific attitude of students. In addition, the electronic portfolio assessment can reveal the indicators of scientific attitude of students based on the average score of the scientific attitude assessment rubric and self-assessment. Electronic portfolio assessment can assess the scientific attitude and student's mastery of concepts.

In other state that compared to other forms of performance assessment as discussed elsewhere, the portfolio assessment has an advantage because it presents a collection of document as evidence of the process and student learning outcomes, so, that to analyze the student's research, the teachers can know the potential, scientific attitude, strengths and weaknesses of the students.

Based on these results and supported by the results of other studies that have been discussed, it shows that metacognitive skills through portfolio assessment process can be used in the planning of learning classroom action research proposal, realizing the mistakes made when drawing up proposals and being able to correct mistakes. Furthermore, after revising and before submitting corrected proposals, participants know how to evaluate the proposal whether they still make mistakes, so that, they can really obtain maximum score.

Responses of participant's satisfaction: The advantages of portfolio assessment as metacognitive strategy were perceived by the participants in obtaining optimal learning experience in developing CAR, beginning from receiving

the material, practicing to prepare the proposals, discussions during the process of drafting and finally, presenting the proposal to gain valuable input for the improvement of their research proposals.

Apart from the advantages of portfolio assessment as metacognitive strategies, some weaknesses were also found in portfolio assessment. Based on the responses of participants, there were two items of questions which were responded by 35% of the respondents or 5 participants which declared that their time was consumed and the task was burdensome. This is one of the weaknesses of the portfolio assessment process because it requires more time, beginning from the process of drafting the proposals up to the production of the proposals that are ready to be presented in the seminar. With such processes which must be endured by the participants every day to correct the mistakes made and to do the subsequent tasks, a great deal of the participant's time was spent. However, it was also due to the fact that participant should prepare the school assignment, since, the participants had already been assigned to school to have field practice. Accordingly, the participants had to complete two activities, namely teaching in schools by preparing lesson plans and teaching materials. After school they participated in the workshops to complete the CAR proposals.

Viewed from the management of a portfolio assessment, researchers must also be aware of the number of documents that must be assessed. It required teamwork to objectively assess the work of participants, so that they essentially could learn and benefit from the portfolio. To assess a portfolio by Marhaeni (2006), suggested that the portfolio is rated in continuum (from very good to very poor) and is commented descriptively. The descriptive comments contain, among others, the praise for the good things in the portfolio and suggestions for improvement of the things that still need to be improved. In the portfolio itself, the weights/portion of the domains of cognitive, affective and psychomotor should be determined. Weighting should be appropriate with the learning objectives/basic competencies that have been set.

The advantages and disadvantages associated with portfolio assessment are in accordance with the research of as discussed elsewhere which indicates that the electronic portfolio assessment being developed has advantages and limitations in the implementation. Likewise Wulan (2005) on the Portfolio Assessment Strategies in Biology Learning in High School shows that portfolio assessment strategy has several advantages and disadvantages. Preventive efforts can be searched to cope with the weakness of the portfolio assessment through field trials in teaching practice. Teachers can make some modifications to the portfolio assessment in accordance with the conditions of the class and the results of its application will be a valuable input to the evaluation system of education in Indonesia.

The Application of Portfolio Assessment (Wahyu, 2004) in Competency Measurements of Students in Conducting Assessment in Psychology states that one of the weaknesses of the portfolio assessment is that it has low reliability and validity of the measurements made. Overcoming low reliability issues can be done with the assigning of more than one appraiser. A number of lecturers who have competence in this field need to be appointed as assessors of student portfolio. Overcoming the lack of validity can be done by developing the concept of the psychological assessment of competence and its clear and operational indicators and by developing measurable criteria which are used as the basis the appropriateness of the measurements made.

CONCLUSION

The skill of the workshop participants in developing a proposal can be increased by using a metacognitive-skill-based portfolio assessment instrument. This shows that the application of process portfolio assessment is suitable to be carried out to assess the ability of the cognitive, affective and psychomotor of a small number of participants or to reveal specific problems, for example, to reveal strengths, weaknesses and to diagnose someone's difficulty in preparing proposals and the problems that certain participants faced in developing a proposal. This study is therefore very appropriate because it is applied to small classes that require assistance in preparing a good research proposal.

The participants are skilful in developing CAR proposals after applying metacognitive skills through portfolio assessment. The improved skills of developing a proposal are shown in the average scores obtained in the following: Chapter 1 from 42.11-79.14%, Chapter 2 from 69.7-94.6% and Chapter 3 from 66.8-81.6%. The participants obtain an optimal learning experience in developing a CAR proposal in terms of identifying problems, developing methodologies and completing the proposal, diagnosing difficulties in developing proposals and obtaining valuable input for the improvement of their research proposals.

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