

The Best Contribution Of Self Learning Practice On Technological Education

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ABSTRACT: In the era, educational study has the emerged world issue. All fields have the problems to reach the goal of educational achievement. Especially on technological education need a method to transfer the scientists and its application. In this research show the method of education transfer scientists and its application. There is three method to be selected the first is oration, the second is problem and solve problem and the third is self learning practice. From all methods (three method) show that self learning practice has the best method to reach the goal to scientists application. The goal is the degree of understanding. From the fifteen students in electric technology in the second years have 33% understanding on oration method, 60% on solve problem method and 88% on self learning practice.

Keywords: educational scientists transfer, best contribution, self learning practice method, technological education

1. INTRODUCTION

Technological education has the problem to transfer the scientists and this applications. some students said that very difficult to understand the matter of technological lecture as a versa any lectures said that very difficult to teach the students, on the contrary, the government, social, scientists and any side plant need the technological worker. Unfortunately, very much job position that no filled with the right man or let the blank position without worker activity. In this negative state condition, we need to solve the problem. One of The answer is the education. [1]Charles L. Blaschke 1986 in Turkey technological education has prepare more seriously with some strategy with software, evaluation and distribution. [2]Wim Groota, H Maassen van den Brink for a while, education has the positive effect to healthy, more than 59% said in good healthy and 22% fairly good. [3] the healthy has special attention nurse pedagogy with problem based learning. Learning start with presentation of problem, then reporting tutorial, clinical skill practice, simulation 1, simulation 2, and trigger to the next cycle. The results are intellectual curiously analytical ability, individual creativity, and critical thinking rapidly change. [4] at randomized control trial education to

antenatal make the participant not worried about baby learnt and retained a knowledge and skill. They have self efficacy and self confidence. [5] Scott L. Howella, Farhad Sabab, Nathan K. Lindsay, Peter B. Williams have seven strategy for education. Many challenge of education is a distance between faculty and technology. These strategy are enable college and department accept the responsibility, provide more information to faculty about the distance, encourage the distance, provide strong incentives, improve training, build community, and encourage research about the distance. Transforming role are needed in here. Successful of education seven strategy is depend on synchronous work every segment factor.

2. OBJECT

From the introduction, we can capture the object how the students can catch the matter of technological. Educational teaching is the one of solution to make the students understand science and application. More details of the problem is the definition of population sample, setting place, degree of sample population, the degree of teacher, the matter substantive, the transfer of technological substantive, identification of understanding, the degree of successful of

research method. Population sample is taken from electric department on Unipa university at second degree. Fifteen students were doing in the lecture activity in the classroom with the dimension 15 m x 15 m at the night 07.00 pm until 09.00 pm. Twenty five years old is closely sample population on engineer degree (bachelor degree internationally), the lecturer is the Indonesian qualification master degree, the matter of substantives is technological with the major is electronics, the goal of this education is understanding of the matter. Identification of understanding is the answer when the teacher ask the problem, body language psychologist. Degree of research successful is qualitative percentage part population.

3. METHODOLOGY

From the object, we need the method to solve the problem how the students have the understanding the substantive science and appliction. The best method is needed to give the great solution. This research compare three methods and select the best ones. The first is oration (presentstion) method, the second is problem and solve problem, and the thisd is self learning practice, like on the table 1.

Table 1 kind of methodology

no	Methodology
1	Oration (presentation)
2	Problem and solve problem
3	Self learning practice

The oration (presentation) is traditional teaching with the teacher teach din font of class and the audience listen the teacher oration. The oration has duration about 60 mnutes in one topic each presentation. After presentation audience are asked about the understanding of substantive. It is Very simply and not to long presentation teacher preparation. Problem and solve problem is differen from oration, the teacher gives some problem and example for 30 minutes. After problem example the teacher gives the problem that dissolved by students. The teacher waiting for a while until the student has finished the work and the activity to bo continued to problem solve by he lecturer and the students corrected these works. In this process, the teacher preparation is longer than oration preparation. The last method is self learning practice. Pressure of method is self learning and practice. On self learning, for a long study the teacher gives a psychological trigger for a while the short dialogue for relaxation the sutudent doing the instructions, pactice in here is each student must doing th instruction and show to the other student tha he can do it. So the algorithm is doing itself, relaxation dialogue, psychological trigger, practice, show each other. The figure1 give the agorithm of self learning practice.

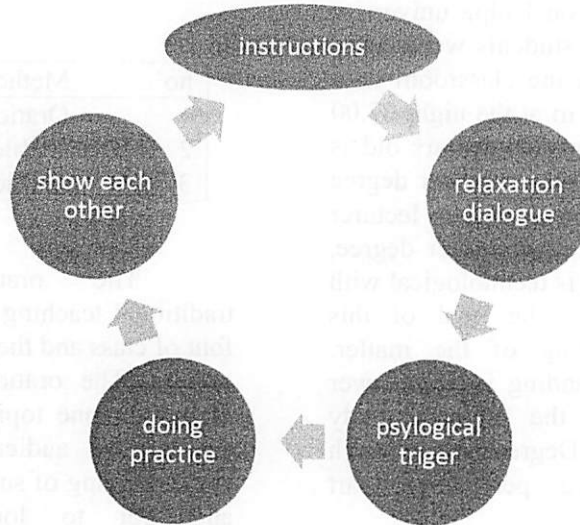


Figure 1 self learning practice algorithm

Trigger would given to student if the concentration will be loss. In this process, the trigger has urgent point factor for the activity.

The rigger component is, benefit the future to study it, benefit for rational thinking, and benefit to spent the time like in the table 2.

Table 2 trigger psychological point

no	Points
1	Benefit in the future
2	Benefit to rational thinking
3	Benefit to spent time

The degree of understanding can be seen on show each other, usually one student doing in the white board randomized turn in front of class.

4. EXPERIMENTAL ACTIVITY

Experimental activity is done with a matter substantial technological for three methods.

The matter is taken from the electric lecture (computational technique). On the first classmates the topic is functions numeric computations. It starts with function phenomena. The function is character of system. Special character is one input have one special character. One system like $2x$ have special input and special output like show in figure 2.

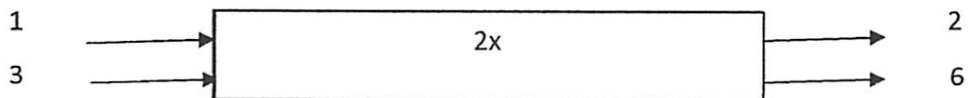


Figure 2 system $2x$ character

Each input have one output specific value. Input 1 has output 2, input 3 has output 6, and later value. The similar system like this is amplifier in electronic lecture as we seen on figure 3. The input is a little sound but the

output is strong sound. The system is called multiplier system. [6] Daming Sun, Limin Qiu, Bo Wang, Yong Xiao show that acoustic amplifier is determined by output resistance



Figure 3 system 2x character

Maybe on the economics field has the system. The company on the general affair manager has the salary program. Salary has the function like this figure 4 and figure 5 below.

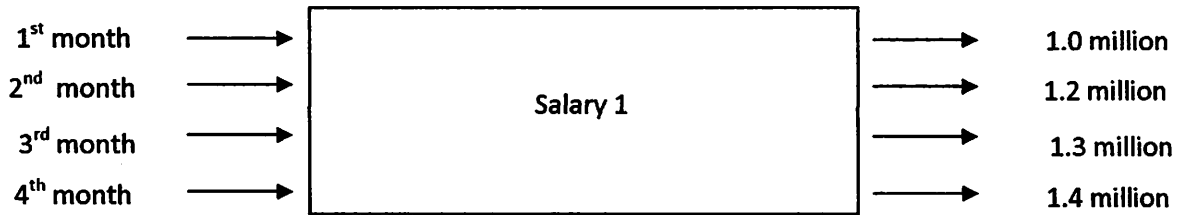


Figure 4 salary system 1

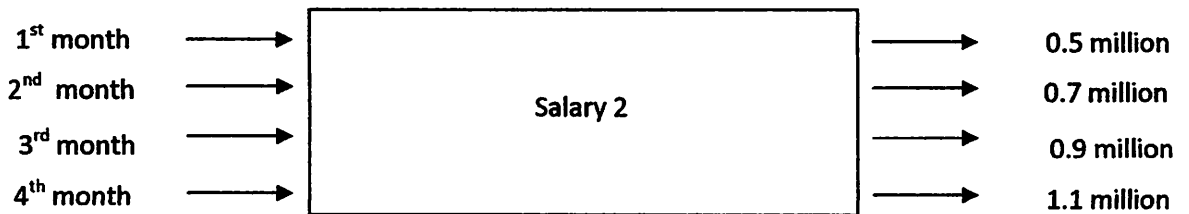


Figure 5 salary system 2

Every field has the multiplying system, like society, economics, and others. Next, we point to the significant factor of the function (system) exception of character of the system. This one is trend. The trend of salary system 1 is 0.1 million per month and salary system 2 is 0.2 million per month. If we are going to select the salary one we will choose the salary two, because of the trend 2 is better trend one even though the first salary 1 is better than salary two. This factor become the one of deterministic optimality of choosing. Trend is the changes of output to the changes input like mathematically equation (1)

$$\text{Trend} = \frac{\text{change of output}}{\text{change of inout}} \quad (1)$$

Mathematically meanings of the trend is differential that write in limit equation (2) below

$$\frac{dy}{dx} = \lim_{\Delta x \rightarrow 0} \frac{f(x+\Delta x) - f(x)}{\Delta x} \quad (2)$$

Numeric computation has the statement like mathematically equation like equation (3) below

$$\frac{dy}{dx} = \lim_{\Delta x \rightarrow 0} \frac{f(x+\Delta x) - f(x)}{\Delta x} \text{ with } \Delta x = 0.1 \text{ or } 0.001 \text{ or very little} \quad (3)$$

And we can calculate trend of $f(x) = 2x$ with computation method for $x=3$ for Δx to be 0,1 is

$$\begin{aligned} \text{trend} &= (f(x+\Delta x) - f(x)) / \Delta x \\ &= (f(3,1) - f(3)) / 0,1 \\ &= (6,2 - 6) / 0,1 \\ &= 2 \end{aligned}$$

This result show the same value like the solution of mathematically differential equation. This is the one of matter on the computation technique. Next, the experiment is done with oration method, the response will (2)

be notified. This is the first method. The experiment to be continued to the second method, problem and solve problem. The students was given theorem first and was submitted the problem. In here, each student must solve the problem. after they had finished to solve the problem the teacher would check the degree of understanding. The last method is self learning practice. In the introduce, the teacher was being brought the students to the convenience state while present the topics and give the instruction. While the student doing the problem instruction, the teacher make the relaxation dialogue. Wait a moment and see, make a trigger as psychological beneficiary. The first trigger is the teacher make statement that the beneficiary of the lecture is computation technique will solve the differential equation that mathematically conventional difficult or can nor to solve the functions complexity. The second trigger is the beneficiary of it that we can familiar to programming computer application. The trigger should be given until the time is near finished and to be continued with show each other. In this last step, the teacher ask the

student do it in front of classroom and the other should pay attention. Sequential order to make student show each other. The method has finished and still notified the degree of understanding.

5. RESULT AND DISCUSSION

Measurement the degree of understanding should be done to see the degree of research successful. Shigeru Takayama, Komyo Kariya, Satoshi Otoi [7] say that learner understanding is different from the mastered, its role called intuitive understanding effect. T Stephen Tilley, Phyllis Runciman and Lisbeth Hockey [8] despite longstanding recognition, understanding gave account in practice research based knowledge for the nurse. [9] Patricia L. Bullock, Debra M. Freedman) has statement that understanding is performance of understanding. Sevgül C [10] says level of understanding close to type of subject. The subjectivity measurement partially can be seen on table 3.

Table 3 the result of methodology

no	Methodology	population	understand	Percentage
1	Oration	15 students	5 students	33 %
2	Problem and solving	15 students	9 students	60 %
3	Self learning practice	15 students	13 students	88 %

This result still partially quantitative percentage to describe the degree of understanding that it can be conclude for this research.

6. CONCLUSION

In this study, the self learning practice give the great solution to close the distant of understanding compare with oration and problem solving methods the methodology self learning practice can propose the advantages for maximum thinking of understanding. The best contribution practice is self learning practice to solve teaching. The technology substantial.

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