Investigating the Influence of Self-Directed E-Learning Toward Students' Academic Writing Ability

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Abstract— **This study aims to investigate the influence of self-directed e-learning of improving students' academic writing ability independently and learning face to face in the classroom. Self-directed e-learning is a model of learning based on technology that is designed for independent learners, the objective method delivered the learning material such as a discussion forum and formative test. In this research used Moodle as a Self-directed e-learning model where are the steps in this method are prepared learning materials and students' accounts, in learning activities, students do anywhere and anytime.**

The research method used in this research is the form of a quasi-experimental study using pretest-posttest design to measure abilities to write and learn through self-directed learning of one group. The collected data was analyzed by quantitative and qualitative. The qualitative analysis used to analyze data from observations and questionnaires. The population is students of English Education University of Graha Nusantara Padangsidimpuan, while the fourth-semester student is a sample.

Based on the results of the study it can be concluded that through self-directed learning improving students' academic writing skills and student's learning independently. Implementation this model also helps to improve the ability to anticipate rapidly increasing rate of change in scientific and technological advances that require students to lifelong learning. The self-directed e-learning model is well utilized in English language teaching activities. Using self-directed e-learning model developed the confidence of students who have tried to find and explore learning resources not only from the teacher. With e-learning, teachers and students do not have to be in one dimension of space and time. The learning process could be accessed anytime and anywhere. However, the utilization needs to be more optimized because most of them are first time users.

Keywords: self-directed learning, ICT, academic writing, independent learning

I. INTRODUCTION

Writing skills are one of the main material in language teaching in the English education Department on University of Graha Nusantara Padagsidimpuan. This topic is given to second and fourth-semester students with the aim that students have adequate skills in writing, both in writing letters, scientific reports, popular scientific papers, and scientific articles. The subject has given for supporting these writing skills includes the introduction of various languages, understanding spelling, the use of effective sentences, making paragraphs, and organizational discourse.

However, based on the actual conditions that occurred in the previous semesters, the learning process in improving writing skills was not optimal. Some for students' problems in teaching writing as follows; First, there is still a lack of opportunities for students to develop their learning independence. Dependence on the existence of lecturers is very high. Second, the students' ability to complete their tasks independently is still lacking. This can be seen from the fact that there are still many students who are unable to answer individual questions and assignments, even though the question is a modification or development of problem that has been solved in the learning resource. Third, students faced difficulties in solving problems given by lecturers. These various difficulties arise, because finding the answers as a goal to be achieved, while the level of mastery and meaningfulness of student learning is often overlooked.

In such a situation, the role of students is needed in developing their learning abilities, including independent learning so the learning outcomes achieved will be more qualified, original, and durable (Suarni, 2005; Chaeruman, 2007; Suardana, 2010; Sunarto, 2008 in Suardana, 2011)

Various problems that have been described above require reliable and alternative solutions immediately so not interfere teaching/learning process and output. Self-directed e-learning model that is used in this research as a solution considering that this strategy offers many alternative learning resources for

students beyond the material provided by teachers through the use of information technology and can be used to support the lack of conventional learning. The model of self-directed e-learning applied in this study is blended learning. Blended learning is a type of learning which combines conventional (face to face) with online teaching, where it offers flexibility in terms of time, place, and variations in learning methods that are more numerous than online or face to face methods.

Self-directed learning is one of the abilities that must be possessed by students to bring out their curiosity and give freedom to students to discover how academic life is by their daily routine. The meaning of this definition is to provide opportunities for students to set learning goals, plan learning processes, use selected learning resources, make academic decisions, and carry out activities to achieve learning goals (Seamolec, 2008).

According to Sari, Baedhowi, and Indrawati (2017), improving students'learning outcome can be applied using Moodle. It can be support for quality of education, where teacher and students should be able to use internet-based media. Hence, the researchers want to collaborate with technology on self-directed learning models to improve the quality and effectiveness of student learning independently and can utilize technology properly and judiciously. So technology-based teaching media in the self-directed learning model used is Moodle with the link: yuliadamanik.moodlecloud.com.

Based on the background above, the formulation of the problem of this research is (1) How does self-directed e-learning influence students' academic writing ability independently activity? (2) Does think-self-directed e-learning improve the students' learning outcome in academic writing?. The objectives of this research deal with investigating the influence of Self-Directed E-Learning approach through their learning independently to improve students'learning outcome in academic writing.

II. EASE OF USE

A. *Self Directed Learning*

Knowles (1975) explained that Self Directed Learning is a process in which individuals take initiative, with or without others' help and the process in Self Directed Learning is performed realizing their own needs in learning, managing personal goals, making decisions on learning resources and strategies and assess the results.

The theory of Guglielmino (1991) suggested that Self Directed Learning can occur in many varied situations, ranging from classrooms that focus directly on teachers (teacher-directed) to learning with self-planned and self-conducted students.

Whereas according to Gibbons (2002), Self Directed Learning is an increase in knowledge, expertise, achievement, and developing oneself where individuals use many methods in many situations at all times. Self Directed Learning includes how students learn every day, how students can adapt to a rapidly changing situation, and how students can take their initiative when an opportunity does not occur or does not appear.

From some of the above meanings, it can be concluded that Self Directed Learning is an enhance in knowledge, expertise, achievement, and individual self-development which begins on its initiative by learning self-planned and self-conducted planning, realizing self-learning needs in achieving learning goals by creating self-learning strategies, as well as self-assessment of learning outcomes and having the responsibility to be individual of change in learning.

B. *Self-directed E-Learning*

Changes in the learning system experienced rapid development alongside the development of information and communication technology which has brought several changes to the advancement of the educational globe. The learning technique has also experienced likewise several changes along with these innovations, both individual learning techniques, learning media, or learning processes. The development brought many educational institutions beginning to leave conventional learning and move to technology-based learning.

Technology-based learning is very helpful for learners as it can shorten the timetable of learning and save costs that a study program or instructional program has to spend.

Technology-based learning utilized in this research is the Moodle online class, which contains learning material, discussion, and assignments.

C. *Learning Independence*

Rusman (2012) discovered that the most significant thing in the independent learning process is to see the enhancement of students ' abilities and skills in the learning process without the assistance of others. Students will try to comprehend the content themselves in independent learning, if they get into difficulty then learners will discuss it with the teacher.

The role of a teacher in independent learning is just as a facilitator and is not the only source of knowledge. According to Martinis Yamin (2008: 203-204) in independent learning learners are accustomed to applying active and participatory learning methods to develop themselves independently which are not dependent on the presence of teacher and friends.

The teacher in creating independent learning should concentrate on a few things, specifically: 1) teacher must plan the learning activities well, 2) learning planning and assignments are given must be by the initial characteristics of students, accordance with the initial characteristics of learners, 3) teacher need to improve themselves continuously, 4) independent learning also requires adequate facilities and learning resources.

D. *Learning outcomes*

Learning outcomes acquired by students are as a result of their learning process. Hamalik (2004: 30) stated that learning outcomes are the changes person's behaviour after learning, for instance from ignorance to knowledge, from incomprehension to full understanding.

Learning outcomes are changes that result in individuals changing their attitudes and behaviour. Based on it, the researcher concluded that learning outcomes are skills possessed by students after they receive learning experiences

that have been experienced as the form of attitudes and behaviour.

E. *Academic Writing Ability*

Academic writing is one of the primary components in learning and teaching activities at the university level, thus it is very important to enhance writing abilities (Mursitama, 2015: 5). Similarly with Swales & Jhon (in Lele et al., 2010: 5) stated that academic writing is a sort of writing activity using certain guidelines accepted in the academic community.

Academic writing is a result of many considerations, such as readers, goals, organization, style, flow, and presentation. Moreover, academic writing must argue with a spirit inspiring the entire unity of writing. additionally, the ethical structure of writing academic is additionally imperative that must be considered by the writer.

For the higher education level, writing skills are more aimed at the academic writing area than non-academic writing. Although the fact that it doesn't rule out the possibility if writing learning can be developed the realm of non-academic writing. Within the college curriculum, academic writing learning starts from writing paragraphs, writing essays, papers, writing proposals, and writing research reports (Helaluddin, 2017).

In learning academic writing especially at the college level, many challenges need to be looked at. Some of the challenges include (1) lack of student confidence in writing, (2) lack of students' knowledge of learning and abilities in academic writing, such as making a writing framework, paraphrasing, and summarizing, and (3) academic writing in some cases expecting that students should write from the expert side, even when they are not experts in a specific topic (Fadda, 2012).

III. RESEARCH METHOD

This research used classroom action research (CAR) which involves repeated cycles to correct and improve the quality of learning and student learning outcomes by taking certain actions.

This research was set at the English education study program at the University of Graha Nusantara Padangsidimpuan. To obtain data, this study carried out at the even semester of the 2018/2019 academic year. The research subjects were taken one class, that is students of English education study program at the University of Graha Nusantara Padangsidimpuan.

The research variables analyzed during this study are as follows:

- Student learning independence which has aspects: (1) desire to learn to consist of initiative and ability to solve the problem, (2) self-management consisting of student behaviour in fulfilling their own needs and take responsibility for their actions, and (3) self-control that consists of an attitude of confidence and the ability to make choices.

- Student learning outcomes, this data is a score obtained by students from the written test.

The techniques for collecting the data were used, namely: (10 questionnaires, (20 documentation, and (3) written test. This research used quantitative and qualitative for analyzing the data. Quantitative analysis used to describe the results of students'outcome of learning material mastery. While qualitative analysis used to evaluate the result of the questionnaire that used to capture student learning independence. The achievement of student learning independence within the learning process is analyzed by determining the average value calculated using the formula:

$$\text{Success rate} : \frac{\text{total score acquisition}}{\text{number of activity items}} \times 100\%$$

After the data that has been analyzed will be determined by frequency distribution within each category in the table below:

TABLE I. PER CENT DISTRIBUTION FOR STUDENT LEARNING INDEPENDENCE

Value Range	Criteria
85% - 100%	Very active
75% - 84%	Active
65% - 74%	Enough
45% - 64%	Less
≤44%	Much less

a. Modification: Arikunto, 2008

IV. FINDING

E-learning media that used in self-directed learning is Moodle with the portal address yuliadamanik.moodlecloud.com. E-learning is utilized as a learning media consisting of many features, each of which contains teaching material, assignments, and discussion forums. The implementation of self-directed e-learning refers to the schedule of lectures starting in the even semester academic year 2018/2019. This research presents the data analysis that is employed from its cyclical spiral, namely; planning, acting, observing, and reflecting.

Activities at the planning include preparation of discussion material, training materials in the form of quizzes and also independent learning materials. At this stage, students are needed to have an account first on the e-learning system. After registering, the lecturer will enrol the student to be able to access the intended lecture. The students can look for or download learning materials that have been uploaded by the lecturer before face-to-face learning is held. So that students can learn independently at home before the face-to-face learning at school. So that during students face-to-face learning students are expected to have an initial concept of the subject matter that will be discussed. This is intended so that the learning process more effectively and efficiently. The discussion column and list of tasks on the moodle are given to familiarize trained students to work on the questions.

The next is the learning step that involved the learning process carried out by students through e-learning

independently and be done anywhere and anytime. In each unit of material that has been uploaded by the teacher, the duration of the online activity is determined. Starting from the opening of the unit until the end of the unit where students can no longer carry out activities on the unit. This system is applied to implement student discipline in effecting the assignments given. Each unit of material is given 6 x 24 hours after the face to face learning ends.

In this course, the teacher has prepared several variations of assignments such as a true or false, multiple-choice and written essay. In each unit, there are also videos (multimedia files) and journal files (full-text) that are uploaded and can then be accessed by students to facilitate them in independent learning, where the limited time in face-to-face learning, then enables students to utilize additional time in do the assignments given.

All material uploaded in the Writing II course was previously also applied to face-to-face learning. So the learning materials are also the material contained in the Lesson Plan.

Furthermore, at the evaluation step, students who have completed the discussion forum as well as assignments in each unit, they will immediately receive feedback in the form of scores (scores) that have been prepared and comments from the teacher. Assignments given by the teacher can make students more independent and help students easier to do their tasks for the next meetings. That means students will be easy to do their tasks independently at any time from anywhere.

Teachers can also carry out monitoring and evaluation activities for each unit and test that has been done by students without having manual corrections that take a long time. And control the time students work on quizzes provided and learn using e-learning.

The indicator in determining the quality of the learning process, several aspects of student learning independence are utilized, namely: (1) the desire to learn to consist of initiative and problem-solving skills, (2) self-management consisting of student behaviour in fulfilling their own needs and being responsible for their activities and (3) self-control which consists of confidence and be able to make decisions in choosing. In this study, the questionnaire scale of student learning independence consisting of 35 items adapted by Knowles, M. S. (1975) in Hiemstra (1994).

TABLE II. THE RESULT OBSERVATIONS OF STUDENT LEARNING INDEPENDENCE

The Aspects of Student Learning Independence	Cycle 1	Category Level	Cycle 2	Category Level
The desire for learning	64%	Less	72%	Enough
Self-management	61%	Less	70%	Enough
Self-Control	71%	Enough	75%	Active

From Table, II displays that the learning activities which is a score of learning independence for the four meetings in cycle 1, it has 64% on aspects of the desires to learn in the less active category. Likewise, the aspect of self-management has 61% with a less active category. And the aspect of self-control has 71% with enough active category. The results indicate that there are still not many students who show the expected activities at the beginning of learning in cycle 1. Most students are still waiting for the information conveyed by the teacher so that the classroom atmosphere is still passive and centred to the teacher. Students haven't completed learning activities, they haven't studied the modules before learning begins, and the ability to ask questions and express opinions is still very low.

In cycle 2, the learning independence score within the desire to learn aspect was 72% which included enough active qualifications. The aspect of self-management has 70% which is in enough active category. And the aspect of self-control has 75% which belongs to the active category.

From the results of the score analysis in cycles 1 and 2, there was an increase in the success criteria. In the aspect of learning desires increased by 8%, self-management amounted to 9% and self-control by 4%. In cycle 2 an action is taken to package moodle more interesting that is easy to use, such as using Moodle on a smartphone. So that students are motivated to attend the learning process both online and face to face. For students who have difficulty doing online learning activities, it is recommended to study with other students who have been able to take online learning. The results of the research in cycle 2 showed an increase in student activity in all aspects of observed activities. Therefore it can be concluded that the use of e-learning in the learning process can increase student learning independence. Thus the cycle of classroom action research consists of only two cycles with the results on all aspects of observation of student learning independence being above 70%.

The final score of student learning outcomes which is the output of the learning process for two cycles is shown in Table III.

TABLE III. THE RESULT OF STUDENT LEARNING OUTCOMES

No	Cycle 1	Cycle 2	Gain Score
1	50	85	35
2	53	72	19
3	57	93	36
4	50	67	17
5	60	92	32
6	50	68	18
7	57	78	21

No	Cycle 1	Cycle 2	Gain Score
8	60	90	30
9	60	90	30
10	60	80	20
11	63	82	19
12	50	78	28
13	50	80	30
14	50	80	30
15	57	80	23
16	70	72	2
Min	50	67	17
Max	70	93	23
Mean	56,50	80,39	23,89

Based on Table 03 it can be seen that the learning outcomes achieved by students throughout the cycle 1 with a mean value of 56.50. The low score of student learning outcomes in cycle 1 is caused by students not familiar with the learning model applied. With more intensive guidance within the form of a guided tutorial and coaching on the utilization of moodle, that was conducted as a result of reflection at the end of each lesson and at the end of cycle 1, students began to gradually be able to attend learning and achieve better results. This can be proved by the mean score of the final test cycle 2 of 80.39. Quantitatively an increase in learning outcomes scores of 23.89 from cycle 1 to cycle 2.

V. CONCLUSIONS

Based on the results of the analysis and discussion described above, some conclusions are obtained as follows: (1) the applying of the self-directed e-learning model can improve student learning outcomes in academic writings (2) the application of the self-directed e-learning model can increase independence student learning. Using self-directed e-learning model developed the confidence of students who have tried to find and explore learning resources not only from the teacher. Furthermore, the development of Moodle media is required to support the learning process in more interesting and controlled lectures. Implementation this model also helps to improve the ability to anticipate rapidly increasing rate of change in scientific and technological advances that require students to lifelong learning.

For future discussion, the self-directed e-learning model is suggested to be applied to other subjects to enhance the quality of the learning process. E-learning can be used to improve understanding of the material and expand the source of teaching material and increase learning activities as well as helping teacher for time efficiency in the face to the face learning process. Teachers and students do not have to be in one dimension of space and time. The learning process could be accessed anytime and anywhere. Others, the teacher should develop more complex problems when applying the model of self-directed e-learning.

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