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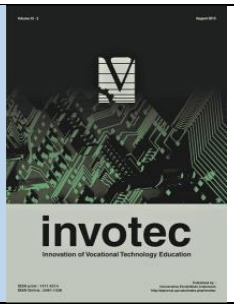

LEARNING REFLECTIONS TO BUILD LEARNER AUTONOMY

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ABSTRACT

The research objective was to improve the students' competency mastery which is the demand for lectures; building student learner autonomy; describes the stages of learning reflection to build learner autonomy. Quasi-experimental research is used to achieve research objectives. The research subject is a reflection of learning in the Statistics subject in the Culinary Education Study Program, Universitas Pendidikan Indonesia. This research used exit tickets and test instruments. The results of the study obtained an increase in student learning outcomes from the tests given; learner autonomy indicators are found in students' answers to exit tickets. The stages of learning reflection are first, the action taken as an experience (action); second, looking back on the actions that have been taken (looking back on the action); third, assessing the quality of decisions in real situations and overcoming limitations (awareness of essential aspects); fourth, making decisions for corrective actions (creating alternative methods of action); fifth, to continue the learning process with better action (trial). The conclusion of this research is that learning reflection can increase the mastery of student competence, build student learner autonomy, and there are five stages of learning reflection to build learner autonomy.

1. Introduction

The most fundamental change in education is moving towards student-centered learning. Student-centered learning (SCL) is a more active student learning process, not only doing learning activities, but also thinking about and forming independent learning. The teacher is in charge of conditioning the learning environment. The learning evolution must shift from teacher-centered learning to student-centered learning.

Teachers and lecturers hear very often about SCL, but not much student-centered learning is actually happening (Jacobs et al., 2016). SCL reflects the reality of how students learn regardless of how the teacher teaches. Learning must look to the future. Learning is a process of building knowledge by utilizing what is already known to understand what is learned and to build new understandings (Sternberg & Zhang, 2014).

Learner autonomy is defined as a person's ability to take responsibility for their own learning (Holec, 1981). Several indicators of Learner Autonomy, including (1) actively participating in the learning process; (2) learning by using various sources; (3) knowing one's strengths and weaknesses; (4) can make decisions and solve problems; (5) gather information in various ways to solve problems; (6) believe that they can learn; (7) Students see the importance of learning (Suphandee et al., 2018).

Learner autonomy can be built through reflecting on learning. A learning reflection strategy to build learner autonomy can use exit tickets. Exit tickets provide an opportunity for students to think about what has been learned, how to study, where to study it, and what is needed to find out what to do next (Owen & Sarles, 2012). The exit ticket is implemented through the following stages: (1) the teacher makes key questions to ask students at the end of the lesson; (2) students write their responses individually on the leaflets (Exit Ticket) they receive; (3) the last five minutes of learning time, students are given time to write down their responses, and submit an Exit Ticket when leaving the classroom.

The research is focused on reflecting on learning by using exit tickets to build learner autonomy. The formulation of the research problem is described in the following questions: (1) what are the stages of learning reflection to build learner autonomy ?; (2) what are the student learning outcomes using the exit ticket learning strategy ?; (3) can the learning reflection strategy using exit tickets build learner autonomy? The research was conducted in statistics lectures in the Culinary Education Study Program, University of Pendidikan Indonesia.

Learning can be explained from three perspectives, namely experience (experiential), behavior (behavioral), and neurological. From an experiential (phenomenological) perspective, learning is defined by individuals who are involved in learning. Learners describe their experiences about the events involved in learning. Learning is categorized in different ways. The second perspective, which a person takes when learning is behavior (behavioral). Learning is an observable change in a person's reaction to a stimulus situation that can also be observed (Schmeck, 1988). The third perspective, learning is the process of the nervous system being changed by its own activities. Neural activity alters active neurons and that change is the structural basis of learning. Changes occur as a direct result of nerve activity itself. Nervous system changes as a direct result of information processing (Weinstein, 1998).

Reflection is a deliberate intellectual exercise as a process of clarifying, evaluating the meaning of experience, and planning future actions with a new understanding of one's own weaknesses and strengths (Boyd & Fales, 1983; Jones & Dotson, 2010). Reflective learning means looking back at past learning experiences and understanding things by connecting past experiences with current and future learning needs (Siang, 2002).

The ALACT model is a reflection model that can be used in learning. This model is built on the assumption that people basically reflect on their learning experiences. Structured reflection is important in promoting professional behavior and supporting competency development. The ALACT

model, which aims to construct a reflection, is named after the first five phases of reflection. ALACT, namely Action, Looking back on action, Awareness of essential aspect, Creating alternative methods of action, and Trial (Khortaghen & Vasalos, 2005). Reflection of the ALACT model can be seen in Figure 1.

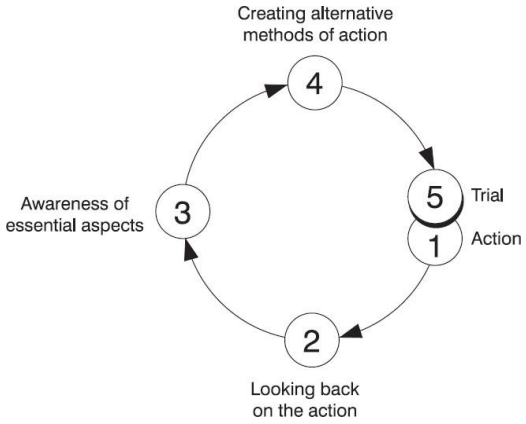

Figure 1. Reflection of the ALACT model

2. Methods

This research is a quasi-experimental study to see the impact of learning reflection on learning outcomes and learner autonomy. Researchers provide treatment (intervention) to research subjects with the aim of knowing the effect of treatment. The research subjects were students participating in the Statistics course in the Culinary Education Study Program, the Department of Family Welfare Education, Universitas Pendidikan Indonesia. The number of students participating in the lecture was 51 people and no sampling was carried out. Treatment given: (1) delivery of course materials; (2) coursework to measure the achievement of understanding the course material presented; (3) exit tickets, as a reflection of learning that all students participating in the lecture must fill. Research using test instruments and exit tickets. Learning achievement is measured using tests. The analysis of the learner autonomy indicator was carried out based on the results of categorizing the student's answers to exit tickets. All research activities are carried out online because the research was carried out during the Corona Virus Disease (COVID-19) pandemic.

The subject matter presented in the study was a normalized test of data distribution, correlation analysis and regression analysis. The learning outcomes of each course material were tested by means of an essay test. At the end of each lecture, after students have studied the course material and worked on assignments, students must fill in exit tickets. Exit tickets contain a number of questions that require open answers in accordance with the experiences students experience when studying course material and working on coursework. Filling exit tickets is a reflection activity of learning. Reflection on learning using the ALACT model.

The test results are calculated as the average grade score, median and mode (central tendency value) to see the progress of student learning outcomes. The value of central tendency on

the first, second and third test results were compared. There was no statistical difference test in the process of comparing the test results. The test result score is a population parameter. Student responses to exit tickets are grouped. The grouping results are given the name of the answer group category. This analysis aims to see the student learning independence.

3. Results and Discussion

The study used four online media in providing treatment and measuring the impact of treatment. The media used are the Integrated Online Learning System (SPOT) of Universitas Pendidikan Indonesia, Google Classroom, Google Meeting and Whatsapp. SPOT is used to present lecture material, lecture assignments, exit tickets and tests. Student work regarding lecture assignments is also submitted online via SPOT. Google Classroom and Whatsapp are used as media for discussion between students and lecturers in solving problems that students encounter in studying course material. Google Meeting (Conference SPOT) is used to provide corrections to student errors found during examination of lecture assignments and to provide reinforcement.

3.1 The exit ticket learning strategy stages

The steps taken in providing research treatment to research subjects are described as follows.

a. Action: Students study the course material presented by the lecturer at SPOT. After completing studying the course material according to the instructions given, students must do lecture assignments. The assignment material is adjusted to the course material presented. The assignments that have been completed by each student are collected online via SPOT
b. Looking back on the action: Students look back at the activities that have been carried out in studying course material and doing assignments. Students recall the course material they have studied, which have been and have not been understood, as well as problems encountered while doing assignments.
c. Awareness of essential aspect: Students determine important aspects of the experience of studying course material and doing coursework. An important aspect that students must realize is the benefits of course materials that are felt at present and in the future. Another thing that students must be aware of is their limitations in studying course material and doing course assignments.
d. Creating alternative methods of action: Students determine alternative actions to overcome the limitations they feel when studying course material and doing assignments.
e. Trial: Students continue the learning process by studying the next course material and assignments which are the demands of the course with better activities.

Steps b to d above are carried out by students when they answer the questions presented on the exit ticket. Exit tickets are given to students at the end of studying course material and doing class assignments.

3.2 Student learning outcomes

In the research treatment, three subjects were presented in the course material. The subject matter is the data distribution normality test, correlation analysis and regression analysis. At each meeting, students study course material, do coursework and end with filling out an exit ticket. The learning outcomes of each subject matter were measured using tests. The test results from student learning outcomes are presented in the Figure 2.

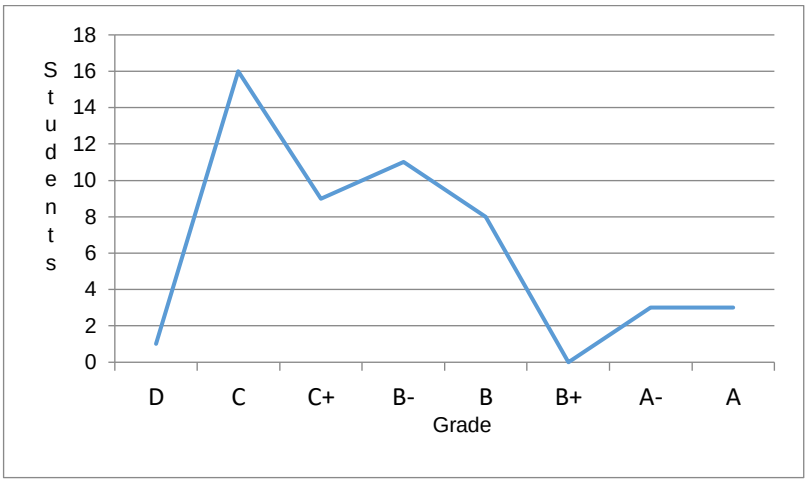

Figure 2. Test results for normality test material

The systematic and guided learning reflection in this study was first carried out in the normality test subject. The score of the measurement results on student mastery of the normality test course material is converted into a value on a scale of eight (A, A-, B+, B, B-, C+, D, and E). The distribution curve of the assessment results is close to the positive curve (Figure 2). The results of the calculation of the cental tendency parameters are: mean 2.36 (C+), median 2.29 (C+), and mode 1.22 (C). The average grade of students participating in the lecture is C+. The median score of students participating in the course is C+, half of the students participating in the course have the highest C+ and the other half have the lowest C+. The mode of score for students who participate in the lecture is C, with the most students getting a C value. Based on the results of the assessment, student learning outcomes in the classical normality test material have not met the demands of the lecture.

Reflection on systematic and guided learning is continued in the subject of correlation analysis. The score of the measurement results on student mastery of the correlation analysis course material is converted into a score on a scale of eight (A, A-, B+, B, B-, C+, D, and E). The distribution curve of the assessment results is close to the negative curve (Figure 3). The results of the calculation of the cental tendency parameters are: mean 2.72 (B-), median 2.80 (B), and mode 2.87 (B). The

average grade of students participating in the lecture is B-. The median score of students participating in the lecture is B, half of the students who take part in the lecture get the highest B and the other half get the lowest score of B. The mode of value of the students who take the lecture is B, the most students get the B grade.

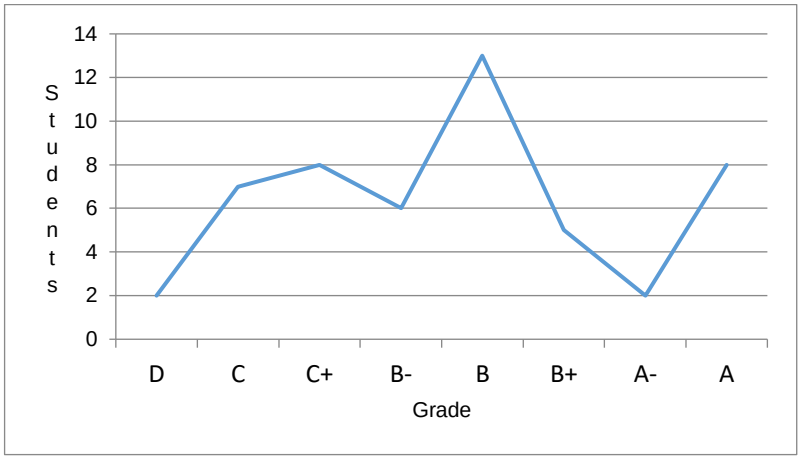

Figure 3. The test results of the correlation analysis material

Based on the results of the assessment, student learning outcomes in the classical correlation analysis material are relatively better than the normality test. There is a change in the shape of the value distribution curve from a positive curve to a negative curve. This shows that the most students scored above the average class grade. Students' experiences of reflecting on learning have a good impact on learning outcomes.

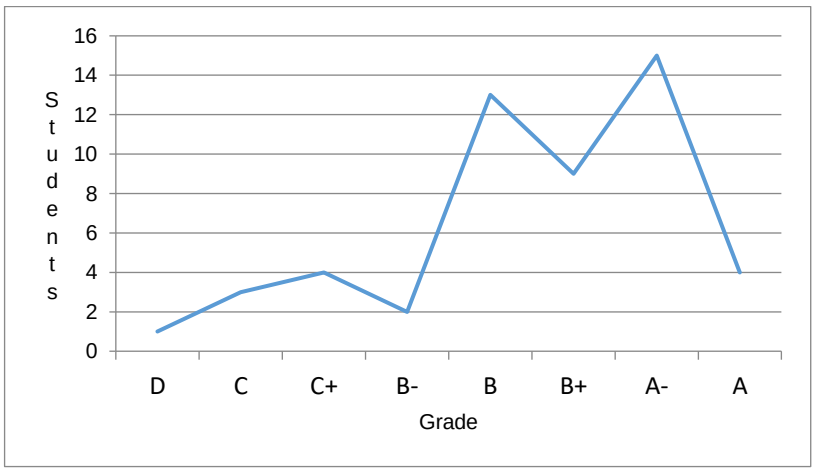

Figure 4. The results of the regression analysis material test

Reflection on systematic and guided learning is continued in the subject of regression analysis. The score of the measurement results on student mastery of the correlation analysis course material is converted into a score on a scale of eight (A, A-, B+, B, B-, C +, D, and E). The distribution curve of the assessment results is close to the negative curve (Figure 4). The results of the calculation of the cental tendency parameters: mean 3.07 (B+), median 3.12 (B+), and mode 3.54 (A-). The

average grade of students participating in the lecture is B+. The median score of students participating in the lecture is B+, half of the students participating in the course have the highest B + and the other half have the lowest B+. The mode of score for students participating in the lecture is A-, most students get an A-.

Based on the results of the assessment, student learning outcomes in the classical regression analysis material are relatively better than the correlation analysis. The shape of the value distribution curve is a negative curve and the curve shifts to the right. This shows that the most students scored above the average class grade. There was an increase in the cental tendency parameter value. The experience of students reflecting on learning in a systematic, guided and repeated manner has a good impact on learning outcomes.

In terms of the complexity of the course material, from the normality test course material to the correlation analysis there was an increase, as well as from the correlation analysis course material to the regression analysis. In other words, there is an increase in the level of difficulty in studying course material. However, the test result data shows an increase in test results. This is proof that the use of a reflection strategy by using exit tickets on an ongoing basis can improve student learning outcomes.

The researcher did not perform a statistical difference test because the test result value was a population parameter.

3.3 Learner autonomy

Data about Learner Autonomy is obtained from student answers to questions posed through exit tickes and digital traces that can be traced on SPOT. The data obtained were, firstly, based on digital footprints, students participating in active lectures took part in lectures. This is indicated by the activity of students accessing the material presented at SPOT and collecting assignments at the end of the lecture.

Second, based on the grouping of students' answers about the efforts made to understand the course material presented at SPOT are reading lecture material over and over again, watching tutorials on YouTube, asking friends who understand better, and looking for companion references. From the results of grouping the answers, it shows that students use various methods and learning resources in studying course material. In addition, students can also make decisions in taking problem-solving steps.

Third, students can detail the course material being studied, reveal course material that has been understood, and reveal course material that has not been understood. They also set targets in understanding the course material. Thus students have an awareness of their own strengths and weaknesses and the belief that they can master the course material.

.Fourth, awareness of self deficiency in studying course material is evidence of a problem. In order to solve the problem various information was collected by students. The problems faced are solved by using various learning resources in studying course material.

Fifth, students feel the benefits of the course material. Although students generally have not felt the benefits of course materials at this time, they do feel the benefits of course materials for the future. Students see the importance of learning that is useful in life.

Based on the explanation above, several indicators of Learner Autonomy have appeared in students. There are seven identifiable Learner Autonomy indicators. The seven indicators of Learner Autonomy are: (1) students actively participate in the learning process; (2) various sources are used in studying course material; (3) awareness of one's own strengths and weaknesses; (4) various information collected in problem solving; (5) decisions are taken to solve the problem; (6) there is confidence that students can understand the course material; (7) there is awareness that learning is important.

Learning reflection strategy using exit tickets can build learner autonomy. Reflection on learning is important. Reflection on learning must be carried out systematically and directed. Lecturers play a role in directing reflection systematically. Reflection activities in a systematic and directed manner can be carried out using exit tickets. At the end of the lesson, the lecturer presents exit tickets which contain essential questions that can build learner autonomy. Students fill in exit tickets and collect them. Exit tickets are studied by the lecturer to be given a response.

4. Conclusion

The conclusions of the research results are presented as follows. First, there are five stages of learning reflection to build learner autonomy. These stages are (a) Action; (b) Looking back on the action; (c) Awareness of essential aspects; (d) Creating alternative methods of action; (e) Trial. Second, reflection on learning using exit tickets can improve student learning outcomes. Third, reflection on learning by using exit tickets can build learner autonomy.

This research was conducted in a limited scope in the context of learning the Statistics subject at the Culinary Education Study Program, Universitas Pendidikan Indonesia. The researcher hopes that the reflection of learning with exit tickets can build a relevant learner autonomy for a wider scope and learning context in other fields.

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