The Effect of the everyone is a Teacher here Learning Strategy on the Learning Outcomes of Programming Algorithms Course

Muh Ihsan, K Rukun, Fahmi Rizal, E Mandasari d

Abstract: ***This study aims to determine the effect of the "Everyone is a teacher here" learning strategy on the learning outcomes of programming algorithm course in the STMIK Logika Medan. The research sample was determined by 30 students with the Random Sampling Clusters technique. The learning strategy used in this study is the " Everyone is a teacher here" learning strategy, for this type of research is experimental (quantitative) research. The data collection tool used is a test of learning outcomes. The technical analysis of the data by means of the normality test and the homogeneity test and to test the hypothesis is carried out by means of the t-test. After investigating and calculating the results, the average value of the experimental class is 13 and the control class is 11.86. After making significant calculations using the test at a significance level of 5% with dk = 30 + 30-2 = 58 obtained the price of table 1.67, it turns out that the price of tcount> ttable (2.19> 1.67) can be concluded the influence of the learning strategies " Everyone is a teacher here" on the learning outcomes of programming algorithm course in STMIK Logika Medan***

Keywords: Everyone is a teacher here strategy, Learning outcomes programming algorithm.

I. INTRODUCTION

Education plays an important role in the production of competent human resources because it is in education that people are processed in human beings who have reliable resources. To achieve these goals, each school is expected to try to improve the quality and quality of the expectations and ideals of education that are achieved.

In order to improve the quality of education in Indonesia, the government has made many efforts, some of which are making changes to the curriculum, namely CBSA (Active Student Learning Methods), KBK (Competence Based Curriculum) and KTSP (Education Unit Level Curriculum), teacher quality improvement projects. teachers taught in the form of updating, seminars and job training, as well as the improvement and improvement of facilities and infrastructure in the field of education.

This type of education is caused by many things. One of them can be seen in the teaching and learning process that occurs. Especially in the Algorithm Algorithm learning, many students are less interested in participating in the learning because teachers tend to use conventional learning strategies. Teachers provide more information while students are only listeners, so students are less active in providing ideas and thoughts in the teaching and learning process, resulting in low learning outcomes.

In essence, learning outcomes are changes in the behavior desired by students. However, to get good learning results, it is not easy. Many factors affect it. In general, Slameto argues that student learning outcomes are influenced by several factors, including: intelligence, interests, talents, socioeconomic conditions, parental attention, teaching strategies, media, curriculum, preparation and associates [1].

One factor that causes low learning outcomes is learning strategies that are oriented toward traditional approaches that place students in the teaching and learning process as listeners. To overcome the problem of low learning outcomes, it is necessary to change the way teachers teach. From teacher oriented learning to student oriented learning.

Efforts to improve their learning outcomes require teachers' awareness to use and choose strategies that create active, creative and innovative learning and student-oriented approaches to achieve learning objectives. Therefore, the selection of strategies and the use of strategies is an important aspect that should be considered to improve learning outcomes.

There are so many learning strategies that can be used in teaching and learning. An effort to awaken the activity of students in programming algorithm topics is the use of learning strategies of Everyone is a Teacher Here.

It is expected that the learning strategy will be used as an alternative for students to develop their learning activities. Teachers distribute index cards to each student and students should write questions on the card about the material explained by the teacher, question cards are collected and then distributed to students at random. Then, the teacher calls a student to answer and explain the purpose of the question on the card and act as a teacher for his friends. Therefore, all students actively participate in learning activities and are accustomed to dare to speak and express opinions about the material being studied, so that it is expected to improve the learning outcomes of the programming algorithm courses.

The term Strategy in the context of learning: "As a general pattern of teacher and student actions in carrying out teaching and learning activities that point as a frame of reference (frame of reference) for a better understanding, which in turn choose appropriately and use more effectively in the creation of the teaching and learning system [2].

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Muh Ihsan. Collage student Engineering Faculty of Postgraduate Program Technology and Technical Education of Doctoral Program State University of Padang

K Rukun. Head of the vocational technology education in the Faculty of Engineering, Padang State University

Fahmi Rizal. Dean and lecturer in Faculty of Engineering, Universitas Negeri Padang

E Mandasari d. Lecturer in FTIK IAIN Padangsidimpuan North Sumatera

From the explanation in the previous paragraph it can be concluded that the importance of a strategy is every time a teacher implements the learning process in school. This is because the method is a pattern or frame of reference that is used as a reference each time class learning takes place. Therefore, it is a big mistake if an educator or teacher does not understand what kind of method students need, because basically the students are like a white paper, and then an educator (parents) who fills it.

Such is the precision and scrutiny that should always be present in each educator (parent), because if this is not available, then we can be sure that the learning process carried out will not obtain optimal results according to the desired objectives.

In general, the strategy comprises a management scheme to act in an effort to achieve predetermined objectives. Linked to teaching and learning strategies can be interpreted as general patterns of teacher-student activities in carrying out teaching and learning activities to achieve the objectives described [2].

Kemp defines that the Learning Strategy is a learning activity that teachers and students must carry out so that learning objectives can be achieved effectively and efficiently [3]. Learning strategies are the chosen way of delivering learning materials in a given area, that is, through the nature, scope and sequence of activities that students' learning experiences can provide [4].

From the above definition, it can be concluded that the learning strategy is a series of activities in the preparation of the learning steps, the use of various learning facilities and resources are all aimed at achieving objectives. therefore, before determining the strategy, it is necessary to formulate clear objectives that can be measured for success. A range of accounts claim that personalised learning depends on both effective teacher differentiation of a set curriculum to address diversity of learner needs and the development of independent learner capacities ([5],[6],[7],[8],[9],[10]).

In order for the active learning process to work well, the teacher who directs student learning is required to master a series of active learning strategies, now chosen to develop learning activities, on the choice of strategies developed by the Ministry of Education. National Education (2003) that include [4];

1. Critical incident
2. Reading guide
3. Poster comment
4. Index Card Match
5. Concept mapping
6. Jingsaw
7. Brainstorming
8. Informasi Search

Rowentre is grouped into the delivery strategy, or exposure-discovery learning, group learning strategies and individual learning strategies or group-individual learning. In exposure strategies, the learning materials presented to students should master these materials or direct learning strategies, such as the expository strategy. In this strategy, the teacher functions as an information carrier, in contrast to the discovery strategy, In this strategy, the lesson material is searched and found by the students through various activities, so that the teacher's homework is more like a facilitator and guide for the students, such as research learning strategies, while Individual learning is carried out by students independently. The speed, slowness and success of student learning are determined by the individual skills of the students interested, an example of this learning strategy is the teaching material through modules or language learning through tapes and radio In contrast to individual learning, group learning takes place in groups. it can be in large learning groups or classical learning, or they could be students studying in small groups, such as discussion groups [4].

There are many active learning strategies that can be applied as an effort to improve student learning activities at school. Mel Silberman (2004) suggests 101 forms of strategies that can be used in active learning. All of which can be applied according to the desired learning objectives. One of them is an active learning strategy.

All are teachers Here is an English term consisting of three words, namely, All, Teacher and Here. All: all, Teachers: Teachers and Here: here. So everyone is a teacher Here you can interpret that all (students) are teachers / teachers.

According to Zaini, Everyone is a Teacher Here strategy is very appropriate to achieve class participation as a whole and individually. This strategy offers an opportunity for each student to play a teacher role for their friends. With this strategy, students who have not been willing to participate will actively participate in learning [11].

Based on the above definition, the authors conclude that Everyone is a Teacher Here strategy is a strategy to achieve the participation and responsibility of all individual students as students, in order to create a learning process that is fun and not always boring . With Everyone is a Teacher Here strategy that we can also motivate students to develop analytical thinking skills so that students are better prepared outside of class time, because students have the responsibility of looking for the widest subject to participate properly when the process Teaching and learning takes place.

From the previous explanation, the researcher concludes that Everyone is a Teacher Here strategy is one of the strategies considered capable by researchers to discover the improvement of the learning processes and learning outcomes of the students, and can be adjusted to the objectives to be achieved by learning various subjects, specifically the achievement of objectives, namely aspects: the ability to express opinions, the ability to analyze problems, the ability to write opinions (groups) after making observations, the ability to conclude , etc.

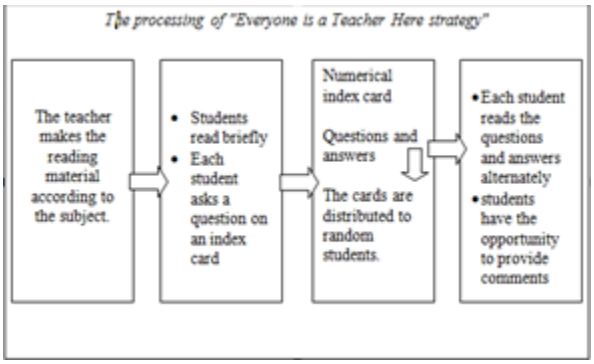

Figure 2: The Processing of Everyone is a Teacher Here Strategy

The teaching and learning process and the learning outcomes are two things that cannot be separated. Then, all influences must be optimized to achieve better learning outcomes. The learning results obtained can be cognitive, affective and psychomotor.

According to Djamarah, the teaching and learning process is considered successful if: 1) the absorption of the lessons taught achieves high achievements, both individually and in groups, 2) the behavior described in the teaching objectives has reached students both individually and in groups. "The result is something that is maintained (done) by the income of the business, the acquisition of results [12]. Nasution defines that "learning outcomes are a change in people who learn, not only about knowledge, but also configure the skills and appreciation of people who learn" **(**Kunandar, 2009). From cognitive perspectives, learning is likely to be meaningful when learners know how to self-regulate their learning [13]. This entails constructive and intentional use of personal strategies to achieve academic and well-being goals ([14],[15]).

The learning outcomes of students are essentially changes in behavior, where the behavior as a result of learning in a broad knowledge, including cognitive, affective and psychomotor fields [16]. Meanwhile, according to Cullen, he said: "The learning results are the results obtained by the students after following certain material of the subjects in the form of quantitative and qualitative data. To see the learning results, an evaluation of the students was made which aims to find out whether students have mastered a material or not. Evaluation is a systematic effort developed by an educational institution aimed at ensuring the achievement of the quality of students' skills in accordance with the established objectives [16].

Therefore, learning outcomes are an indicator to measure student success in the learning process. Learning outcomes are skills in the form of understanding and knowledge of students to master the learning materials or materials that have been transmitted by the teacher in the teaching and learning process. Like the following diagram:

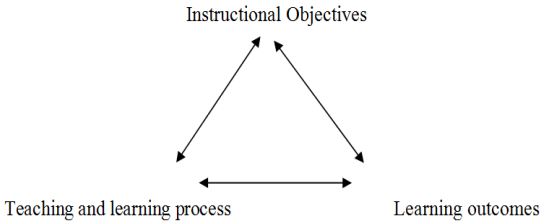

Figure 2: Diagram of Learning Outcomes

Two groups of research subjects participated in this study, each established as an experimental group and control group. The experimental group received the " Everyone is a teacher here " learning strategy, while the control group received a conventional learning strategy. The end of this experiment is expected to obtain information on the differences in learning outcomes of the programming algorithm courses.

II. METHODOLOGY

According to the research strategy that will be implemented, namely, " Everyone is a teacher here " and the Conventional Strategy, the design mentioned is described below.

Table I. Sample of research

No	Research group	Number of students	Type of Treatment	Post Test
1	A	30	X_1	T_1
2	B	30	X_2	T_2

Description;

X_1 : Groups are taught with the learning strategy " Everyone is a teacher here "

X_2 : Groups are taught with conventional learning strategies

T_1 : Publish the test results of groups of students who were taught with the learning strategy "Everyone is a teacher here"

T_2 : Results of the subsequent test of groups of students taught by conventional learning strategies

The research variable in question is the research object that plays a role in the events or symptoms under study. In this study the following variables were applied:

a The independent variable is the “Everyone is a teacher here" learning strategy, which is applied to the experimental group and the conventional learning strategy is applied to the control group.

b The dependent variable in this study are the learning outcomes of the programming algorithm courses.

To avoid obscurity in research, the following operational definitions are made according to the research variables:

1. Learning strategy "Everyone is a teacher here" is a learning strategy that divides students into groups to solve the problems given by the teacher and is then asked to draw conclusions according to the discussion.
2. The conventional learning strategy is a learning strategy that emphasizes teachers as a learning center where the teacher is a source of information and the class controller and students only fully accept what the teacher transmits.
3. The learning outcomes of the programming algorithms are the level of student proficiency of the material taught in the cognitive effect that can be addressed through tests of learning outcomes organized according to the learning material taught.

III. RESULT

In this study, the authors tested data on the learning strategy " Everyone is a teacher here " as the variable X and the learning results of the programming algorithm as the variable Y. Not only that, the writer described the statistical data obtained on the basis to the observations and delivery of the Test results.

The data collected is tested using the correlation formula, which with this formula will demonstrate the presence or absence of the effect of the learning strategy.

Table II: Statistics Research Result

Statistik	Everyone is a Teacher Here Strategy	Conventional Strategy
N	30	30
Max	20	19
Min	6	5
$\sum X$	390	356
Mean	13	11,86
SD	4,15	3,96
Varian	17,24	15,68
TESTING		
The second variant of the sample	4,06	
T	2,19	

From the investigation, it was obtained that the average value taught by the learning strategy " Everyone is a teacher here " is 13 with a standard deviation of 4.15. While the class taught by conventional learning has an average of 11, 86 with a standard deviation of 3.96. This shows that the average value of the classes taught with the " Everyone is a teacher here " learning is higher than the average grade of the classes taught with conventional learning. It means that learning programming algorithms through learning "Everyone is a teacher here" is very good to be applied.

The test of normality in the experimental class shows $L_{count} < L_{table}$ or $0.099107 < 0.161$, it can be said that the data of the learning outcome variable using the " Everyone is a teacher here " learning is normally distributed. And the normality test in the control class shows $L_{count} < L_{table}$ $(0,0359 < 0,161)$, it can be said that the variable data of the learning result use conventional learning with normal distribution.

The homogeneity test shows $F_{count} < F_{table}$ $(1,1 < 1,86)$ with the numerator dk = 30 and the denominator dk = 30 at a level of significance of 5%, it can be concluded that the data of the two groups of samples are homogeneous data.

The hypothesis test with the t test shows that $t_{count} > t_{table}$ $(2,19 > 1,67)$, which means that the learning outcomes The programming algorithms that use the learning strategy "Everyone is a teacher here" are better than the learning outcomes that use learning strategies. conventional learning Then, in this study, Ho was rejected and accepted.

IV. CONCLUSION

Based on this research, several conclusions can be obtained as follows:

1. The implementation of learning with the " Everyone is a teacher here " strategy actively involves students in the learning process
2. The learning outcomes of the experimental class taught using the learning strategy "All are teachers here" have increased by an average value of 13 compared to the average value of students taught with conventional strategies of 11.86.
3. From the results of the previous study it was concluded that there is an influence between the learning outcomes of the students taught by the "Everyone is a teacher here" strategy and the conventional strategies.

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AUTHORS PROFILE

Muh. Ihsan, M.Kom, Collage student Engineering Faculty of Postgraduate Program Technology and Technical Education of Doctoral Program State University of Padang
Email : mhd.ihsanfd@yahoo.co.id

Prof. Dr. Kasman Rukun, M.Pd. Head of the vocational technology education in the Faculty of Engineering, Padang State University
Email : kasman.rukun@gmail.com

Fahmi Rizal, Fahmi Rizal, Dean and lecturer in Faculty of Engineering, Universitas Negeri Padang
Email : fahmi@ft.unp.ac.id

Efrida Mandasari. Lecturer in FTIK IAIN Padangsidimpuan North Sumatera
Email : mandasariefrida88@gmail.com