

Implementation of Teaching Factory on Training Management Model Development of Diploma III Students in Mechanical Engineering Departement, State University Medan

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Abstract—This research aim to determine the design of teaching factory, analyze the design manual and analyzing teaching factory quality control and follow-up in the development of the management model student training Diploma Mechanical Engineering Faculty of Engineering, University of Medan. This research uses descriptive method with qualitative approach. The collection of data through interviews, observation and documentation. Qualitative data analysis techniques using the theory of Miles and Huberman. The results of this study indicate that the design of teaching factory on three diploma students of mechanical engineering design was grouped based learning, competence of graduates, the curriculum has been adopted, industry cooperation in the production process, the works carried out in the industry, and infrastructure. presented the results obtained as well as get feedback (feedback) from the lecturer / instructor. Evaluation should assess overall than contains, input, process and product. Quality control and follow-up is still limited communication between faculty, and student production unit. Quality teaching factory activity in management training should be able to create industrial culture in the workshop and become one of the sources of funding for faculty. Need invented ongoing cooperation with the industry to expand the field.

Keywords: *Implementation Teaching factory, Teaching factory, Management training*

I. INTRODUCTION

Development of a technology can not be separated from human resource potential that has skills in producing new products with creative and innovative. Improvement or development of human resources is a thing judged on the quality of education, so that education can play role it must be associated with the world of work, which means that graduates should have the ability and skills relevant to the demands of the working world [1]. To meet the challenges of national and global labor markets can not be separated from the importance of curriculum development and modeling approaches.

Learning model is a series of presentation of teaching material that covers all aspects of learning in order to achieve learning objectives[2].

Teaching factory is a concept of learning in the real atmosphere, so as to bridge the gap between the needs of industry competence and knowledge of the school [3]. At Prodi Diploma Mechanical Engineering teaching factory models are needed because there is a product design course. This course is expected to skilled students in the field of engineering and design of the products have been adopt a variety of advances in science and technology.

At Prodi Diploma Mechanical Engineering teaching factory models are needed because there is a product design course. Actually in field learning model implemented has not been satisfactory because they use guided inquiry learning model. So that teaching factory can produce skilled graduates competence and job readiness must be followed with the provision of extensive training. That process teach certain knowledge and skills and attitudes in order to obtain better skills and is able to carry out their responsibilities properly in accordance with the standards, the training should be done through careful planning or management model proper training [4]. The terms of management or management training is describe, which covers the activities a) planning, b) implementation, c) evaluation [5]. Of the three components can be developed into a multiple step activities depend on the approach used.

The focus of this research is the implementation of the Teaching Factory In Training Management Model Development of Diploma III Mechanical Engineering, State University of Medan. The purpose of this study is to develop a teaching factory design, analysis of the design manual teaching factory and analysis of the follow-up quality control and management model student training Diploma Mechanical Engineering Faculty of Engineering, State University of Medan

II. METHODS

This research is a descriptive qualitative research. Subjects in the study is that lecturers, Chairman Prodi Diploma in mechanical engineering, Head of Production Unit, the business world Students and business / industry. Object of study in this research is the implementation of teaching factory in the development of training management model mechanical engineering diploma student state university school of engineering fields. The procedure of this research consists of four stages: Stage Pre Fields namely looking for a subject as a resource. Researchers conducted a field assessment (field study) against the background of research, looking for information and data from other studies about teaching factory and management training. It is intended to undertake the drafting of the study. The second phase, Field Work to enter and understand the background of research in data collection. Third, the data analysis stage by performing a series of processes of qualitative data analysis and interpretation of the data that have been obtained previously. Then the process of triangulation of data as compared with the theory of literature. Fourth, Stage Evaluation and Reporting. This research instrument in the form of interviews, the instrument in the form of interview, observation, the instrument is a check list and Documentation.

III. RESULT AND DISCUSSION

Design teaching factory formed at three engineering diploma study program in the development of training management model can be explained by the concept of management training. Training Management consists of planning, implementation and evaluation. The designs are grouped based learning, competence of graduates, the curriculum has been adopted, industry cooperation in the production process, the works carried out in the industry, and infrastructure.

The design of the existing teaching factory is established in a design manual. Manual teaching factory design is user practical teaching factory used by students of three engineering diploma as a reference to do a job in accordance with the demand of the business / industrial world. Manual design formed in the management of this program: through the groove identify the problems that exist in society, analyze order, presented the results of orders, work orders, perform quality inspections, and receive presented the results obtained as well as get feedback (feedback) from the lecturer / instructor.

Aspects of the evaluation process and the evaluation shows the measure of success of the implementation of the teaching factory. Evaluation is required to see the achievement obtained from the product, both qualitatively and quantitatively. The evaluation was done by the coordinator to conduct assessment work on each part of the production execution. Starting from the content, input, process and product. The evaluation results per section are then reviewed again in the overall assessment and the results used as the basis for continuous improvement. Measure of the success seen by the achievement of targets, the

completion time of products, and consumer satisfaction. Evaluation is done in a sustainable manner is merely a subjective assessment. No indicators and instruments as a reference to determine the target.

IV. CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS

Design teaching factory in the development of training management model enabling products paired with the industry, especially in the department of mechanical engineering diploma III performed by the students through the learning process. In planning the educational institutions and industry negotiations to determine which products do students with existing facilities, but these products have a sale value that can be accepted by consumers and the industry itself. In the learning process carried out also allows third parties can order special order products can also be made or produced by students in the school facilities through prior analysis. This design is expected to be one of the trimmers bridge the distance between the competence of graduates with the competence needs of the industry, especially industrial partner. Manual design teaching factory in the development of training management model consists of ways of working that can be used by a student to do a job in the learning process. Quality control and follow-up teaching factory in the development of training management model used to improvement needs of the workforce. Readiness of students to enter the working world can be done by strengthening and improving the efficiency and academic competence, both financial incentives to encourage industry in the provision of internships and develop a curriculum aligned with the employment needs based on input from the business / industrial world.

The success of teaching factory should be followed by the provision of training on an ongoing basis so that the competence of graduates can compete in the world of work. Therefore Making the MoU with industry partners to consider the sustainability of cooperation can bind up with good. Open opportunities for cooperation with various parties that could help marketing. And Implementation of standardized teaching factory as a productive learning program, so that can color the Mechanical Engineering Faculty curriculum public university engineering field.

REFERENCES

- [1] Supriadi. 1996. *Pendidikan Bahasa Indonesia 2*. Jakarta : CV Pustaka. Pp. 54
- [2] Suprijono, Agus. 2013. *Cooperative Learning, Teori dan Aplikasi PAIKEM*. Yogyakarta: Pusaka Pelajar. pp.46
- [3] Kuswanto, A. 2014. *Teaching Factory Rencana dan Nilai Entrepreneurship*. Yogyakarta: Graha Ilmu. pp.22
- [4] Elfrianto. 2016. Manajemen Pelatihan Sumber Daya Manusia Dalam Meningkatkan Mutu Lulusan, *Jurnal EduTech*. Vol. 2(2):pp. 36-58.
- [5] Muslihin. 2016, Evaluasi Program Pendidikan dan Pelatihan Kepemimpinan Tingkat IV Pemerintah Provinsi Nusa Tenggara Barat, *Jurnal Teknologi Pendidikan* vol. 18. (1): pp. 22-32.