

The Effectiveness of Academic Supervision Module Use Inmadrasahsupervisoryeducation & Training Throughdistance Learning

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Abstract

The main aim of this study is to assess the effectiveness of academic supervision module use in Madrasah (Islamic school) supervisory education & training through Google Classroom as distance learning held at Makassar Religious Education & Training Center. The study was conducted in the form of pre-test, treatment and post-test as data collection techniques, where the pre-test was employed to experimental group, the treatment was to implement distance learning system using Google Classroom and the post-test was undertaken at the end of the session of the education & training program. As for the result of the normality test, it is shown that $p\text{-value} = 0.350$ at the pre-test, $p\text{-value} = 0.096$ at the post-test and $p\text{-value} = 0,168$ concerning the significant difference of both of the pre-test and post-test. Following this, overall $p\text{-value}$ is greater than the value of $\alpha = 0.05$. In terms of homogeneity test result, it shows that the $p\text{-value} = 0.207$ is greater than the value of $\alpha = 0.05$. It makes the distribution of the variances for both the pre-test and post-test homogeneous implying that at the 5% significance level test scores are normalized and is considered as homogeneous learning achievement. Considering paired $t\text{-test}$ through Minitab program, it shows that $p\text{-value} = 0,000$ is smaller than the value of $\alpha = 0.05$. It indicates that H_0 is rejected, in which at the 5% significance level, the normalized gain score of the pre-test and post-test as the learning result shows a difference. In sum, the results of this study reveal that 90% of the participants have an increase with high category. While in response to the overall mean score of N-Gain as much as 0.84, the increase shown of the participants' learning achievement is regarded as significantly effective.

Keywords: Effectiveness; Academic supervision module; Madrasah supervisor; Distance learning

Date of Submission: 12-09-2020

Date of Acceptance: 29-09-2020

I. Introduction

A key aspect of the success in providing quality education is closely related to the success in increasing the competence and professionalism of educators without ignoring other factors such as facilities and infrastructure as well as financing. *Madrasah* supervisors are educational staff whose positions play a significant and strategic role in improving teacher professionalism and the quality of education at the Ministry of Religious Affairs of the Republic of Indonesia.

In case of accomplishing the expected competency of *Madrasah* supervisors, it is essential to strengthen it especially for academic supervision competency through education & training activities. The implementation is carried out by the Educational Quality Assurance Agency (known as *LPMP*) at the Ministry of Education and Culture or the Religious Education & Training Center (*BDK*) of the Ministry of Religious Affairs.

With regard to the issuance of Regulation of the Minister of Religion (*PMA*) of the Republic of Indonesia Number 2 of 2012, the restructuring of *Madrasah* and religious education supervisor at schools has been set. There is also a phenomenon of the shifting of *Madrasah* teachers and principals to become supervisors, which makes an impact on the increase of training participants of *Madrasah* supervisors as the main requirement to have the position at the Ministry of Religious Affairs.

In recent years, Makassar Religious Education & Training Center has produced 450 alumni of *Madrasah* supervisors from four provinces in 65 districts or cities. Thus, the future of the training center will be more challenging with the increase in the number of supervisors that is considered unproportional to its budget allocation. Yet their competency must be regularly maintained and improved in line with the development of science and technology.

Referring to the summary list of the participant complaints at the prior coordination and evaluation meeting of the education & training program, the classical system model show some weaknesses in particular: a. Some perceive that supervisor capacity has not improved due to several unexpected and inappropriate materials that have been offered; b. Competencies set by the education & training center are often conflicted with *Madrasah* supervisors' needs; c. They have low motivations since their recognition of prior learning is underappreciated; d. Their discipline appears to be weakened because unmotivated to create an innovation; and e. The results of the education & training program are not facilitated with any reports and design process.

Ideally, *Madrasah* supervisor is expected to own an academic image and authority that should exceed teacher's and principal's ability so that his presence at *Madrasah* can execute better and proper functions of academic and managerial supervision. It is to supervisor that *Madrasah* teachers and principals should consult at for various problems they deal with whether as an individual or a professional educator. Consequently, those problems raised require different thoughts and appropriate ways of solving to achieve any expected results. The implication is that a supervisor must understand the concept of creativity as well as learn to be creative to view a problem comprehensively that will lead to right solution offer.

There is a strong possibility that with such conditions, the demand of all *Madrasah* supervisors to attend functional and substantive education & training program cannot be sufficed in the conventional manner as have been done recently. There must be a new breakthrough in the implementation for more progressive supervisors with broader access of maintained quality where they do not need to leave their domicile and main duties in recent workplace. Accordingly, strategies and learning media that are more progressive are crucial to be able to adapt to the development of science and technology. The internet as a learning media is a new fact showing that through this media, it allows a more effective learning process (Hardjito, 2002).

As a whole, the internet is used as a communication media where in subsequent development, it shifts to a high potential application for educational and learning purposes. Amiroh (2012) concludes that learning management system (LMS), also known as course management system (CMS) or virtual learning environment (VLE) is a software application used by educators at universities, colleges and schools as an internet-based online learning or is referred to as e-learning.

One alternative model of the education & training program to enhance supervisor's prior competency by utilizing the concept of distance learning and the independent learning approach via online website. In developing an online learning system or education & training, it cannot be executed without being preceded by some considerations to prepare the learning tools, including the modules as the substance of the training material. Modules should be created and designed in such a way as to meet the need for increased supervisory knowledge and skill competencies in enforcing good, continuous and measurable tasks and functions.

Therefore, the research and development of *Madrasah* supervisor education & training model via online website to improve supervisory competencies is highly required. It is to support the development of sustainable professionalism through the implementation of functional and substantive education & training for them. By drawing on the problem identifications, the research problem should be formulated as 'what is the level of effectiveness of *Madrasah* supervisory education & training through distance learning held at Makassar Religious Education & Training Center?'

An answer for the aforementioned problem will be an objective to be achieved in this study that is to obtain an overview of the implementation of education & training for *Madrasah* supervisors based on distance learning held at Makassar Religious Education & Training Center.

II. Methodology

This study takes the form of a quasi-experimental design where the researcher does not have the flexibility to manipulate subjects or samples. It hints that random group in most cases is employed as a basis for establishing experimental and control groups. A broader perspective has been adopted by Setyo (1997) who argues that experimental study is often recognized as the most scientific of all types of research because researchers can manipulate treatments that cause something to happen. It is supported by Sevilla (1993) that experimental research is the only research method that can test hypotheses regarding causal relations. A one-group pre-test-post-test design is utilized where there is pre-test before treatments and post-test after treatments. It is one accurate way to figure out where we can compare the difference before and after being treated (Sugiyono, 2001). Taken together, this study aims to assess differences of the training participants' comprehension before and after attending the *Madrasah* supervisory education & training through distance learning. Moreover, the researcher is eager to find out whether the use of distance learning is suitable for both of teachers or educators and supervisors as the training participants.

A one-group pre-test–post-test design:

O_1 X O_2

Figure 1. One- experimental Formula Design group pre-test-post-test Pre-

Descriptions:

- 1) O_1 = Pre-test
- 2) X = Treatment
- 3) O_2 = Post-test

As far as it is concerned, the first step in the experimental implementation using a single sample design is by conducting a test, which before treatment is called a pre-test (O_1) precedes distance learning education & training with academic supervision material. The treatment (X) is administered for a certain period of time, specifically 40 hours of learning duration, where its material arrangement and distribution has been agreed between the participants and trainers. Ensuing that, another test is conducted to the training participants who have attended the distance learning to identify their mastery level of the material given during the treatment. The post-test (O_2) displays data as the experimental results whether the ability to conduct academic supervision increases or is stagnant. As a comparison, the results between O_1 and O_2 is to confirm how much differences arise, where it is affected by the experimental variables during the process. Thereupon, the data is analyzed using t-test (Arikunto, 2002).

Population and Sample

1. Population

Preliminary work was undertaken by Arikunto (2006: 101) that population is the whole subject of research. It is a group of individuals who share similar characteristics. The population in this study involves the supervisors of the Ministry of Religious Affairs at the regional office in the Makassar Religious Education & Training Center. Those *Madrasah* supervisors are invited by the official organizer after signing up a G-mail account.

2. Sample

Many scholars hold the view that sample is the representative of a population. Sampling is intended so that research can take place effectively and efficiently. In this case it only includes supervisors, which affects the sampling technique used, that is purposive sampling to be conducted under certain considerations (Sugiyono, 2006). Several requirements in the sampling are elaborated as follows: a. Sampling must be on certain characteristics and features, which also involves main characteristics of the population; b. Subject taken as sample must contain the most real characteristics found in the population; and c. An identification of population characteristics is undertaken thoroughly during the preliminary observation.

Data Analysis

With respect to the learning achievement of the training participants, the data result were analyzed quantitatively. While for quantitative data analysis, it used descriptive statistics to describe the comprehension level of the *Madrasah* supervisors regarding the academic supervision material through distance learning during the education & training program. Their ability is classified on a five-point scale using the result score categorization technique referring to the collaborative standard set by the Research and Development Agency and the Ministry of Religious Affairs of the Republic of Indonesia:

1. The ability with score 92,00 to 100 is categorized as highly competent;
2. The ability with score 84,00 to 92,00 is categorized as competent;
3. The ability with score 76,00 to 84,00 is categorized as fairly competent;
4. The ability with score less than 76,00 is categorized as less competent;

On the part of the result scores as the participants' learning achievement, the data are revealed after each activity completion of the training. The analysis referred to the achievement of a minimum cumulative value or score, that is 76. In connection with the standard score achievement, it needs an approval of all chairmen in a leadership meeting attended by the head of office of the Makassar Religious Education & Training Center, trainers, chair of the committee, academicians and secretary of the committee. Hence, if a training participant obtains ≥ 76 , then it is regarded as reaching the minimum cumulative score or individual completeness assigned by a competency certificate.

III. Results and Discussion

1. Pre-test

Several aspects of the pre-test total score as the supervisors' learning achievement consist of 30 question items concerning 6 items about basic academic supervision planning, 10 items for academic supervision implementation and 14 items discussing academic supervision follow-up. Ideally, the correct answer obtains 1 and the wrong one obtains 0. It is then converted to a score of 100, where the lowest score is 26.7 and the highest is 46.7. For the mean score, it achieves 36.7 with a standard deviation of 5. Here is the following Table 1 to find out the frequency distribution of each category.

Table 1. The Pre-test Frequency Distribution of Academic Supervision Learning Achievement of the *Madrasah* Supervisors

Categories	Interval Score	Frequency	Percentage (%)
Extremely High	85 – 100	0	0
High	65 – 84	0	0
Fairly High	55 – 64	0	0
Low	35 – 54	13	65
Extremely Low	0 – 34	7	35
Total		20	100

It is apparent from Table 1 that from the total 20 participants who attended the pre-test during *Madrasah* supervisory education & training, there are 13 participants (65%) with low total score and 7 participants (35%) with extremely low total score. In other words, most of them only achieve low score. This indicates that the pre-test total result of academic supervision learning during *Madrasah* supervisory education & training held at the regional office in the Makassar Religious Education & Training Center generally is in low score. Further description of the participants' pre-test result as the academic supervision learning achievement can be seen in Figure 1.

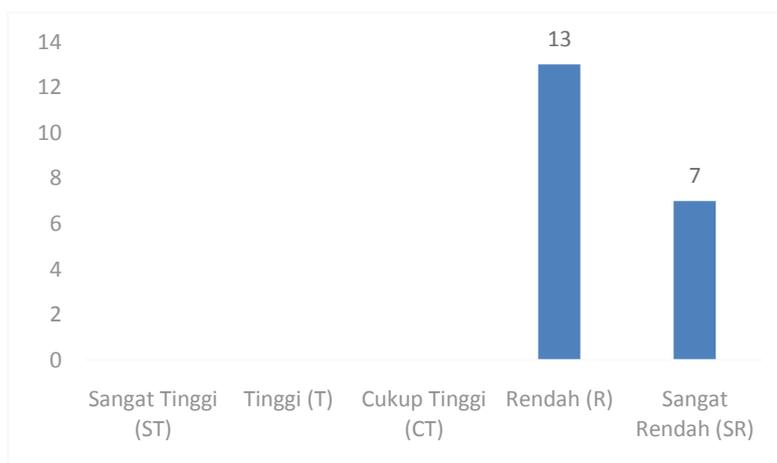


Figure 1. The Diagram of the Pre-test Result as the Academic Supervision Learning Achievement of the *Madrasah* Supervisors

2. Post-test

Regarding several aspects of the post-test total score as the supervisors' learning achievement consist of 30 question items concerning 6 items about basic academic supervision planning, 10 items for academic supervision implementation and 14 items discussing academic supervision follow-up. Ideally, the correct answer obtains 1 and the wrong one obtains 0. It is then converted to a score of 100, where the lowest score is 76.7 and the highest is 100. For the mean score, it achieves 89.8 with a standard deviation of 6.4. Here is the following Table 2 to reveal the frequency distribution of each category.

Table 2. The Post-test Frequency Distribution of Academic Supervision Learning Achievement of the *Madrasah* Supervisors

Categories	Interval Score	Frequency	Percentage (%)
Extremely High	85 – 100	15	75
High	65 – 84	5	25
Fairly High	55 – 64	0	0
Low	35 – 54	0	0
Extremely Low	0 – 34	0	0
Total		20	100

As Table 2 shows, there are total 20 participants who attended the post-test during *Madrasah* supervisory education & training, where 15 participants (75%) obtain extremely high total score and the other 5 participants (25%) obtain high total score. It implies that the post-test total result of academic supervision learning during *Madrasah* supervisory education & training held at the regional office in the Makassar Religious Education & Training Center generally is in extremely high score. Further description of the participants' post-test result as the academic supervision learning achievement can be seen in Figure 2.

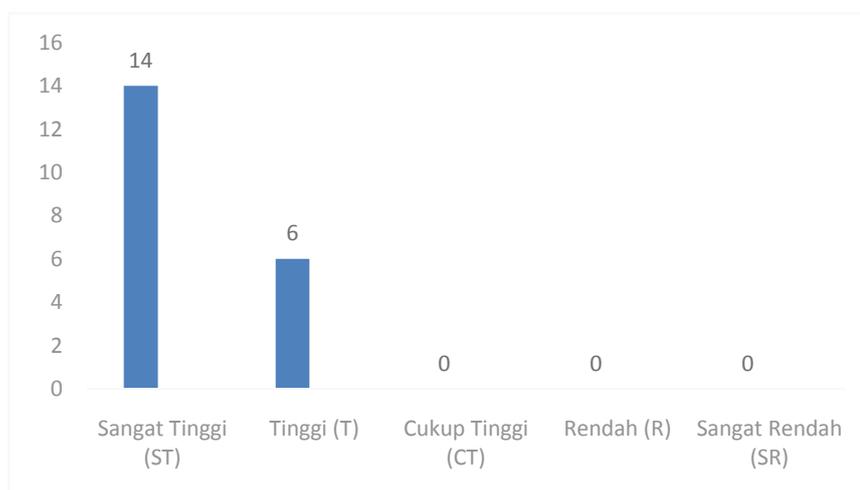


Figure 2. The Diagram of the Post-test Result as the Academic Supervision Learning Achievement of the *Madrasah* Supervisors

3. N-Gain Score Testing of the Academic Supervision Learning Achievement

Here is the following result score of the N-Gain analysis on improving the academic supervision learning achievement of the *Madrasah* supervisors presented in Table 3.

Table 3. The Result Score of the N-Gain Analysis on Improving The Academic Supervision Learning Achievement of the *Madrasah* Supervisors

No	Pre-Test	Post-Test	Difference	N-Gain Score	Improvement
1	10	28	18	0,90	High
2	11	27	16	0,84	High
3	12	28	16	0,89	High
4	11	26	15	0,79	High
5	14	28	14	0,88	High
6	11	29	18	0,95	High
7	10	27	17	0,85	High
8	12	29	17	0,94	High
9	10	25	15	0,75	High
10	13	30	17	1,00	High
11	9	25	16	0,76	High
12	11	29	18	0,95	High
13	10	28	18	0,90	High
14	9	24	15	0,71	High
15	13	27	14	0,82	High
16	8	23	15	0,68	Fair
17	12	28	16	0,89	High
18	11	26	15	0,79	High
19	11	24	13	0,68	Fair
20	12	28	16	0,89	High
Mean Score	11,00	26,95	15,95	0,84	High

With reference to the description in Table 3, there are 18 participants or as much as 90% who have improved their academic supervision learning achievement as high category. The table also shows a slight increase as much as 2 participants (10%) in fair category. In short, total N-Gain score is 0.84 and classified as high category for the learning achievement.

Furthermore, the hypothesis testing for differences in the academic supervision learning achievement is elaborated using the paired t-test preceded by normality and homogeneity testing of the data as described in the following discussion.

1. Normality Testing

It is believed that normality test is pinpointed to obtain normal data distribution but not intended as the parametric statistical hypothesis testing. Criteria for normality of data distribution are determined by its suitability from the assessment results with the normal distribution. The normality testing is administered by using Anderson-Darling's. As for criteria of decision making, it can be marked by the significance value. If it is less than 0.05, then the distribution is non-normal, whereas if it is greater than 0.05, then the distribution is normal.

The Anderson-Darling normality test with the Minitab Program reveals pre-test p-value as 0.350, post-test p value as 0.096 and difference p-value as 0.168. It exposes that if the overall p-value is greater than $\alpha = 0, 05$, then it is normally distributed. This also implies that at the significance level of 5%, the normalized gain score of the pre-test and post-test for the learning achievement has truly been obtained from normal population.

2. Homogeneity Testing

On the basis of homogeneity test, it is to obtain homogeneous data distribution but not intended as the parametric statistical hypothesis testing. At this study, the testing is employed by using Levene's. Decision making criteria is based on the significance value. If it is less than 0.05, then the distribution of the two variances is not homogeneous. However, if it is greater than 0.05, the distribution of both variances is then considered as homogeneous.

The Levene's homogeneity of variance test with the Minitab Program signifies that the p-value as 0.207 which is greater than the value of $\alpha = 0.05$. indicates homogenous distribution of both the pre-test and post-test variances. It also denotes that at the significance level of 5%, the normalized gain score of the pre-test and post-test displays homogeneous learning achievement.

As regards normality and homogeneity gain score testing, it can be seen that the gain score is normally distributed and homogeneous. Thus, it is continued with two-tailed test using a paired t-test.

3. Difference Testing of the Academic Supervision Learning Achievement

In terms of the difference test, it is administered on two samples namely pre-test and post-test. This is carried out to identify the effectiveness of learning activities. Decision making criteria is based on the significance value. If it is less than 0.05, then H_0 is rejected or there is a difference, while if it is greater than 0.05, then H_0 is accepted or there is no difference at all.

As for paired t-test of difference testing by using Minitab Program, it reveals a difference in p-value as 0,000 which is smaller than the value of $\alpha = 0.05$. This implies that H_0 is rejected. Furthermore, at the significance level of 5%, the normalized gain score of the pre-test and post-test of the academic supervision learning achievement in *Madrasah* supervisory education & training through distance learning indicates a difference.

Hence, a set of academic supervision learning activities in *Madrasah* supervisory education & training through distance learning have proven to be effective in increasing the participants' comprehension especially at three aspects, that is a well comprehension on academic supervision planning, academic supervision implementation and academic supervision follow-up. It means that the training program can be considered as an alternative for organizing innovative education & training programs other than the former system that has been applied all of this time.

In conducting the education & training program with a distance learning system, the emphasis is more on the participants' activities. They will be better understand a concept due to active participation during online discussion session with various participants from many regions under the supervision of a trainer, especially in the second program, that is the implementation of academic supervision where they truly absorb how to implement properly. It is certainly more effective and constructive in enhancing their insight and comprehension of the materials offered. Ultimately, carrying out these activities is not only to foster understanding, but also an awareness to raise responsive attitude. Training material is no longer defined as part of a pile of reading material as in books. Instead, it takes a real situation from the surrounding environment as applied by these learning activities of academic supervision in *Madrasah* supervisory education & training through distance learning which lead the participants to actively find their own ways to solve problems and intensify knowledge and insight into meaningful and applicable ones.

Along this training, the participants are accommodated to learn according to their existing needs, experience and knowledge. This is in line with the principles of adult learning that they do not want to be patronized or even eager to take one to dictate them. In the same vein, Knowles (1986) notes that the learning

process for adults requires the presence of other people who are capable to act as an learning instructor rather than a dictator. Adults want to learn, but not to be patronized or dictated. They grow as individuals and have a mature self-concept. They experience psychological changes where their dependencies occurring in childhood have shifted into an independence characteristic to direct themselves in taking an action.

Additionally, the effectiveness of the education & training program through distance learning system is also determined by the tests of academic supervision learning achievement given to the participants. During the tests, 18 participants (90%) have improved their academic supervision learning achievement into high category. The other 2 participants (10%) also show a slight increase into fair category. In sum, total N-Gain score is 0.84 and classified as high category.

Tests of learning achievement developed from the module used is specified for the academic supervision. It is carried out on the research subjects where before the treatment is administered, it is preceded by a pre-test. After the treatment, a post-test is employed. The whole data result of the tests are then analyzed statistically to obtain the results of normality and homogeneity testing, and most importantly the results of difference testing specifically of paired t-test.

Referring to the analysis results during the tests, it is revealed that the mean score of the post-test as the learning achievement is significantly different and much higher than the pre-test result. Therefore, the application of academic supervision learning in *Madrasah* supervisory education & training through distance learning is considered effective in improving learning achievement and understanding of the training materials presented by the trainers. The test results are also supported by the level of participants' activity along the training where this can be seen in their highly active category.

Madrasah supervisory education & training program which is held by using the academic supervision module considered as practical if responses of the trainers and participants are positive and show some interest. Practicality in terms of a positive response to the training program is determined by two indicators, that is participant and trainer responses towards academic supervision learning activities.

In the event of effectiveness measurement of this study, it can be seen from the participants' activities and their learning achievement by the application of academic supervision module in *Madrasah* supervisory education & training through distance or online learning. Their activities towards online academic supervision learning specifically during the tests for initial activity aspect are in highly active category. In addition, the most dominant activity is when the participants responding to cases and problems guided by the trainers. For the relation of material discussion in the module towards the participants' experience doing academic supervision activities, it is still dominant during the training program.

In view of the effectiveness of academic supervision module applied in *Madrasah* supervisory education & training through Google Classroom as distance learning, it is also considered by the participants' test results of their academic supervision learning achievement. As previously described, there are 18 participants (90%) show an improvement of their learning achievement through Google Classroom into high category and 2 participants (10%) with a slight increase into fair category. The total N-Gain score is 0.84 and classified as high category.

In general, the academic supervision module used in *Madrasah* supervisory education & training through distance learning system has met the validity criteria where its implementation also met the practicality and effectiveness criteria. As a result, the participants expect for this online education & training program can be applied sustainably to other courses for supervisors.

IV. Conclusion

After all, the implementation of *Madrasah* supervisory education & training using academic supervision module through Google Classroom as distance learning is largely determined by the participants' test results of their learning achievement. On the whole, the results show that 18 participants (90%) of the education & training program have improved their academic supervision learning through Google Classroom into high category and the other 2 participants (10%) also show a slight increase into fair category. The total N-Gain score as 0.84 is classified as high category which indicates that the module used is highly effective.

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