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The Indicators of Instructional Design for E- learning in Indonesian Vocational High Schools

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Abstract

Teaching a subject in Vocational High School (VHS) needs specific strategy, which is part of instructional design. Recently the VHSs use computer base in instructional to deliver theory and practice subject. The computer will help teachers to make media as a part of instruction and using a system of instruction, which is usually called as e learning in instruction. Teachers need skill for operating and planning e learning as an instructional media. To make easier to deliver some subjects, the instructional design for e learning should be well prepared by teacher. This means that the teacher is required to know the model of instructional design, which is suitable for e learning for VHS and what are the indicators that are needed in implementing instructional design for e learning.

Study exploration and references collection were used to find the model of instructional design for e learning. Focus group discussion (FGD) was used to define the good model for instructional design in e learning including to find the indicators, which cover the model. In this case 5 experts from 5 universities and 5 experts from the profession of information and communication technologies (ICTs) were involved. Further, the respondents that consist of 20 teachers and 165 students were used to define the good indicators in each aspect.

The study finds the draft model of instructional design for e learning in VHS. The model has four aspects, including: 1) needs analysis, 2) selection and order of competence, 3) instructional development and 4) learning evaluation. The four aspects have five indicators in each.

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1. Introduction

Vocational education in Indonesia is an education that promotes mastery of skills in certain skills that graduates are prepared to work in jobs. The closeness between the learning materials being taught with the knowledge needed in the workplace is something that must be realized in the timeframe in vocational education. Number of vocational

high school (VHS) in Indonesia reached 11738 with details 3037 publics and 8701 private (<http://datapokok.ditpsmk.net/>). The condition number of VHS students rose 200.000 every year and this time amounted to 4.3 million, while the target in 2019 to reach 5.5 million students (<http://acdindonesia.wordpress.com/2014/08/25/lulusan-smk-ready-bersaing/>).

When you look at the extent and geographical condition of Indonesia, then in terms of the implementation of education, especially VHS need to design appropriate learning standards VHS graduates can be achieved. On the other hand the rapid development of technology in the workplace must be accommodated by preparing teaching materials appropriate for the right target, and determine the learning strategy that allows students to obtain a complete learning experience.

Submission of conventional learning that relies on the transfer of knowledge in the classroom and teacher-centered learning already is not possible where the learning outcomes wants to appropriate use of technology in the world of work. Speed and ease as well as present information as teaching materials can be obtained easily if the learning using computer-aided media. Computer-aided multi-media rich changes obtained only by using internet service. Through learning program that is loaded on the e-learning package is very possible that the interaction of information very quickly as required. In addition, learning materials in e-learning have easily repeated nature, searched and stored so that the high and low groups of students can be accommodated his needs.

Based on the results of preliminary observations on the use of the Internet for learning in several VHS, general internet network conditions for learning is still lacking, especially in the use of e-learning. Almost all users of e-learning in VHS have not been equipped with instructional design. E-learning instructional design appropriate to the vocational teaching materials will facilitate the management of e-learning itself so that the role of the teacher as a facilitator can be more focused to develop innovative learning according to the learning goals. Another problem associated with the use of e-learning is the ownership of the web, web updates, the amount of bandwidth, and student interest in the use of computers for learning is still less attention. Though this condition is an important thing that must be optimized both performance and presence that e-learning can take place properly and easily. To improve and facilitate the use of the Internet for learning, instructional design requires a model of e-learning that can be used for various subjects in vocational subjects. Through research on instructional design models in e learning VHS will produce guidelines on how to plan instructional by utilizing e-learning. Making setting up guidelines that facilitate teacher to prepare instructional design e-learning require the determination of the criteria and their indicators. The criteria and indicators will be used as guidelines for the implementation of e learning in VHS.

2. Use of Information in Technology

Various aspects of information services are highly dependent on the utilization of information technology (IT). Support these technologies affect the rapid development of Information Technology (IT), especially the Internet for learning in education. In education, the use of IT is realized in a system called Electronic Learning (E-learning). Development of E-Learning aims to support education, so schools can provide better information to citizens during the school directly concerned inside and outside the school through the Internet. Other educational services that can be implemented by means of the internet are to provide online course materials and course materials can be accessed by anyone who is in need.

Information and Communication Technology has a broad sense covering all matters relating to the communication of information, the use as a tool, manipulation and processing of information (Kementerian Negara Riset dan Teknologi, 2006). In addition, the presence of information and communication systems is one component that cannot be separated from the activity in the world of education. Some of the components required running the operations of education, among others; students, facilities and infrastructure, organizational structures, processes, educators, and operating costs. Product information from a communication system and information is used to determine the constraints and success of an activity, which is in line with (Kementerian Negara Riset dan Teknologi, 2006). Communication and information systems consist of components supporting educational institutions to provide the information needed by decision-makers when educational activities. In addition, the utilization of the Internet in the field of education, especially for learning cannot be separated from some of the constraints that are difficult to avoid and become a consideration in its development. Some of these constraints are;

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