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PROCEEDINGS

4th International Conference on Technical and Vocational Education and Training (TVET)

Theme :
Technical and Vocational Education and
Training for Sustainable Societies



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FOREWORDS

This proceeding aims to disseminate valuable ideas and issues based on research or literature review in the field of vocational, technical and engineering studies, which have been presented in 4th International Conference on Technical and Vocation Education and Training. This conference has taken place in Hospitality Center Universitas Negeri Padang, November 9-11, 2017.

The theme of Conference focused on the perspective of technical and vocational education and training for sustainable society to face the challenges of 21st century, globalization era, and particularly Asian Economic Community. To overcome the challenges, we need the innovation and change in human resources development. Technical vocational educational and training have essential roles to change the world of education and work in order to establish sustainable society.

Undoubtedly, TVET need to enhance the quality of learning by developing various model of active learning, including learning in the workplace and entrepreneurship. Create innovation and applied engineering as well as information technology. Improvement of management and leadership in TVET Institution, and development of vocational and technical teacher education.

Many ideas and research findings have been shared and discussed in the seminar, more than 176 papers have been collected and selected through scholars, scientists, technologist, and engineers'. as well as teachers, professors, and post graduates students who participated in the conference.

Eight keynote speakers have taken a part in the conference, namely Prof. Intan Ahmad, Ph.D. (Director general of learning and student affairs, Kemenristek Dikti) and Prof. Josaphat Tetuko Sri Sumantyo, Ph.D. (CEReS Chiba University) and Prof. Dr. Maizam Alias (UTHM Malaysia) and Prof. Ganefri, Ph.D. (Rector of UNP) and Prof. Dr. Ramlee bin Mustapha (UPSI Malaysia) and Prof. Nizwardi Jalinus, Ed.D. (Chair of TVET doctoral program, FT UNP) and Prof. Michael Koh, Ph.D. Dr. Fahmi Rizal, M.Pd., MT (Dean of FT UNP). They all have a great contribution for the success of the conference.

Finally, thank a million for all participants of the conference who supported the success of 4th International conference on TVET 2017 and most importantly, our gratitude to all scholars who support and tolerated our mistake during the conference.

Padang, 9 November 2017

Prof. Dr. Nizwardi Jalinus, M.Ed
Chair of Scientific Committee

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ROLE REINFORCEMENT OF LPTK PTK IN IMPROVING VOCATIONAL TEACHERS' QUALITY IN INDONESIA AT SMK N 5 PADANG

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ABSTRACT: One of the implications of globalization in education is the demand for graduates and the quality of skills in accordance with the demands of the labor market. Vocational education school is a school used as a place to create graduates who have an important role in advancing education in particular. Meanwhile, the Indonesian economy is generally appointed. The progress of a school can be realized by improving the quality of vocational education is good, and also the role of teachers is also important in the learning process and LPTK PTK. Thus, it can produce qualified teachers. This is evidenced after the existence of this 2013 curriculum, teachers are required to be able to use various learning media and various approaches, depending on the material being taught. Thus, strengthening the role of LPTK PTK should be done in improving the quality of vocational education's teachers, especially in Vocational education schools in this West Sumatra. For example in SMK 5 Padang, in particular. The quality of vocational education's teacher is well designed and conducted to meet market demand. Thus, institutional partnerships are needed in the development of vocational education, to be applied as a strategy in curriculum implementation through learning through workplace simulations that will create the suitability of graduate quality and market demand for labor. So that graduates will be familiar with the work they will do in the company.

Key words: role reinforcement of lptk ptk, vocational teachers' quality in Indonesia and SMK 5 Padang

1. INTRODUCTION

Indonesia's development in education and the economy is directly correlated to the improvement of vocational teachers' quality that must be strengthened by LPTK PTK. In the economic field, SMK as an institution of vocational education fulfill the demand for labors with specific skills required by the companies, like SMK N 5 Padang. If Indonesia has a lot of trained human resources through vocational education based on the needs of market, then the company will advance and Indonesia's economy will also advance. Therefore, vocational education as the key to success lies in the role of vocational teachers, while the quality of vocational teachers depend on the role of PTK LPTK, like SMK N 5 Padang, this basic institutions must be strengthened and reinforced in order to be able to advance education and economy of Indonesia.

In line with the vision of Indonesia: "Lifting Indonesia into a developed country and becomes 12 major world powers in the years 2024 and the big 8 in the world by 2045 through inclusive economic growth and sustainable development," then the role reinforcement of LPTK PTK as the basis of development will be used to improve the quality of vocational teachers, education that has direct correlation with market demand can create graduates who have the specific skills required by the market companies.

The 2nd dan the 3rd UNESCO and Congress in the field of TVET has agreed that the vocational education sector will become the main role in the world economic growth. Therefore, vocational education needs to be a priority in the development of Indonesia education. The preparation of high quality human resources must be prepared in order to improve the quality of education, this will be the challenge for LPTK PTK.

LPTK can contribute maximally to the development of vocational education in Indonesia through the education management with job-oriented skills in accordance to the development of applied science and technology as well as the job demands. In order to achieve these objectives, one of the factors that has to be noticed is the quality of teachers. LPTK PTK as the institution that creates teachers in Indonesia is very important in improving the quality of human resources in Indonesia. LPTK has the responsibility of producing professional educators to develop vocational education in Indonesia.

Vocational education does not only educate and train the existing skills, but also should has function as the trigger of change. Vocational education serves as a process of adjustment to change and at the same time become the medium for change in the community. Therefore vocational education is not only adaptive but also anticipative. This can improve nation's welfare,



increase national productivity, increase state revenue and reduce the unemployments.

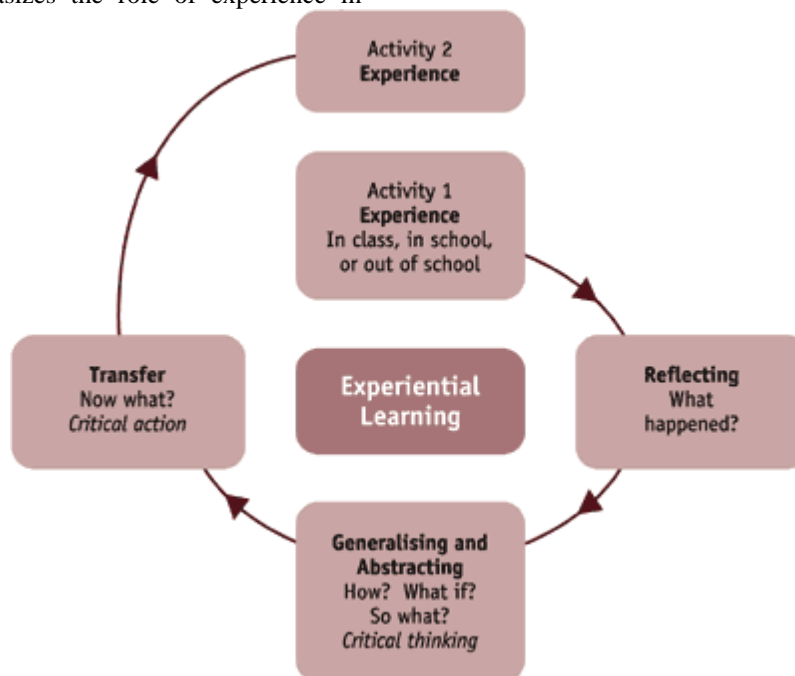
2. STUDY OF THEORY

The theory applied in improving the quality of vocational education is through Experiential Learning Theory, the direct correlation between the quality of graduates and market demand for labors with specific skills can be improved by direct learning through the work simulation, so that graduates will be familiar with the work that they will do in the companies. Through this theory, LPTK PTK can increase the quality of graduates and the quality of vocational teachers in preparing the graduates before working.

This theory is called experiential learning because it emphasizes the role of experience in

learning process. The term of experience is used to distinguish SMK and other formal educational institutions that tend to emphasize the cognitive aspects of knowledge, and behavioristic theory that denies all of the subjective role in the learning process.

Experiential learning theory defines learning as "the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (Kolb, 1984: 41). ELT model describes two related modes, which are Concrete Experience (CE) and Abstract conceptualization (AC), it is further continued into Reflective Observation (RO) and Active Experimentation (AE).



Through these 4 stages of the learning cycle, the real experiences become the basic of the observation process and reflection. Reflections are combined and filtered in that abstract concepts into new implications of actions that can be performed. The implications can be actively tested and used as the guide to create a new experience. There will be processes of accommodating, creative/diverging, intellectual/assimilating, and practical/converging. This theory will improve the quality of vocational education graduates in fun learning process that meets the customer expectations as recipients of their products and services, which later will feel the benefits of such products and services.

3. DISCUSSION

Role reinforcement of LPTK PTK like SMK N 5 Padang in improving the quality of vocational teacher is executed through education management with job-oriented skills in accordance with the development of applied science and technology as well as the job demands. In order to achieve these objectives, one of the factors that must be considered is the quality of teachers. LPTK PTK as an institution that produces teachers in Indonesia has a very important role in improving the quality of human resources in Indonesia. LPTK has the responsibility of creating professional educators to develop vocational education in Indonesia

1. Designs of Professional Education for Vocational Teachers



Vocational teachers have an important role in producing graduates in accordance with market demand. Therefore, LPTK PTK, like SMK N 5 Padang need to be strengthened in the educational design of professional teachers. Vocational does not only educate and train the existing skills, but it also must have function in creating compatibility between the quality of graduates with the market demands.

Based on the structure of program, particularly in relation on how the vocational school relates its educational program with the job world, Evans (1978) divides vocational schools into five categories, namely: (1) pre-vocational guidance education, (2) employability preparation education, (3) occupational education preparation area, (4) occupational specific education, and (5) job-specific education.

At the job consultation program, schools provide basic and general knowledge about various types of works in the community as well as build an appreciation to those variety of the works, while at the work preparation program, schools provide the basic attitude and job skills, although still in general.

For occupational area preparation education program, schools provide experiences in order to improve the working ability at the field of work that requires similar knowledge and equipment. With this program, students are expected to have choices of job opportunity clearer and faster in following the training at work. Specific employment preparation programs provide skills that have lead to certain types of work. Occupational specific education program provides the experiences that have focused on the specific job, which is to educate students to meet the requirements by a particular company. Correspondingly, Tilaar (1991) confirms that: "Formal education (vocational school) should produce graduates that have a ready-to-work qualification that later will be continued with the training program, both in a particular industry or training institutions."

Academic or university must continue to improve the quality of its teachers, in order to create good quality graduate candidates. Indeed, the strategy in improving teachers' quality is rested on the following conditions. First, the processes of lectures at LPTK PTK deliberately guides the candidate for future teachers can fully explore the individual potential from all of the students in the fields of science, technology, art and skill. In this context, the mastery of the didactic intricacies is laid down as a fundamental aspect to detect individual competence of each student. Second, candidate teachers who are trained in the LPTK PTK need to be culturally responsive to the development of cutting-edge science.

2. Assessment of Vocational Teacher Program

Vocational teacher program that has been designed needs to be performed the need assessment in order to be able to meet the demands of companies that will hire the graduates of vocational institution. Vocational education teachers must reflect in form of assessment towards vocational education programs, in teaching the teachers do not only fulfill the obligations and daily routines, but they also think about the daily teaching activities to improve their qualities and develop their professions. Teachers who are categorized into this level can provide their time to serve the students who need guidance and care for the development of students' learning progress in the classroom. Learning activity will be more meaningful if all of the participants learn to experience what they learn, not just know it. Learning activity with material-oriented mastery proves to be successful in the short term memorization competition, but fails to provide children with experiences in solving problems for the long term life competition.

In this case, LPTK PTK, like SMK N 5 Padang also contributes to the assessment by guiding and providing sufficient facilities. These facilities of course in forms of a proven curriculum, facilities and infrastructures, and competent teachers. These basic things are said to be the measure of LPTK PTK reputation.

3. LPTK PTK Strategies in 2013 Curriculum Implementation

In improving the quality of teacher education in vocational education, the role of LPTK PTK is very important in affirming power of education to produce graduates that meet the market demand. LPTK PTK strategies in curriculum implementation in 2013 include several things: (1) the analysis and application of the learning process: high-touch and high-tech; (2) a systematic analysis of the substance and psychological subjects; (3) planning of the learning process; (4) diagnosis of learning difficulties such as diagnostic tests; (5) teaching improvement and enrichment, as well as the evaluation process and learning outcomes.

Vocational education is an educational unit that has its own characteristics, which is oriented to the development of the employment demands. Thus, the implementation of the learning process does not occur like schools in general. The demand of relevance education to the job world in a broad sense implies a number of competencies that need to be mastered can be demonstrated while working. These circumstances make the need for



change in order curriculum that emphasizes on curriculum implementation strategy to be more oriented to the activity of the studied subjects (student-centered).

The results of a so-called education quality in terms of product when there are one or more of the following characteristics: first, the students shows a high level of mastery in the learning tasks that must be mastered in accordance with the aims and objectives of education, including the academic learning outcomes stated in learning achievement (internal quality); second, the results of education according to the needs of learners in their lives so that the students does not only learn how to "know" something, but rather "to do something" that is functional for life (learning and earning); Third, the results of appropriate or relevant education to the particular demands of the workplace environment. From this perspective, the relevance is one aspect or indicator of quality (Depdiknas, 1996).

Learning through experience (Experiential Learning) is the link between learning concepts and taught material with real-world situations in encouraging the participants to learn and make connections between their knowledge with the application in their daily lives, with the involvement of six major components of effective learning, namely: constructivism, questioning, inquiry, learning community, modeling, and the authentic assessment. With that concept, a more meaningful learning outcomes can be expected. The learning process takes place naturally in the form of

work activity and experience, instead of transferring knowledge. Learning strategy is more important than the results (Depdiknas, 2001).

4. CONCLUSION

LPTK PTK has a very important role in improving the quality of vocational education teacher education through education management of job-oriented skills in correlation with the development of applied science and technology as well as the job demands. Vocational education that is conducted through learning experiences (Experiential Learning Theory) will create the relevance between the graduates' quality and labor market's demand through simulation work, so that the graduates will be familiar with the work that they will do in the company.

The quality of vocational education teachers is designed and conducted in assessment to meet the market demand, so that the necessary partnerships between institutions in the development of vocational education as a strategy to be applied in the implementation of the curriculum. The quality of teachers and graduates can be enhanced by the mastery of workplace based learning as a learning approach that creates a correlation between the outputs and outcomes of graduates with the structure of a given school learning and industry as experience in the workplace.