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TRAINING NEEDS ASSESSMENT ON BLENDED LEARNING MODEL MANAGEMENT TO IMPROVE TEACHERS' COMPETENCE

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Abstract. This research is motivated by the existence of gaps and problems in the low competence of teachers in Indonesia. The implementation of blended learning model training is a solution to improve teacher competence. The training will run effectively, efficiently as the target if it can implement training management properly. The first stage of training management is Training Needs Assessment. Training Needs Assessment (TNA) is the first stage in training management that determines whether the next stage is successful or not. TNA is also a diagnostic process in order to be able to determine/take pictures of the problems that are currently being faced and how the challenges will be in the future and both of these things that must be fulfilled in the implementation of the training. The purpose of this study is to describe and analyze TNA in blended learning model training management in improving teacher competence at the Center for the Development and Empowerment of Science Educators and Educators (PPPPTK) Bandung, West Java. The research approach uses a qualitative approach with a case study method. The results showed that PPPPTK IPA in implementing blended learning model training management in improving teacher competence had implemented TNA with the stages of Analyze training needs and Identify training objectives and criteria.

Keywords: training management; TNA; blended learning.

INTRODUCTION

This research is motivated by the existence of gaps and problems on the low competence of teachers in Indonesia that can be seen from the results of the Teacher Competency Test (UKG) still at 57 out of a maximum value of 100. Implementation of blended learning model training is one solution to improve teacher competence

The training on the blended learning model was taken against the background of: 1) Government Policy on Free Learning: (a) Technology-based National Education Platform, (b) Teacher training must be based on practice, (c) Student Center, 2) Teacher quality/competence is still low: (a) Low UKG scores, (b) low PMP scores (CAR Standards), (c) not all teachers are qualified to teach, 3) Industrial Era 4.0: (a) VUCA (Volatility, Uncertainty, Complexity, Ambiguity) conditions, (b)) Internet of Think (IoT), (c) Edu 4.0 (Blended Learning, Teacher As Mentor, Teacher Learner).

Furthermore, training management is needed so that the training objectives of the blended learning model can be achieved properly as stated by (Hung, 2011); (Kang & Ritzhaupt, 2015); (Pal, Wang, & Liang, 2017) training management is one of the most important factor in dealing with the problem of implementing training program to achieve training objectives that have been set effectively and efficiently

Theory of training management from (Virág & Albu, 2014); (Sarfraz et al., 2020) which mentions four processes/stages of systematic training management as shown in Figure 1.

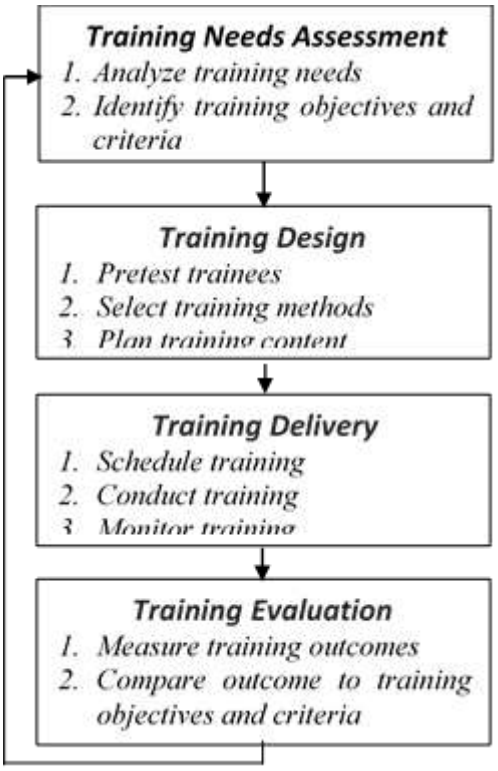

Figure 1. Systematic Training Process

As shown in figure 1., TNA is the first stage in training management that determines whether the next stage is successful or not. TNA is also a diagnostic process in order to be able to determine/take pictures of the problems that are currently being faced and how the challenges will be in the future and both of these things that must be fulfilled in the implementation of the training (Del-Castillo-Feito, Blanco-González, & Díez-Martín, 2021); (Vardien, Richardson, Foxcroft, Wilson, & Le Roux, 2013); (Parkinson, Ward, Wilson, & Miller, 2017).

Dealing with the importance of TNA, this research will focus on the TNA aspect. So, the purpose of this study is to describe and analyze TNA in blended learning model training management in increasing teacher competence at the Center for

Development and Empowerment of PPPTK IPA Bandung, West Java.

METHODS

The approach taken in this research is a qualitative approach. According to Kurniawan, (2018, p. 29), this research uses qualitative data so that the analysis also uses qualitative (descriptive) analysis or describes naturalistic field findings or what is according to field conditions. Furthermore, the method used is the case study method, according to Stake and Yin in et al (Crewell, 2016, p. 19), Case Study Research Methods is a research design found in many fields. It uses specifically evaluation where the researcher develops an in-depth analysis of a case, often a program, event, activity, process, or one or more individuals. This is in line with the objectives to be achieved, namely describing and analyzing about TNA in blended learning model training management in improving teacher competence.

The scope or object of the activity in this research is the Competency Improvement Training for the Head of the Science Laboratory in Blended Learning Mode at PPPPTK IPA which is located at Jalan Diponegoro No. 12 Bandung City, West Java Province. PPPPTK IPA is one of the Technical Service Units (UPT) under the Directorate General of GTK Kemdikbud Ristek which has the task of carrying out the development and empowerment of educators and education personnel in accordance with their fields, namely Science.

Grand Theory of the TNA used in this study using Mathis & Jackson (2010:260) where the Training Needs Assessment consists of:

1. Analyze training needs.
2. Identify training objectives and criteria.

One of the steps of research activities that must be carried out in research is data collection. Research data collection is carried out by applying certain techniques and instruments, according to the type of data desired in the study. Crewell (2016, pp. 254-255) suggests that there are four types of data collection strategies in qualitative research, namely: Qualitative Observation, Qualitative Interviews, Collecting Qualitative Documents and Qualitative Audio and Video Materials.

The data processing technique used in this research is by collecting data obtained from various data collection techniques (Qualitative Observations, Qualitative Interviews, Collecting Qualitative Documents, Qualitative Audio and Video Materials). To analyze this research data, it is necessary to take several steps or procedures. The data analysis procedure adopted in this study is based on the opinion of Miles (2018) in (Artha, et al., 2021, p. 117)

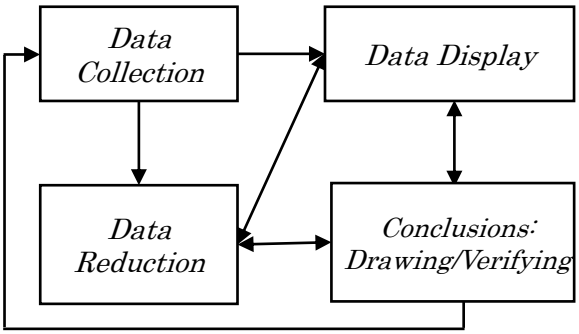

Figure 2. Analysis Technique

In figure 2, it can be seen that the data

analysis technique is divided into four activities, namely:

1. Data Collection, where the researcher makes notes on the data collected through observation, interviews and documentation studies which are Field notes.
2. Data Reduction (data reduction). which can be interpreted as the process of selecting, focusing and simplifying, abstracting, and transforming rough data that emerges from the results of observations, interviews, and documentation studies which are written notes in the field.
3. Data Display, where the researcher in analyzing can see what is going on, and can make a decision whether to draw conclusions or continue to do the analysis that the presentation suggests is useful.
4. Conclusions: Drawing/Verifying (Drawing Conclusions), where researchers review and discuss with colleagues in developing inter-subjective agreements. The final conclusion not only takes place during the data collection process, but also needs to be verified so that it can truly be accounted for.

RESULTS AND DISCUSSION

TNA is a diagnostic process in order to determine/photograph the problems that are currently being faced and how the challenges will be in the future and both of these things that must be met in the implementation of training.

According to Rossett in (Purwaningrum, Susilo, & Suryawati, 2021); (Rodríguez-Sanjuán et al., 2010); (McLachlan, Burgess, Wagner, & Freeman, 2019) describes the Training Needs Assessment as an effort to meet organizational needs for training. These needs include the need to acquire knowledge of new skills that were not previously possessed (actual), obtain optimal results from the planned training (optimal), analyze the feelings that develop when participants take part in the training (feeling), identify the causes of difficulties that arise. Arise regarding the skills to be trained and the challenges that may be faced (problems), as well as formulating the best solutions so that training can be carried out based on needs in the field (solutions).

According to (Ferreira & Abbad, 2013) Training Needs Assessment consists of:

1. Analyze training needs.
2. Identify training objectives and criteria.

To analyze training needs, accurate information is needed and this information is obtained from Organization-Wide Sources, Job/Task Sources, and Individual Employee Sources, while to identify training objectives and criteria, this is done by setting the objectives of the training, an overview of the training program and what criteria. used in training evaluation to ensure the achievement of training objectives.

Based on Permendikbud Number 20 of 2020 concerning the Organization and Work Procedure of the Technical Implementation Unit of the Ministry of Education and Culture, the Center for the Development and Empowerment of Educators and Natural Science Education Personnel (PPPPTK IPA) has positions, duties and functions. The position of

PPPPTK IPA is a technical implementing unit of the Ministry of Education and Culture in the field of developing and empowering educators and educational staff, while the task of PPPPTK IPA has the task of carrying out the development and empowerment of educators and education personnel in accordance with their fields, namely the development and empowerment of Natural Science Educators and Education Personnel.

The number of educators and education personnel for the PPPPTK IPA program is quite large, amounting to 240, 846 people, consisting of 108,540 elementary school teachers, 78,702 junior high school teachers and 53,604 high school teachers. There are 41,972 education staff (principals) at the junior and senior high school levels, as well as 29,501 elementary, middle and high school supervisors. Furthermore, there are 24,161 laboratory staff. The Head of the Science Laboratory is a science teacher who has received training from the Head of the Laboratory.

A. Analyze Training

1. Organization-Wide Sources Analysis

In PPPPTK IPA, the need for a Head of Laboratory is based on schools that already have adequate laboratories. Of course, a Head of the Science Laboratory is needed. Not all schools in Indonesia have adequate science laboratories. To see the condition of the IPA Laboratory, and its laboratory staff, PPPPTK IPA has an application called De-MIKROSKOP. De-MIKROSKOP is a school science laboratory data portal. This portal contains profiles of science laboratories (Physics, Chemistry, Biology) in schools, including profiles of laboratory heads, laboratory assistants, laboratory technicians, along with their facilities and infrastructure.

From the application, it is obtained that profiles throughout Indonesia are needed as many as 5,162 laboratory heads. Furthermore, in terms of competence, there is still a lack of certified and standardized laboratory heads. Conditions in the field indicate that there are teachers who already have a Head of Laboratory Decree (SK) from the principal but do not have the competence, and some have attended training but are not standardized. So that there is a gap between the existing conditions and the desired conditions in the future, namely the availability of certified and standardized laboratory heads. With this, of course, training is needed to increase the competence of the head of the science laboratory in Indonesia.

In terms of training, the blended learning model is also in line with the current conditions where the COVID-19 pandemic is still hitting people so that people are forced to minimize face-to-face contact, also now in the Industry 4.0 era where there are VUCA (Volatility,

Uncertainty, Complexity, Ambiguity) conditions, and the Internet of Think. IoT), as well as Edu 4.0 which directs in the field of education, namely Blended Learning, Teachers as Mentors, and Learning Teachers. Furthermore, from the aspect of infrastructure (ICT, buildings, learning media) as well as teachers at PPPPTK IPA have supported the implementation of blended learning model training.

2. Job Analysis/Task Sources

Analysis of the main tasks of a Head of Science Laboratory according to Permendiknas Number 26 of 2008 concerning Standards for School/Madrasah Laboratory Personnel, the head of the laboratory must master four dimensions of competence, namely:

a. Personality Competence:

1) Present oneself as a mature, steady, and noble person.
2) Demonstrate commitment to the task.

b. Social Competence:

1) Cooperate in carrying out tasks.
2) communicate orally and in writing.

c. Managerial Competence:

1) Plan activities and development of school/madrasah laboratories.
2) Manage school/madrasah laboratory activities.
3) Dividing the duties of technicians and school/madrasah laboratory assistants.
4) Monitoring school/madrasah laboratory facilities and infrastructure.
5) Evaluating the performance of technicians and laboratory assistants as well as school/madrasah laboratory activities.

d. Professional Competence:

1) Applying ideas, theories, and principles of school/madrasah laboratory activities.
2) Utilizing laboratories for educational and research purposes at schools/madrasahs.
3) Maintain occupational health and safety in school/madrasah laboratories.

3. Individual Employee Analysis

PPPPTK IPA identified that the current Head of the Science Laboratory does not have the expected competencies as mandated by the IPAPermendiknas Number 26 of 2008 concerning Standards for School/Madrasah Laboratory Personnel, especially Managerial and Professional Competencies.

B. Identify training objectives and criteria

At this stage, it is done by setting the training objectives, PPPTK IPA has set the training objectives, where the purpose of the Training for Strengthening the Head of the Laboratory is to increase the strengthening of managerial competence and professional

competence for science teachers in SMP/SMA who are given additional duties as head of the laboratory. The details of the managerial and professional competence of the head of the laboratory can be seen in table 1 below.

Table 1. Managerial and Professional Competencies of Head of Laboratory

Dimension Competence	Competence
Managerial	a. Planning activities and development of school/madrasah laboratories. b. Managing school or madrasah laboratory activity. c. Divide the duties of technicians and laboratory, laboratory technician/madrasahs. d. Monitor school/madrasah laboratory facilities and infrastructure. e. Evaluate the performance of technicians and laboratory assistants as well as school or madrasah laboratory activities.
Professional	a) Apply ideas, theories, and principles of school/madrasah laboratory activities. b) Utilize laboratories for educational and research purposes in school/madrasah. c) Maintain occupational health and safety in school/madrasah laboratories.

As for the criteria that will be used for Training Evaluation is to use the level of evaluation

1. **Reaction**

   At this stage, the criteria for evaluating the reaction of the trainees to the implementation of the training are set in which the participants assess the training the style of the instructor, and the benefits of the training for them. PPPPTK IPA reaction evaluation criteria have been determined by looking at the extent of the participants' reactions or perceptions towards the implementation of the training. Evaluation of reactions used by distributing questionnaires to trainees.

2. **Learning**

   At this stage, the criteria for evaluating the participants are determined on the absorption

   capacity of the training program participants to the training materials they have attended. At this stage, the PPPTK IPA has determined the graduation criteria for participants in participating in the training, for example consisting of assessments of pretest, posttest, assignments, attendance and implementation of On the Job Learning which participants participate in.

3. **Behavior**

   At this stage, the criteria for evaluating the behavior of the trainees are set after returning to their workplace/educational unit

where they work. At PPPPTK IPA at this stage determine what behavioral criteria must be possessed at the time after the implementation of the results of the training in their respective schools.

CONCLUSIONS

The conclusion of this study is that: 1. Training Needs Assessment (TNA) on blended learning model training management in increasing teacher competence at the Center for the Development and Empowerment of Science Educators and Educators (PPPPTK) IPA Bandung, West Java, especially TNA on Management of Competency Improvement Training for the Head of the Science Laboratory in Blended Learning Mode has been carried out in stages 1) Analyze training (analyzing training needs), and 2) Identify training objectives and criteria (identification of training objectives and criteria). 2. Analyze training (analyzing needs) training is carried out by looking at the analysis of Organization-Wide Sources, Job/Task Sources, and Individual Employee Analysis. 3. Identify training objectives and criteria (identification of training objectives and criteria) is carried out by setting the training objectives, namely Strengthening the Head of the Laboratory is to increase the strengthening of managerial competence and professional competence for SMP/SMA science teachers who are given additional duties as head of the laboratory, while the criteria used for training evaluation use the reaction, learning, behavior, and result.

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