Competence Oriented Approach to Teaching

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Competence Oriented Approach to Teaching Factory in Vocational School, Program of Fashion Design

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Abstract

The learning approach that is oriented towards action in the industry is the implementation of the revitalization of vocational school. The competency-oriented approach to the teaching factory enables the development of effective competencies in learning in the industry. The purpose of this study was to describe the implementation of costume made costume made competencies and industrial clothing in the Vocational School of Fashion Design program in East Java. This research is qualitative research. Data collection using interviews, observations, and documentation.The results of the study showed that costume made and industrial clothing competencies: (1) order acceptance was carried out by teachers and students, the price of orders was largely unknown to students. (2) analyze the order carried out by students consult with the teacher. (3) students' work readiness is marked by orderly starting and ending work according to schedule (4) students work on orders, do work on making patterns for simple patterns, for patterns that are difficult for teachers to make. Sewing and finishing clothes are done by students, the teacher as a consultant and assessing the results of work (5) Doing quality control is done by the teacher, students check (6) submit orders made by students and teachers.

Keywords: competence, program of fashion design, teaching factory, vocational school

Introduction

The current competition and globalization require graduates to move faster. The company prefers employees who have good skills or competencies. Competence is an individual character that can be measured and determined to show certain behaviors and work performance to someone. Miss match between what is learned in school and industry can occur because competency in vocational schools is not yet in accordance with the needs of the workforce, so a competency approach is needed. Thus the synergy of vocational school graduates with industry is needed. Revitalization of Vocational Schools is a means to conduct graduate competencies and industry competencies. Vocational revitalization can be used as a solution to print competent, modern, dignified, innovative and creative students. The implementation of the Teaching Factory is one of the revitalization programs. Teaching factory is a method to bridge the gap between abstract learning in schools and practical experience needed in the workplace. The teaching and learning perspective in industry is a complex learning environment, which facilitates the development of high-quality independent competencies

The teaching factory aims to transfer the real production environment to the classroom. Real-life production sites need to be used for teaching purposes to improve teaching activities with knowledge, which is in the process of industrial practice every day. The delivery mechanism will allow students in the classroom to understand the production environment.

The main objectives of learning in the industry are education and training. Learning in the industry uses a systematic and competency-based approach that integrates 1) Configuring the entire industry learning environment, 2) Design training 3) Setting a single teaching-learning situation. This concept aims to promote professional and methodological competence. Based on the specified teaching and learning goals, indicators are defined as referring to competence.

Teaching Factory is a new scheme that supports industrial needs in the future. Current work presents a new approach to integrating industry with academics under the Learning Factory concept. The main objective is that the Learning Factory's capabilities and added values are shown in various operational schemes. The competency approach is generally recognized as a learning target in the industry. The competency approach in industrial learning involves the interaction and actions of participants facilitating the development of competencies through a structured independent learning process.

Effective competency development is the goal in direct training courses at the learning factory [1; 2; 3; 4; 5; 6; 7; 8] Individual motivation is recognized as a target for industrial course learning (7). The learning environment can integrate intrinsic motivation for learning, motivation in acting and work motivation. [8] prove three fundamental aspects of motivation, based on the human need for self-determination: competence, linkages and autonomy. All aspects are emphasized in industrial learning. In addition, motivation is not only a strong moderating factor for competency development.

Learning in the industry includes elements of training or education and environmental production (9). Learning in the industry aims to describe learning organization approaches at the industrial operational level, integrating learning places and workplaces (10). Learning Factory is a learning environment where processes and technology are based on real industrial sites that allow a direct approach to the product manufacturing process. Learning factories are based on didactic concepts that emphasize experimental and problem-based learning (Initiatives on European Learning Factories, 2013). From these problems it is necessary to study competency-oriented approaches that are used in the learning factory in Vocational High Schools

Literature Review

The competency and the competency approach for industrial learning

The competence is the general tendency of humans to take action that is reflected and independent (11). Integrating ability and will refers to a range of fundamental human performance, namely cognitive, emotional and psychomotor (12). The relationship between competence and current performance cannot be explained - competency characteristics are not directly related to performance characteristics and vice versa.

The competence is the ability of a person to use a system of rules with the aim of doing work (13). Competencies are described as dispositions to regulate self-governing physical and psychological actions (12). Competence includes all the skills, abilities and portfolios of human knowledge that enable the person to act in his professional environment. Furthermore, 10 differentiates by giving four aspects of competence: 1) Professional competencies include specific task knowledge, professional skills and expertise as well as the ability to recognize and solve problems in a particular field. 2) Methodological competencies consist of skills that can be partially applied independently from specialist fields to analyze problems structurally and to make decisions in a targeted manner, in some cases also across situations 3) Social competencies involve the ability to interact socially and act cooperatively and communicative. This also includes collaborative development of goals and plans in certain departments. 4) Self competence consists of the ability for self-evaluation (reflection) and the ability to develop one's personality, especially personal, motivational and emotional aspects (14). Competencies related to professional action are defined as competencies related to situations in the work environment. Action competencies always result from a synthesis of both elements of action and competence, can be defined as the ability and readiness of individuals to act in certain professional contexts.

Gordon in Mulyasa (2005) describes several aspects contained in the concept of competence as follows: (1) knowledge; namely consciousness in the cognitive field. (2) understanding; namely awareness in the cognitive and affective fields that individuals have. (3) skills; is something that is owned by an individual to do a task or work that is charged to him. (4) value; is a standard of behavior that has been believed and psychologically integrated into a person. (5) attitude; namely the feeling or reaction to a stimulus that comes from outside. (6) interest; is the tendency of someone to do something. [15]

The competency development generally occurs in changing thinking and doing (16). These two elements are very important if a lot is thought about, and little is done. inert knowledge arises that cannot be operationalized. If a lot is done and few are deemed not reflective, the operationalize arises. Thus, to develop valuable competencies (dispositions that can be applied), it is necessary to allow reflexively challenging tasks that force participants to alternate between the two. By frequently alternating formal and informal learning processes, the relationship between action and reflection in the learning industry is made. Competence depends on context because they always refer to the ability to overcome challenges in certain situations (4). Thus, competency-oriented curriculum requires relevant specifications.

The systematic approach to learning factory design

Learning factories must be based on a didactic-technology approach. This approach is divided into two didactic transformations.

a. The determination of the relevant subject matter according to current and future interests, namely focus setting and content selection (17), as well as an explanation of the target of learning, is referred to as didactic transformation (18). Didactic transformation starts at the highest design level then is determined further at the subordinate level.

b. Learning system design, and appropriate learning situations to develop competencies in question effectively with respect to technological, personal and organizational conditions (Tenberg, 2011). Didactic transformation starts at each level, with each parent's level.

Learning factory integrates a variety of teaching methods with the aim of moving the teaching and learning process closer to real industry problems (12). In Learning factory, it is deductive (new principles come from principles that are known and in accordance with illustrations) and inductive teaching methods (generalization of individual findings) can be applied to manage the learning process from understanding problems to capacity that is organized independently to act (12).

The learning factory objectives are two groups: industrial target groups and academic groups. In general, industrial learning courses for students have a project character and require several weeks (3; 19). For students, the learning factory is a special opportunity to experience an authentic production system.

The Learning Process

In the learning process two types of activities must be integrated into teaching: on the one hand, exploration or experimental activities to overcome aspects of action - here knowledge arises by taking action. Introduction of new topics or challenges in studying industrial courses, the learning process can be arranged in different ways. The traditional way is to start with a theory and then present related problems to students, where they can test and experiment with previously acquired knowledge. This traditional approach is labeled 'Theory of Encouragement' by analogy with lean principles. An alternative way is to first present the problem before participants know the related theoretical elements. Thus, participants were eager to find ways to solve this kind of problem and thus 'interesting' for the theory needed - therefore this second approach was called "the problem of attraction" (9).

To control the learning process, many different teaching methods can be applied. The spectrum of methods considered ranges from objectivist teaching methods (eg instructions, tutorials) to constructivists (eg projects, simulation games). The aim is to choose the teaching method that best

suits a particular situation. As a basis for the decision-making process, comprehensive criteria for the classification of teaching methods and teaching methods are identified in Bonz (1995), Köster and Kruse (2012), Kuhlmann and Sauter (2008), Baumgartner, Häfele, and Maier-Häfele (2004). The selection of learning methods is a project-based learning method and training method.

Methods

This research is qualitative research which aims to describe a competitively oriented approach to the implementation of a teaching factory in the Vocational Fashion Design Expertise Program, namely costume made and Industrial clothing competencies. The method of data collection using interviews was conducted to find out the implementation of learning model teaching factory that refers to 6M. Observations were made on learning products and infrastructure. Interviews were conducted with the teaching teacher. Observations were made on several documents and infrastructure.

Result and Discussion

The results of the study show that the costume made competence of the teacher divides students into several work groups. Each working group carries out the practice for 1 week. Step 1 acceptance of the order is done by the teacher; students accompany the teacher when receiving the order. The teacher tells the students about the price of the ordered item. Step 2 analyzes the order carried out by the teacher and students. Design analysis is carried out by students and teachers. Students prepare tools and materials according to work safety. Step 3 Students state readiness to work on the order. There are absences and work schedules. Students keep work schedules. Step 4 Students work on orders to make patterns accompanied by teachers as consultants. Patterns that are easy to do are made by students, while patterns that are not easily done are made by the teacher. While sewing and finishing clothes are done by students. If there is something that is difficult to consult with the teacher. Step 5 Doing Quality Control is done by the teacher, students check the size, stitching, and completion. Students record and correct when there are shortcomings. Step 6 Submit orders made by the teacher accompanied by students. Competence is measured from the results of work in the form of evaluation. If the work is completed and satisfied consumers are competent.

In industrial fashion competencies, the implementation of the teaching factory varies. Orders are obtained from schools and the surrounding environment. Step 1, accepts the order. The order is received by the teacher. Orders originating from student schools know the price. Whereas orders from outside the school do not know the price. The agreement upon completion of the order is carried out by the teacher and notified to the student. Step 2, Order analysis. Order analysis is carried out by the teacher. Students receive orders that are ready to be produced. Students prepare tools and materials according to safety. Step 3, student express readiness to carry out learning. Students have schedules and work groups. Step 4, students working on the order. The pattern is made by the teacher, students only sew and complete the order. Order in this case one shirt is sewn and completed by one person. Step 5 is Quality control. Quality control has 2 stages, stage 1 is examined by students using the criteria that have been set. After checking it is corrected if there is an error. The second stage was examined by the teacher. Stage 6 submits order. At this stage the teacher submits the order to the customer. Students accompany the teacher.

The implementation of the teaching factory followed the TF 6 Model, but it was not perfect. In step I students know the agreed price of the order received on the order from the school. But orders from outside students do not know the agreed price. Step 2 analyzes the order. Analyzing orders is done by the teacher, students only observe what is analyzed from the order. Step 3 states the readiness to work on the order. In this case all students are ready and full of confidence. Because the material has been done in the form of a sample. Step 4 Work on the order. In this part, what is difficult for students to do is make patterns. In all schools the average pattern is made by the teacher. Sewing and finishing are done by students. With the guidance of the student teacher following a systematic sewing, the sewing process is carried out by the teacher. If there is an error, the production is paused. Students are collected given an explanation of the errors that occur. Students are trained to correct these errors.

Step 5 Quality control. Checking product results is done by the teacher. Students check product results according to established standards. In this case students do not carry out quality control before being examined by the teacher. Step 6 submits order. Orders from the school area are submitted by students, while outside orders are handed over by the teacher.

From several steps TF 6 there are several activities that do not shape student competency. Competencies related to how to deal with customers. Recording competency as evidence of performance is done by measuring practical performance. It should be done in writing and verbally. From several step TF 6, there are several activities that do not shape student competency. Competencies related to how to deal with the order giver.

The recording competency as evidence of performance is done by measuring practical performance. It should be done in writing and verbally. Competence has not been measured by how students receive orders. There are aspects of consumer lack of trust if students receive an order so that the order is received by the teacher. Training is needed to receive orders before students carry out the teaching factory so that confidence in students is formed and trust in the order giver.

The dominant order analysis is carried out by the teacher. students pay attention to what the teacher explains about analyzing the order. Students cannot calculate the order price. In this case, the untrained students dare to make decisions about received orders related to price. Explanation of order analysis until the agreed order price needs to be taught to students.

The readiness to work on orders is stated by students after the order is received. Students' readiness to work on orders related to work commitments and competencies, so that it is expected to generate motivation, responsibility and work ethic (Dadang, 2015) so that the readiness to work order is orderly, then the eye schedule for learning factory is made in the form of blocks. The disciplinary approach is carried out absenteeism towards student attendance. There is a data collection about the results of student work as an approach to student responsibility for work. Approach to responsibility, discipline, there are no criteria and assessment rubrics.

Doing orders includes hard skills. Some of these competencies have been obtained by students in the previous subject matter. This section is an application to real conditions. Competency in making patterns still needs to be given teacher assistance. Students work on easy patterns, then corrected the accuracy teacher. A dominant assessment is carried out on this competency. Assessment is preferred to the quantity and quality of products produced by students. Assessment criteria and assessment rubrics refer to work procedures. This competency assessment has not been synchronized with existing standards in the industry.

The Initial quality control is done by students, checking the size of parts of clothing or order, shape and quality of stitches. In the competence to control the product quality students are given a guide. The second quality control is carried out by teachers and students. In this competency, students gain knowledge and skills on how to do good control, and how to do good orders.

The submitting orders are done by students and teachers. This activity allows for productive communication to occur between students and order givers. Expectations of student orders will be well received according to specifications and the order giver is satisfied with the results of student work. In this case, students have confidence that the work is done in accordance with the expectations of the order giver.

Conclusion

The competency aspects can be drawn with the help of indicators based on the learning objectives previously set. Desired competencies and indicators have been set for the theory phase, group work and action rounds from the application phase. Furthermore, interventions have been determined where the teacher deliberately intervenes in the student learning process to prevent undesirable events.

The competency approach is implemented as a whole, according to the concept of the teaching factory. Skills competencies are assessed according to industry standards, but there is no equality with the actual industry. Attitude competency in TF 6 has not been fully achieved, due to several

aspects, seen from the condition of the order. In this case, recommendations are submitted to suggest written examinations, oral group tests and practical work assignments with appropriate observations and weights. For the latter, the observation sheet has been described to function as a tool for assessing competence with the help of indicators. This also needs to be considered where forms of social competence and independence can be systematically achieved in a systematic way. Required specific social social competencies that are adequate as an assessment. In addition, the evaluation sheet outlined must be tested in advance for validation needs to identify, if necessary, adaptations from this design are needed.

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PAGE 1

PAGE 2

PAGE 3

PAGE 4

PAGE 5

PAGE 6

PAGE 7

PAGE 8