

The Effect of CPDM, Conventional and Motivation Methods on the Outcomes of Electronic Theory Study

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Abstract: National education system is a subsystem of the national development which has the lead role in managing and fostering human resources as a central force in the development process. Through education, Indonesia is expected to be an individual human being who has the ability and skills to independently improve the lives of inner and outer, and enhance its role as a person, an employee members of the community, citizens, and creatures of god. Purpose in this study was to determine group influence in learning outcomes of students using the learning method CPDM with student groups using conventional methods and to know the difference between the groups of student learning outcomes that have a high motivation to learn with a group of students who have low motivation. The independent variable in this study is the method of learning and conventional learning CPDM / lecture course, for moderator variables in this study is the motivation to learn while the dependent variable is student learning outcomes. In this study the number of members of a population of 60 students and fully investigated (sample population). Data analysis techniques used in this study using Annova Two Line. The results of this study is that there are group influence in learning outcomes of students using the learning method CPDM varies with student groups using conventional methods, because the sig value 0,027, smaller than 0,05 here was no influence in learning outcomes between groups of students who have high achievement motivation with group of students who have low achievement motivation, because the sig value 0,107 greater than 0.05, there is a influence from the result of interaction between the CPDM learning methods, conventional and achievement motivation towards learning outcomes, because the sig value 0012 smaller than 0.05.

Keywords: Method of CPMD, Conventional Methods, Learning Motivation, and Learning Outcomes

1. Introduction

The national education system is a subsystem of national development which has a major role in managing and developing human resources as a central force in the development process. Through education, Indonesian people are expected to become individuals who have the ability and skills to independently improve the standard of living physically and mentally, and enhance their role as individuals, employees, employees of citizens, citizens, and creatures of God. Education in students (adults) is different from children children (paedagogy). Children's education takes place in the form of assimilation of identification and imitation as a basis for knowledge, the formation of attitudes and morals, while the students focus on improving life, providing skills and abilities to solve problems experienced in life and society (andragogy).

Many methods are used in teaching and learning in higher education or known as instructional methods. This causes the lecturer to choose the method that will be used before he delivers teaching material to achieve instructional goals. Instructional methods are part of instructional strategies that function as a way to present, describe, set examples, and provide training to students to achieve certain goals.

Various instructional methods commonly used by lecturers in the teaching process in higher education are: lecture or lecture methods, demonstration methods, simulation / role playing methods, discussion methods, case study methods, practicum methods and so on. pulpit lectures (lectures) are the most widely used method in the teaching process. More than half of the teaching time is used by lecturers to give lectures. The lecture method has

the advantage of being: fast to convey information, can convey information in large quantities in a short time. These advantages are the reason this method is often used.

Electronics subject is the Work Skills Course (MKB) which is taught in the Electrical Engineering Medical Department in both theory and practice. Taught at tiring hours / hours at 11:00 WIB to 15:00 WIB so motivation to learn in learning outcomes tends to be low [1].

The above phenomenon, according to the researchers, is caused by at least two things. The main cause is because learning is centered on lecturers so that students lack the opportunity to develop their abilities and creativity. For example, in learning resistors, diodes and transistors which are sub-subjects of the Electronics course lecturers generally use direct learning (conventional), namely the presentation of material in sequence: taught theory / definition / phenomenon, giving examples and given practical training. Such an approach causes students to lack the opportunity to develop reflection and negotiation through interaction between students and students and between students and lecturers. The second cause is the Electronic course schedule given during the day which is a tiring time. The tiring time is 11.00 WIB until 15.00 WIB, so that student motivation decreases, tired, lack of response, and tends to do activities outside of learning (chatting, joking, daydreaming, sleeping and so on).

One of the efforts to overcome the above is implementing CPDM learning model (Lecture Plus Demonstration and VCD / Video Compact Disc Media). In the electronics course which is a learning innovation so students can understand theory and practice more deeply, so that it will

encourage the motivation to learn in students and learning outcomes are expected to be better.

2. Research Methods

CPDM learning is expected to increase motivation and student learning outcomes in the second semester so that this learning model can be accepted and appropriate to be applied.

3. Result and Discussion

Description of Learning Outcomes Between Group A Students whose Learning Systems Use Conventional Methods and Groups of Students B Using the CPDM Method

Learning outcomes obtained from the second semester students of the Department of Electromedical Engineering as many as 60 students (30 classes A and 30 classes B) who use the learning system using a conventional method with groups of students who use the CPDM method, learning is shown in Table 1:

Cross Tabulation of Classes with Learning Motivation

Table 1: Class Cross Tabulation of Learning Motivation

Age	Motivation to learn		Total
	Low	High	
Class A	3	27	30
Class B	7	23	30
Total	10	50	60

Based on Table 1 above shows that from 60 respondents the results of the Class Cross Tabulation of Learning Motivation shows that the majority of respondents with class A categories have high learning motivation with 27 respondents.

Table 2: Class Cross Tabulation of Learning Motivation

Learning methods	Motivation to learn		Total
	Low	High	
Conventional	3	27	30
CPMD	7	23	30
Total	10	50	60

Based on Table 2. above shows that from 60 respondents the results of the Cross Tabulation of Learning Methods on Learning Motivation show that the majority of respondents with the conventional learning method category have high learning motivation with 27 respondents.

Reliability Test

The reliability test is used to find out whether the questions asked of respondents will provide answers that tend to be consistent. The reliability test in this study was conducted on the variable Customer satisfaction (Rates, facilities and services) the value of the product moment correlation coefficient is greater than the value of r in the table at $\alpha = 5\%$. The reliability test results for the two variables can be seen in the following table 3:

Table 3: Reliability test

Variable	Alpha	Alpha	Conclusion
Class A Achievement Motivation	0.960	0.6	Reliabel
Class B Achievement Motivation	0.944	0.6	Reliabel

From table 3. it can be seen that the motivation variables of class A achievement and class B's learning motivation are reliable. Because all alpha (r count) values are greater than 0.6, all of the variables are declared reliable.

From the results of the calculation of the value of F shows:

1. There are differences in learning outcomes of groups of students who use the CPDM learning method with groups of students who use conventional methods
2. There is no difference in learning outcomes between groups of students who have high motivation with groups of students who have low motivation.
3. There is an interaction effect between the learning method and learning motivation on student learning outcomes.

Our education is still dominated by the view that knowledge as a set of facts must be memorized. Classes still focus on lecturers as the main source of knowledge, then lectures become the main choice of learning strategies. For this reason, a new learning strategy is needed that empowers students more. A learning strategy that encourages students to construct knowledge in their own minds.

Learning practice based on association and behavioristic theory is characterized by the conception that thoughts are formed by stimulus-response associations, learning is an atomistic grain accumulation of knowledge, learning through a strict sequence, each learning objective is stated explicitly, test-teach-test as a general pattern of learning guarantees, isomorphic test with learning, and motivation based on positive reinforcement at each learning stage [2]

With the new paradigm, learning practices will be shifted to learning that is more based on cognitive and constructivistic theories. Learning will focus on developing intellectual abilities that take place socially and culturally, encouraging students to build their own understanding and knowledge in social contexts, and learning starts from initial knowledge and cultural perspectives. The task of learning is designed to be challenging and interesting to achieve high-level thinking, in this case the process is seen as important as learning outcomes, and intelligent thinking is conceived to include metacognition (the ability to monitor learning and think for yourself).

Constructivistic Learning is a process of linking new information to relevant concepts contained in a person's structure. Although we do not know the biological mechanism of memory or the storage of knowledge, we

do know that information is stored in certain regions of the brain. Many brain cells are involved in storing that knowledge. As learning progresses, changes occur in brain cells, especially cells that have stored information similar to the information.

Learning theories that exist so far still emphasize a lot on associative learning or learning memorization. Study this does not mean much to students. Study should be a meaningful assimilation for students. Material that is studied assimilated and linked to the knowledge students have in the form of cognitive structures.

Students will be motivated to learn, if they feel the benefits of the learning process. New students will be motivated, if they feel what is learned is meaningful to him. Meaningful means according to his needs, both related to hobbies and current needs or at least he is convinced of the benefits. That's where the importance of lecturers associating what is learned with everyday life and by using language that can be understood by students (contextual with their cognitive development). That way students will understand the meaning of what is learned for themselves, so that it will foster motivation to learn.

Lecturers can help students learn information in such a way as to make that information useful as well as meaningful for them. Effective teaching requires an understanding of how to make information accessible to students so that they can link that information with other information and apply that information outside the classroom.

The CPDM method is a teaching method that uses more than one method, the lecture method combined with the demonstration method and the use of VCD media.

1. The lecture method comes from the word lecture which means lecturer or lecturer method. This method is widely used among lecturers, because lecturers give lecture lectures and are delivered with lectures in front of large numbers of students. The lecture method takes the form of explaining concepts, principles and facts and at the end of the lecture is closed with a question and answer session between the lecturer and students. Some of the advantages of lecturing methods are: lecturers are easy to master the class, lecturers are easy to explain large amounts of learning material, can be followed by students in large numbers, and easy to implement [3]. Some weaknesses of the lecture method are: making students passive, containing an element of coercion to students, Containing students' critical power, students who are more responsive to visual vision will be disadvantaged and students who are more responsive to auditive can accept it more, It is difficult to control the extent to which students' learning gains, teaching activities become verbalism (understanding words), if they are too boring [3].

2. Demonstration is a way of teaching where a lecturer/instructor shows, shows a process so that all students can see, observe, hear and feel the process shown. Furthermore states that the demonstration

method is a method of teaching by demonstrating the goods, events, rules, and sequences of conducting an activity, both directly and through the use of teaching media that are relevant to the subject matter or material being presented. Demonstration method is used to show something the process or workings of an object relating to the subject matter. The pedagogical psychological benefits of the demonstration method are: student attention can be more focused, student learning processes are more focused on the material being studied, and experiences and impressions as learning outcomes will be more inherent in student [3].

3. VCD Learning Media

Learning media includes all the resources needed to communicate with students. A learning medium that learns a lot of motor skills, video media is needed. With its ability to present slow motion, this media will make it easier for students to learn certain movement procedures in detail and clearly. Video media is currently packaged in VCD [4]. Another few years, this media is still considered expensive to use at school. But now the price is affordable so that it can be utilized easily. The advantages of VCD are can complement the basic experiences of students when they read, discuss, practice and others. Video is a substitute for nature and can even show objects that cannot normally be seen, such as the way the heart works when it beats [5].

4. Conventional Learning

Conventional / traditional learning activities are dominated by lecturers. Lecturers deliver the subject matter through lectures, with the hope that students can understand it and respond according to the material presented. In learning, many lecturers rely on textbooks. The material is delivered in accordance with the order of the contents of the textbook. It is expected that students have the same views as the lecturer, or the same textbook. Alternative differences in interpretation among students of complex social phenomena are not considered. Students learn in isolation, which learns low-level skills by completing their work every day. When answering student questions, the lecturer does not look for possible ways of students in dealing with problems, but rather see whether students do not understand something that is considered correct by the lecturer. Teaching is based on ideas or concepts that are considered to be standard or certain, and students must understand them. The construction of new knowledge by students is not valued as the ability to master knowledge.

Classical learning activities are usually memorizing. Students numbering around 40, at the same time receive the same material. Generally this activity is given in the form of a mirror. In following this learning activity, students are required to always focus on the lesson, the class must be quiet and all students sit in their respective places following the lecturer's description. Classical learning tends to place students in a passive position, as recipients of teaching material. Efforts to activate students

can be done through the use of questions and answers, discussions, demonstrations and others.

Motivation to learn can arise due to intrinsic factors, in the form of the desire and desire to succeed and the drive for learning needs, hopes for ideals. While the extrinsic factor, in the form of appreciation, a conducive learning environment, and interesting learning activities.

Disclosure of ideal learning outcomes encompasses all psychological domains that are altered as a result of students' learning and learning processes. However, disclosure of changes in behavior throughout the domain, especially the realm of students is very difficult. This is due to the fact that the results of the study are intangible. The role, motivation in the learning process is very important. Some even say "motivation is an essential condition of learning". Likewise with student learning outcomes, much is determined by the motivation they have. The greater the motivation that is in students, the greater the learning outcomes that will be achieved. Likewise the more precise the motivation given by the lecturer, the better the results of the learning process. Thus, motivation will determine something including learning outcomes.

Electronic learning that has so far been more conventional learning using the emphasis on lecture and rote learning methods. Conventional learning places more emphasis on the product rather than the process itself, so it is necessary to develop methods so that students can be more motivated in the learning process. One way is to vary the lecture method with the demonstration method and the use of VCD media. This principle is based on that the more involved the students' senses, the more meaningful learning will be.

The success of learning the CPDM model of the second semester students of the Department of Electromedical Health Polytechnic of the Ministry of Health of Surabaya needs to be sought in relation to the responses that occur when learning is linked to the scores of daily, midterm and final exam results. It is also necessary to look for differences in responses and student learning outcomes given the CPDM method and students given the conventional method.

4. Conclusion

The results of this study is that there are group influence in learning outcomes of students using the learning method CPDM varies with student groups using conventional methods, because the sig value 0,027, smaller than 0,05 here was no influence in learning outcomes between groups of students who have high achievement motivation with group of students who have low achievement motivation, because the sig value 0,107 greater than 0.05, there is a influence from the result of interaction between the CPDM learning methods, conventional and achievement motivation towards learning outcomes, because the sig value 0012. smaller than 0.05.

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