

## IMPLEMENTING KIRKPATRICK MODEL FOR EVALUATING DISTANCE EDUCATION IN GOVERNMENT INSTITUTION

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### ABSTRACT

This study aims to measure the effectiveness of Distance Education Program within the Education and Training Centre for Administrative Staff in MORA has been running for more than five years. Therefore, evaluation research needs to be done to determine the effectiveness of the program. The research method is qualitative evaluative. The evaluation research model refers to the Kirkpatrick Four-Level consisting of Reactions, Learning, Behavior, and Results. Data were collected through questionnaires, documents studies, interviews, and observations. The end result of this study shows the following findings: At the reaction level with the indicator facilities, instructors competencies, and administration service were rated in a good category, while the distribution of certificates was not satisfactory. Level of learning with the indicator of instructor ability in managing learning, a flexibility of study schedule, a flexibility of exam time gets a good category. The examination results of participants were in accordance with expectations. The level of behavior indicates that participants are better in self-learning with e-modules than attending online discussions. In the last level result shows that after participants attending distance education, their knowledge and skills are improved. This study provides recommendations to improve the performance of online learning method in the future.

### INTRODUCTION

According to the data gathered by the National Statistics Bureau, the number of government employees in Indonesia is 4,374,349 people. Government employees are civil servants whose competence should always be improved. Indonesia's geographical characteristics led to the high cost of employee competency improvement programs, the problem is that as a developing country, budget allocations in Indonesia focus more on infrastructure development than for the development of employee competencies. Online learning is considered cost-effective, especially in transportation costs and has more flexibility to choose the learning time. However, the application of online learning methods can be ineffective, if the timing is not properly scheduled, the learning materials are not updated, and the participants' learning motivation is lacking. Information technology has been used generally in learning over the last few years to reach cost-efficiency in improving employee competency (Huang, Huang, & Chuang, 2016) (Keengwe & Maxfield, 2014). Online learning on web-based platforms or e-learning for government's employees is expected to address the increasing need to improve the competence and quality of government employees. Researchers specifically conduct the research within the Education and Training Centre for administrative Staff at MORA

This research is interesting because MORA has a hierarchical unit of work in all of Indonesia's regions, starting from the central, provincial, district, sub-district, religious-based colleges, as well as schools. The number of employees at MORA according to the latest statistic data (the year 2016) was 229,245 people. This number is quite large when compared to other Ministries, but the number of instructors at the Education and Training Centre for administrative personnel is currently 12 people. There is a wide gap between the available number of Instructors and the personnel to serve, so leaders of Education and Training Centre in MORA develop training with e-learning for administrative staff, to reach more participants. Distance Education Program within the Education and Training Centre for Administrative Staff in MORA has been running for more than five years and implemented using the government budget of the Indonesian Republic. The problems faced in the implementation of distance education are heavy workload combined with limited time available, makes e-learning ineffective. Therefore, evaluation research needs to be done to determine the effectiveness of the program. Evaluation results are expected to assist management in making future program sustainability decisions. Educational evaluation is an effective way to provide evidence for all parties related to resource allocation, employee management, program quality assurance, and education policy decision-makers.

### THE STUDY

Designing evaluation activities requires good technical, analytical, and skills to answer evaluation questions and creates appropriate evaluation techniques. (Azzam & Szanyi, 2011) (Romero-Gutierrez, Liso, & Chico, 2016) (Wise, Darling-Hammond, McLaughlin, & Bernstein, 1984). The method used in this research is the qualitative evaluative method. Qualitative methods are suitable for use in research designed to describe specific programs

using a variety of empirical data. The evaluation model uses Kirkpatrick Four-Level Model, which consists of reaction evaluation, learning evaluation, behavior evaluation, and result evaluation. This model is highly relevant to be used in evaluating training programs with e-learning (Kirkpatrick & Kirkpatrick, 2007). The advantage of this model is to use a systematic, more comprehensive process covering the cognitive, psychomotor, and affective aspects. The results of this research evaluation are expected to assess the effectiveness of the training program and obtain information to develop the training program in the future.

The study involved 151 participants who have attended two years learning in 2015 and 2016, which comes from the west, the middle and the eastern regions of Indonesia. As a guideline to collect data and information, the evaluator uses online surveys. The first step in conducting this evaluation study is developing indicators, criteria, and categories. The online survey used in this study used a Likert scale with a range of values from 1 to 5, the rating category is as follows 5 = very good, 4 = excellent, 3 = good, 2 = fair, 1 = bad. Before evaluation instruments were used in the study, questionnaires were tested to calculate empirical validity and reliability. In measuring the validity and reliability of the instrument, the researchers conducted a questionnaire test on 30 participants who had followed a similar program. The calculation of empirical validity with the respondents amounted to 30 people (N = 30) at a significant level ( $\alpha$ ) 0.05. The test results show that all questions in the questionnaire are considered valid if it has a correlation coefficient > 0.361 by looking at the r-value of Product Moment of Pearson table. The calculation results state that all items are valid. The coefficient of Cronbach's Alpha shows a count of 0.948 which means a reliable questionnaire and can be used to collect research data.

**Table 1: Reaction and Learning Indicators**

<b>Reaction</b>		<b>Learning</b>	
1.	Online learning facilities	1.	Instructional techniques
2.	Instructor competencies	2.	Suitability of learning schedule
3.	Learning materials	3.	Trainee learning outcomes

**Table 2: Behavior and Result Indicators**

<b>Behavior</b>		<b>Result</b>	
1.	Online forum activities	1.	Knowledge improvement
2.	Self-learning motivation	2.	Skill enhancement

Reaction aspect measures online learning facilities, instructor competencies, and learning materials. Evaluations of learning are measured through instructional technique, suitability of schedule, and trainee learning outcomes. Behavior level evaluations measure the online forum activities, self-learning motivation. Result level measures the participant's knowledge improvement and their skill enhancement.

## FINDINGS

### Reaction Level

#### *Online Learning Facilities*

Reactions to online learning facilities include three criteria: participants' assessment of synchronous learning facilities, asynchronous learning facilities, and certificates of learning.

**Table 3: Online Learning Facilities Evaluation**

Criteria	Average	Category
Synchronous learning facilities	3.34	Good
Asynchronous learning facilities	3.15	Good
Certificates of learning	2.52	Fair

The first criteria for assessing the online learning facility is the availability of synchronous learning facilities. Of the 151 participants surveyed, 12 participants gave excellent ratings (8%), 60 participants gave very good ratings (40%), 55 participants gave good ratings (36%), 16 participants gave fair ratings (11%), and 8 participants gave poor ratings (5%). The average respondent's answer is 3.34 indicates that the participants are quite satisfied with the synchronous learning facilities.

The second criteria is the availability of asynchronous learning facilities, 7 participants gave an excellent assessment (5), 54 participants gave very good ratings (36%), 57 participants gave good ratings (38%), 20 participants gave fair ratings (13%), and 13 participants gave poor ratings (9%). The average respondent's answer is 3.15 indicates that the participants are quite satisfied with asynchronous learning facilities.

The third criteria are the availability of the certificate as proof that participants have finished their online learning activity. This certificate is important for the participants, as an evidence and a form of recognition for their competency improvement efforts. The results of the questionnaire show that 1 participants gave excellent ratings (1%), 42 participants gave very good ratings (28%), 32 participants gave good ratings (21%), 36 participants gave fair ratings (24%), and 40 participants gave poor ratings (26%). The average respondent's answer is 2.52 indicating that the participants are not satisfied with the certificate. The reason is the unfinished distribution where many participants have not received their certificates even after completing their online learning activity over a year ago.

#### *Instructor Competencies*

Things that greatly affect the interest of participants in the online learning is the ease of discussion with the instructor, and ease of interaction with e-learning (Matsunaga, 2016). Reactions to the instructor's competencies include two criteria, Instructor's Mastery Level on their subject matter and online guidance provided by Instructor.

**Table 4: Instructor Competencies Evaluation**

Criteria	Average	Category
Instructor's mastery level on their subject matter	3.48	Good
Online guidance provided by Instructor	3.32	Good

First criteria for instructor competencies shows that 16 participants gave excellent ratings (11%), 69 participants gave very good ratings (46%), 45 participants gave good ratings (30%), 13 participants gave fair ratings (9%), and 8 participants gave poor ratings (5%).

Second criteria's result shows that 13 participants gave excellent ratings (9%), 65 participants gave very good ratings (43%), 42 participants gave good ratings (28%), 20 participants gave fair ratings (13%), and 11 participants gave poor ratings (7%). The average respondent's answer is 3.48 and 3.32 indicating that the participants were satisfied with the instructor's competencies.

#### *Learning Materials*

Participants' Reactions to the learning material include two criteria: the conformity of subjects to the needs of the employees and the relevance of the content materials taught by the instructors to the participants' duty at work.

**Table 5: Learning Materials Evaluation**

Criteria	Average	Category
Conformity of subjects to the needs of employees	3.73	Very Good
The Relevance of the content materials	3.69	Very Good

The evaluation result for the first criteria shows that 24 participants gave excellent ratings (16%), 77 participants gave very good ratings (51%), 38 participants gave good ratings (25%), 9 participants gave fair ratings (6%), and 3 participants gave poor ratings (2%). The evaluation result for the second criteria shows that 20 participants gave excellent ratings (13%), 80 participants gave very good ratings (53%), 39 participants gave good ratings (26%), 8 participants gave fair ratings (5%), and 4 participants gave poor ratings (3%). The average respondent's answer to both criteria is 3.73 and 3.69. They are included in a very good category which means the participants are very satisfied with the teaching materials provided.

#### *Learning Level*

##### *Instructional Techniques*

Online learning techniques both synchronously and asynchronously are performed by instructors with specific management techniques. This indicates the ability of the instructor in managing the learning process. In relation to the learning technique, evaluation is conducted by giving appraisal to one criterion, i.e. instructor's online explanation. The Evaluation result of the learning technique from 151 online survey participants shows that 12

participants gave excellent ratings (8%), 66 participants gave very good ratings (44%), 51 participants gave good ratings (34%), 16 participants gave fair ratings (11%) and 6 participants gave poor ratings (4%). The average result is 3.41 which are included in the good category.

#### *Suitability of Learning Schedule*

Employees who join the online learning program are not free from their daily duties at the office. This makes time an essential factor in the online learning process, especially in its sufficiently and flexibility.

**Table 6: Suitability of Learning Schedule Evaluation**

Criteria	Average	Category
The flexibility of learning schedule	3.39	Good
The flexibility of exam time	3.34	Good

The evaluation result for the first criteria shows that 16 participants gave excellent ratings (11%), 61 participants gave very good ratings (40%), 47 participants gave good ratings (31%), 20 participants gave fair ratings (13%), and 7 participants gave poor ratings (5%). The evaluation result for the second criteria shows that 14 participants gave excellent ratings (9%), 59 participants gave very good ratings (39%), 48 participants gave good ratings (32%), 24 participants gave fair ratings (16%), and 6 participants gave poor ratings (4%). The average respondent's answer to both criteria is 3.39 and 3.34 they are included in a good category which means the participants are satisfied with the suitability schedule.

#### *Trainee Learning Outcomes*

The set value for a trainee to pass the program is a score above 60. Using this criterion, participants' test results data shows that 60% of the participants passed the exam. These results meet the researcher's expectations for a minimum passing participants rate of 50%.

**Table 7: The result of the Trainee's Learning Outcomes**

Score	Participants	(%)	Category
0-30	36	24%	Not pass
31-60	24	16%	Not pass
61-80	67	44%	Pass
71-100	24	16%	Pass

#### *Behavior Level*

Behavior is assessed through two aspects: participant's activity level in online forum discussions and the participant's ability to learn independently or the so-called Self-Learning Motivation.

#### *Online Forum Activities*

**Table 8: Online Forum Activities Evaluation**

Criteria	Average	Category
Participant's activity level in online forum discussions	2.89	Fair

Online survey related to the first criteria of learning motivation by measuring participant's activity level in online forum discussions shows the result that 8 participants gave excellent ratings (5%), 40 participants gave very good ratings (26%), 44 participants gave good ratings (29%), 46 the participants gave the ratings (30%) and 13 participants gave poor ratings (9%). The average number for online learning technique is 2.89 which is included in the fair category. It shows the low level of the participant's activity in online forum discussions.

#### *Self-learning Motivation*

**Table 9: Self-learning Motivation Evaluation**

Criteria	Average	Category
The ability of participants to learn independently	3.18	Good

The second aspect is the ability of learners to utilize provided learning materials independently the result shows that 11 participants gave excellent ratings (7%), 50 participants gave very good ratings (33%), 56 participants

gave good ratings (37%), 23 participants gave fair ratings (15%) and 11 participants gave poor ratings (7%). The average number is 3.18 which is included in the good category.

**Result Level**

*Knowledge Improvement*

Respondent's answer to the question of whether there is an increase in knowledge after joining the training indicates that 16 participants gave excellent ratings (11%), 70 participants gave very good ratings (46%), 45 participants gave good ratings (30%), 13 participants gave fair ratings (9%), 7 participants gave poor ratings (5%). The average number of 3.50 is included in the very good category.

*Skill Enhancement*

Respondent's answer to the question of whether there is any improvement in skills and performance after joining the training, shows that 16 participants gave excellent ratings (11%), 67 participants gave very good ratings (44%), 43 participants gave good ratings (28%), 20 participants gave fair ratings (13%), 5 participants gave poor ratings (3%). The average number of 3.46 is included in the good category.

Information and communication technology (ICT) can be utilized to improve the quality of learning, the use of ICT in Educational Technology is able to create an effective learning environment (Gray, 2011) (Latchem & Jung, 2009) (Tynan, Willems, & James, 2013). Implementation of online education for employees in MORA is expected to have a positive impact on service to the community in accordance with the duties and functions. Decision makers have an opinion that learning outcomes with e-learning are no worse than traditional learning in terms of knowledge enhancement. Therefore, the implementation of online education can be justified, with consideration of cost efficiency and expansion of access of education participants (Means, et.al, 2009). The following table summarizes the results of the evaluation e-learning within the Education and Training Centre for Administrative Staff in the Indonesian Ministry of Religious Affairs:

**Table 10: Evaluation of Reaction Level**

<b>Level</b>	<b>Indicator</b>	<b>Criteria</b>	<b>Category</b>
Reaction	Online Learning facilities	Synchronous learning facilities	Good
		Asynchronous learning facilities	Good
		<b>Certificates of learning</b>	<b>Fair</b>
Instructor's Competencies		Instructor's Mastery Level on their subject matter	Good
		Online guidance provided by Instructor	Good
Learning Materials		Conformity of subjects to the needs of employees	Very Good
		The Relevance of the content materials	Very Good

Most participants were satisfied with the asynchronous learning facilities achieved with the availability of e-modules, presentation materials and audiovisual media in downloadable multimedia and video formats. While the direct learning is done through chat in accordance with the schedule set. The next criteria for measuring participant satisfaction is the availability of a learning certificate as proof of having passed the training remotely. Certificates are important documents in training as evidence to complete learning. Certificates as well and should play a role in the measurement of promotion in certain positions. In this study found there is one criterion that is not in accordance with the evaluation category that the division of the certificate is not complete. So for the future management should be more serious by preparing a special officer who handles the creation and distribution of certificates.

Instructors should be able to ensure an effective learning process and support a positive school climate (Leite, Fernandes, & Mouraz, 2014) (Catalano, Perucchini, & Vecchio, 2014). Instructors and their students can have different interpretations, express themselves, have freedom of speech that is tied to academic activities. They should interact and create cooperative knowledge. (Wen & Liu, 2016). The instructor's competence in the e-learning program at MORA is in line with the expectations of the participants. The selection of teaching materials should be really deep, and the scope is right. In addition, the order of the material should also be considered, making it easier for participants to learn the content of the material. The evaluation result of the participants' reactions to the material taught in e-learning has been in accordance with the needs of the employees, and the material learned is relevant to the work of the participants.



**Table 11:** Evaluation of Learning Level

Level	Indicator	Criteria	Category
Learning	Learning Techniques	The ability of the instructor in managing learning	Good
	Suitability of schedule	The flexibility of learning schedule	Good
		The flexibility of exam time	Good
	Trainee learning outcomes	Participants who pass the exam	As expected

Instructors and their students can have different interpretations, express themselves, have freedom of speech that is tied to academic activities. They should interact and create cooperative knowledge. (Wen & Liu, 2016). According to the data analysis results, it is known that the Instructors generally provide technical guidance for the implementation of online learning before the training begins. There is a technical explanation of online learning to the participants before the training begins. The participants' assessment of this criteria is in good classification. The organizers have also provided an application manual that can be downloaded by the participants.

The suitability of synchronous learning implementation with the specified schedule has been in accordance with the criteria. In accordance with the analysis of interview results of instructors related to the discipline in synchronous learning, it can be seen that most try to follow the agreed schedule so that it can be concluded that the discipline in applying synchronous schedule in accordance with the evaluation category.

Participants are quite active in completing the task, although some do not take the final exam. Future strategies that can be taken to increase participation is by conducting a notification system test that is a short information dissemination system that is done electronically through e-mail, SMS, or social media that is agreed.

**Table 12:** Evaluation of Behavior Level

Level	Indicator	Criteria	Category
Behavior	Online forum activities	Participant's activity level in online forum discussions	Fair
	Self-learning motivation	The ability of participants to learn independently	Good

Part of which is quite difficult to obtain data is to measure the behavior change participants before and after following the learning with e-learning (Kirkpatrick & Kirkpatrick, 2008). In this research we provide questions through questionnaires to the participants about the level of activity in the discussion forum and the desire in doing self-learning using modules provided Instructor. Researchers found that participants were more doing self-learning than discussions in online forums. Discussion using a chatroom can only be done when the participants do not do the job, while self-study provides learning opportunities anytime anywhere without time limitation. The researcher also analyzed the discussion activity by looking at the system, it is seen that not all participants can be online at the same time.

**Table 13:** Evaluation of Result Level

Level	Indicator	Criteria	Category
Result	Knowledge Improvement	An increase in knowledge after joining the training	Very Good
	Skill Improvement	Skill and Performance Improvement	Good

The fourth level or the last level of this studies measure the increase in knowledge and skills perceived by participants. Criteria of knowledge enhancement get value in accordance with the evaluation category that is very good and skill improvement with good value. The researcher also conducted an interview with the alumni leaders, to know the impacts obtained by the institution. Most leaders recognize the improvement and skills of administrative staff who have followed the learning using e-learning. The quality of online learning depends on the level of involvement of participants in the learning process, internet capabilities, and virtual social interaction (Militaru, 2016). In accordance with the results of observations, the researchers found another problem in the system that is the feature of online discussion forums that are not sufficient due to the mixing of space between different subject matter and different instructors. The discussion room becomes crowded with comments that might confuse the participants.

## CONCLUSIONS

Almost all Level evaluated in this study indicate that the program is quite effective with the average score included in a good category. Only two criteria included in fair criteria, i.e. the problem in distributing certificates and the low participant's activity level in the online discussion forum. Therefore, recommendations for improvements in future program implementation are: (1) any form of online education program must provide a

certificate containing information such as the name of the institution, the name of the participant, the learning period, the course, and the graduation class or criteria. The certificate will serve as a document proving that the owner has mastered certain knowledge and has learned certain skills. This document will be used to improve the rankings of employees' offices, especially those requiring certain qualifications. The online education manager MORA should pay more attention to its learning certificates, especially on the information it provides and its distribution. In this case, the Ministry of Religion needs to create a special team that will manage the certificate as a result of online learning activities, (2) busy work, and time-difference between regions in Indonesia, make online discussion not effective, this can be overcome by providing material enrichment and provide training for self-study, and (3) create a discussion room for each subject so that the participants focus more on the learning process.

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