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The Effectiveness of HFACUS Model on the Level of Cadets Activity at Surabaya Aviation Polytechnic

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Abstract

Learning process is essentially to develop the activities and creativity of students through various interactions and learning experiences. The active learning of students is a prominent basic element for the success of learning process. The goal of this study is to explain the effectiveness of HFACUS model on cadets activity level at Surabaya Aviation Polytechnic so we could see the difference between learning without using HFACUS. The research is quasi-experimental with one group pre-test posttest with 24 participants. The analytical technique used is the N-gain. The outcome of the data analysis showed an N-gain of 0.76 which was classified as moderate. The outcome of this study represents that HFACUS has moderate effectiveness in student activity. HFACUS requires further development research.

Keywords: vocational education, activity, learning outcomes, learning

1. Introduction

Learning process is essentially to expand the activities and creativity of students through various interactions and learning experiences. The active learning of students is a prominent basic element for the success of learning process. Activity is an activity that is both physical and mental, namely doing and thinking as a series that cannot be separated (Sardiman, 2001: 98). Successful learning must go through various kinds of activities, both physical and psychological activities. Physical activity is that cadets are active with their limbs, make things, play or work, they don't just sit and listen, watch or are just passive. Students who have psychic activity (psychological) are if their mental power works as much as possible or functions a lot in the context of learning.

Surabaya Aviation Polytechnic as a vocational school that forms cadets who have leadership and high integrity with special professional skills in aviation engineering and safety industries must be able to choose the right learning methods and models to be used in teaching and learning in stimulating learning activities of their cadets.

The success of a learning model used up in an academy can be influenced by several elements that affect the accession of a learning goal. Surabaya Aviation Polytechnic graduates requires great effort and hard work from all stakeholders, but in the course of the process towards the success of a learning model, it is not infrequently influenced by internal and external factors. Learning itself that occurs in the system of teaching and learning.

HFACUS is a contextual learning model that involves various elements in the process and stands for Happy, Freedom, Active, Complete, Unique and Successful. The elements contained in it are 1) pleasant conditions created from the process of relations between educators with practicum tools, a comfortable environment, and cadets; 2) the accession of learning objectives desired by cadets through the active participation of cadets in using the facilities and infrastructure provided and actively communicating with their educators in order to create an environment that is more flexible in thinking and practicing learning obtained; 3) the increase in mastery of learning outcomes provided in learning process through the active participation of cadets compared to educators; 4) the quantity of completed tasks will increase by giving cadets the opportunity to choose and complete their assignments and be active in learning; and 5) success in increasing grades through cadets'

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mastery in completing tasks properly and according to the procedures in each learning process.

The atmosphere of an effective and conducive learning process results from the optimal implementation of HFACUS so that cadets' learning activities occur. A prominent indicator in the success of learning accession is that one of learning activities according to the statement of Sugiharto et al (2007) regarding learning model is a series of effective learning methods and strategies for delivering messages through various efforts made by educators in classroom management.

The application of a good learning model occurs if there is a role for learning activities by educators with cadets, cadets with cadets, and cadets with their environment. Good interaction between educators and cadets in the classroom so that changes in behavior are the key to learning activities. This causes learning activities to have a prominent role in learning.

An active attitude in learning process is grown by an effective learning process that becomes a learning activity. Learning activities are related to the interaction between educators and cadets in learning. This is also related to the ability to understand knowledge, the ability to realize the knowledge and skills of educators in delivering material and conditioning learning environment so that learning process runs optimally.

Understanding and absorption of material about electric machines is one of the problems faced by cadets. So, other learning methods are needed to support HFACUS for cadets at the Surabaya Aviation Polytechnic, the method used must have components of a teaching material and procedures used in designing learning materials. Dick and Carey's learning design model which has been proven in several studies to design learning systems through the development of models and learning methods. Improving critical thinking skills is the basis for developing a learning model using the Dick and Carey method.

Learning materials developed using the Dick and Carey model method are for cadets to be able to understand, apply and know the material provided until the end of learning process, each section can be connected to each other in achieving the goals of learning activities and learning outcomes that cadets want.

Accession of learning objectives that have been desired by supervisors, educators who become facilitators, and cadets who participate in learning process through increased learning activities in the classroom by establishing HFACUS as a strategy for achieving optimal learning activities and using the Dick and Carey model of learning methods to aligning and optimizing learning activities of

HFACUS model. The accession of success stated by Arikunto (2001) can be seen and measured through learning outcomes from learning activities. Learning outcomes are interpreted as a sign of the success rate of learning activities using scores.

From the opinion above, the researcher can conclude that learning outcomes are the outcome obtained from a series of interactions, learning activities and learning actions carried out during learning process. Learning outcomes are the whole action of material planning, the delivery of material carried out by the teacher and ending with an evaluation process to cadets related to the ability to master, understand and practice learning in the field, from the outcome of the evaluation carried out by the teacher, measurements will be obtained in the form of values obtained. Will show the level of learning success of cadets, for these cadets the measurement of learning outcomes is the culmination of learning and learning process.

Looking at the accession of cadets learning outcomes, it can be seen whether there is a change in the abilities possessed by cadets after gaining learning experiences, both changes in intellectual abilities and social abilities, if during learning process shows satisfactory evaluation results with the accession of increasing cadets' intellectual and social abilities. , it can be said that learning activities using HFACUS model with the application of the Dick and Carey model methodology have succeeded in motivating cadets' learning activities and changing teacher teaching patterns in designing learning strategies so as to create a more optimal learning situation for cadets.

2. Method

The research method used is a quasi-experimental with one group pre-test posttest, where participants' activity will be measured before the experiment and after the experiment. The participants in this study were 24 cadets of Surabaya Aviation Polytechnic. Data on student activity was obtained through observation in terms of participation in learning process, activeness in completing tasks, active role in working individually and in groups. The data analysis technique in this study is using the N-gain, which compares the scores from the pre-test with the posttest.

3. Result and Discussion

The effectiveness of HFACUS on cadets activity based on the outcome of data analysis in table 1, shows the average N-gain score is 0.76, and the percentage N-gain is 76.43%. This study can be concluded that HFACUS has moderate effectiveness on student activity (table 2) (Meltzer, 2012: 184).

Table 1: N-Gain Calculation Results.

N	PRETEST	POSTTEST	POSTEST-PRETEST	Ideal Score Posttest (100-Pretest)	N gain score	N gain score (%)
1	47	86	39	53	0,74	73,58
2	59	95	36	41	0,88	87,80
3	63	96	33	37	0,89	89,19
4	52	90	38	48	0,79	79,17
5	60	86	26	40	0,65	65,00
6	62	91	29	38	0,76	76,32
7	60	91	31	40	0,78	77,50
8	62	92	30	38	0,79	78,95
9	63	91	28	37	0,76	75,68
10	60	87	27	40	0,68	67,50
11	53	96	43	47	0,91	91,49
12	49	89	40	51	0,78	78,43

13	58	95	37	42	0,88	88,10
14	61	87	26	39	0,67	66,67
15	63	92	29	37	0,78	78,38
16	51	88	37	49	0,76	75,51
17	57	83	26	43	0,60	60,47
18	64	96	32	36	0,89	88,89
19	56	92	36	44	0,82	81,82
20	58	90	32	42	0,76	76,19
21	58	91	33	42	0,79	78,57
22	67	90	23	33	0,70	69,70
23	60	82	22	40	0,55	55,00
24	61	90	29	39	0,74	74,36
The	1404	2166	762	996	18,34	1834,25
Average	58,5	90,25			0,76	76,43

Table 2: Average cadets' learning outcomes.

Pretest	Posttest	N-Gain	Interpretation N-Gain
58,5	90,25	0,76	Medium

The effectiveness of HFACUS aims to increase the activeness of cadets in learning in the classroom. Activeness in improving reasoning skills to a higher level so that cadets can master the electrical machine material which will be simulated directly during practicum assignments. High-level reasoning skills exist in Bloom's taxonomy which consists of application, analysis, synthesis and evaluation (Bloom, 1956). The importance of increasing activity in cadets according to Dynan, Cate, & Rhee (2008) is that cadets can apply the ability to apply basic concepts to real-world problems or situations (for example, the practice of electrical assembly on aircraft engines), cadets can use their abilities to analyze In recognizing and explaining the main underlying assumptions (example: cadets can make assumptions about which parts require extra handling in the electrical assembly process), cadets can synthesize their ability to build simple models based on principles (example: cadets can make prototypes of electrical circuits). On aircraft engines based on the theory learned), cadets can also evaluate their ability to compare and differentiate themselves with other cadets (example: cadets can assess learning abilities). To increase the activeness of cadets to a higher level, reasoning skills must be more advanced at least to the application level, this application level is one level that requires cadets to think critically so that cadets gain an understanding of the electrical machine material in more detail and specifically.

HFACUS consists of a series of steps or "elements" that aim to assist cadets in achieving learning goals which can later rectify student learning outcomes. This model was developed with theory and research related to learning models and also learning motivation, where the development of HFACUS which increases the activeness of cadets in learning is considered very important because by active learning cadets are expected to be able to do many things that can rectify thinking skills. Critically so that cadets will naturally be involved in the lifelong learning process independently in order to develop themselves to understand the real world of work. Learning activities that are interesting, fun, and personal can actively interact actively and independently in understanding all material are called active learning (Silberman in Asmani, (2014)). Active learning has now developed very widely in the world of education, because active cadets do not just attend class as a formality, then memorize the material, and finally

do the questions at the end of learning process. However, active cadets must be actively involved both physically and mentally in learning process. According to Mayer (1992) cadets should also actively practice in learning process, because the development of skills possessed by cadets is not only in understanding the theory of electric machines but also being skilled in the practice of handling a machine. Learning process that occurred at Surabaya Aviation Polytechnic before applying HFACUS based on the outcome of the initial study was considered very passive. This learning process occurs because educators still use conventional learning models without paying attention to the characteristics of cadets who tend to get tired easily receiving material only in the form of theory, while Surabaya Aviation Polytechnic is a vocational college with the aim of producing a workforce that is ready to work according to the needs in the field of aviation, especially in Surabaya Aviation Polytechnic is a higher education with a boarding school system, where all cadets are required to live in a place (dormitory) provided by Surabaya Aviation Polytechnic. Learning system used up in the teaching and learning process is a semi-military-based learning system, the goal is to apply discipline and responsibility. Aaberg & Thompson (2012) also assert that military schools are designed to rectify academic accession and change behavior or rectify social roles. So that the identity of each student will be well formed.

Another reason why active learning in student needs to be rectified is because according to Asmani (2014) there are three factors that can influence in producing competent learning graduates according to needs, namely the characteristics of children, the trait of learning and the characteristics of the desired graduates. In teaching and learning process, cadets have curiosity and high imagination, to develop these two traits, it is prominent to increase the active learning process of cadets which will produce cadets who are independent, critical, creative, sensitive and responsible. When applying HFACUS to a learning process of electrical machine material at Surabaya Aviation Polytechnic, some cadets experienced significant positive changes, this was seen from learning process of cadets who were more active in learning. Cadets more often seek direct learning experiences in a more active way practicum, thus requiring cadets to further rectify the quality of interaction with other cadets. In addition, cadets will also communicate more in solving learning tasks by having scientific discussions which will later aim to generate ideas (reflection) so that these ideas can be accepted by all cadets. Reflection can occur as a result of interaction and communication (Asmani, 2014).

4. Conclusion

Based on the outcome of the observation questionnaire, it is known that by using HFACUS model, the activeness of cadet is increasing in the moderate category. The cadets have an active role in learning of engineering courses. By learning using HFACUS model which carries the core of Happy, Freedom, Active, Complete, Unique & Successful learning, it can significantly attract the activeness of cadets. HFACUS requires for the next research in order to develop and the application in vocational education.

5. Reference

1. A.M., Sardiman. 2001. *Interaksi Dan Motivasi Belajar Mengajar*. Jakarta: Raja
2. Aaberg, W., & Thompson, C. J. (2012). *Infusing two models of evaluation into a military environment: A case study*. Performance Improvement.
3. Arikunto, S. (2001). *Prosedur penelitian suatu pendekatan praktek*. Jakarta: Rineka Cipta
4. Asmani, M. Jamal. (2014). *7 Tips Aplikasi PAKEM [Pembelajaran Aktif, Kreatif, Efektif, dan Menyenangkan]*. Jogjakarta: Diva Press.
5. Bloom, B. S. (1956). *A taxonomy of educational objectives: The classification of educational goals*. New York: D. McKay.
6. Dynan, L., Cate, T., & Rhee, K. (2008). *The impact of learning structure on students' readiness for self-directed learning*. Journal of Education for Business, 84(2).
7. Mayer, R. E. (1992). *Cognition and Instruction: Their Historic Meeting within Educational Psychology*. Journal of Educational Psychology, 84(4) 405-412.
8. Sugiharto, dkk. 2007. *Psikologi Pendidikan*. Yogyakarta: UNY Press.