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Important Ways in Designing Vocational Secondary School Teacher Development Education and Training

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Abstract. A mid-level labor preparation having the qualification and competency appropriate with working world needs is a task from vocational secondary school (VSS). Now days, VSS become an attention by wide community, as a result of the existence of government policy which is trying to empowering vocational secondary education. The policy taken is by performing the revitalization of vocational school which has the aim to improve the quality of labor competitiveness. One of the programs is teacher quality improvement through various teacher training. However, relating to this case, it is suspected that the previous vocational school teacher training is less effective, so that it needs to be conducted the analysis about the teacher training implementation. Therefore, this article will be elaborated the ways needed to be conducted in improving the educational quality and vocational school teacher development training. The ways should be considered when it is planned and implemented the effective training program, such as: determining the needs, setting the goal, determining the content of learning, selecting the participants, determining the best schedule, selecting the appropriate facilities, selecting the proper instructor, selecting and preparing the audiovisual equipment, coordinating the program and evaluating the program.

Keywords: vocational secondary school; training; program; teacher.

1. Introduction

Vocational Secondary School (VSS) has a crucial role in preparing the graduate to be mid-level labor having the quality and competency appropriate with the working world needs. The ideal, VSS graduate has the competency appropriating with their field, and can get the job suitable with their field as soon as possible. However, in last decade, there is a missing link among the VSS graduate with the working world.

One of the Indonesian Republic government program in educational field is quality improvement and relevancy of VSS development. The various government's program including completeness of facilities and infrastructure education improvement, giving block grant fund, teacher and headmaster training, curriculum and textbook development and another relating program. The government also facilitate VSS cooperation with industry/working world in order to the graduate competition appropriate with the competency needed in working world.

The study founding by Edy Supriyadi et.al. (2015) show that commonly, the evaluation result toward the implementation of VSS curriculum 2006 and 2013 of electrical Engineering in Yogyakarta province has not fulfilled the goal expected yet. The implementation of both of curriculums have the



weaknesses in every aspect. Teacher does not master the concept, material and the technical curriculum implementation well though they have received the training and mentoring. This case is suspected that VSS teacher training is less effective [1].

Consequently, in this article, the researcher wants to elaborate the ways needed in improving the educational quality and VSS teacher training development. The description in this article is still limited thought of the literature reviewing result which is relevant with the article's theme. But, there still a possibility that there are other factors which have been discussed in this article yet.

2. Vocational Secondary Education

The explanation about Article 15 of Law Number 20 of 2003 about National Education System confirms that vocational education is secondary school organizing learners mainly to work in certain field. Vocational education is planned to develop the learners' competency to be able to be productive worker. Vocational education is an integral part of general education, a medium to prepare the learners to enter the working world [2].

Appropriating with the diversity of work field in industry, there are several kinds of program in vocational school which is suitable with the spectrum. Spectrum skill of vocational education the kinds of educational program as well organizing signs, as a reference in opening and field administration/ program/ package of the expertise in VSS (Decree of the Director General of Secondary Education, Ministry of Education and Culture Number: 7013 / D / KP / 2013 concerning Vocational Secondary Education Expertise Spectrum) [3]. The kinds of educational program in expertise spectrum is organized in the areas of expertise, expertise program and expertise package. It is completed with competency scope for each expertise package. Electrical engineering is one of expertise program from expertise field of technology and engineering.

Educational implementation in VSS can be analyzed by approach system, according to The International Council of Systems Engineering [4], system is a construction or elements collection which is together direct to the goal achievement. The elements can be in the form of human, facility, hardware, software, policy, financing and other things needed to achieve or produce something. Educational development in systematic perspective consist of Input, Process and Output.

In this chance, we will focus in Input. Input is differentiated to be two i.e. raw input and instrumental input. Raw input is the learners or college students. Instrumental input covers the teacher, curriculum, facilities and infrastructure, learning source and media as well another supporting related. Process is essential component, i.e. process of implementation and management all of learning activities by input support to reach the output/result or students' competency as planned. The ideal, if the program is planned well and input component is fulfilled, as well the implementation program running well, the output will be produced well.

Effective learning is learning which is able to improve the students' competency achievement hence it can support the successfulness of students in the future [5]. Learning process is developed appropriate with the characteristics and curriculum goal. Learning process is carried out interactively, inspiring, pleasure, challenging, motivating students to participate actively. Therefore, it is needed to make lesson plan, learning process implementation as well assessment of learning process to improve the efficiency and effectivity of graduate competency achievement, and of course the teacher role is included.

3. Teacher's Competency

Teacher is educational component which is crucial in the process and learning result achievement. Appropriating with Republic of Indonesia Law No. 20 of 2003 concerning the National Education System, teacher position as educator is professional position [6]. Therefore, teacher professionalism is required to be able to develop appropriate with the development era, knowledge and technology as well community needs including the needs toward human resource which has quality and capability to be able to compete in Regional, National and International forum.

Teacher competency is a complex combination of knowledge, skills, values and attitudes needed to implement the various activities appropriate with the teacher's duties and functions [7]. One of teachers' main task is to design and implement the learning, as well as to assess learning outcomes.

Teachers' competency in teaching is related to the mastery of materials suitable with the field of study, the ability in designing the learning suitable with pedagogical principles, skills in learning implementation and assessment of learning outcomes. Teacher's attitudes and behaviors should be building-up and educational.

Vocational school teacher's competency at least covers: substantial competency, i.e. vocational knowledge and skill, as well life skill; pedagogic competency, i.e. learning methodology skill and vocational learning implementation process skill; competency in job community, i.e. working network and skill in team work, as well administration and financial skill; and skill development, I.e. self-development relating to the skill and job [8].

Pedagogical competencies include: mastering participants' characteristics, learning theory and educational learning principles, developing the curriculum, organizing learning, communicating effectively, organizing assessments and evaluations, performing reflective actions for the benefit of learning quality. Personality competence is related to honest behavior, noble morality appropriate with religious, legal, and social norms, as well having a stable and responsible personality. Social competency includes: being inclusive, acting objectively, and not being discriminative, communicating effectively, empathy, and politely. Professional competencies include: mastering materials, scientific mindset, standards and basic competencies of subjects thought, development of professionalism continuously by performing reflective actions, including doing classroom action research; utilizing the information technology to develop themselves.

4. Teacher Training

As one of the efforts to improve teacher competency, the Ministry of Education and Culture facilitates the implementation of training for teachers, including vocational school teachers. According to Milhem, Abushamsieh, and Aróstegui (2014), training is a planned process to modify the attitude, knowledge, skills or behavior through learning experience to achieve effective performance in an activity or various activities [9]. The training aims to: prepare new and or existing employees to fulfill the qualifications/competencies appropriate with the requirements of the job and organization, improve skills/ competencies, provide basic knowledge and skills needed for new workers to work properly, prepare employees for higher level tasks, and improve the continuity and effectiveness of the work [10]. There are two types of training, i.e. On-the-job training (OJT) and Off-the-Job Training (OFJT). OJT is performed in work during working day, while OFJT is performed in outside the work place. Teacher training can be performed by one or both types of training. Teacher training with OFJT has been more performed so far. Training can be performed through several methods, i.e. : Team Training, Mentoring, Simulation, conference, Field Trip and Tour, and E-Learning [9].

Through team training, people are trained to solve problems more effectively in groups, where observation and feedback are required during the training process. Training can be also delivered through mentoring. Mentor has specialized knowledge, skills and capabilities in problem solving, conflict resolution, communication, goal setting and planning. Simulation is a popular way to provide training and commonly used by business world, educational institutions, and the military. Many virtual simulators and simulations can mimic a phenomenon which is easier to understand.

The seminar method allows participants in small groups to discuss specific topics. Trainees are expected to be actively involved in conference. Conference help the staff to become more familiar with the functions of their work and be more actively involved. Field trip give the opportunity for participants to learn about situations away from the workplace, and get practical information about the functioning of their work. Some organizations use field trip as a component of training due to logistical limitations, lack of proper training materials, and unfamiliarity of outside as training environment.

E-Learning relate with the use of information technology to improve and support education and learning processes, providing a various of learning strategies and applications for exchanging information and acquiring skills. E-learning allows people to access computers and internet to access training materials, obtain high-quality information and qualify in appropriate times and places.

5. Designing Teacher Training

Teacher training should be conducted effectively. According to Kirkpatrick and Kirkpatrick (2009), the following factors should be considered when planning and implementing an effective training program, i.e.: determining needs, setting goals, determining the content of lessons, selecting participants, determining the best schedule, selecting the appropriate facilities, selecting the appropriate instructor, selecting and preparing audiovisual assistance, coordinating programs, and evaluating programs [11]. The definition about the factor is described in the following description [11].

5.1. Determining needs

A teacher training program can be effective when participants feel they are getting what they need. Implementers of teacher training programs must be able to design the form of education and training needed by teachers, so that participants enthusiastically participate in all series of training activities. At the end of the training, participants were satisfied because they got the results they needed.

Before determining what education and training to be held, it is necessary to gather information related to the needs of teachers in increasing their competence. Extracting this info can be done in various ways. In general, this can be done by conducting direct surveys to: (1) teachers, (2) principals, (3) supervisors. In addition, it can be obtained from conducting tests on teachers who are training participants, and analysing the performance of teacher performance appraisals.

5.2. Setting the Objectives

The main thing should be decided before the training implementation is the goal of the training management. The goal needs to be set by grounded on three aspects. The three-aspect covering: 1) the result they want to reach, 2) the behavior that they want to be changed, 3) knowledge, skill and attitude that should be reached.

Many of teacher training program designs is based on the achievement number 3. However, there are several training programs which is only needed the improvement of knowledge. There also the training that want to give new skill or improving skill. Various training is an example of training program which aim to change the participants' attitude.

5.3. Determining Content of the Training Material

The needs and the goal of teacher training implementation are the main factors when determining the content of training materials. The implementer of teacher training should discuss about what topics should be presented in order to fulfill the needs and goal which will be achieved. Based on the topic which has been determined then the implementer determines the instructor and able to fulfill the design the draft time of training implementation. Of course the instructor selected is a competent instructor in the field which is relevant with the training materials.

5.4. Selecting Participants

The committee of teacher training implementation in selecting trainees needs to consider the following four things, i.e. : who will get benefit from the training, what programs are required by government decisions, whether the characteristics of training is voluntary or compulsory training, whether participants need to be separated based on the level of position, rank or other.

5.5. Determine the Best Schedule

The implementor of teacher training in determining the best schedule should consider the following three things: trainees, their superior, and the best conditions to learn. Many training organizers only consider their own preferences and times themselves. The schedule must be set and communicated well in advanced. Special time must be set to fulfill the trainees' need and will and their superiors. Basically the best schedule is a training schedule that should fulfill the participants' need and will, not the instructor's convenience.

5.6. Selecting the Appropriate Facilities

The implementor of teacher training needs to perform a good facilities selection and should be convenient for participants. The things should be avoided including too cramped rooms, uncomfortable furniture, noise or other disturbances, inconvenient, long distances to the training room, and uncomfortable temperatures ((too cold or too hot). In addition, it is also necessary to consider relating to the food and drink during resting time, as well as a place for their rest. Nowadays, there is a tendency to live a healthy life by giving fruit snacks rather than bread, sweet cakes or fried snacks during the training schedule break.

5.7. Selecting the Proper Instructor

The implementor of the training needs to select the proper instructor in order the successfulness of the training program can be achieved well. They should be selected based on qualifications including the relevance of their knowledge competencies with the materials delivered, have a high motivation to teach, have good communication skills, and have skill to persuade people to actively participate in training. The selected instructor should be "trainee oriented"-has a strong will to fulfill the participants' need and will.

Therefore, the training materials need to be adapted to the instructors available, or it needs to make matching perception between the trainee executor and the instructor related to the training materials provided. The best approach to ensuring that prospective instructors will be effective or appropriate with the plan is to observe their performance in a training they handling. In addition, instructors can be selected by relying on recommendations from other training professionals that have used the coach. Avoid the instructor selection by using the results of interviewing and making decisions based on the impression.

5.8. Selecting and Setting Up Audiovisual Aids

The selection and preparation of audiovisual assistance has two goals: assisting training executives in maintaining an interest in training properly and assisting implementers and coaches in communicating with participants. This tool is designed to attract participants' interest as well can be used for entertainment or refreshing in resting time. Of course, the use of these tools needs to be designed and developed to achieve a positive climate for learning. The principle is audiovisual assistance can be an important part of the implementation of effective training programs.

5.9. Coordinating Program

The implementor of the training needs to coordinate everything related to the implementation of the training. The things that need to be coordinated are the preparation of infrastructure facilities training to the implementation of learning. Trainees need to be introduced to the locations used during the training, including learning rooms, dining rooms, consumption menus, rest rooms, prayer rooms and other relevant things.

Regarding to the content of the training, it needs to give an overall picture about the implementation of learning and who the instructors are. Implementors need to convey the schedule of activities clearly both to the participants and to the instructor. In addition, it is also necessary to convey clear discipline to participants. Implementors must ensure all the needs required by instructors in implementing the training which have been fulfilled. Those needs include presentation tools, procurement of learning materials for participants, consumption menus, rest rooms, and pick-up fleets.

5.10. Evaluating Program

Program evaluation activity are measuring action conducted toward various activities that have been implemented in realizing a program. The results of the measurement are then used as feedback that will provide information about the achievement or performance achievement of the implementation of a program in this case is teacher training. Therefore, evaluating teacher training programs is necessary to obtain information about the quality of all factors in the training.

Why evaluating training programs is important to do, here are the reasons. First, the most basic reason is that evaluation activities can inform us how to improve the quality of training in the future. Second,

the results of the evaluation can be used to determine whether a training can be continued or instead discontinued. All three results of the evaluation can be used to justify the existence of divisions or training sections including the budget of this section.

6. Conclusion

Teachers have a crucial role to realize vocational school in fulfilling their duties. Vocational secondary school main task is to provide its alumni to be a qualified and competent mid-level workforce appropriate with the needs of the working world. Therefore, teachers should have good quality in order to perform the learning appropriate with students' need. They have a will to be a reliable workforce. One of the programs that can be used to maintain the consistency of teacher quality is a good training program and appropriate with the teachers' need.

Good teacher training programs need to heed the following ten steps: determining needs, setting the goals, determining lesson content, selecting participants, determining the best schedule, selecting the appropriate facilities, selecting the proper instructor, selecting and providing audiovisual assistance, coordinating programs, and evaluating programs.

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