The Development of Blended Learning-Based Self-Learning on Classroom Action Research Training Material to Improve Teachers Professionalism

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ABSTRACT

The aim of this study is to develop an self-learning model based on the blended learning for classroom action research training materials to improve the professionalism of Junior High School teachers in Pati regency, Central Java. The study used Research and Development method. It consists of four main steps. They are   preliminary study, model development stage, model testing stage and dissemination stage. The technique of data collection used in this study was interviews, questionnaires and study documents. The data were analyzed by using interactive data analysis. The training of classroom action research at school is still focused on the mastery of the material. It has not been followed up by research and there is no supervision from advisors. The development of this blended learning-based self-learning can improve teachers performance in conducting classroom action research and enhance their ability in compiling the research report.

Keywords: self-learning, blended learning based learning, PTK, the professionalism of teachers.

1   INTRODUCTION

The Minister of State for Administrative Reform and Bureaucratic Reform No.16 / M.PAN / 11/2009 on teachers' functional status and its credit, the promotion of teachers must be able to carry out scientific publications or innovative work since teachers *pratama* level from grade III/b to III/c. Before this regulation was made, scientific publications and innovative work is not an absolute requirement for teachers under grade IV/A. One of the activities of scientific publications is classroom action research (CAR). During this time, teachers are not capable in conducting research and preparing the reports.

CAR is a tool to develop the professionalism of teachers, improve the learning process, encourage positive change and lay the foundation of a knowledge-based

learning (Mills, 2000; Dawson, 2012; Gall, & Walter, 2003). If the teachers already have a culture of research, it is expected that they can improve their professionalism.

Although classroom action research is considered useful for teachers development, but this activity has not been implemented yet effectively. Although teacher trainings including classroom action research (CAR) training has been conducted by government or school, the result is not effective yet (Rahman, et al, 2015). It needs an effort to address this problem so that the teachers are able to carry out research. An alternative way to overcome is blended learning-based self-learning. These are some consideration of blended learning-based self-learning: (a) there are still a major number of teachers who have not attended classroom action research training, (b) all schools are equipped with internet network, (c) a development program for teachers such as this can be conducted with a large number of participants, (d) this is one of the development model that supports the realization of self-learning, (e) teachers do not have to leave the classroom so it will not disadvantage the students, (f) it has a flexible model and can be carried out anywhere and anytime, and (g) the interaction between the teachers and facilitators can be conducted through website/ Moodle (Bawaneh, 2011; Martyn, 2010; Uzur & Senturk,2010).

2 LITERATURE ON SELF-DIRECTED LEARNING, BLENDED LEARNING, CLASSROOM ACTION RESEARCH, TEACHER COMPETENCY RESEARCH

Teaching is a translation of instruction which implies that activities are undertaken to facilitate learning (Reigeluth and Carr-Chellman, 2009: 6). Gagne (in Mayer, 2008: 7) says that teaching is the preparation of an external event to enable and encourage an internal learning process. Thus, according to Mayer (2008: 7) teaching has two components, namely (1) teaching is what teachers do, and (2) the purpose of teaching is to encourage students to learn.

There are some of the terminology associated with self-learning. Mujiman (2006) used the term learning as driven by the motivation of self (self-motivated learning), while Joyoatmojo (2011) used the term self-regulated learning and self-directed learning. The third terminology is different but essentially the same, i.e. independent learning or demanded independence in learning.

Self-directed learning is characterized by: (1) the independence of learners, (2) the autonomy of the management of learners independency, (3) having relevance to a task, (4) portfolio, (5) computer-based learning, (6) learner-based problem solving, (7) independent study, (8) independent evaluation, and (9) the material to be studied (Brown, 2004; Joyoatmojo, 2011;

Song & Hill, 2007). The most popular distance learning today is the blended learning. According to the United States Distance Learning Association and the Hale Group's Report on Distance Learing, more than 96% of colleges and universities now offer this program (Uzur & Senturk, 2010). Blended learning became famous because of its effectiveness and flexibility in learning process (Bawaneh 2011; Uzur & Senturk, 2010; Martyn, 2010).

Blended Learning is a part of the electronic learning or e-learning, ie learning to use electronic equipment. There are several models of e-learning, such as stand alone course, virtual classroom, learning games and simulation, embedded e-learning, mobile learning, learning and knowledge management blanded (Yusuf, 2010). Blended learning is learning that combines face-to-face activities and a variety of online activities (Bawaneh, 2011). Meanwhile, Uzur &Senturk (2010) stated that the blended learning is learning that combines face-to-face learning and online learning optimally to improve the satisfaction of teachers and learners.

Carr and Kemmis (McNiff, 1991: 2) says *"action research is defined as follows is a form of self-reflective inquiry undertaken by participant (teachers, students, principals, for example) in social (including education situation) in order to improve rationality and justice of (1) their own social or educational practices, (2) their understanding of these practices, and (3) the situation (and institution) in which the practices are carried out."*

Stringer (2007: 1) defines action research is a systematic approach to investigate the cause of people to be able to find solutions for problems faced every day effectively. Action research as a tool that can help individuals in schools, companies, and community organizations increase their effectiveness in the work.

As stated the Regulation of the Minister of State for Administative Reform and Bureaucratic Reform, the promotion of teachers must be able to carry out scientific publication. The teachers should be expected to master CAR and conduct the research. The teachers should be awere of relevant research about teaching and learning and to also be capable of understanding classroom small-scale classroom research to address professional issues and problem that arise in their work (Taber, 2010; Rossouw, 2009).

Several studies related to the use Moodle-based online learning for students has been done (Nugroho, 2013; Zyainuri & Marpanji, 2012) but research-related to self- directed learning for teachers in Moodle-based learning environment is rarely done in Indonesia. The collection of data through questionnaires, interviews and document analysis will find out the characteristics of self-directed learning and the difficulties faced by the teachers in conducting classroom action research, other than the feasibility and proper test. It is expected that the findings in this study will assist the supervisor in

guiding teachers to conduct research.

3   METHOD

3.1 Subjects Participants

Volunteers sampling was used because most of the teachers might refuse to participate this research due to some other reasons. They didn't participate the resaech because (1) they didn't have time to conduct the research, (2) their teaching loads were high, and (3) they had a lot of aktivities to do at school. In athical standards and human consent requirement protect individuals' right to refuse participation in research (Gall, Gall & Borg, 2003)

Eight of the participants were aged from 40 to 50 and the remaining four participants were over 50 years old. Four participants had attended the training and conducted the research (ATC), four participants had attended the training but never conducted the research and four participants never attended the training and never conducted the research (NTNC) (see the summary in table 1).

	Number of participants	percent
Gender Male	4	33,33
Female	8	66,66
Age 40 – 44	2	16.66
45 – 49	6	50
Over 50	4	33.33
Experience Attended the training and Conducted the research (ATC).	4	33,33
Attended the training but Never conducted the research (ATNC).	4	33,33
Never attended the training and Never conducted the research (NTNC).	4	33,33

Table 1. Participants' Genders, Ages and Training and Research Experience.

3.2 Data Collection

This research adopted qualitative research methodology, using questionnaire, interview and document analysis data collection methods. Multiple source data collections were used to validate and crosscheck the

findings (Patton, 1990). Questionaire was used to explore the use of blended learning and the participants's confidence in conducting the classroom action reaearch (CAR).

Interview was used to explore the self-directed learning, specially, prior knowledge, personal attribute: (1) resource use, (2) strategy use, (3) motivation and autonomous process: (1) planning, (2) monitoring and evaluation (Song & Hill, 2007).

To evaluate the CAR reports written by the participants we used the document analysis. The document analysis is systematic procedure for reviewing or evaluating documents-both printed and electronic (computer-based and internet-transmitted) material (Bowen, G.A, 2009: 27).

3.3 Data Analysis

Descriptive statistics was used to analysis questionaires and the information was analysized each item then cross-analyzed holistically. Interview took place in the interviewees' schools. The interviews lasted about 30 menutes. Questions were divided into three sections: prior knowledge, personal attributes and autonomous process. Finally, interviewees were given the opportunity to give comments. The result of interviews were recorded, transcribed and coded according to the sections. The assessors evaluated the the CAR reports were teachers who attendeded the training of trainer (TOT) held by the Department of Nasional Education. The CAR instruments were used to evaluate to determine the category of the reports. The categories of the report were 86-100 = excellent, 71- 85 = good and 56 – 70 = poor.

4   RESULT AND DISCUSSION

Eighty-three percent of the participants indicated that the blended learning was assessed easily only 17 percent participants had difficulty in assssing the blended learning due to the internet network. All of the participants agreed and strongly agreed that they had username and password to join the learning. The majority of participants (83.33%) used the user name and password and 17% participants still had problem to use them. Seventy-five percent of participants could download the modul but 17% participants indicated difficulty to download the modul. When asked whether messages provided by Moodle could be used, approximately 84 % of the participants agreed but 17 % participants couldn't use the messeges (table 2).

Factors such a adult learners' fluency and perception in using Information and and Communication Technology (ICT) influence the participants in learning CAR through Moodle (Lai, 2011; Dowson, 2012). They

still have difficulty to engage the learning because it was the first time for them to learn through online learning. In addition, fifty percent of the participant ages were fifty years old, they never studied the ICT and CAR when they were in university. After they had experience to use online learning at last they had internet skill. Song and Hill (2007) suggested the learners to use the learning resources, strategy and motivation to enhance the learning result.

Table 2. Participants' Perception of the Use of the Blended Learning

Statements	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)
1. I am able to assess the blended learning .	25	58.33	16,66	0.00
2. The participants have user name and password	58.33	41.66	0.00	0.00
3. I am able to use my username and password	25	58.33	16.66	0.00
4. I am able to download the modul from Moodle.	41.66	33.33	25	0.00
5. The participants are able to communicate using messeges in Moodle.	33.33	50	16.66	0.00

The overall experience of the participants with the facilitator was satisfied. All of the participants agreed that the facilitator gave them motivation. When asked the guidance given by the facilitator, all of the participants agreed. Ninety-one percent of the participants indicated that the question and answer managed well by the facilitator. All of the participants agreed that the facilitaotor help them write the CAR reports. All of the paticipants indicated that feedback provided by the facilitator was useful (table 3).

Facilitator's help was needed when the participants had difficulties in learning. Lai (2011) said that the success of online learning depended from internet skill, knowledge and facilitators or instructors. Most of the teachers at school weren't able to conduct the research because they didn't have facilitators to guide them. This research revealed that participants needed the facilitators to help and to motivate them, the assistant was needed from conducting the research until writing the research reports.The learners sometimes have low levels of autonomy either because of unfamiliarity with technology or complexity of the materials, the facilitator may help them (Huss, Sela & Eastep, 2015). The use of internet technology has been explained before the learners joined the research as well as the modul used in the learning.

Table 3.Participants' Perceptions of the Guidance Provided by Facilitator

Statements	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)
6. The facilator gave motivation when I was learning the CAR.	66.66	33.33	0.00	0.00
7. The facilitator helped me use Moodle.	50	50	0.00	0.00
8. The facilitator always answered the participant's questions.	50	41.66	8.33	0.00
9. The facilitator helped me write the CAR report.	58.33	41.66	0.00	0.00
10. The feedback from the facilitator was useful.	66.66	33.33	0.00	0.00

Statements 11 to 15 were constructed to measure the effective use of the modul (table 4). More than 83% participants agreed that they understood the content of the modul and more importantly, they felt that the knowled and skill were useful. Eighty-three percent of the participants found that the modul was helpful in conducting the CAR. The exercices provided by the modul was appropriate (74.99%) but 16.66 % of the participants disagreed. More than 83% participants felt that the research competency improved. Moduls help the participants learn classroom action research material, as blended learning the learners can access information anywhere but in this research, the participants like to use the moduls. Using technologies as learning tools, learners are able to direct access knowledge by themselves instead of just attending classes (Sriarunrasme, Techataweewan and Mebusaya, 2015).

Table 4. Participants' Perceptions of the Usefulness of the Module

Statements	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)
11. I am able to understand the content of the modul.	41.66	41.66	16.66	0.00
12. The knowledge and skill I learned from the modul are useful.	50	33.33	16.66	0.00
13. The modul help me conduct my CAR.	41.66	41.66	16.66	0.00
14. The exercises in the modul are appropriate.	41.66	33.33	25	0.00
15. After reading the modul, I think my research competency is good.	58.33	25	16.66	0.00

The blended learning steps for participants are described in brief in table 5. The face to face learning held in the participants' place as an orientation phase, in this case they got information about self-directed learning and blended learning through Moodle.

Table 5. Blended Learning Steps and Description

Steps	Description
Orientation	In the orientation phase, the participants were explained how to be good self-directed learners (SDL), especially personal attributes and autonomous process so that they could learn the classroom action research (CAR) through Moodle. The participants made the username and the password to open the Moodle whenever they wanted to learn. In this phase, the facilitator also explained in brief about the use of features in Moodle like download, upload, messeges, discussion forum and feedback. The orientation phase was face-to-face activity held in one of the participant's place.
Learning the CAR and conducting the research	After receiving the explaination, they started to down-load the CAR moduls and learned by themselves. If the participants had some difficulties in learning they could ask the facilitator through messeges feature provided by Moodle. The participants did the following steps: (1) upload the CAR proposals in Moodle, the fasilitator assessed them and if the proposals were aligible, the participants continued to conduct the research, (2) the participants uploaded every chapter when they began to make the CAR reports (3) the participants were suggested to open the feedback to see the suggestion given by the facilitator, and (4) the participants were encouraged to join the discussion forum to enlarge the knowledge.

Submiting the CAR reports and feedback	In the last phase, the participants submitted the CAR reports after conducting the research. The CAR reports were the result of learning and conducting the research. In this phase, the participants gave feedback after joining the blended learning. This phase was also face- to-face activity.

As indicated in table 5, the face-to-face activities ware orientation and evaluation (submitting the car reports and feedback) and the other activity was online. Smith and Kurthen (2007) said that blended learning incorporated some online learning activities (less than 45%), if online activities are between 45% and 80% the the course is hybrid learning. In this research, the portion of face-to-face activity was limited but most activity was online. The online learning focused on the CAR material and conducted the research. Moodle provided learning activities and the participants recommended to use all of the features in Moodle.

Statements 16 to 20 were constructed to obtain the participants' feeling after learning the CAR from the modul (table 6). More than ninety percent of the participants understood the CAR concept, only 8% of the participants didn't agree with the statement. Eighty-three percent of participants would conduct the CAR, 17% didn't want to conduct the research. The participants believed that the CAR would overcome the learning problem (75%), twenty-five percent of the participants disagreed that the CAR overcomed the learning problem. More than ninety percent of the participants believed that the CAR could improve the student achievement. The majority of the participants felt that the CAR was useful for the teachers (83.33%), the rest of the participants didn't agree.

One of the categories is related to the ARCS (attention, relevance, confidence and satisfaction) motivation proposed by Keller's theory is confidence (Keller, 2008). After the participants learned the CAR material through blended learning, most of them believed that they were be able to master and conduct the research. They had high confidence to conduct the research after learning through blended learning.

Table 6. Participants' Perceptions of the use of the CAR

Statements	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)
16.I have understood the CAR concept.	50	41.66	8.33	0.00
17.After understanding the CAR, I would conduct the CAR.	41.66	41.66	16.66	0.00

18. Conducting the CAR made me overcome the teaching problems.	41.66	33.33	25	0.00
19.I believed that the CAR could improve the students achievement.	41.66	50	8.33	0.00
20.I think the CAR is useful for the teachers.	58.33	25	16.66	0.00

Statements 21 to 25 show the participants' confidence after learning the CAR through the blended learning (table 6). More than seventy-four percent of the participants believed in identify the learning problems, 25% of the participants disagreed. More than ninety percent of the participants felt that they could write the research questions, only 8.33% participants couldn't. When asked about the ability in writing the literature review, more than 83% of the participants could write it, 16.66% of the participants couldn't write it. In making the data collection and data analysis, Nearly 75% of the participants could do them, 25 of the participants couldn't. More than ninety percent of the participants were able to describe the findings and make the conclusion but 25% of the participants weren't able to do them.

Table 7. Participants' Perceptions in conducting the CAR

Statements	Strongly agree (%)	Agree (%)	Disagree (%)	Strongly disagree (%)
21.I am able to identify the problems appear in the teaching.	41.66	33.33	25	0.00
22.I am able to write the research questions in the CAR.	50	41.66	8.33	0.00
23.I am able to write the literature review related to the research variable.	41.66	41.66	16.66	0.00
24.I am able to make the data collection and the data analysis.	41.66	33.33	25	0.00
25.I am able to describe the research findings and make the conclusion.	41.66	50	8.33	0.00

4.1 Interview Data

The qualitative data from interview supplemented the qualitative data

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from questionaires and document analysis. Analysis of the interview data findings that the majority of the participants found the self-directed learning flexible and convenient learning. The following answers demonstrate the flexible and convenient learning.

" I think the prior knowledge help me learn new knowledge or skill. Without prior knowledge I have some difficulties to master the new knowledge or skill".

"I usually use learning resource provided by Moodle if I have much time I will seek other resource in internet."

" I use a flexible strategy to learn the CAR in blended learning, it means that I don't use the certain strategy, the important thing that I can manage the learning strategy.

"In learning and conducting the CAR, I really want to master and conduct the CAR because the facilitator will guide me."

"I will ask my friends or facilitator when I don't understand the course."

"I consult with te facilitator because I don't have time to evaluate the validity and reliability of the information."

When asked about recommendation for improvement of blended learning, half of the participants said blended learning gave some challenges. Some participants recommended having the time management skills, while other participnats suggested using enough bandwidth for download or upload.

4.2 Assessment of CAR Reports

Writing research report is an integral part of conducting research. However, writing research report is not every research's exciting activity and it can be also time–consuming activity process (Derntl, 2014). After the researchers finish conducting the research they must write the research result and the findings. Robert Day (in Derntl, 2014) defines scientific paper as written and published report describing original research results. Most Indonesia teachers who tried to conduct the CAR they had difficulties in writing CAR reports. The failure of wrting the CAR report because writing is not teacher's culture.

The assessment results of participants' reports show that the participants who had attended training and have conducted research (ATC) scored 91.44 for the average. The participants who had attended the training but never conducted research (ATNC) scored 88.71 for the average. The participants who have not completed the training and have never conducted research (NTNC) scored 86.39 for the average. The assessment of CAR reports revealed that ATC participants had got the highest score because they had experience in conducting and writing the CAR reports. These show that prior knowledge can help the

learners improve the result of learning (Tawalbeh & Al-Zoud, 2013). The participants who join the training and conduct the research can improve the research practice. By conducting the research, the participants can define research questions, develop a research plan for data collection through observation, student work, field notes and interview and analyze the data. It can heighten the research skills. Difference from the participants who joined the training without conducting the research, they only master research theory.

5   CONCLUSION

Blended learning maybe one of the most suitable solutions for Indonesia teachers who haven't joined the training and haven't conducted the research. They don't only need the training but also need the facilitator to guide them to conduct the research. Using blended learning can motivate self-directed learning and enhance the research skills. In addition, it provides flexibility and autonomous learning for the learners. Moodle as the tools, the facilitator can help and guide the participants to conduct the classroom action research (CAR).

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