

The Impact Of “HFACUS” Model on Learning Outcomes in Surabaya Aviation Polytechnic

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-----ABSTRACT-----

Vocational/vocational education as part of the national education system plays a very strategic role for the realization of a skilled workforce. However, there needs to be a method so that cadets' learning outcomes could be increased. HFACUS is a fun learning method in order to increase cadets' interest in learning, and this will also have an impact on learning outcomes. This study aims to determine the impact of HFACUS model on learning outcomes at the Surabaya Aviation Polytechnic. This research is a quasi-experimental study using a control class and an experimental class with a ratio of 50:50. Data collection techniques using Pretest Posttest. Based on the results of the study, it showed an increase in learning outcomes of Surabaya Aviation Polytechnic cadets using HFACUS learning model. HFACUS learning model has a positive influence on improving learning outcomes of Surabaya Aviation Polytechnic cadets.

KEYWORDS;- vocational education, learning outcomes, active learning

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I. INTRODUCTION

Vocational/vocational education as part of the national education system plays a very strategic role for the realization of a skilled workforce. From various studies stated the opportunity to have high and sustainable economic growth of a country will be even greater if it is supported by human resources who have: (1) basic knowledge and abilities to adapt to the demands and dynamics of ongoing developments; (2) higher education levels; (3) skills with a background in science and technology; and (4) the ability to produce products both in terms of quality and price, able to compete with other products in global market [1].

Based on this fact, it is responsibility of the world of education, especially vocational education to be able to produce competent graduates. Therefore, the competencies that will be developed through the learning process must refer to the competencies needed by industrial world. However, in process of implementing conventional learning activities, namely in learning process, lecturers are the center of the main source and director of learning activities that do not involve cadets/cadets in active and creative participation in learning activities, resulting in a decrease in learning performance of cadets/cadets at Surabaya Aviation Polytechnic, and learning objectives have not been achieved in accordance with the expectations of educational institutions, namely increasing intellectual abilities, skills, activeness and maximum learning outcomes.

The most important factors influencing the actual student learning process are interest, motivation and teachers. Motivation is a psychological process that forces individuals through certain motives to exert efforts to achieve certain behaviors of a goal and some consider it as a motive that compels us to do something that is represented in every word or action that compels humans to better behavior or strive for sustainability [2]. Cadets who have a high interest in learning will be easier to accept all learning activities including the material delivered by the lecturers without any coercion, this happens because cadets have an interest in teaching and learning activities. High interest in learning will lead to learning motivation in students, a good motivation in learning will show good results in learning activities [3]. Learning motivation plays an important role in success in learning so that learning motivation will be related to the high and low level of learning outcomes [4].

The definition of learning outcomes itself is a change in behavior obtained after experiencing learning activities as seen in changes in habits, skills, attitudes and abilities [5]. The abilities possessed by students after completing their learning experiences will have an impact on good learning outcomes and can be seen from the level of understanding of the learning delivered and how high students' interest in learning is.

Student learning outcomes are precisely defined in terms of the knowledge, skills, and abilities that students have attained (or as a result) of their involvement in a particular set of higher education [6]. Learning outcomes are statements that determine what students will know or can do as a result of a learning activity. Outcomes are usually expressed as knowledge, skills, or attitudes [7].

Watson (2002) defines learning outcomes as 'something students can do now that they could not do before. This change is referred to as the result of the learning experience [8]. Education and training are concerned with bringing about change in individuals, and learning outcomes represent changes in the learning experiences of individuals [9].

Learning outcomes are written statements about what is expected to be achieved by students / students who are successful at the end of the course module or qualification [10]. Learning outcomes are statements about what students are expected to know, understand, and/or demonstrate after completing a learning process [11].

The solution that can be given is to focus learning activities on students so that students are able to develop their creativity and abilities actively and maximally, and HFACUS learning is the solution to these problems. HFACUS learning model which stands for Happy, Freedom, Active, Complete, Unique and Successful is a contextual learning model which in the learning process involves various elements, including 1) The interaction process that occurs between Lecturers, cadets, and practicum equipment and the laboratory environment or learning environment makes the cadets happy, 2) With a direct learning environment in electrical machine laboratory, the cadets are more flexible in thinking and trying to practice their tasks so that they are active in practicing with the equipment provided and actively communicating with their lecturers in giving directions given want the cadets wanted, 3) The process of completeness is shown by the activeness of the cadets who are more dominant than the lecturers, thereby increasing the results of the completion of the tasks given with the available study time, 4) The unique element in learning that involves the activity of these cadets tends to continue to increase and is given the freedom to choose their own type of task given and after completing the work time they can continue or add to the next task, so that the number of tasks completed can be even more, 5) Elements of success in the form of the success of this model is able to increase the value obtained by the cadets, and the desired result is that every meeting in cadet class can complete the task correctly and correctly according to the procedure.

The development of HFACUS learning model with a standard approach is one part of a learning innovation that is specifically designed according to the level of needs of cadets in Surabaya Aviation Polytechnic. The learning model is structured on the basis of various principles or theories of knowledge learned by educators. This opinion is supported by Joyce, Weil, & Calhoun (2014) which states that psychological, social, systems analysis and all related science studies are prepared by experts in learning models [12]. The development of HFACUS learning model is a structured plan that is used to design a learning curriculum that suits the needs, design the materials needed in learning, design learning media that are effective, efficient and flexible in their use, guide and at the same time supervise the ongoing learning process. The advantages of HFACUS learning model are that cadets get a more fun world of learning as well as a world of learning whose learning process is adjusted to the abilities of each cadet, so that each cadet can improve learning materials according to their capacity and successful cadets, they can help to solve problems for cadets who need help in solving their learning problems.

The optimal application of HFACUS learning model will have an impact on an effective and conducive learning atmosphere so that it can trigger students to be more active while learning. Learning activities are one of the important indicators to be able to achieve learning success, this is in accordance with the statement where all efforts are designed by educators in managing learning classes so that learning materials can be delivered properly to students through a series of methods and effective learning strategies called learning models.

A good way of teaching is the most important factor in cadet learning [13]. Hattie (2003) [14] also argues that well-structured learning tools are useless if they are not balanced with good teaching methods and models [14]. To produce a good way of teaching, educators must be good at managing learning strategies, because with a strategy, materials and learning objectives developed will run optimally and effectively [13]. The strategy is embedded in every learning model that is applied by educators in the learning process.

II. METHOD

This research is a quasi-experimental research using the control class and the experimental class. The research subjects used were 100 cadets, 50 cadets for the control class and 50 cadets for the experimental class. The cadets who became the research subjects were cadets who participated in the learning of electrical mechanical engineering materials at Surabaya Aviation Polytechnic. The data were obtained from observation, literature study and research activities.

III. RESULT VIEW

From the results of initial observations made at the Surabaya Aviation Polytechnic, it shows that the learning outcomes of cadets tend to still need to be improved. So, we need an innovation or method so that learning can improve the learning outcomes of cadets.

The results of the development of HFACUS learning model with a standard approach to Surabaya Aviation Polytechnic cadets stated that there was a relationship with the cadets' learning outcomes, where the application of HFACUS learning model was stated to be very effective in improving learning outcomes as seen from the results of the evaluation sheet which increased in the number of cadets who passed the exam. Electrical machine material is a science that supports the achievement of cadet competency standards related to the field of machinery. The electrical machine course is one of the courses based on 30% theory and 70% practice so that it is related to concepts and procedures, and requires a lot of time for direct practice in the laboratory. HFACUS learning model with the standard approach is a development model that is equipped with a guidebook for implementing the development model.

HFACUS learning model consists of several learning strategies that use the concept of educational technology in the application of learning media. Educational technology based on manuals and textbooks developed to meet the needs of educators and cadets in the teaching and learning process. Students sometimes still need direction from other people when reading books to understand the meaning in them, because books are a source of teaching materials that are designed in general. In general, books tend to be more informative and emphasize broad presentation of material, so that cadets can understand the material well and educators can also understand the realm of HFACUS learning model in detail. HFACUS learning model consists of 6 elements that are interrelated or well integrated when applying HFACUS learning model. The results of the study of the electrical machine material in this study showed a significant difference (an increase in the number of cadets who passed the exam) in learning.

An increase in learning outcomes when applying HFACUS learning model with a standard approach is a form of the effectiveness of the learning model developed. To develop a learning model, the developer where the model developed must be understood from a simple representation of the phenomenon that needs to be explained. This means that before developing the model, an analysis must be carried out first. The results of the analysis are aimed at creating comfortable learning conditions so that educators can improve the learning outcomes of cadets in accordance with the standards of Surabaya Aviation Polytechnic, because the increase in learning outcomes will be used as a benchmark for cadets who are ready to compete. In the field of aviation in national and international scope later. The development of learning models according to Achinstein (1985) [15] is an individual or educator who wants to provide rational explanations for several things that must be developed with practical methods to produce adequate explanations based on what is available, meaning that educators develop HFACUS learning models whose purpose is to represent knowledge about electric machines generally so that cadets more easily understand important points related to the material.

IV. CONCLUSION

Based on observations from the results of the Pretest Posttest, it can be concluded that the results of the development of HFACUS learning model with a standard approach to the Surabaya Aviation Polytechnic cadets stated that there was a relationship with the cadets' learning outcomes, where the application of HFACUS learning model was stated to be very effective in improving learning outcomes. Increase in the number of cadets who pass the exam. Electrical machine material is a science that supports the achievement of cadet competency standards related to the machine field. When applying HFACUS learning model, results of studying electrical machine material in this study showed a significant difference (there was an increase in the number of cadets who passed the exam) in learning.

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