



# PROCEEDING

## International Conference on Vocational Education and Training (ICVET) 2014

**“ Empowering Vocational Education and Training  
to Elevate National Economic Growth ”**

**Yogyakarta State University, Indonesia  
14 May 2014**



**PROCEEDINGS**  
**3<sup>rd</sup> INTERNATIONAL CONFERENCE ON**  
**VOCATIONAL EDUCATION AND TRAINING (ICVET)**  
**May 14<sup>th</sup>, 2014**

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ELEVATE NATIONAL ECONOMIC GROWTH”**



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**GRADUATE PROGRAM COLABORATION WITH  
ENGINEERING FACULTY, YOGYAKARTA STATE UNIVERSITY  
May 14<sup>th</sup>, 2014**

**EMPOWERING VOCATIONAL EDUCATION AND TRAINING TO  
ELEVATE NATIONAL ECONOMIC GROWTH**

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### ***Empowering Vocational Education and Training to Elevate National Economic Growth***

Welcome to the 3<sup>rd</sup> annual INTERNATIONAL CONFERENCE ON VOCATIONAL EDUCATION AND TRAINING (ICVET2014).

Educational practices today encounter the challenge of skills gap as the demand for diversity of skills qualification both in business and industry have not been fulfilled by the qualified workforce, particularly in the fields of technical and specialized skills. The unsuccessful attempt to meet this demand has resulted the high unemployment rate and sluggish economic growth. Vocational Education and Training (VET) has the potential to take responsibility in developing opportunities to address these challenges through closing skills gaps, reducing unemployment, and accelerating economic growth as well as to play a crucial role in a social and economy development of a nation.

Addition to having the opportunity in contributing completed above problems, another fact encountered VET in the presence of unfavorable situation, especially in its ability to meet the demands of VET qualification and fulfill meet of learning out comes. In the new economic environment, VET is more expected to produce an educated, skilled, and motivated work force. In this condition, the current issue is not so much about the value and importance of VET but how to ensure its relevance, responsiveness and added value in an increasingly national economy growth.

This conference provides the opportunity for teachers/lecturers, educational practitioners, and stakeholders as well to share knowledge, experiences, and research findings relevant in contributing ideas and considerations for the implementation of VET policy-making in order to strengthen the national economic development and employment demands.

## CHAIRPERSON SPEECH

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### **Dear friends and colleagues,**

distinguished speakers: Prof. Dr. Thomas Kohler (TU Dresden Germany), Dr. Margarita Pavlova (Griffith University Australia), Dr. Lomovtseva Natalya (The Russian State Vocational Pedagogical University), Dr. Numyoot Songthanapitak (RMULT Thailand) distinguished guests & participants, ladies & gentlemen

Good morning, May peace and God's blessing be upon you all.

In this precious occasion, let me extend to you all my warmest greetings and welcome to Yogyakarta, especially to our invited speakers who have come a long way to Jogjakarta. We indeed feel honoured to have the opportunity to host this conference, the 3rd International Conference on Vocational Education & Training, attended by academicians & educational practitioners who have deep concerns for Vocational Education & Training (VET).

I am particularly happy with the theme of this conference "Empowering Vocational Education & Training to Elevate National Economic Growth" for some reasons. First, I believe vocational education is facing various problems that we have to solve immediately. The qualified workforce has to be improved to fulfill the demand in business & industry. Then, VET has the potential to take the responsibility in accelerating economic growth as well as to play crucial role in the social & economic development of a nation, and developing opportunities to address these challenges by removing skills gaps & reducing unemployment.

In addition, gender equality is a challenge to increase the quality of VET. The other challenge of VET is to produce an educated, skilled, & motivated workforce that is suitable with the industrial needs. The implementation of VET policy-making in order to strengthen the national economic development & employment demands is the key issue of this conference. In this regard, we can certainly share our experience and best practices in this conference.

Finally, I would like to thank you all for participating in the conference. May we have fruitful discussions today.

Chairperson,

Dr. Putu Sudira

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# WEB-BASED SCHOOL SELF-EVALUATION FOR QUALITY IMPROVEMENT IN VOCATIONAL SCHOOL

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## Abstract

The rapid development of science and technology resulted in increasing human needs that impact on increasing the level of competition in global workforce. Vocational schools as an educational institutions that were designed to produced graduates who were ready to worked need to maintained the quality of graduates continuously in order to competed in global marketplace. One attempts that must be done is to do a school self-evaluation to determine the condition and performances of schools. The high flurry of vocational school sometimes makes experiencing difficulties in school self-evaluation. it was required a school self-evaluation system that was easily used by vocational schools as a tool to improve the quality of education. Web-based self-evaluation system is one of solution to conduct an evaluation analysis easily and quickly. This article will discuss about the web-based vocational school self-evaluation as a tool to improve the quality of education. Then it also discusses how to designed and implemented web-based school self-evaluation in vocational education especially in Indonesia.

**Keyword:** web-based school self-evaluation, vocational education, quality improvement.

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## 1. Introduction

Vocational education is an education of an applied personnel training mode and it is also an education of training skilled and applied talents for the social sectors (enterprises), so vocational education, which requires a lot of practice curriculum to train students' operation capacity (Jhing Zhang, 2010). Vocational School (SMK) is one of the education level in Indonesia which has a strategic role in enhancing national economic growth. SMK is designed to produce graduates who are ready to work well in the world of business, industry and independent entrepreneurship. Quality improvement in vocational education was believed to produce professional candidates who are ready to use in accordance with their respective fields. Various efforts have been taken by the government to improve the quality of vocational education. In its strategic plan, the Government seeks to change the ratio of general high school (SMA) and SMK from 60:40 in 2008 to 30:70 in 2025. Besides the number of vocational schools, government also seeks to improve the quality of vocational schools through

various programs, one of which is a international level school.

The main problem in development of vocational school are self-evaluation system to measure profiles, the real condition associated with strengths, weaknesses, opportunities and threats were not optimum, so that vocational experience difficulties in making and developing excellent programs and activities. On the other hand, the government will also have difficulties in mapping the advantages of each existing of vocational school because of the lack of information that can be accessed at any time quickly, precisely and accurately. Vocational development tends to follow the trend of the moment is undergoing rapid development without good school self-evaluation analysis.

In many districts, policy-makers and parents are increasingly preoccupied with the quality of vocational schools and with the knowledge and skills obtained through schooling (Anton De Grauwe, 2002). The inspection system was supposed to exercise control over schools and to offer advice for improvement. Based on experience in many countries, the inspection system has failed

to play either of both roles, leaving many schools unsupervised and unsupported. In response, countries have attempted to reform their inspection and/or have strengthened alternative evaluation tools. School self-evaluation was becoming more popular, especially among policy-makers, although its integration in schools encounters many challenges.

It is therefore necessary to design web-based information system for school self-evaluation that can be accessed for all people with a certain level to be able to integrate all the strengths, weaknesses, challenges and threats so that policy decisions can be made quickly and accurately.

## **2. School Self-Evaluation (SSE)**

Evaluation is at the centre of almost all education quality improvement policies and strategies in most countries today. School Self-Evaluation (SSE) is a way of systematically looking at how teachers teach and how students learn and making decisions about what the school want to improve (Mathews, 2012). Self-evaluation is a process, not an event. It is the first, essential step in a cyclical process of bringing about change and improvement. It is based on professional reflection, challenge and support among practitioners.

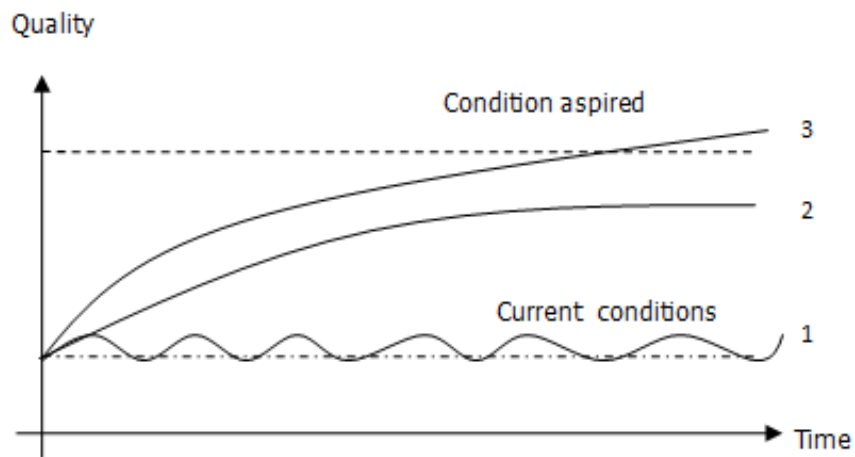
School self-evaluation must be seen as a collaborative, reflective process of internal school review (bernard, 2005). During school self-evaluation the principal, deputy principal and teachers, under the direction of the board of management and the patron, and in consultation with parents and pupils, engage in reflective enquiry on the work of the school.

School self-evaluation is a continuous process that governed by the needs of the institution rather than the requirements of external bodies (Karl Smith, 2012).

Nevertheless, schools are accountable to their stakeholders; they need to be in a position to provide convincing evidence of their success and a clear plan of action to demonstrate how improvements will be made. The case study schools provide examples of how this can be done. They all have a positive and reflective ethos and are determined to improve.

Every organization should implement continuous quality improvement every time. It required a thorough evaluation periodically the existing resources, the process is run, the results obtained and other things related. Thus the significance of an organization can be measured and presumably there are things that are not in line with the vision of the organization can be directly known early on for further improvement (Ali, 2013). Further self-evaluation results known to the public is expected to increase community participation in improving the quality of education. Vocational school self-evaluation is an integral part of the process of development of the educational unit. The level of maturity of the institution can be traced from the results of self-evaluation during a certain period. This document will be very useful for the next leader, especially in improving the quality of education unit.

The process of self-evaluation is planned, executed and controlled properly can find the actual profile of an organization so that it can perform planning and appropriate action to achieve the aspired goals. The development organization that plans to use the self-evaluation that do not use self-evaluation can be shown in Figure 1 (PHK A3 Guide, 2006).



Explanation:

1. Without Self Evaluation
2. Self Evaluation without external support
3. Self Evaluation with external support

Figure 1. Illustration of organization development

### 3. Web Based Information Systems

Information system is the study of complementary networks of hardware and software that people and organizations use to collect, filter, process, create and distributed data (Jessup et al. 2008). Web-based information system displays many benefits of multimedia technology.

Using today's fast broadband connections, it is possible to stream sophisticated content to a computer anywhere in the world. This is an advantage for many people as the information can be received and read wherever and whenever it is convenient for them, which can be a crucial factor for a busy executive. A significant amount of interactive multimedia content is now delivered via the internet.

Information system can't be separated from technology related information into a data processing and information distribution process data into information and the distribution of the data/information within the limits of space and time. Information Systems in order to operate optimally, it is necessary that information

technology has a proven good performance. The use of information technology as the basis of development of information systems would ensure the smooth flow of data and information and accurate data processing results. With the development of network systems both local and internet, makes the distribution of information will take place quickly and dynamically (Oetomo, 2002).

### 4. Web-based SSE System Development

Web-based school self-evaluation for vocational school was developed by research and development (R&D) methods based on software development by Pressman (1982). The stages of the research consisted of: 1) needs analysis of the SSE system for vocational school in Indonesia, 2) design of the system, 3) coding and building the system, 4) Testing and 5). Acceptance and implementing. The procedure of research can be seen in figure 2.

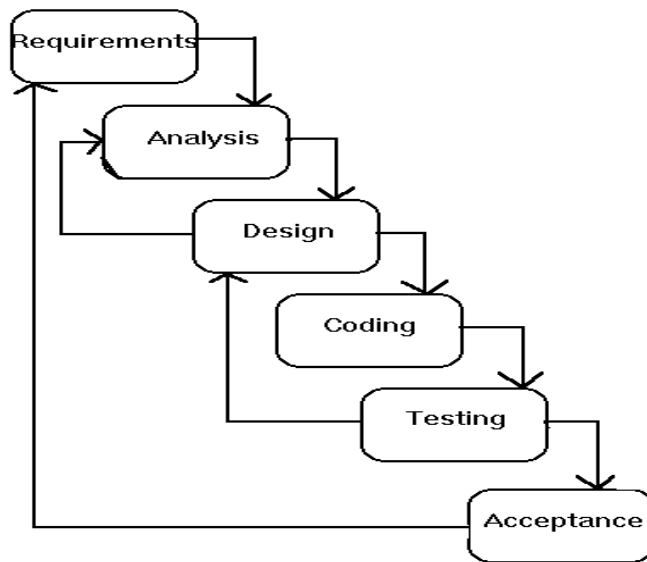


Figure 2. Web-based SSE system development Model

Needs analysis was done by collection of data and information through observation, discussion with parties related to vocational self-evaluation to determine user needs related to self-management of vocational evaluation. The focus needs analysis covering the processes that exist in the implementation of vocational self-evaluation, the user system that includes administrators, school supervisors, vocational school, Department of Education District / City / Province and Directorate of Vocational Training School.

The design of web-based school self-evaluation conducted based on vocational

needs analysis that includes system architecture design, database design, process design and display design. Database system was developed by MySQL server that can be used free.

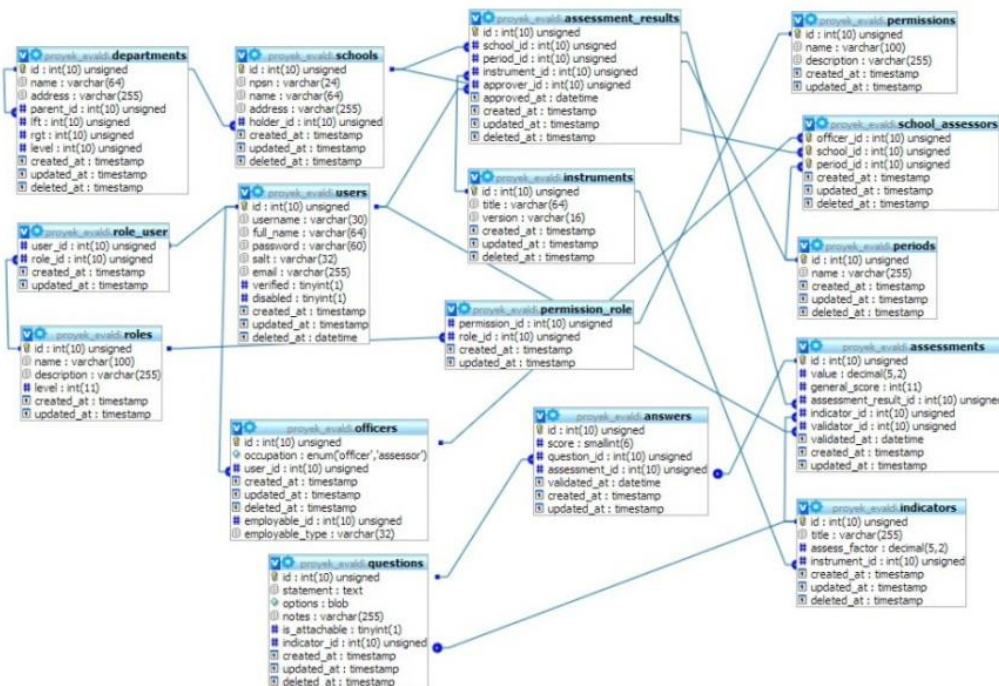


Figure 3. Design of database systems web-based SSE system

## 5. Result and Discussion

Web-based school self-evaluation system was implemented by PHP web programming language that can be accessed at <http://evaldismk.com>. This system used MySQL database server to collected and managed the data from the vocational school.

The server was implemented by Apache server that have high reliability in impementing web based system. The results of the preparation of the program code can be viewed on figured 4.

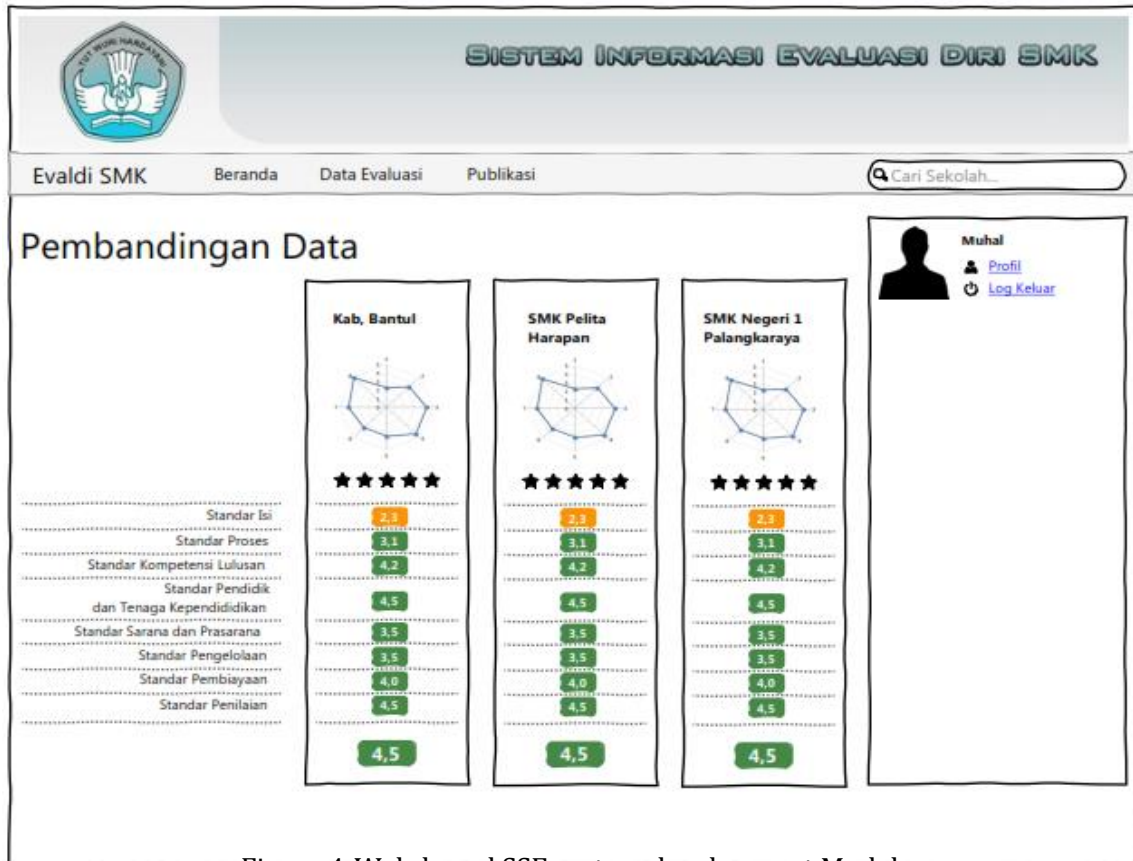


Figure 4. Web-based SSE system development Model

The database for the web-based school self-evaluation system was design and implemented by MySQL Server. The reasons for selecting MySQL server database based on consideration:

1) MySQL is an open source software, so are legally.

2) MySQL has proven reliability indicated widely used in the development of web-based information systems, more than 60% of web-based information systems in the wordl using MySQL Server  
 3) MySQL has a relatively small size so light to run and accessed

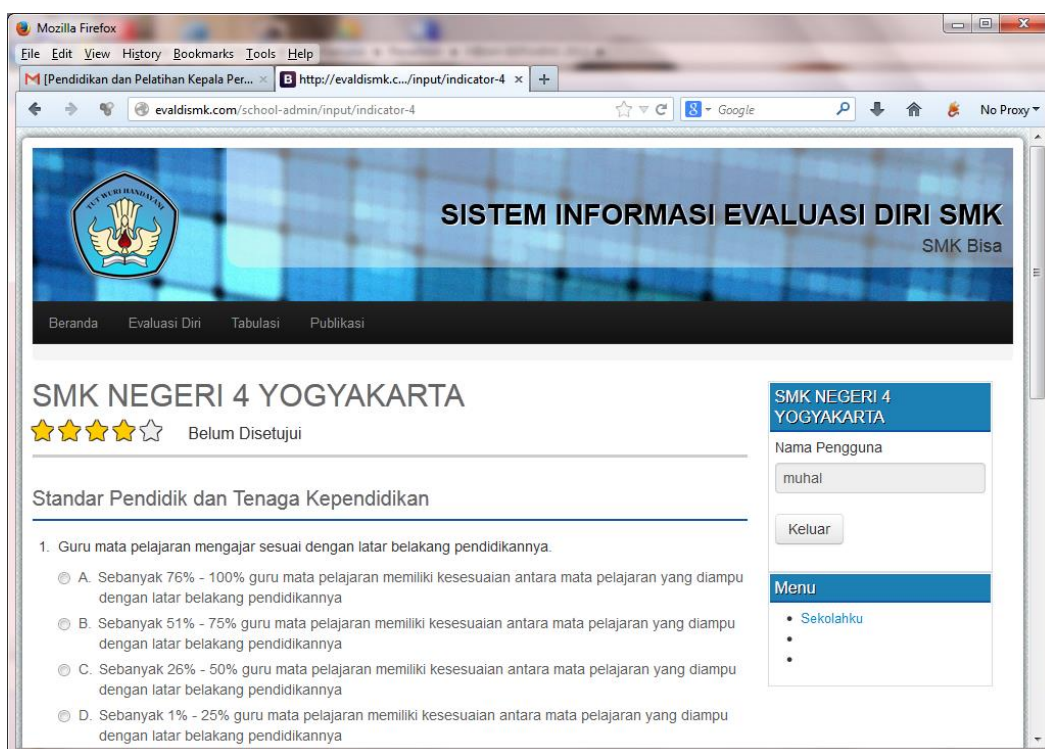


Figure 5. Data entry in SSE

Self-evaluation in vocational was done by filling out a web-based school condition data in accordance with existing conditions. Self-evaluation includes 8 national education standards that include : 1 ) standard of contents, 2 ) standard of learning process, 3) standard of facilities and infrastructure, 4) standard of students and graduates competency, 5) standard of teachers and education's staffs, 6 ) standard of management, 7) standard of financing, and 8) standard of assessment.

The evaluation process was done by form that provided in the web-based system to check the conditions faced each vocational school. The form is designed with a selection of existing conditions with weight rating in accordance with existing conditions. To be more convincing in filling the data, upload the necessary physical evidence required for each of the entered data. With this patterns, the process of self-evaluation can be done by the school quickly, precisely and accurately. Data Charging school self-evaluation carried out by an administrator appointed by the school concerned. In the charging process, the administrator was accompanied by a school inspector in charge to guide and

control the data that is loaded by the school. School inspectors will check the data that is loaded in accordance with the physical evidence so that it can be guaranteed that there entered data is the correct data. Data that has been filled by the school and has received approval from the supervisor will be sent to the central system then admin will verify the entry of data. The data has been verified by the admin center will then be processed and displayed a summary of the data in the form of a diagram . Furthermore, the data of this summary will be published in the system that can be accessed by everyone.

Model of school self-evaluation is helpful web-based vocational school in view of the existing conditions. Through self-evaluation, the school may determine strengths, weaknesses, opportunities and threats. With data identified strengths, weaknesses, opportunities and threats, the school can plan programs and activities with good seed. Vocational school self-evaluation can be used as a web -based means of continuous quality improvement. The principles of self-evaluation For the government, vocational high school self-evaluation is very useful for web -based

map the condition of schools in Indonesia . The Government may determine the strength of each school, 8 drawbacks associated with the implementation of national standards of education in Indonesia. With school self-evaluation data, government can make school mapping condition so that it can conduct training with ease. Efforts to improve the quality of vocational education can be done through periodic self-evaluation and controlled.

## 6. Conclusion

- a. Self-evaluation can be done by vocational schools in Indonesia easily and quickly at any time at <http://evaldismk.com> by filling out a form that were provided.
- b. The result of web-based self-evaluation in vocational school will be analyzed by the system and will be display in graphical chart that informed about condition on each standard and can be used as a basis for developing a work plan.
- c. Government through the directorate of vocational training to perform the mapping for the development of quality improvement programs in vocational.

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