

# Enhancing Assessment Abilities of Early Childhood Education Teachers through Training and Promotion of Self-Regulated Learning as Soft Skills Required in the Evaluation of Child Development in Indonesia

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## Article Info

Page Number: 1863 – 1875

Publication Issue:

Vol. 71 No. 3s2 (2022)

## Abstract

This study discusses the importance of enhancing assessment abilities of early childhood education teachers through basic training and promoting self-regulated learning as necessary skills required in the guidance of child development. The study aimed to determine the differences in educators' ability to assess child development as per online and conventional education and training; to determine the effect of the interaction between types of training and self-regulated learning on the ability of educators in assessing child development; to find out the difference in the ability of educators' assessment of child development in online education and training for educators who have high self-regulated learning. Theories that underlie this research include the concepts of Training, Blended Learning, Self Regulated Learning, and of course, Child Development Assessment. This research is an ex post facto study which describes the relationship between a behavior treatment with a naturally occur variable of basic training and self-regulated learning, as well as child development assessment ability as a moderator variable (level). The study revealed that there is a significant difference in the score on ability to assess children's development between basic online training and conventional basic education and training. This established that the score for ability to assess children's development has a significant difference between high self-regulated learning and low self-regulated learning.

## Article History

Article Received: 22 April 2022

Revised: 10 May 2022

Accepted: 15 June 2022

Publication: 19 July 2022

**Keywords:** Basic Training, Child Development Assessment, Learning, Self Regulated Learning, Childhood Education.

## 1. Introduction

Education is in part an effort led by the teachers to build students character in order to grow into responsible and morally upright citizens of a country (Waters and Russell, 2014). According to Suyadi (2010) the early years of a child's development comprise a series of systematic and programmed efforts that provide guidance to children from the early age to adulthood. Research shows that during the early days in human development there are a several factors that contribute to a child's growth (Attanasio, 2015), including education activities which aim to stimulate the future learning self-regulated competences of a child (Waters,

Barsky, Ridd and Allen, 2015). To achieve educational goals, professional teachers in Indonesia especially those in Early Childhood Education are required to have the necessary academic qualifications and competencies, and must be physically, mentally and socially healthy in order to carry out their duty of developing students' potentials (Departemen Pendidikan Nasional, 2005). Teachers are undeniably at the core of education implementation, as indicated in the Indonesian Law No. 14 of 2005 about the teaching profession. In chapter II, article 4 of the 2005 education policy, teachers and lecturers are described as professionals who must implement and smoothly run the education system, with aim of helping to realize the goals of education (Departemen Pendidikan Nasional, 2005), which include: developing students potentials, creating healthy and knowledgeable citizens who capable of being creative, independent, and become democratic and responsible citizens.

It is upon this background, that educators or teachers of early childhood education are required to be professional educators (Feeney and Kipnis, 1985), who are able to develop the varying potentials of the learners of an early age, and can help them learn to adapt to their environment well (Williams, 2011). This means that a teacher is an educator who has a major role in transferring knowledge with positive values through guidance and modeling to students (Ronfeldt, 2012). In other words, teachers have the responsibility of improving the abilities of their students, hence required to be professional in their work (Kaufman, Kaufman and Nelson, 2015). One of the professional duties of the early childhood teacher is the ability to assess children (Gillespie, Amador and Wallin, 2020). Agustiniingsih (2015) is of the view that learning process in early childhood cannot be separated from the aspect of assessment, because assessment is an important element in learning (Clark, 2012). The quality of the teachers of early education is one of the factors that determine the quality of students learning (Rivkin, Hanushek and Kain, 2005), however, among the points to note is the number of educators with adequate academic qualifications, which is still low in Indonesia.

The education records compiled by the national education department show that the total number of Early Childhood Education (ECE) educators was 299,195, among them, 17,661 had attained junior high school level qualifications, 182,638 had attained secondary level education qualifications and vocational education equivalence totalling to 27,333 with diplomas, while 69,916 had bachelor degrees and only 1,647 people had attained master degrees (PDSPK Kemendikbud, 2017). This translates to about 24% of Early Childhood Education (ECE) educators being undergraduates with either a first degree or master degree qualifications.

Indonesia being a huge country, presently, the available number of educators is still far below the required total number by the country at large for the field of early childhood education. According to Permendikbud (2014) the ratio of teachers and students is categorized based on the age of the students. According to data released by the Indonesian Ministry of Education and Culture's PDSPK, the number of Early Childhood Education pupils was 8,027,829 children (PDSPK Kemendikbud, 2017). If calculated based on age group, around 744,694 Early Childhood Education educators are needed, while the number of educators currently registered is only around 299,195 (PDSPK Kemendikbud, 2017). This means that for the Early Childhood Education sector, educators manage varying classes by scheduling different learning times. In

addition, many Early Childhood Education educators have multiple roles, apart from teaching, they are also managers.

Besides, being teachers and managers, they are also facilitators of self-regulated learning, because they have undergone training which enhances their self-regulations skills. Self-regulated learning is an important aspect required during the learning process mainly at the time of teacher training (Schunk, 2008). This is because teachers are unlikely to carry out the learning process, if they do not have self-regulated learning competences (Davis and Neitzel, 2011). Based on this, coupled with other issues and the urgent need to provide quality early childhood services, the government launched various programs to increase the competence of early childhood educators. One of the programs launched by government through the ministry of education was the Tiered Education and Training program for Early Childhood Education (ECE) educators.

Tiered training is a form of training activity divided into basic, and advanced training. The program is based on innovation in the implementation of basic training, which is carried out using the online platforms. Basic Level Tiered Education and Training is a series of activities carried out in a planned manner with the aim of enhancing the educators' abilities through knowledge improvement, skills sharpening and helping them to have a change in attitudes, which lead to improved competences and of course individual performance of the educators. Educators are among some of the determinants of success, whose duties as planners, implementers, facilitators and evaluators who provide stimulation to develop children's intelligence are required. Therefore, educators must have competences in accordance with their field. The target group for the Basic Level of Education and Training program are mostly ECE educators with minimum education qualification standards, such as those with only high school and or vocational education and also those with equivalent qualifications, but not relevant to the field of early childhood education.

The provision of training aims at preparing educators into professionals with the necessary skills (Goforth, 2017), required to makes an educator qualify for the teaching profession in the early childhood education sector (Lubeck, 2001). The policy that led to the training is based on Government Regulation Number 58/2009, about early childhood education standards. The regulation was also based on the ministry of education's decree numbered 16/2007, also regarding academic standards and teacher competences for Indonesian teachers. The policies were put in place to regulate the running and implementation of pre-primary education in the country.

The basic education and training materials provided, include: materials on basic concepts about early childhood education, childhood development, Introduction to children with special needs, early childhood learning methods, child health and nutrition, lesson planning, child development assessment, ethics and character of the teachers and communication skills needed in early childhood education. Though there are many concepts and learning materials provided, it has been established that the average educator still does not understand how to assess early childhood development. Assessments of early childhood development differs in characteristics compared to the assessment of older children (McKown, 2017). Assessment strategies for early

childhood must be appropriate to the child's development stage (Knauer, et al, 2019), by taking in consideration the physical, motoric, cognitive, language development and the child's social emotions.

Assessment is conducted to understand the qualities and levels of competences attained by the learners, either children or adults (Paine, Blömeke and Aydarova, 2016). Quality education is education that is able to provide positive changes among students (Demange, Fenge and Uebelmesser, 2015), their families and the community at large. Creating a quality education system is inseparable from supporting factors, such as: Funds, number of teachers, quality of teachers, leadership, age of educational institutions, which are factors that influence the nurturing of quality education. Based on the field reality, there are still many ECE educators who have not met the required education qualifications, mainly those from the West Java Province. This creates differences in understanding and implementing early childhood education concepts, because most of the teachers have limited knowledge regarding early childhood education.

It has also been noted that many early childhood education teachers, use methods not appropriate to teach children. The methods are commonly used in elementary schools and at secondary level, including discussion and lecturing, which are inappropriate to teach young learners. With such a situation, the department of education organizes basic education and training for early childhood teachers, with the aim of improving their quality and also enhancing their competences. Based on this, it is hoped that early childhood education teachers can understand the concepts regarding early childhood teaching and learning. It also expected that they develop abilities to implement and manage children education programs and activities. This paper aims at really needs to be carried out based on the above reality, and that there are still many ECE educators who do not have the appropriate educational qualifications, so in the process of organizing the Education and Training itself, it is only carried out until the evaluation stage, the organizers are only able to know the results of learning the education and training only. Thus, this study seeks to examine and determine the effect of training programs in enhancing the abilities of the early childhood education teachers in regard to children assessment. The type of basic education and training in question is online training and conventional training. For self-regulated learning, it is categorized into high and low self-regulated learning. The study aimed to reveal the differences in abilities of the educators regarding child assessment, to examine the effect of the interaction between the training and the teacher's self-regulated learning ability, and finally, to explore the differences in the ability of educators in assessing child development conducted based on based on both online and conventional education and training of the early childhood education teachers.

## **2. Literature Review**

Developing competences through training enhances individual competence and improves the ability to perform at work, due to the attainment of general knowledge and skills required for better work performance (Sulistiyani and Rosidah, 2009). In the preparation of education and training programs to be implemented, three aspects are considered; knowledge, skills, attitudes (Hamre-Nietupski and Williams, 1977). These three aspects must exist in any education and

training activity, if the training is to be considered successful. This means that certain aspects cannot stand on their own as basic materials.

In other words, they need other supporting factors, such as face-to-face learning, which can also be integrated within the others forms of learning, including blended learning (Foyster, 1999). Training typically involves: providing lessons and practice (i.e.: theoretical teaching and practicals), Nurturing in the desired direction, preparation, and practice (Rahmatiah, 2018). Training is described and defined differently, by the varying scholars, including Flippo (2013) defined training as an act of enhancing knowledge and skills of individual workers through on job learning activities. It can be in the form of face to face or through online, commonly referred to as blended learning.

### **The Concept of Blended Learning and Self-Regulated Learning**

With blended learning there is a combination of both face to face and online learning, where the material is delivered based on the agreed upon targets. Blended learning is has become common, mainly during covid 19, acting as an innovative way of ensuring studies continue amidst disruptions. Blended learning has served both the learners and teachers, who have been able to continue conducting the teaching and learning process, through learning technologies (Thorne, 2003).

Thus, blended learning can be viewed as learning that combines the best components of online learning and face-to-face learning (Watson, 2008). This means that blended learning brings together the concept of learning technologies and face-to face teacher-student interaction. It is a form of learning, merging the online models of learning, with the help of varying apps and softwares, and at the same time making use of direct student-teacher interaction. Blended learning has become popular because of its appropriateness and flexibility. It empowers students, who have the choice to learn at their convenience anywhere and at anytime without coming to class physically, they have to have internet and also devices, where by handphones or mobile phones can also easily be used. According to Husamah (2014) blended learning has more advantages compared to the conventional teaching and learning model. Blended learning concurrently, makes use of both online learning technologies and also the conventional classroom face-to-face learning sessions.

The online aspect of learning, encourages personal initiatives in learning, which is referred to as self-regulated learning. Pintrich and Groot (1990) refers to self-regulated learning as an actively engaged process where the students are allowed to set goals and control their own learning process. Learners have full control of their learning and they are actively involved in the preparation, planning and executing of the learning process.

### **Child Development and Assessment**

The definition of assessment is quite diverse. Wortham (2015) defines assessment or measurement as a process to determine (through observation and tests) a person's traits or behavior, the characteristics of a program and then provide an assessment of these determinations. Assessment is part of the children's education program, both children who are developing normally and who have special needs. By carrying out the assessment process, the

characteristics of the level of development or performance of the child can be obtained. It is also useful in planning programs to help children overcome developmental and learning problems.

Assessment is the process of documenting children's skills and development (Stipek and Iver, 1989). Assessment measures the level of development of the child and provides an indication of the child's next stage of development. Assessment is not just measuring, ranking or classifying children into certain categories (Wade, 2014). There are four processes making up an assessment, that is: determining the needs of a child and determining the objectives of the assessment, collecting qualitative and quantitative data with appropriate methods, Processing information that is useful for conducting assessments, and making professional decisions

### **3. Research Methodology**

This study is an ex post facto study, it describes the relationship between a behavior treatment with a variable that occurs naturally, in the case of this study, it is basic training and self-regulated learning, as well as ability to assess children's development variable as a moderating variable (level).

The research variables consisted of independent variables, attribute variables and dependent variables. The independent variable was mainly the basic training, while attribute variable was self-regulated learning, and the criterion variable being the ability to assess children's development. The education and training variables consist of online training and conventional training. The self-regulated learning variable consists of high and low learning, while the dependent variable is the ability to assess children's development. The design used was a factorial group design with a 2x2 experimental design. From the number of affordable populations above, a stratified cluster random sampling was used to draw samples. Sampling is done through the following procedure:

Determining the location to be the sample frame. In this study, 27 districts and cities were taken as research areas. A fifty percent cluster random sampling was carried out. The 14 districts and cities in the sample framework area were the West Java Districts, Including Bandung, Cirebon, Cimahi, Subang, Sumedang and the remaining others.

Educators who had attended basic level training from 14 (fourteen) predetermined regions were selected, some were play group educators who have followed basic online and conventional training. From each region, the number of play group educators who attended basic online and conventional training were randomly selected, and those who had attended online and conventional training. From each type of training, educators were randomized and placed in groups of educators who have attended basic tiered training using online and conventional types of training.

For each group of basic tiered training types, both online and conventional training, a sample of 196 people was determined, so the total sample was 392 people. From each group, the types of education and training were further divided into two, 98 people for who had attended the basic level online training and 98 people for those who attended the conventional level level training.

From each group the types of education and training were further divided into two groups high and low based on the measurement of self-regulated learning, namely 98 play group educators who had high self-regulated learning and 98 play group educators who had low self-regulated learning from each group.

Based on the research problem, the data collection techniques used in this study are as follows:

*Questionnaire:* in this research activity, the questionnaire is the main data collection tool to obtain data about the effect of basic training and self-regulated learning types on the ability to assess children's development (Exposure Facto Study on Playgroup Educators in West Java Province). This questionnaire is addressed to Principals, Playgroup educators in West Java Province who have attended Basic Training which is arranged according to a Likert scale with five alternative answers for each question item.

*Interview:* this interview technique is a complementary technique for obtaining information and data needed in research, especially to obtain data that is not revealed either in questionnaires or in direct observation. Interviews were conducted with the principal in the Playgroup in West Java Province.

*Observation:* the author uses this technique to observe and see firsthand the situation and conditions rather than the object and local research. The author uses the observation technique to conduct a preliminary study which is to review, recognize, and identify the problem under study, namely "The Influence of Basic Training Types and Self-Regulated Learning on the ability to assess children's development (Study of Exposure Facto in Playgroups in West Java Province).

#### **4. Results and Discussion**

Knowing the difference in the ability of educators in assessing child development provided based on the online and conventional education and training, the results showed A at significant level of  $\alpha = 0.05$ , with an  $F_{\text{count}} = 7.218$  and  $F_{\text{table}} (0.05; 1; 388) = 3.87$ . From the test of subjects,  $H_0$  is rejected. This implies that the learning strategy carried out in basic tiered training in networks (online) is different from conventional basic education and training. In basic online training, learning is carried out by combining three learning strategies, namely face-to-face online, online tutorials and independent activities. Face-to-face online is a synchronous learning activity in which training participants and instructors conduct distance learning interactions through video conference facilities. There are 10 face-to-face materials with details of 1 policy material and 9 training materials that are determined prior to the training sessions.

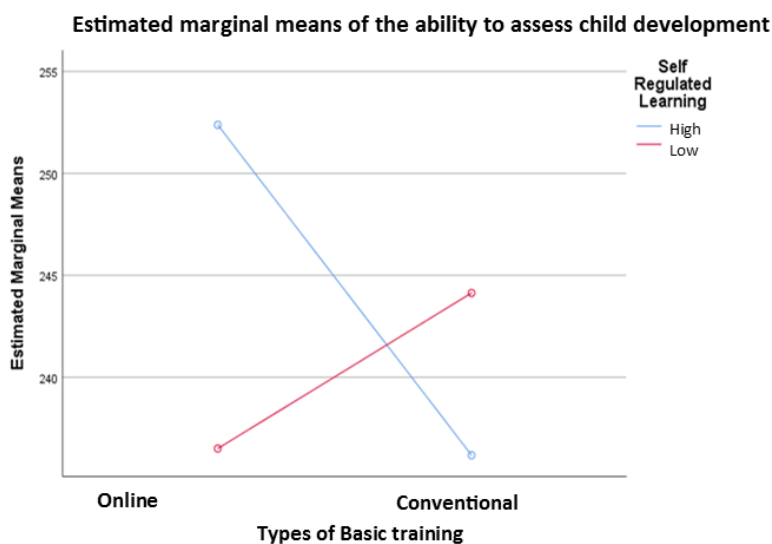
After participating in face-to-face online activities, the facilitators provide assignments that must be completed and the results sent or uploaded by the training participants. To help training participants who experience problems and difficulties in carrying out these assignments, the organizer provides a discussion forum mechanism through the WhatsApp group or email. This strategy is known as online tutorials.

The third strategy is independent activities. Independent activities are carried out online (online) and offline (i.e.: outside the network or face to face). Independent activities are the

stages of application of knowledge and skills obtained in online training into real situations in learning management. In independent activities, online mode is carried out at the consultation stage for the preparation of the learning or care plan. After preparation for the selection, the participants then applied the learning or parenting design they made offline. The final stage is to evaluate and report activities. At this stage, an online mode of consultation and mentoring by mentors is carried out.

### Establishing the Relationship between Training and Self-Regulated Learning in Regard Child Assessment

From a two-way analysis of variance, the types of basic training and self-regulated learning on the score of the ability to assess child development, it was established that the value of  $F_{\text{count}}$  was 55.825 and  $F_{\text{table}}$  was  $(0.05; 1; 388) = 3.87$ . Based on the Sig. in the Tests of Between-Subjects Effects table for rows A \* B, provided that if it is less than 0.05 then the test result is significant or  $H_0$  is rejected. In Table 4.12, it can be seen that the Sig. for row A \* B is 0.000; less than 0.05 then  $H_0$  is rejected so that  $H_1$  is accepted. The conclusion is that there is an interaction between the types of basic training and self-regulated learning on the ability to assess children's development. The interaction between the types of basic training and self-regulated learning on the ability to assess children's development is illustrated as below:



**Figure 1; Interaction Visualization between Types of Basic Education and Training and Self Regulated Learning in its Effect on Child Development Assessment Ability**

By testing this interaction, further testing is necessary. The follow-up test is intended to find out about: (1) the difference in the scores for the ability to assess the development of children who attend basic online training and those who follow conventional basic training for groups of educators with highly self-regulated learning ( $A_1B_1$  and  $A_2B_1$ ); (2) the difference in the score of the ability to assess the development of children who take online basic training and those who follow conventional basic training for groups of educators with low self-regulated learning ( $A_1B_2$  and  $A_2B_2$ ); and (3) differences in the scores of the ability to assess the development of



educators' children who follow basic online training with high self-regulated learning and educators who follow conventional basic training with low self-regulated learning.

### The Ability of Educators in Assessing Child Development based on the Online and Conventional Education and Training

Educators with high self-regulated learning have an influence on the ability score to assess children's development with the type of basic training. This is evident based on the results of further tests using the Tukey test which results are as follows:

**Table 1. Group Comparison  $A_1B_1$  with  $A_2B_1$**

No	Group Compared	dk	$Q_{count}$	$Q_{tabel}$
				$\alpha = 0.05$
1	$A_1B_1$ dengan $A_2B_1$	4: 98	10.13 **	3.71

\*\*= Significant

The score of the ability to assess the development of children who follow basic online training with high self-regulated learning ( $A_1B_1$ ) compared to the score for the assessment of the development of children who follow conventional basic training with high self-regulated learning ( $A_2B_1$ ), obtained  $Q_{count} = 10.13$  and  $Q_{table} (0.05; 4: 98) = 3.71$ . Thus,  $Q_{count}$  is greater than  $Q_{table}$ , so that  $H_0$  is rejected, it can be interpreted that there is a variation regarding the score of the abilities to assess child development with high self-regulated learning between the types of basic online training and conventional types of basic training. In other words, educators who follow basic online training with high self-regulated learning ( $\bar{Y}_{A_1B_1} = 252.38$ ) are higher than those who take conventional basic training with high self-regulated learning ( $\bar{Y}_{A_2B_1} = 236.17$ ) on the assessment ability score child development.

Thus, it is concluded that the abilities to assess the development of children with high self-regulated learning who follows basic online training is higher than those who followed conventional basic education and training.

This is consistent with the tendency of high utilization of self-regulated learning which is influenced by personal factors, behavioral factors, and environmental factors. Training participants have self-regulation seen from the degree of ability to use metacognitive aspects, motivation, and active behavior to participate in their own learning process. In this case, behavioral factors play an important role in the self-regulated learning process. Three stages of behavior related to self-regulated learning, namely self observation, self judgment, and self reaction. The function of these behavioral factors helps individuals to use their abilities optimally in regulating the learning process.

## Establishing the difference in the Ability of Educators in Assessing Child Development based on the Online Education and Training for educators who have Low Self-regulated Learning

Educators with low self-regulated learning have an influence on the ability score to assess children's development with the type of basic training. This is evident based on the results of further tests using the Tukey test which results are as follows:

**Table 2. Group Comparison  $A_1B_2$  dengan  $A_2B_2$**

No	Group comparison	dk	$Q_{count}$	$Q_{table}$
				$\alpha = 0.05$
2	$A_1B_2$ with $A_2B_2$	4: 98	4.77 **	3.71

\*\* = Significant

The score of the ability to assess the development of children who follow basic online training with low self-regulated learning ( $A_1B_2$ ) compared to the score for the assessment of the development of children who follow conventional basic training with low self-regulated learning ( $A_2B_2$ ), obtained  $Q_{count} = 4.77$   $Q_{table} (0.05; 4: 98) = 3.71$ . Thus,  $Q_{count}$  is greater than  $Q_{table}$ , so that  $H_0$  is rejected, it can be interpreted that there is a significant difference in the score of the ability to assess child development with low self-regulated learning between the types of basic online training and conventional types of basic training. In other words, educators who follow basic online training with low self-regulated learning ( $\bar{Y}_{A_1B_2} = 236.50$ ) are lower than those who take conventional basic training with low self-regulated learning ( $\bar{Y}_{A_2B_2} = 244.13$ ) on the assessment ability score child development.

The abilities to assess the development of children with low self-regulated learning who follow basic online training lower than that of conventional basic training is acceptable.

The assessment ability carried out by educators in measuring the level of child development will provide an indication of the next stage of child development. Assessment is not just measuring, ranking or classifying children into certain categories. The process in assessment is as follows: Determining children's needs and determining the objectives of the assessment, collecting qualitative and quantitative data with appropriate methods, processing information that is useful for making assessments, and making professional judgments.

## 5. Conclusion

Based on the findings, it can be concluded that there is a significant difference in the score for the ability to assess children's development between types of basic online training and conventional types of basic education and training. The results of analysis of variance regarding the interaction of variables found that the interaction  $F_{count}$  was 55.825 greater than  $F_{table}$  of  $(0.05; 1: 388) = 3.87$ . This meant that there is a significant interaction effect between the types of basic training and self-regulated learning on the ability to assess children's development.

The results of the Tukey test on the score of the ability to assess children's development with high self-regulated learning, the value of  $Q_{\text{count}} = 10.13$  is greater than  $Q_{\text{table}} (0.05; 4; 98) = 3.71$ . Thus, it can be concluded that the average score of the ability to assess children's development with high self-regulated learning, in the group of educators who attended basic online training was 252.38 higher than that in the group of educators who attended conventional basic training with 236.17. It has also been concluded that the average score of the ability to assess children's development with low self-regulated learning, in the group of educators who attended basic online training was 236.50 lower than that in the group of educators who attended conventional basic training was 244.13.

Hence leading to the suggestion that training is good, however. It should start from the process of analyzing needs to evaluation of the training activities. The training that has been implemented has also influenced the learning process either directly or indirectly, such as: provision of learning modules for training participants, provision of facilities and infrastructure / facilities and providing comfort for training participants and lecturers. Training participants are expected to apply their knowledge so that there is a good development of knowledge, insights, attitudes and behavior and it is hoped that they can improve their ability to carry out assessments of child development. Training participants who have high self-regulated learning can maintain it and those who are still in the low category can increase it. One way to improve it is by practicing using self management (self monitoring, self reward, self contracting, and stimulus control.

Assessment of child development carried out by educators is not carried out separately from the learning process. This is because assessment places more emphasis on assessing children's activities and actions. Thus, every activity carried out in the Institute must have clear and realistic planning, implementation and assessment, effective and efficient organization, directing and motivating all personnel in the Institute to be able to improve the quality of their performance as well as continuous supervision.

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