

Entrepreneurship Education through Industrial Internship for Technical and Vocational Students

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Abstract. The spirit of entrepreneurship must be formed in an integrated process in learning so that commitment, responsibility and work ethic on the candidate of vocational high school graduates are effectively promoted. Learning teaching factory teaches students how to find problems, build prototypes, learn to make business plan, and learn to present their own solutions. The research objective is to assess the effectiveness of Teaching Factory implementation in improving the competence and skills of students in the field of entrepreneurship. The method used in this research is case study. Key informants were determined purposively in charge of teaching factory, students, and teachers who teach in productive subject. The results achieved in this study are: 1) culinary and hospitality units are the most active groups in producing products for teaching factory, 2) the role of entrepreneurial groups in each unit of production in order to increase productivity 3) students earn revenues of teaching factory and production unit get percentage of product or service sales, 3) the role of each production unit determines the level of teaching factory effectiveness.

1. Introduction

The growth of the number of vocational schools throughout Indonesia is not accompanied by the quality of graduates in accordance with the field of expertise. The quality of Vocational High School (VHS) graduates has not been able to fill the needs in the business world and industry, because the skills are not match in accordance with the standards required by the world of work. Open Unemployment Rate (TPT) of Vocational High School reached 11.11 percent. This number occupies the highest position compared to other workers who graduated from elementary school and university. The second highest position of TPT is from Senior High School (SHS) graduates of 8.73 percent. (BPS, 2016 August). Compared to August 2015 data, 12.65 percent of unemployed were from VHS, 10.32 percent from SHS, 7.54 percent from Diploma and 6.40 percent from University. Looking at the data there was a decrease of 1.54 percent for unemployed VHS graduates.

President Joko Widodo affirmed the government's commitment to encourage Vocational education as an effort to improve the competitiveness of human resources. The Government is paying great attention to vocational education especially with the enactment of the ASEAN Economic Community; Indonesia must be able to provide skilled middle-class workers so that it can compete to fill the demand of the business world and industry [1].

To answer the above problem, the role of VHS really should be improved through collaboration with business world and industry world. This is in line with the learning model implemented in vocational schools that relate between theory and practice as in the industrial world that is Teaching Factory. Learning by Teaching Factory approach, has long been known but in its application not in accordance with the intent and purpose Teaching Factory. Teaching Factory



Program is a concept of learning in VHS based on production / service that refers to the standards and procedures applicable in the industry and implemented in an atmosphere like that happening in the industry. Implementation of Teaching Factory in VHS can bridge the competency gap between industry requirement and competence produced by school. The implementation of Teaching Factory requires the absolute involvement of the industry as a relevant party assessing the quality of educational outcomes of VHS. Teaching Factory should also involve local government / municipal / provincial and parents and the community in planning, regulation and implementation. In addition to VHS produces a competent workforce, in the distribution of graduates is expected to also entrepreneurial spirit to not only be able to work but also to create jobs for themselves or for others. This is easy to say but demands seriousness, because entrepreneurial spirit is not easily formed by simply given the science of Entrepreneurship. The soul of entrepreneur must be formed in an integrated process in a learning process so that awakening soul of commitment, responsibility and work ethic on candidate of VHS graduate.

Teaching Factory is a learning method that able to deliver students to achieve industry standard competence through stages of the process of achieving motor, cognitive, and affective standard of mastery and raises the result of learning inspirational - intuitive behavior that is academically described as character learning. Teaching Factory has a strategic value in vocational education and training in improving the competitiveness of vocational institution graduates such as VHS in the local and national as well as regional labor market, as it has a mechanism that always follows the industry's rapid development [2].

Vocational education is expensive; therefore VHS must be managed and executed appropriately by people who are good, creative and responsible. With the proper implementation of learning then the facilities of the expensive facilities can be balanced with the production of many competent personnel are standardized. Professional teachers should be empowered appropriately in order to efficiently and effectively utilize the facilities of facilities, so that "SMK Bisa" can actually produce productive workforce. Vocational High School is one of the educational institutions responsible for creating human resources that have the ability, skills and expertise, so that graduates can develop performance when in the workplace. VHS itself aims to "improve the ability of students to be able to develop themselves in line with the development of science, technology and art, and prepare students to enter the work field and develop a professional attitude. So, vocational education is preparing a person to have certain skills in order to work in the field of work productively in accordance with his field, which is in line with the development of science.

Vocational education is part of an educational system that prepares individuals for a job or group of work [2]. States vocational education is education for a job or some type of work that the individual loves for his social needs. According to the House Committee on Education and Labor (HCEI) vocational education is a form of talent development, basic skills education, and habits that lead to the world of work viewed as skills training [3].

The concept of teaching factory is found for three things: (1) ordinary learning is not enough; (2) the benefit of learners is derived from direct practice experience; And (3) team-based learning experiences involving students, faculty and industry participation enrich the educational process and provide tangible benefits to all. Thus, it can be concluded that teaching factory is a learning activity where students directly perform production activities either in the form of goods or services within the school education environment.

The purpose of teaching factory is to make students realize that teaching should be more than what is in the book [4]. Learners not only practice soft skills in learning, learn to work in teams, practice interpersonal communication skills, but gain hands-on experience and practice work to enter the working world later. Learning factory teaching teaches students how to find problems, build prototypes, learn to make business proposals, and learn to present their own solutions. Teaching-learning process learners learn about skills that are important to master, such as how to meet the level of time and guesses that may arise, build and work in teams and work with diverse people who have the ability and talent are diverse.

Some research results show that teaching-based teaching factory states that the industry is a partner [5]. Learning partnering with industry is a successful experiment [5]. The Learning Factory is a successful experiment which has been pedagogically sound, sustainable, cost effective and transferable [5].

The teaching factory process that has been implemented in VHS RSBI in Yogyakarta area is influenced by supporting and inhibiting factors [4]. Factors supporting the implementation of teaching factory are: (1) Good equipment facilities; (2) Human resources; (3) Products produced; (4) Market influence; (5) Leadership; and (6) Marketing. Factors inhibiting the implementation of teaching factory are: (1) Rules on the legality of production units; (2) Lack of marketing; (3) Parents' perceptions of students; (4) The price of the manufacturer is too high; and (5) The busyness of teachers and students. Supporting factors in the implementation of teaching factory in VHS RSBI DIY is: (1) There is a capital source in the form of a grant, (2) Facilities of production equipment, (3) Teacher ability, (4) Exhibition by local government [6]. While the inhibiting factors are: (1) Operational management, (2) Lack of cooperation with industry, (3) Nature of program in the form of project, (4) Student competence, (5) Marketing.

The purpose of this study is to assess the effectiveness of Teaching Factory implementation in improving the competence and skills of students in the field of entrepreneurship.

2. Methods

This research use case study method, key informant in this research determined by purposive from VHS N 3 (Public Vocational High School) that is manager of unit teaching factory and one person from National Education Office of North Sulawesi Province. While the source of data in this study is the manager of Production Unit, and students and teachers productive. Data collection was conducted with, observation, in-depth interviews, and Focus Group Discussion (FGD). Observation techniques, researchers go directly to school to observe the situation and collect data. In-depth interviews took place directly with informants. The interviews used were using an open system which meant the subject knew they were being interviewed and understood the purpose of the interview. FGD techniques are conducted to collect untapped data from in-depth interviews. Implementation of this technique in the form of discussion groups between researchers and informants who are considered to understand the problem research. Data were analyzed by interactive model through stages: data reduction, data presentation, conclusion and verification [7].

3. Results and Discussion

3.1. Result

Teaching Factory in VHS N 3 Manado consists of several units of production that is the production unit of Culinary, Clothing, Cosmetology, Hospitality and Computer Network Engineering. Products produced in the production unit that includes superior that is included in the product Teaching Factory. Products that have not included good or superior are not included as a result of Teaching Factory. In accordance with the results of interviews with the responsible Teaching Factory that for this unit Culinary already can produce products ordered by the community including offices. These products include catering, lunch box, snack, and hospitality services already requested by several hotels in Manado. Profits from the Teaching Factory result the students earn income and also the production units get a percentage of the sales of products or services. The role of the production unit is expected by the Teaching Factory manager because if the production unit is not productive then no products or services will be sold. This means no income for schools. The results of the sale of products and services help finance the operations in each production unit. Funds provided by the government for Teaching Factory from 2015 is Rp 300.000.000, - to assist the operational of Teaching Factory. The year 2016 is not getting help because there are 3 units of production do not run activities regularly and continuously.

The benefit of Teaching Factory is to support learning. The learning process in VHS demands high skills therefore entrepreneurship groups are effected. In the production unit, there are entrepreneurial groups of students. The group is a way for expanding practicing hours in practice to produce superior products or services. Other benefits gained from the Teaching Factory Teachers' learning implementation can win both regional and national level competitions. In addition, there are 5 students sent by the ministry to study in Japan for 6 months.

Constraints faced in the implementation of Teaching Factory is the cost, because the funds provided to VHS are all the same even when for the production unit Culinary, Clothing, Cosmetology, procurement of materials and equipment to practice more. Lack of funds must be

overcome by the revenue earned on the product sales so that the learning activities in the Teaching Factory unit can be sustainable. Another obstacle faced is not all teachers think to improve student productivity through activities in the production unit and in Teaching Factory. Elements of leadership have not fully supported the Teaching Factory activities.

Teaching Factory Learning in VHS N 3 is not fully in accordance with Teaching Factory's own teaching principles because it has not utilized the industry or institution related to Teaching Factory products. Do not have cooperation with the industry either in terms of expert or in terms of marketing Teaching Factory products. Thus, for certain products and services if there is no order then the production is not done.

3.2. Discussion

Teaching factory is a concept that combines learning and a realistic work environment and to bring up relevant learning experiences [4]. This learning is a practice process that integrates application-oriented training with a problem-solving approach. The teaching factory process that has been implemented in VHS RSBI in Yogyakarta area is influenced by supporting and inhibiting factors. Factors supporting the implementation of teaching factory are: (1) Good equipment facilities; (2) Human resources; (3) Products produced; (4) Market influence; (5) Leadership; And (6) Marketing. Factors inhibiting the implementation of teaching factory are: (1) Rules on the legality of production units; (2) Lack of marketing; (3) Parents' perceptions of students; (4) The price of the manufacturer is too high; And (5) The busyness of teachers and students. one of the learning approaches based on production and learning in the world of work is with the factory of learning or known as teaching factory (TEFA).

Based on the Research results of this study, the lack of supporting facilities will hinder the implementation of Teaching Factory properly. Lack of marketing access will hinder continuity of production.

Teaching factory learning model, there are some special parts that distinguish the non-teaching practice model applied in VHS Karsa Mulya Palangka Raya namely: (1) Students do real work according to SOP like in industrial world ; (2) Practice materials that are undertaken i.e. real objects or vehicles owned by consumers; (3) Job based on the problems found in consumer vehicles; (4) Work based on work standards supported by the manual of the type of service the vehicle is working on; (5) Students are required to work on the same time as working in the industry; (6) More enhanced work safety of tools, persons and work pieces; and (7) Planting a greater sense of responsibility, especially on customer satisfaction [4]. The developed teaching factory model is in accordance with the required criteria, namely: (1) The availability of room as a place of practice implementation; (2) There is a production unit as a place of execution of the process; (3) Available supporting facilities such as tools, locks, and machines; (4) Has taken advantage of local environmental conditions in the learning process of practice; (5) Human resources involved in the implementation of teachers / instructors and students; (6) Cooperation between industrial parties and schools; (7) Teachers of practice subjects, instructors have a commitment in implementing and applying the concept of teaching practice model teaching factory; And (8) Students are fully involved in the process. The effectiveness of the teaching factory model development process implemented is shown by the students' ability in completing the work.

The entrepreneurship education given to the students in their implementation in the unit teaching factory is not merely a theory but it is really the level of practice. The students are given the responsibility to carry out the work in the field of expertise with a business oriented. The production unit plays a crucial role in the implementation of entrepreneurship education [8].

4. Conclusions

The research concludes the following points: 1) Production unit in Culinary and Hospitality units are the most active group in producing products for teaching factory, 2) The role of entrepreneurial groups in each unit of production in order to increase productivity 3) Students earn income from

teaching factory results and the production unit obtains a percentage of the sales of the product or service, 3) The role of each production unit determines the level of teaching factory effectiveness.

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