IMPROVINGTHE UNDERSTANDING OF RESEARCH METHODOLOGY AND SELF-REGULATED LEARNING THROUGH BLOG PROJECT

Heri Retnawati
FMIPA Yogyakarta State University
e-mail: heri_retnawati@uny.ac.id

Abstract: This classroom action research seeks to improveself-regulated learning (SRL) and understanding of research methodology at the graduate school. Nineteen graduate school students were involved. Using project-based learning (PjBL), students were assigned to create online blogs as the main project. The blog was intended for representing their understanding of research methodology by writing review of research articles and submitting a research proposal. The classroom action research was based ona model by Kemmis & McTaggart and was conducted in two cycles. The data were analyzed using mixed methods in which the main data were analyzed qualitatively and further analysed quantitatively. The results of the study showed that after completing the course, students not only gained knowledge about research methods, but were also able to write are search proposal. In addition, the project-based learning could facilitate students to practice their communication skills while writing on their blog and to improve self-regulated learning.

Keywords: ***Action research, project-based learning, blog, self-regulated learning***

PENINGKATAN PENGUASAAN METODOLOGI PENELITIAN DAN *SELF REGULATED LEARNING* MELALUI PROJEK BLOG

Abstrak: Penelitian tindakan kelas ini bertujuan untuk meningkatkan kemandirian belajar dan pemahaman metodologi penelitian di sekolah Pascasarjana. Partisipan yang terlibat pada studi ini adalah 19 mahasiswa master di sekolah pascasarjana. Dengan menerapkan pembelajaran berbasis projek (PjBL), mahasiswa diberi tugas membuat blog sebagai projek utama. Projek yang dibuat mahasiswa berupa blog untuk merepresantasikan pemahaman metodologi penelitian mahasiswa melalui tulisan dan usulan penelitian tesis. Penelitian tindakan ini dilaksanakan dalam dua siklus dengan model Kemmis & Taggart. Analisis data dilakukan dengan *mixed methods* secara kualitatif dengan dilengkapi analisis kuantitatif sebagai pendukung. Hasil studi menunjukkan bahwa setelah menyelesaikan perkuliahan, selain memperoleh ilmu tentang metode penelitian, dengan pembelajaran berbasis proyek dihasilkan pula calon proposal penelitian. Keunggulan lain adalah dapat melatih kemampuan komunikasi mahasiswa melalui blog dan dapat meningkatkan *self regulated learning*.

Keywords: ***action research, project-based learning, blog, self regulated learning***

INTRODUCTION

Mastering the research methodology has certain goals both the ones in the short term and the ones in the long terms, as having been stated by Weirsma (1986:2): "Graduate students may have a short-term or immediate need to conduct research for a thesis or dissertation. Along term result of the research experience should be that they become better professional educators and that they use research results increasingly in decision making". Mastering the research methodology is conducted through, namely, the implementation of Research Methodology course.

The objective of the course is to train the students with the skills of mathematic educational research and of thesis proposal writing specificly. Based on the results of reflection conducted by researcher during teaching the Research Methodology course utilizing the assessment results, the researcher found multiple obstacles that are selecting the problems in order to formulate the problem formulation, selecting the appropriate literature in order to be reviewed and deciding the appropriate research theme. The difficulties in writing thesis include selecing the research topic, arranging the thesis proposal and

implementing the literature review (Wang & Yang, 2012). Dwihandini, Marhaeni, and Suarnajaya (2013) identified that the students' difficulties in writing the thesis have been, namely, lack of self-confidence in deciding the thesis tilte and lack of knowledge toward the thesis title.

The aim of note taking is to store information and to compose reflection. Friedman states, "Note-taking allows people to outsource their memories to an external source (paper), as well as make content explicit for future reference" (noyear). Another benefit of note taking activity is to attain information (Schoen, 2012). In addition, note taking might increase the knowledge. Suritsky & Hughes proposed that "Note taking involves four broad skills: listening, cognitive processing, recording lecture content in written form and reviewing noted information" (Williams & Eggert, 2002).

Nowadays, knowledge develop rapidly. University students' notes are inputted into their gadgets by means of typing. The results of a study by Schoen (2012) show that the students who take notes by means of typing achieve higher score in comparison to the students who take notes by means of handwriting. Students have also been able to benefit the Internet as a learning source. Most of the university students have blogs. This situation might be turned into a learning media in order to encourage the students in taking notes that be loaded onto the their blog.

In relation to these problems, there should be a learning process that might increase motivation, understanding, skills and ability of conducting a research. One of the learning processes that might be implemented in order to overcome these problems is the project-based learning (Gülbahar and Tinmaz, 2006). The project-based learning that will be suitable for the university students is the one in which the university students will be motivated to provide their notes in the form of blog so that the students might improve their understanding toward the research methodology and will be able to compose research proposal in order top train their research skills.

The graduate school's students are demanded to have learning independency, a part of self-regulated learning. Multiple opinions have been provided by the experts in relation to the self-regulated learning. Zimmerman states that self-regulated learning has been a process of activating and continuing the mind, the behavior and the emotion continuously and incessantly in order to achieve the objectives (Zimmerman, 1989; Woolfolk, 2004:478).

Self-regulation is a cyclical proces because the input from the initial proficiency has been used for making decisions in order to repeat the efforts that have been conducted. The efforts of overcoming these problems are necessary because people, environment and behaviors always change as long as the learning process is always observed and monitored (Zimmerman, 2000). The discussion of self-regulated learning includes 3 phases namely cognition, performance control and self reflection (Zimmerman, 2000).

Paying attention to the three phases, that are cognition, performance control and self reflection in the self-regulated learning, the lecturers might contribute to give learning activities that are implemented both inside and outside the classroom and through the provision of tasks. The students are encouraged to establish their own language. Such learning concept adopts the definition of According to the definition of constructivism–which emphasizes that knowledge is the results of formation (construction)–in order to understand the learning materials, the university students should establish their own understanding through an activity (Pannen, Mustafa, and Sekarwinahyu, 2001:3).

In the learning processes, the efforts of constructing the concept of mathematic education research might be conducted independently by the students. These efforts are termed as independent learning. According to Kozman, Belle and Williams, independent learning is defined as individual efforts performed by the university students autonomously in order to achieve an academic competence (Pannen, Mustafa, and Sekarwinahyu, 2001:55). Some teaching methods can be used to increase the independence of learning, that are learning using seven jumps technique (Mukminan, Nursa'ban, and Suparmini, 2013) and reciprocal teaching method (Rohaeti, Suwardi, and Ikhsan, 2013).

In relation to the fact that the university students should be able to implement their research proposal and that the university students should be able to learn independently, one of the solutions that might be taken is to implement the project-based learning in the Mathematic Education Research Methodology course. Project learning is a learning process that actually

involves real projects that are visible and that might be developed by the students (Fogarty, 1997:78). Project based learning activities are student-centred, and integrated with real-world issues and practices (Educational Technology Division, 2006), brought challange for student to solve (Stivers, 2010).

There are five projects that might be implemented in a learning process, namely the structured project, the topic-related project, the genre-related project, the open-ended project and the template project (Fogarty, 1997:79). The project that might be suitable for the learning process in the course will be the structured project. There are three stages of learning project implementation (Forgarty, 1997). The first stage is called as the first-storey intellect or also known as the gathering activities. Then, the second stage is called as the second-storey intellect, which has been the process of crystallizing the university students' ideas. Next, the third or the final stage is called as the third-storey intellect.

Some of the previous researchers have implemented the project-based learning for increasing the learning quality. Pinkman (2005) implemented a learning process by means of blog within the foreign language learning in Japan. Cacabelos (2013) states that the project-based learning is an effective method for increasing the mastery of transversal competence. Asan & Haliloglu (2005) implemented the project-based learnin in a computer class in order to improve the learning outcome in relation to the teamwork, the communication and the social skills.Similarly, in a study that made use of technology, Köse (2010) developed a Web system for the project-based learning that enabled the students to attain experiences and to implement knowledge, attitudes and skills on the cases that the students encountered. Eskrootchi & Oskrochi (2010) also made use of technology in the project-based learning.

Elam & Nesbit (2012) implemented a project-based learning by using technology. The use of blog might also be benefitted in improving the students' learning independence (Pinkman, 2005). One of the technology-media that might be implemented in the learning process is blog. Williams & Jacobs (2004) implemented blog in the lecturing sessions of higher education. Blog has multiple benefits if it will be implemented in the lectures. The statement is similar to that of Sun & Chang (2004) who state that blog enables the students to share the knowledge actively and reflectively ad to increase their writing experience. In order to be more beneficial, within the learning implementation and during the learning presentation, Lin, Bado, Smiith & Moore (2013) suggest to assign a comment facilitator role.

In relation to the problems that will be solved in the class action research, the students' main problem in the research methodology is the lack of concept understanding. Based on the literature review, the problem solving efforts might be synthesized by improving the students' understanding through the representation of the materials that they should understand. By creating summary, the students learn to write and to represent their understanding so that they will have good research skills and they will be prepared to be reliable researchers through their skills in composing good research proposal.

In relation to the learning independence that the students should attain and to solve the problems in the lectures. The study is to improve the acquisition of research methodology and the self-regulated learning through the use of blog by implementing project based learning using blog and by describing the prominence and the difficulties in implementing the learning project.

METHOD

The participants in the study were the students who took the Mathematics Education Research Methodology course. These students came from the Mathematic Study Programs and the Mathematics Education Study Program; then, the number of participants were 5 male students and 14 female students (S1-S19). There were 16 metings in the study and each meeting took 150 minutes. The initial two meetings were used for the SRL training and the blog use in the learning process. Then, the other 14 meetings were used for conducting the classroom action research.

The Mathematics Education Research Methodology was usually conducted in a conventional manner by combining the lecture, the question and answer session and the provision of independent assignment with the casual evaluation system:. It turned out that the course conducted by means of such model and evaluation system had not provided optimum learning results, independent work and group work; the

effectiveness of such model and evaluation system had been difficult to determine in terms of effectiveness. Based on these situations, there should be efforts to implement an approach in the lecture and the approach should be expected to improve the mastery of materials taught to the students in the Mathematics Education Research Methodology and to fasten the period of final assignment completion. The use of information technology especially blog as a learning tool or a learning medium in the Mathematics Education Research Methodology had not been implemented.

The Research Methodology on the Mathematics Education course has been a compulsory course, which means that the graduate school's students of Mathematics Education should take the course. After completing the course, the students are expected to have the competencies materials in identifying the domain of Educational Research, in understanding the types of educational researches, in understanding the basics of educational researches, in identying the research problems, in identiying the research variables, in developing and formulating the research hypothesis, in establishing the paradigm from the results of theoretical review and formulating the research hypothesis, in implementing the sampling technique for gathering the research samples, in developing research indicators and instrument, in mastering the technique for evince the instrument validty and estimating the instrument reliability, in mastering the technique of data analysis, in composing the research proposal and in reviewing the results of the research.

The study was a classroom action research that referred to the model proposed by Kemmis & MacTaggart (1982). The action was the implementation of project-based learning (PjBL) in the Educational Research Methodology course by using blog. At the beginning of the course, the students were provided with the training of SRL strategy implementation.

During the course, the students were given an action with the setting that had been suggested by the project based learning. The gathering activities were conducted in the regular course by means of discussion between the lecturers and the students and the students from one to another. In the crystallization, each student designed content of a blog. The students then presented the ideas related to the topics of research methodology in their blog. In the research, there were two cycles that had been implemented by viewing the achievemend of the objective for each cycle. Each cycle consisted of 4 activities namely: (a) Planning: planning the learning action in accordance with the syllabus/curriculum, planning the monitoring and instrumentation and planning the evaluation and reflection; (b) Action; (c) Monitoring; and (d) Reflection the team of lecturers evaluated, analyzed and decided the plan of improvement for the next cycle.

The approaches that had been implemented in the class action research were the qualitative and quantitative approach, using sequential form. In the study, the data of observations, students' blogs, and rubrics provided data collection of students' acquisition in research methodology (Cameron, 2009). The data regarding the the implementability of the action and its description along with the obstacles that appeared were gathered through the observation and the researcher's interpretation toward the learning activities. The data then were supported by the interview toward the students and the interview was conducted in order to find whether there were any problems and whether it was necessary to gather special data. These data then were analyzed qualitatively by means of Miles & Huberman (1994) model with the following stages that are data reduction, data display and data verification.

The blog assessment was based on the substance of material mastery (55%), article focus/organization (15%), elaboration/support/ style (15%) and grammar, usability and mechanics (15%). The technology mastery in relation to the depth of the materials that had been composed in the blogs referred to the assessment writing by MacGraw-Hill (Anonymous, 2003). The article focus/organization included the focus convergence, the idea flow or the article path and the completeness. Then, the elaboration/ support/style included the relationship between the ideas and the topics, the main idea that had been supported by the narrative, the sentence appropriateness and the use of sentence variation. In order to validate the mastery of research methodology, at the end of the semester the lecturers also conducted final examination test in the form of constructed response test items. For the project that took the form of research proposal, the assessment was emphasized more

on the provision of research proposal that the students composed.

RESULT AND DICUSSION

Preparation

At the beginning of the study, during the first two meetings, the students were provided with the training programs. The first training program was the self-regulated learning (SRL) strategy. This training paid attention to the phases in the SRL and included the logics, the control of intention or performance and the self reflection. In the logics phase, the students were trained to the be able to perform task analysis (including how to set the objectives of self-regulation and how to design strategic planning) and to inspire the self-confidence and the self-motivation (including how to inspire the self-confidence and how to attain the task orientation). Then, the performance control phase included how to attain the self control (how the students should instruct themselves, to work with the focus of attention and to design the strategy of task completion). Next, the self-reflection consisted of self-consideration (how to perform self-evalution and self-attribution) and self-reaction (how to perform self-appreciation and to attain adaptive characteristics).

The second training included the general description of how to create a blog. For creating a blog, it was recommended to use the facilities that had been available in the web or in the other free providers. The explanation was supported by examples of the blog that had been created by the researcher, starting from the theme selection, the examples of provided menu in the blog, the colors that might be applied based on the opinions from the media expert and the strategies of creating interesting blog. The explanation that had been provided also included the benefits of using blog, the ways of posting an article, the ways of posting a picture and others. Since the explanation was provided in one meeting, the results of the explanation were general and did not have in-depth impact.

In addition to SRL and the blog composition, the training also provided the strategis of taking notes and rewriting the notes in the articles or the papers. The materials on the strategies of taking noes were expected to ease the students in summarizing the necessary materials in the process of understanding the mathematics research methodology concepts. The materials for the article composition were expected to ease the students in representing their notes in accordance to their own language and the representation of their notes shoudl refer to the sources that they used. These training programs became the materials for the students in working on the project for the learning process of the next cycle.

First Cycle

In the first cycle, the main objective was to understand the problems of mathematics research methodology, to formulate the problems according to the interesting research domain, to develop the blog for the students who had not created a blog and to compose 4 articles and upload these articles in their blog. At the beginning of the course, the students were introduced to the research, the research philosophy and the research importance in the life; The students were also introduced to the types of research that they might conduct in the educational research and the benefits of results from the mathematics education research.

Next, the students were divided into several groups to discuss the problems in the mathematics education. The first problem that the researcher found was that the discrepancy between the expectation and the reality that the students noted had not been in-depth. The second problem was the mechanics that had not been ideal it was because most of the students had not written the problems into a good paragraph. The third problem was that several students had made use of several references in explaining the background of their research problems. The fourth problem was that the points of research problems that the students presented had not been the research problems at all. The fifth problem was that there had not been accordance between the problem formulation and the research objectives.

Regarding the process of creating blog, the initial research showed that blogspot had been the most familiar domain among the students; as a result, the researcher decided that all of the students should use the blogspot for the learning process. In terms of layout, the students had been able to adjust it. However, there were several problems that were the titles that had been different and the titles that had not represented the content. At the end of the first cycle, there were only 70% of the students who had posted four articles as the summary of course materials.

Based on the material posts, some of the material substance should be improved starting from the truth of the content that had been written until the material completeness. After the findings had been confirmed to the students, there were several matters that became the trigger of the obstacles.

The learning pattern that demanded high independence was a new aspect for most of the students because the students had been in the process of self-adjustment. Most of the students admitted that they had been confused in the process of searching supporting literatures and of performing analysis toward the content of the article. Even there were several students who did not understand the importance of referring to multiple supporting literatures as the basis of their articles so that the articles might be held responsible scientifically.

In the reflection process, the researcher might conclude that there were several aspects that should be improved. The first aspect was the material substance and the writing coherence. The efforts that the university students might take was gathering as much insight as possible through multiple literatures. The second aspect was the writing process. There were four important points regarding the writing process that became the focus of improvement, namely: the relationship among the topic sentences, the composition of article title, the ethics in using quotations and the writing of list of references.

Based on the results of evaluation, although the students had been able to compose their Chapter I, the results of their composition had not been satisfying. The project-based learning should be modified in order to be implemented in the following cycle. Regarding the fact that each research had different title (each research has unique case since each student proposed different title), each student should have individual consultation service. Classically, there should be a re-emphasis on the self-regulated learning strategy. The following cycle would be implementing the project-based learning by modifying the provision of individual service and the students might compose 8 articles resulted from their notes and the articles might be posted in their blog.

Second Cycle

The theoretical course plan for the second cycle was to train the self-regulated learning and to conduct course by implementing the project-based learning. The course was conducted by means of direct learning, discussion, question and answer session, assignment, presentation of research proposal and comment. At the other meeting, the course was conducted by means of practice in relation to the project of research proposal accompanied by the provision of individual service.

The action in the second cycle was initiated by the re-training activities on the SRL. The direct learning process was accompanied by the question and answer session and a discussion was performed in relation to the research method materials. After the course had been ended, the summary that the students had composed would be represented into several articles that they should post on their respective blog. In this cycle, everytime the meeting ended, the students were targeted to immediately upload the representation of their notes during the course and the representation should be accompanied by other sources. The researcher then checked the articles that the students had posted one by one and the researcher would comment on these articles.

In accordance with the planning, the lecturers facilitated the students to discuss and to have individual consultation. There were two aspects that the lecturers emphasized namely the material substance and the implementability opportunity. The materials substance emphasized the contribution of the research in enriching the scientific domain. Next, the second aspect was the implementability opportunity. The process of graduate thesis writing had multiple limitations namely the time-related ones, the cost-related ones and the theoretical proficiency-related ones. The first limitation was the time-related ones. The process of graduate and graduate school education was around 4 semesters with an assumption that the last 2 semesters should be allocated for finishing the graduate thesis. The second limitation was the cost-related ones. The students should be able to calculate the necessary fund for finishing their graduate thesis. Last but not the least, the third limitation was the theoretical proficiency-related ones that referred to the standards of graduate students' ability.

The following learning process was students were directed to having active discussion in order to share the problems that had been selected by each group members. As a control toward

the discussion process, the lecturers provided space for individual consultation regarding the continuation of the problems under review. The learning process started entering the in-depth review regarding the problem formulation. The students were situated to compose the abstracts on the problems that they had written so that the abstracts became the topic questions in the form of problem formulation.

The lecturers explained classically the strategy of theoretical review composition. The students were situated again to have discussions regarding the composition of list of references. The product of problems and references review would be the theoretical framework. The students' weaknesses in composing the theoretical framework were the lack of theory and the concept that had been involved in the path. The next stage would be the classical consultation regarding the research method. At this stage, the lecturers provided general consultation and time for the students to have more in-depth learning in groups. The process of designing the research method was conducted individually but the students were directed to have mutual discussion. As a control on the process of designing the research methods, the lecturers provided time for individual consultation. Within the process of individual consultation, the researcher found that in general the students had found some difficulties in deciding the type and the design of the research. The lecturers ensured that the explanation of the research method had been in accordance and had been relevant to the materials that would be studied.

Next, the researcher performed initial identification toward multiple research ideas that the students had selected and had completed with the initial proposal. In terms of composition mechanics, the students had been better in composing the paragraphs. Several aspects that should be given attention and be improved were the theoretical review and the research methods. The first matter that the researcher found in the process of designing the theoretical review was that the theoretical review seemed to be an unmanipulated compilation of references. The crucial matter that the students had not conducted was to compose review from multiple references that they had attained. From the students who became the subjects of the study, the researcher found that they had not inserted multiple main references into their research process. Within the identification process, the researcher found so many quotations from a single source. The last problem that the researcher found was the selection of the literature that was not the original source.

In addition to criticizing the students' product classically, the lecturers also provided multiple feedbacks individually and the students were asked to follow up these feedbacks. The first aspect was the relevance between the research problems and the solution framework. The irrelevance would result in the ill-synchronization among the problems and the results within a research.

The second improvement that the students should afford was the sampling technique. The students had not fully understood that they might implement the non-probability sampling technique for the small number of samples and the probability sampling technique for the big number of samples. Another consideration was related to the type of the research that would impact the condition of the population. For example, the study conducted in a school where the students had been situated within a classroom might not enable a researcher to perform the cluster sampling technique. The third point that should be improved was the relevance of data analysis. Furthermore, the researcher found that the students still needed consultation for creating good analytical path.

The final aspect that should be reviewed was the understanding toward the instrument validity and reliability. The error that the research found was the use of item validity for proving the validity. According to Kumaidi (2004) r_{iA} has frequently been termed as the item validity and the assumption of the item validity was the item discrimination. The next stage would be performing reflection. At the end of second cycle, the students had composed a research proposal. Based on the results of evaluation, the researcher found multiple problems in the writing process that should be improved. Regarding the articles that had been posted, the students had been better in their writing process and most of the students had completed the 8 articles that they should post in their respective blog.

Final Results

After the course ended, the students also generated the research proposal that would be

ready to implement as part of their thesis. The reflection of the researcher as the lecturer of the course was that the project based research methodology had strengths and weaknesses. The use of three project learning stages had been able to assist the students in composing their research proposal. In addition, the project-based learning had been able to train the students' communication/ presentation skills, to train students' performance in sharing their mind through the blog and to train the students in criticizing or in reviewing the research proposals. However, the students had difficulties because they did not only have the regular course but also the assignments that they should submit. The lecturers should guide the students carefully from the problem formulation until the instrument design. Furthermore, the lecturers should provide space for the individual consultation.

By distributing the questionnaire, the students' learning independency was measured before and after the course had been conducted. The results of analysis showed that in terms of learning independence in the phase of reasoning, of performance control and of both self-reflection and self-regulated learning, in general there had been index improvement. The index improvement indicated that the learning process that was implemented had influenced the students' self-regulated learning process. The complete results would be presented in Figure 1.

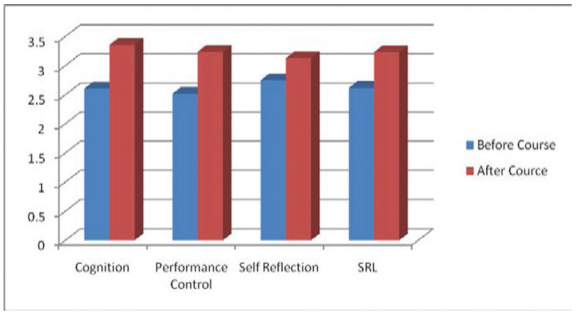

Figure 1. The Development of Students' Self-Regulated Learning Before and After the Course

The students' proficiency in composing their knowledge and science that had been attained from the lecturing activities were presented in Figure 2. Based on the figure, the mean of students' development in composing their knowledge had been increasing from one time to another, except in the part of research instrument. These results showed that the learning process had been implemented in order to motivate the students in representing their knowledge regarding the mathematics education research methodology that might be presented in their blog. In addition, the blog had other benefits that would be presented as the qualitative data.

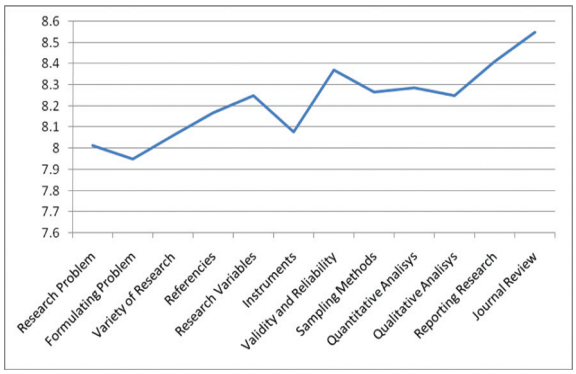

Figure 2. The Improvement on the Students' proficiency

Through the blog, the lecturers might provide feedbacks, improvement and appreciation. The students might benefit the blog as well for discovering whether the aspects that they understood and that they re-wrote had been the right comprehension or not. By representing their composition, the students would definitely demand more references. Such learning activities encouraged the students to learn more. In addition, the blog appreciated the students' self-actualization. The statement was supported by the students' opinions such as:.

"To use blog is a totally new experience for me. It turns out that I and my lecturer might have interaction and what I write is provided with the feedback from my lecturer." (S1)

"By benefitting blog, I become used to writing an article or a lesson summary. This aspect encourages me to write related references and by rewriting the references it is difficult for to forget the concept that I have understood." (S2)

The project-based learning by means of blog use provided huge contribution toward the students' learning independence. In addition, the students' memory regarding the concept would not easily fade away. The statement was supported by students' expression such as :

"I begin reflecting on myself for most of the time and I realize that I should be more qualified from time to time. I am motivated to keep learning and keep benefitting multiple sources. In the

same time, I am also challenged to compose the knowledge that I have understood."(S4)

"I am motivated to improve myself and that includes the quality of my article. Such learning activities train me to learn independently, starting from looking for references until composing the lecture materials. The reason is that I have targets that should be presented in my blog. Since I present the summary in my blog, I can read it anytime and anywhere." (S5)

There were some obstacles that the lecturers encountered in implementing such learning activities. The lecturers should train the SRL strategies first. Then, they should check each article that the students had posted and the provision of individual consultation.

The students should learn more aspects in managing the blog, including how to create more interesting layout. The technical problems in uploading their articles might be another obstacle.

Discussion

In the class action research within the study, the blog use by means of project-based learning implementation in the research methodology course might improve the students' material mastery and learning independency. At the beginning of the course, the students composed the materials that took the form of summary on the theory of research methodology and the product that took the form of research proposals. Within the process of generating these products, the students should read firstseveral theories that they should summarize; then, the students summarize these theories according to their own language in an article. Such process demanded learning independency and one of the ways for attaining the learning independency was implementing the self-regulated learning strategy. The implementation of self-regulated learning strategy had been in accordance with the results of previous studies. By taking notes and creating summary on the research methodology, the students would attain information (Schoen, 2012) in order to improve their comprehension (Bosch & Piolat, 2005) since taking notes trained multiple proficiency (Williams & Eggert, 2002).

There were multiple benefits of implementing blog by means of project-based learning within the research methodology course. The benefits were that the students became motivated in their learning process, the students might compose articles that contained the summary and the summary might be uploaded into the blog that might be benefitted for the learning reflection from any sources, the students might train themselves in composing an article with their own language and the students would have skills in designing the parts of research instrument. At the end of the course, the students had already composed their research draft. These findings had been in accordance with a study by Köse (2010); the results of this study showed that through provision of blog-creating project and the research proposal composition the students might implement the direct knowledge toward the case that was suitable to their interest. In relation to the blog presentation, the students might be motivated to learn multiple knowledge and experience. These findings had been in accordance with a study by Elan & Nesbit (2012), Sun & Chang (2012), Mynard (2007). Utilizing project based learning to improve the acquisition of research methodology is in line with the result result of Arce, Tabarés, Granada, Míguez, Cacabelos, (2013), implementing the project-based learning guarantees the acquisition of the competences and facilitates the learning of self-regulation.

Although there were multiple benefits that had been attained in overcoming the obstacles, in implementing the learning process and in assessing the research mastery and the learning independence by means of blog use, there were also multiple challenges that might be found in the implementation of such learning process. The assignment of the students became heavier because the students should compose good summary so that the summary might be worth of display in their respective blog. The students were also demanded to compose articles that should be the part of their thesis proposal. In addition, the assignment of the lecturers became abundant. The lecturers should criticize the articles that that the students posted on their respective blog every weekend. Then, the lecturers should provide their feedbacks and comments on these articles in order to identify the students' concept comprehension regarding the research methodology. Such activities demanded a very long time. The students also suffered from multiple technical problems in relation to the position and the strength of the Internet connection that they had. The quality of the gadget that the students possessed also

determined the access speed and the access speed was related to the cost that the students had spent.

CONCLUSIONS

The results of the study showed that after finishing the course, in addition to gaining knowledge regarding the research method, through the project-based learning the graduate schools' students had also been able to compose research proposal. The strengths of such learning activities are as follows: the students might be expected to compose their research proposal, the students might train their communication skills through the blog use and the students might improve their self-regulated learning. However, the course may give heavy assignments for both the students and the lecturers. For the students, they do not only attend the regular course but also the assignment of composing their research proposal and of representing their notes that should be posted in their respective blog. For the lecturers, the course becomes heavy because they should guide the students from the problem formulation until the design of research instrument indicator. In addition, the lecturers should provide space for individual consultation and providing comments and assessing the students' blog.

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