PRODUCTIVE SUBJECTS LEARNING BASED QUALITY MANAGEMENT OF ISO 9001: 2008 AT *SMK NEGERI 1 PURWOKERTO*

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ABSTRACT

The objectives of the research are to describe (1) the characteristics of productive subjects curriculum based on quality management system of ISO 9001: 2008 at *SMK Negeri 1 Purwokerto*; (2) the characteristics of productive subjects learning model based on Quality Management System of ISO 9001: 2008 at *SMK Negeri 1 Purwokerto*; (3) the characteristics of teacher and student's interaction productive subjects learning based on quality management system of ISO 9001;2008 at *SMK Negeri 1 Purwokerto*.

It is descriptive qualitative research and ethnography design which describes the productive subjects learning base quality management of the ISO 9001: 2008. The informants are principal, vice principal, teachers, and students at *SMK Negeri 1 Purwokerto*. Techniques used in data collection are in-depth interview, documentation and observation. Data analysis of this research includes (1) data collection, (2) data reduction, (3) data display, and (4) conclusion.

The research results show that (1) Curriculum construction and development arranged by SOP (*Standard Operating Procedure*). SOP is constructed by deputy of headmaster of curriculum division. Data collecting about customer hopes, customers' claims as main input in design and development. More competence the team and many people involve, the productive training and education learning curriculum will much better and deal with industry need. (2) The productive training and education learning is conducted in the classroom, while practice outside of the room. The learning model used is using technology. More effective learning model used will be easier to do and the aim of learning will be gained. (3) Interaction connects direct and indirect. It also connects by learning medium technology base. Students interact with teachers, people in the practice work field, environment, and society. More effective interaction connected, will help students easily understand the productive training and education learning.

Keywords: *productive subjects learning, curriculum, learning model, learning interaction.*

INTRODUCTION

Background

Intense competition, especially in services in entering a free trade area requires Indonesia to improve the competitiveness that starts from the preparation of human resources. Indonesia needs to prepare human resource at the secondary level who have the ability meet the demands of industry.

Absorbtion rate of vocational high school graduates in the workforce is still low as quotted by Samsudi that ideally a vocational graduate absorption rate can reach 80 to 85%, but in fact a projection of 2007 is only about 61.43% Empirically visible presence of inappropriateness between demand and supply of labor that results from the profile of graduates is a direct result of planning education and not oriented to the reality of what happened in the community. to face these conditions, vocational education are faced with problems, among others in terms of the conception that: (1) Vocational education oriented on supply driven oriented, no demand-driven;(2) only school-based programs, (3) no recoqnition of prior learning, (4) career needs of vocational graduates and others as quoted from the writings of Soenaryo, 2004:223

Central Java as the province of vocational. Vocational Province established since 2008 by the government in order to promote vocational schools to be able to meet the workforce needs truly ready to use as needed. So it is not surprising if right now there are more than 200 vocational high schools in Central Java.

The management of vocational schools is based on productive learning. Bachder (Anonymous, 2009) evaluates, theory ability gained from school is still low, seen from Vocational School graduates recruitment hard to apply at work area. Besides that, actor of industry complain that there are Vocational Schools which use financial ability of news students in the acceptance. Finally, the graduates only oriented on school's profit not consider on ability and quality of students when introduce on industry. The curriculum continues to turn into one of the causes of the conditions in institutions of vocational education managers increasingly burdened, consequently the school becomes not ready in producing qualified graduates, then rolled out a broad-based education in vocational schools. The core of the broad-based education is life skills oriented, reorientation of

learning on each competency skills to enable students to have a character as life long learners.

These research objectives are: 1) To describe the curriculum characteristics of productive subjects based on Quality Management System of ISO 9001: 2008 at SMK N 1 Purwokerto; 2) To describe the learning model characteristics of productive subjects based on Quality Management System of ISO 9001: 2008 at SMK N 1 Purwokerto; 3) To describe the characteristics of teacher and student's interaction in productive subjects learning based on Quality Management System of ISO 9001: 2008 at SMK N 1 Purwokerto.

THEORY

A curriculum is the set of plans and arrangements of the content and learning material and the method which is used as the guide of teaching and learning activity (Hamalik, 2008: 18). A curriculum provides a wide opportunity to students to have an educational process and learning to achieve the national education target, especially a qualified human resource. The curriculum as a subject is an understanding which connects curriculum with the list of subject taught (Yulaelawati, 2004: 26).

Design of curriculum related to the pattern of organizing the elements or components of curriculum (Sukamdinata, 2001: 113). Based on the focus of teaching, there are three curriculum designs, namely: *Subject-centered design, Learner-centered design,* Problem-centered design,

Learning by Hamalik (2008: 57) is a composition of human, material, facility, equipment, and procedure which influence each other to achieve learning goal. Furthermore, Hamalik (2008: 65-66) stated that there are three characteristics of learning system such as plan, mutual dependence and purpose.

Learning which is focused on the development of intellectual ability that took place socially and culturally, support students to establish their understanding and the beginning knowledge and cultural perspective. Learning task is designed in a challenging and exciting form in order to achieve the degree of higher level thinking Kamdi (as citied by Aunurrahman, 2009: 2).

Instructional material is all kinds of material which are used to help teacher or instructor in doing teaching and learning activity (Chaniago, 2009: 2). The material intended can be a written material or not written. Instructional material is a knowledge, skill, and attitude that must be learned by students in order to achieve competence standard. In detail, the types of instructional material consist of knowledge (fact, concept, principle, and procedure), skill, and attitude or value.

The word media comes from Latin and is the plural form of the medium which means an intermediary or medium of instruction (Djamarah, 2002: 136). Media is a vehicle of instructional information distributor or message. When the media is a source of learning, in widely meaning media can be interpreted as human, thing, or event that enables learner to get knowledge and skill. Meanwhile, Rossi and Briedlei define media as all tools and materials that can be used to achieve educational goal such as radio, TV, book, newspaper, and magazine (Sanjaya, 2008: 163).

Teaching and learning interaction is an interactive activity of several components to realize the achievement of learning goal which has been established in lesson plan (Aqib and Rahmanto, 2007: 58). The process of interaction is an interaction of teaching and learning. Teacher, student, and instructional material are three involved main elements, and the other element is media. Therefore, teaching and learning interaction can be defined as a specific approach to achieve learning goal.

Learning interaction can be defined as a two-way active relationship with a number of knowledge as the medium, so the interaction is a meaningful interaction and creative (Djamarah, 2006: 12). All learning interaction elements are an overview of a two-way active relationship between the educator and student that took place in an educational goal.

The effective interaction pattern involves student to be more active (Usman, 2006: 24). Through the interaction pattern student, can held a limited interaction and teacher can know whether the teaching and learning process he/she gives can be understood or accepted by student. According to Usman (2006: 4)

the interaction pattern includes: The pattern of teacher and student, The pattern of teacher and student, student and teacher, The pattern of teacher and student, student and student, The pattern of teacher and student, student and teacher, student and student.

The activity done is previous reference of study to get relevant research from previous research. There are several researches relate with this research, those are: Drake (2006), *Implementing Dual Diagnosis Services for Clients With Severe Mental Illness*. Psychiatric Services. April 2006 Vol. 52 No. 4. Drake has been observed about professional behaviour of workers graduated from Vocational Secondary School. The result is work training of worker has direct and indirect relationship with professional behavior of worker.

Abou-Zeid, Bode, and Sayed (2008), *Implementing a Dual System of Technical Education in Egypt*. This research found learning by doing in industry is able to increase students' competency deal with industry development.

Jasper (2008), *Reflections on the Dual System of Education India*. In this research found dual system of education in education is able to give strong effect for industrial and educational development.

Josh (2007), *Consultant to World Bank and Ohio State University USA Public Private Partnerships in Vocational Education and Training: International Examples and Models*. This research proves relation between industry and vocational education is very important deal with industry need.

 Christos V. Fotopoulos, Evangelos L. Psomas, Fotis K. Vouzas, (2010) in their research journal entitles *ISO 9001:2000 implementation in the Greek food sector*. The objective of this research is to experiment the perception of ISO 9001:2000 standard applying in food sector at Yunani. This research used quantitative approach. This research has been done in 97 of food companies in Yunani use certificate of ISO 9001:2000, with questionnaire method to observe reason to be certified, problem in applying standardization, use of certification and relationship of human resource in that company. The result shows main reason of certification, first worried of internal business environment then external

and no problem found during the standardization. This research based on subjective data Prefers to a brief period of ISO 9001:2000 certificate.

METHOD

It is a qualitative research. The qualitative research emphasizes on the understanding and meaning which are related to a certain values, more emphasizes on process than measurement, describe, interpret, and give meaning, and utilize multi-method in a research (Sutama, 2010: 61). Qualitative research is a research procedure that produces descriptive data in the form of writings about the person or person's words and their behavior (Harsono, 2011: 33).

This study uses ethnography design. Ethnography problems focus on the ongoing phenomena (Sutama, 2010: 77). The researcher chooses ethnography design because it is an activity of checking, elaborating, and explaining culture to understand the aspect of authenticity and reasonableness.

This study was done at SMK 1 Purwokerto. The selection of location was done purposively with the consideration and reason that (1) SMK Negei 1 Purwokerto is as one of the pioneering of International standard school that has been certified SMM ISO 1900: 2008, (2) a conducive work situation and a cohesive work culture that support each other to bring this school to have such achievements, (3) as the oldest school in Banyumas, it becomes the model of other schools in developing their schools, and (4) the extensive cooperation with the industrial world in Central Java, National, and abroad.

According to Spradley, the position of researcher is as the research instrument and student (Harsono, 2008: 158).

Data are writings or records of everything that is heard, seen, experienced and even thought by the researcher during data collection activity and reflect the activity to ethnography. According to Harsono (2008: 159), the source of a qualitative data is in the form of words and action, the rest are documents. Source of data in a research is in the form of word and action that is observed or interviewed, the more is additional data such as document and photograph (Harsono, 2008: 160). Source of data in this research includes: Event, Informant, Document, and Artifact.

Technique of collecting data in this research includes: In-depth Interview, Observation and Documentation.

The analysis of data is a systematic testing of something to determine its parts, the relationship between assessment, and the relationship with all parts (Mantja, 2008: 83). Data analysis is done along with collecting data then it is continued after collecting data is finished. Analysis of data includes the activity to organize, choose, and arrange data into units, present it, look for the pattern, and find the important thing and what is studied.

According Miles and Huberman (Harsono, 2011: 34), it will be obtained several combinations of data analysis. The combination includes (1) analysis based on the investigators work, namely how researchers treat the data organized or unorganized data, (2) analysis based on sites, whether single or multiple sites, then this analysis type is the one sites analysis and cross-site analysis, (3) analysis based on the objectives that want to be achieved then it comes the technical analysis for the description, analysis for explanatory purposes, and analysis for predictive purposes. There are three main activities in performing data analysis that is data reduction, data presentation, and drawing conclusions.

The data obtained can be said valid if the findings and interpretation of data have credibility. In this research, the activity that can be done by researchers is limited to the credibility by striving to stay in the field to conducting an interviews and observation that obtained repeatedly and consistently. Qualitative way of thinking, the information can be categorized as valid when having the same characteristics of information among various sources (Harsono, 2011: 35). For example document data is same with observational data, even as also with information from informants.

The validity of data is done through triangulation data by observation of teacher performance and student activities. According to Harsono (2011: 36), the way to test the data whether is valid or not, we usually used triangulation way. Triangulation used in this research is the triangulation of source that is by compare and re-checks the degree of confidence of any information that gained through time and different tools in qualitative research. This can be achieved by,

among others: 1) Comparing the data from observations with data from interviews; 2) Comparing the people say in public place and in personal way;) Comparing what people said about the situation of research with what is seen at all times; 4) Comparing the situation and perspective of someone with the different opinions and views of people.

DESCRIPTION

Characteristics of Productive Subject Curriculum Based On Quality Management System of ISO 9001: 2008 at SMKN 1 Purwokerto

Curriculum learning of productive training is group of productive subject matter which is grouped in Basic Competency of Vocational and Vocational Competency. Vocational School has specification. Those are located on productive subject matter. Relates with material of productive subject matter for Vocational School Management Quality base of ISO 9001: 2008, Rubiyah as deputy of management quality of State Vocational High School 1 of Purwokerto says:

"We have Quality document inside are SOP (Standard Operating Procedure), which is arrange how the process needed at school so that can be done well appropriate with hopes of system and quality. SOP 7.3 example. This SOP arrange how the process of draft and development of curriculum must be done by the deputy of headmaster with document/record must be exist as prove of procedure implementation".

Steps of curriculum design and development:

a. Data collecting about customer hopes, customers' claims as main input in design and development.

b. The headmaster deputy with headmaster and management team held evaluation meeting or evaluation of curriculum.

c. Make draft of curriculum design and development by curriculum constructor committee

d. Editing and finalization of curriculum

e. Validation output of curriculum design and development by headmaster and committee.

Based on explanation above knows one of curriculum identification of productive training and education learning of Vocational High School management quality ISO 9001: 2008 at Secondary State Vocational School 1 of Purwokerto is SOP (*standard operating procedure*) to arrange process of curriculum design and development by headmaster and committee .

Instructional materials mostly consist of knowledge, skill, and behavior that must be learnt by students to get competency standard fixed before. In detail, kind of instructional materials consist of knowledge (fact, concept, principle, procedure), skills, and behavior or norm. Instructional materials used in Secondary State Vocational School 1 of Purwokerto deals with the existed curriculum.

Curriculum is also factor that enables to produce good output. Especially for Secondary Vocational School is foundation of a learning process to enter work world. In constructing Secondary Vocational School curriculum is not easy because must appropriate with industry need.

In constructing curriculum of productive training and education is data collecting of complaint, suggestion, and input from customers, those things show that material of productive training and education is given based on curriculum and develop with consideration of hopes and inputs from customers.

Then, material of productive training and education is constructed based on curriculum evaluation. In this step, deputy of Head master curriculum division and quality management team do spectrum experiment, graphic of competency and realization. It shows that in constructing SOP and curriculum development, management team determine aim of quality and plan work. That thing strengthens with document from deputy of headmaster curriculum division as follow.

The material of productive training and education contains skills at school. The material consists of basic vocational competency and vocational competency. Basic material about basic vocational for students about their competence, while vocational competency development from basic vocational and appropriate with

analysis of ISO management quality consider hopes, complaint, and input from customers.

Learning program at Secondary Vocational School is divided into two; those are theory and practice, so in constructing curriculum as administration compliment in learning contains several parts. Those are syllabuses, Learning Operational Plan, Learning Program Plan.

Characteristics of Productive Subjects Learning Model Based on Quality Management System of ISO 9001: 2008 at SMKN 1 Purwokerto

Based on document from researcher, it is obtained information that learning control ISO 9001:2008 base, State Secondary Vocational School 1 of Purwokerto in SOP 7.5.1.

Learning model of productive training and education competency is on Chairman of Skill Competency and learning activity on teachers. Productive learning model begins with construction and socialization of academic calendar, curriculum standard, make Instruction of job description, construct learning timetable, provide learning equipment, each of teacher makes teaching plan.

Based on research conducted by researcher, it can be described that Learning Program Plan's construction is arranged in the form of Work Institution. That Work Institution is become guidance fro teachers in making Learning Program Plan.

Learning model of productive training and education is one of learning model which is done by teachers who guide on learning plan program based on work institution to make Learning Program Plan. It constructed by many processes and deputy of headmaster of curriculum division. It will be revised continuously deal with curriculum qualification.

Learning model used in State Secondary Vocational School 1 of Purwokerto is chosen from part of relates with behavioral because at Secondary Vocational School the nuclear is on *behaviorism learning theoretical*. This model is used in State Secondary Vocational School 1 of Purwokerto.

Learning model of productive training and educations is delivered in Indonesian and English. The material is delivered using *e-learning,* LCD, VCD,

pictures, and laptop. Those things show that learning model of productive training and educations has use high technology. .

Learning model of productive training and educations is supported by medium provided such as library and laboratory. Learning model of productive training and education is controlled and evaluated continuously. The evaluation conducted by own supervisor of each subject matter according to valid curriculum. While to measure study result is validated by *Quality Insurance*.

Characteristics of Teacher and Student's Interaction in Productive Subject Learning Based on Quality Management System of ISO 9001: 2008 at SMK N 1 Purwokerto

The interaction is connecting in learning process. Learning model of productive training and education is done outside of classroom. The interaction is using Indonesian and English. In learning model of productive training and education, teachers often use demonstration method to give example for students on practical subject matter. Students' interest is enough. They do not feel shy to share with teacher about their studies' problem. Teacher and students can discuss effectively relates with material given.

DISCUSSION

Characteristics of Productive Subject Curriculum Based On Quality Management System of ISO 9001: 2008 at SMKN 1 Purwokerto

Research done by Abou-Zeid, Bode, and Sayed (2008), *Implementing a Dual System of Technical Education in Egypt*. Rthis research found that learning with practice in industry or to increase competency of students appropriate with industry development. Education technique will develop appropriate with work market's need deal with industry need.

Compared with previous research, in this research is known one of identification of Secondary Vocational School Management Quality ISO 9001:2008 base productive learning and education curriculum is SOP (*standard operating procedure*) which is arranging about planning process and development of productive learning and education curriculum. SOP is constructed by

management quality deputy, and curriculum development done by deputy of headmaster of curriculum division.

Based on explanation above knows one of curriculum identification of productive training and education learning of Secondary Vocational School management quality ISO 9001: 2008 at Secondary State Vocational School 1 of Purwokerto is SOP (*standard operating procedure*) to arrange process of curriculum design and development by headmaster and committee .

Instructional materials mostly consist of knowledge, skill, and behaviour that must be learnt by students to get competency standard fixed before. In detail, kind of instructional materials consist of knowledge (fact, concept, principle, procedure), skills, and behavior or norm. Instructional materials used in Secondary State Vocational School 1 of Purwokerto deals with the existed curriculum.

Then, material of productive training and education is constructed based on curriculum evaluation. In this step, deputy of Head master curriculum division and quality management team do spectrum experiment, graphic of competency and realization. It shows that in constructing SOP and curriculum development, management team determine aim of quality and plan work.

Research done by Christos V. Fotopoulos, Evangelos L. Psomas, Fotis K. Vouzas, (2010) in journal entitle *ISO 9001:2000 implementation in the Greek food sector*. This research objective is to experiment perception from standard applying of ISO 9001:2000 at food sector in Greek.

Learning program at Secondary Vocational School is divided into two; those are theory and practice, so in constructing curriculum as administration compliment in learning contains several parts. Those are syllabuses, Learning Operational Plan, Learning Program Plan.

The deputy of headmaster, the writer conclude that participation of school and industry is very great to validated and give input about curriculum at that school appropriate with industry need and not only the school which has authority but also when students graduate and work there are competency which

appropriate with industry, and when teacher give training will be easier to equal perception because the school has get the same.

Characteristics of Productive Subject Learning Model Based on Quality Management System of ISO 9001: 2008 at SMKN 1 Purwokerto

Research done by Josh (2007), *Consultant to World Bank and Ohio State University USA Public Private Partnerships in Vocational Education and Training: International Examples and Models*. This research proves that relationship between industry and vocational education is very important because can build worker character deal with industry need. Besides that, need of workers is deal with workers competence.

Compared with previous research, in this research knows that Learning model of productive training and education Learning model of productive training and education competency is on Skill Competence Chairman and learning activity of teachers. Learning model of productive training and education competency is on Chairman of Skill Competency and learning activity on teachers. Productive learning model begins with construction and socialization of academic calendar, curriculum standard, make Instruction of job description, construct learning timetable, provide learning equipment, each of teacher makes teaching plan.

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Learning model of productive training and education is one of learning model which is done by teachers who guide on learning plan program based on work institution to make Learning Program Plan. It constructed by many processes and deputy of headmaster of curriculum division. It will be revised continuously deal with curriculum qualification..

Research done by Jasper (2008), *Reflections on the Dual System of Education in India*. In this research found that implementation of dual system of education is able to give strong affect for education and industry development. Education is done abbreviated as need and technology development adapted from

industry. Dual System of Education has great power to build students' characteristic.

Compared with previous research, in this research knows that the learning model of productive training and education is delivered in Indonesian and English. The material is delivered using *e-learning,* LCD, VCD, pictures, and laptop. Those things show that learning model of productive training and education has use high technology. Learning model of productive training and education is controlled and evaluated continuously. The evaluation conducted by own supervisor of each subject matter according to valid curriculum. While to measure the study result is validated by *Quality Insurance*.

Characteristics of Teacher and Student's Interaction in Productive Subjects Learning Based on Quality Management System of ISO 9001: 2008 at SMKN 1 Purwokerto

Research done by Drake (2006), *Implementing Dual Diagnosis Services for Clients With Severe Mental Illness*. Psychiatric Services. April 2006 Vol. 52 No. 4. Drake has been observed about professional behavior of workers graduated from Vocational Secondary School. The result is work training of worker has direct and indirect relationship with professional behavior of worker.

Compare with previous research, in this research is known that interaction is using Indonesian and English. In learning model of productive training and education, teachers often use demonstration method to give example for students on practical subject matter. The students' interest is enough. They do not feel shy to share with teacher about their studies' problem. Teacher and students can discuss effectively relates with material given.

The use of e-learning in learning model of productive training and education of vocational school can be accessed on school's *website* by students everywhere and whenever they need. They also can get the school's program and profile and also information about their school. The students also can do their assignment and collect them on school's website of each teacher's room. And the teacher also can reply it directly via email there.

CONCLUSION

Characteristics of Productive Subjects Curriculum Based On Quality Management System of ISO 9001: 2008 at SMKN 1 Purwokerto

The curriculum of productive subject was well-compiled and systematically relevant to the SOP. A curriculum was compiled by writing the work plan and the assessment of portfolio complete with the work piece and the form of achieving curriculum target. Development of curriculum considered the need of industrial world which was embodied in the form of the involvement of user in validating and giving input about curriculum.

Characteristics of Productive Subjects Learning Model Based on Quality Management System of ISO 9001: 2008 at SMKN 1 Purwokerto

The learning process of productive subject base management quality system was arranged in SOP. The learning model used was varied that is a double system educational model, in which the productive learning which was hold by the school and industrial company was realized in the form of industrial work practice. Learning also used a complete learning model with the practice approach base on competence and industry.

Characteristics of Teacher and Student's Interaction in Productive Subjects Learning Based on Quality Management System of ISO 9001: 2008 at SMKN 1 Purwokerto

Learning interaction used teacher and student pattern, student and teacher, and student and student. Teacher let students to ask and interact with other students so they are more active in following learning. The interaction was not lost with the effectiveness of learning model which is used in the learning process of productive subjects. By using e-learning media, the interaction pattern could be a direct or indirect interaction but it is more effective.

Implication

1. Productive training curriculum will be in accordance with the needs of the field industry of work, if the preparation and curriculum development are regulated by an established procedure and performed by a deputy school principal affairs

of the curriculum and quality management team with respect to expectations, demands, and input from customers, especially the field industry of work.

2. Productive learning subjects will run smoothly and in accordance with good learning objectives achieved, if the learning undertaken in the classroom and outside the classroom through on the job training activities. Learning model used was studied thoroughly by using technology-based.

3. Students will more easily understand the material productive learning training. Learning interactions will also be established directly and indirectly through the medium of technology-based learning. Students interact with teachers interacting in addition, also with the personnel working practices, the environment in practice, and society,

Recommendation

1. For the school headmaster, this research should be guidance in manage school especially relates with productive training and education learning begins from curriculum, learning, learning interaction management so can improve learning quality of ISO quality management base.

2. For teachers, relates with learning interaction, they should be make particular strategy so that their interaction with students can be done well. They must selective to choose learning medium whether from quality, medium substance, kind of medium aspects, etc, so that students more enthusiastic to learn.

3. For students, productive training and education learning by practice activity can be used to improve their ability and more steady to face real work world or industry.

4. For researcher, there many research that has not been touched yet in this research, so for the next research can be enriched in this research.

5. For next research, this research can be used as reference and guidance for next same type of research.

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