



Effect of demonstration method on learning success

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ABSTRACT

The purpose of teaching carried out in the classroom according to Mager is to focus on student behavior or performance as a type of output that exists in students and can be observed and shows that these students have carried out learning activities. Thus the alternative hypothesis formulated has been able to know the truth in this research so that it can be taken as a conclusion from this study, namely that "The demonstration method applied in learning has had a real influence, in the sense that it can be relied upon as a good method for teaching. As one of the alternative learning methods that can activate students, the demonstration method can be applied in the classroom which is expected to increase the level of thinking and experience of students, especially if students are expected to practice about a material that is understood.

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1. INTRODUCTION

After the class, the teacher asked the students questions and found that many did not comprehend, since no pupils could explain how to perform all of the above (Beers, 2003)(Durkin, 1978) (Owu-Ewie & Eshun, 2015). To avoid wasting the teacher's efforts, it's vital to research what affects teaching and learning (Morgan & Hansen, 2008) (Munn & Drever, 1990) (McBer, 2001)(Kukla-Acevedo, 2009). Mager believes that classroom instruction should focus on student conduct or action (performance) as an output that can be observed and proves that pupils have learned (Zimmerman, 2011) (Coe et al., 2014). Teachers teach and mentor students. A teacher is intended to help students gain different experiences to help them become independent in modern society (Herman & Mandell, 2005) (Paris & Winograd, 2003) (Serbessa, 2006)(Chitpin, 2011) (Grow, 1991). Demonstrations can help kids become independent in communal life (Brown, 1992). Demonstrations turn imagination into something students can see, hear, and feel (Garfinkel, 1963) (Gutiérrez, 2016).

How to communicate material to pupils effectively and efficiently is a common issue in teaching, especially Islam. In addition to other issues, teachers often neglect to vary their teaching approaches to increase quality (Akbari, 2015) (Günther, 2006).

Starting from the concept of teaching method, which is a manner of delivering learning materials to meet stated goals, teaching methods are a vital aspect of a teaching system and determine the success or failure of a teaching and learning process. The success of curriculum implementation depends on instructors' capacity to implement and apply it (Cronin-Jones, 1991) (Baylor & Ritchie, 2002). The teacher's ability is mostly based on his knowledge and obligations (Carlone et al., 2011).

A teacher can better choose a method for a given circumstance by understanding its nature (Pajares, 1992). Thus, techniques must match students, material, and instructional environments. A method's superiority depends on goals, student characteristics, situations and settings, teacher abilities and personalities, and facilities and infrastructure (Höttecke et al., 2012). Teachers utilize the lecture approach to present topics in class. The teacher lectures to students (Meguid & Collins, 2017) (Roehl et al., 2013).

This method offers many benefits, but students are not forced to participate even though they can ask questions (Felder et al., 2000). Only active learning activities can produce lasting learning outcomes, but instructors and schools must make changes to preserve this strategy (Bonwell & Eison, 1991) (Boud & Falchikov, 2006) (Bean & Melzer, 2021). The demonstration approach can be used in the classroom instead of activating learning methods to improve students' thinking and experience, especially if they are expected to practice a content they understand (Bean & Melzer, 2021) (Bonwell & Eison, 1991) (Braxton et al., 2000). The demonstration technique has flaws like other approaches, but if student learning results increase utilizing it, teachers must learn to use it in classroom learning activities (Sadik, 2008) (Fishman et al., 2003) (Lawless & Pellegrino, 2007).

2. RESEARCH METHOD

This research uses descriptive analytical methods using library and field data (Vaismoradi et al., 2013) (Dey, 2003) (Wasserman & Faust, 1994). As a data source, population includes individuals, objects, plants, and events. The sample represents the study population. Waters advises taking all if the research subject is under 100 (Bell & Waters, 2018). If the population is over 100, 10%-15%, 20%-25%, or more can be seized (Fu, 1997) (Bliss & Lømo, 1973). This survey sampled 40 of 134 pupils. This thesis collects data through observation, interview, and posttest.

The observations and interviews were processed using descriptive and analytical methods to clarify how students and teachers employ demonstration methods in the classroom. The "t" test calculated posttest data from students after the demonstration procedure. The researcher suggested an alternative hypothesis (H_i) and null hypothesis (H_o) before the "t" test: H_i : "The demonstration approach utilized in learning demonstrates true success; in the sense that it can be relied upon as a good way for teaching Islamic education in this school". H_o : "The demonstration approach utilized in learning does not show genuine results; thus, it may be relied upon as a good way for teaching Islamic religious education". The pretest allows comparisons of a subject's performance before and after X, despite its limitations (experimental treatment).

3. RESULTS AND DISCUSSIONS

Data can be evaluated as follows based on description. Instructional Data Lecture Method: Introduction, the teacher discusses last week's material and asks questions for 10 minutes. The corpse is cleaned with clean water from head to toe, starting with the right side. The corpse is then soap-washed. Students can ask questions at the end. Score Learned Lecturing and demonstrating Scores from 26 pre- and post-testers:

Table 1. Scores of students' test results with 2 methods

| No. | Student Name | Score with Lecture Method | No. | Student Name | Score with Demonstration Method |
|-----|--------------|---------------------------|-----|--------------|---------------------------------|
| 1 | Students 1 | 89 | 1 | Students 1 | 93 |
| 2 | Students 2 | 86 | 2 | Students 2 | 83 |
| 3 | Students 3 | 78 | 3 | Students 3 | 83 |
| 4 | Students 4 | 80 | 4 | Students 4 | 83 |
| 5 | Students 5 | 89 | 5 | Students 5 | 90 |
| 6 | Students 6 | 89 | 6 | Students 6 | 93 |
| 7 | Students 7 | 93 | 7 | Students 7 | 88 |
| 8 | Students 8 | 82 | 8 | Students 8 | 93 |
| 9 | Students 9 | 91 | 9 | Students 9 | 86 |
| 10 | Students 10 | 91 | 10 | Students 10 | 95 |

| No. | Student Name | Score with Lecture Method | No. | Student Name | Score with Demonstration Method |
|-----|--------------|---------------------------|-----|--------------|---------------------------------|
| 11 | Students 11 | 88 | 11 | Students 11 | 90 |
| 12 | Students 12 | 65 | 12 | Students 12 | 86 |
| 13 | Students 13 | 95 | 13 | Students 13 | 95 |
| 14 | Students 14 | 91 | 14 | Students 14 | 89 |
| 15 | Students 15 | 74 | 15 | Students 15 | 90 |
| 16 | Students 16 | 89 | 16 | Students 16 | 90 |
| 17 | Students 17 | 91 | 17 | Students 17 | 95 |
| 18 | Students 18 | 95 | 18 | Students 18 | 95 |
| 19 | Students 19 | 94 | 19 | Students 19 | 95 |
| 20 | Students 20 | 95 | 20 | Students 20 | 95 |
| 21 | Students 21 | 91 | 21 | Students 21 | 95 |
| 22 | Students 22 | 83 | 22 | Students 22 | 93 |
| 23 | Students 23 | 88 | 23 | Students 23 | 83 |
| 24 | Students 24 | 95 | 24 | Students 24 | 88 |
| 25 | Students 25 | 91 | 25 | Students 25 | 93 |
| 26 | Students 26 | 94 | 26 | Students 26 | 92 |
| | average | 87,96 | | average | 90,42 |

The average student score shows that the demonstration method works. It will be estimated using educational statistics principles because scientifically this is not yet acceptable:

Table 2. Calculation to Obtain "t"

| No. | Student Name | Test Results | | | |
|-----|--------------|---------------------------|---------------------------------|---------------|---------------------------------------|
| | | Score with Lecture Method | Score with Demonstration Method | D = (Y - X) | D ² = (Y - X) ² |
| 1 | Students 1 | 89 | 93 | -4 | 16 |
| 2 | Students 2 | 86 | 83 | 3 | 9 |
| 3 | Students 3 | 78 | 83 | -5 | 25 |
| 4 | Students 4 | 80 | 83 | -3 | 9 |
| 5 | Students 5 | 89 | 90 | -1 | 1 |
| 6 | Students 6 | 89 | 93 | -4 | 16 |
| 7 | Students 7 | 93 | 88 | 5 | 25 |
| 8 | Students 8 | 82 | 93 | -11 | 121 |
| 9 | Students 9 | 91 | 86 | 5 | 25 |
| 10 | Students 10 | 91 | 95 | -4 | 16 |
| 11 | Students 11 | 88 | 90 | -2 | 4 |
| 12 | Students 12 | 65 | 86 | -21 | 441 |
| 13 | Students 13 | 95 | 95 | 0 | 0 |
| 14 | Students 14 | 91 | 89 | 2 | 4 |
| 15 | Students 15 | 74 | 90 | -16 | 256 |
| 16 | Students 16 | 89 | 90 | -1 | 1 |
| 17 | Students 17 | 91 | 95 | -4 | 16 |
| 18 | Students 18 | 95 | 95 | 0 | 0 |
| 19 | Students 19 | 94 | 95 | -1 | 1 |
| 20 | Students 20 | 95 | 95 | 0 | 0 |
| 21 | Students 21 | 91 | 95 | -4 | 16 |
| 22 | Students 22 | 83 | 93 | -10 | 100 |
| 23 | Students 23 | 88 | 83 | 5 | 25 |
| 24 | Students 24 | 95 | 88 | 7 | 49 |
| 25 | Students 25 | 91 | 93 | -2 | 4 |
| 26 | Students 26 | 94 | 92 | 2 | 4 |
| | average | 87,96 | 90,42 | -64= $\sum D$ | 1184= $\sum D^2$ |

The sign - ("minus) here is not an algebraic sign; therefore it should be read: there is a difference / difference in scores between Variable X and Variable Y of 64; $\sum D = 64$ and $\sum D^2 = 1184$. By obtaining $\sum D$ and $\sum D^2$, we can know the amount of Standard Deviation of the score difference between Variable X and Variable Y (in this case SD_D):.

$$\frac{SD_D}{N} = \frac{\sqrt{\sum D^2 - (\sum D)^2}}{(N)} = \frac{\sqrt{1184 - (64)^2}}{(26)} = 6,265$$

With the SD_D obtained of 6.265, we can further calculate the Standard Error of the Mean score difference between variable X and variable Y:

$$SE_{M_D} = SD_D = \frac{6.265}{\sqrt{N-1}} = \frac{6.265}{\sqrt{26-1}} = 0,251$$

The next step is to find the t_o to price using the formula:

$$t_o = \frac{M_D}{SE_{M_D}} \dots\dots\dots(1)$$

M_D has been known to be 2.462, while $SE_{M_D} = 0,251$, so: = 9,823

The next step, we give an interpretation of t_o , by first calculating the df or db: $df = N - 1 = 26 - 1 = 25$. with a df of 25 we consult the "t" Value Table, both at the 5% significance level and at the 1% significance level. It turns out that with a df of 25, the critical price of t or t_{table} at 5% significance is 2.06; while at 1% significance level t_t is obtained at 2.79. By comparing the magnitude of "t" that we obtained in the calculation ($t_o = 9.823$) and the magnitude of "t" listed in the Table of Values "t" ($t_{t,ts.5\%} = 2.06$ $t_{t,ts.1\%} = 2.79$) then we can know that t_o is greater than t_t ; ie : **2,06 < 9,823 > 2,79.**

The researcher's data on the conventional approach, demonstrative method, and score outcomes can be explained as follows. When compared to the average score of students' test scores using the demonstration technique, the demonstration approach has had a real influence. It can be a teacher's mainstay. The Nihil Hypothesis is rejected because t_o is bigger than t_t , hence the difference in student scores before and after applying the new approach "M" is persuasive (=significant).

4. CONCLUSION

The "t" test shows that the example approach worked. The teacher can apply the demonstration method in the next lesson. Not all things can be demonstrated, the demonstration method takes a lot of time and can interfere with other lessons, students have trouble determining which process is correct, and if the demonstration tools are missing, students can't understand the subject matter. The demonstration approach works well. These indicate this: Demonstration method increases student scores. The demonstration method improves student learning results significantly. The demonstration's success depends on students' will to learn. Thus, this study's alternative hypothesis, "The demonstration method utilized in learning has had a real effect, in the sense that it can be relied upon as a good method," was confirmed.

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