

The Implementation Of Concept Main Map In Basic Calculation Of Engineering Subject At Makassar State University

Dr. Ir. Soetyono Iskandar, M.T., M.Pd

Makassar State University

Abstract:- This research began from problem in spacious about teaching and learning by doing where is the method learning is not effective because used descriptive subject mater with writing on black board or descriptive by essay. In order that is not efficient and effective in used teaching and the student can not comprehension understand? With this method will hope can handle it.

The used method in this research is classroom action and focus at pump and compressor subject mater in Basic Calculation of Engineering subject. This research was doing in Makassar State University with subject 15 students at machine department. The instrument is used test, interview, observation, and spacious writed. In this learning method is development 5 concept, they are concrete concept, abstract concept with example kongret concept, abstract concept, concept that process basic and concept with principle.

The result of this research showing with mapping concept method in pump and compressor subject, that have improvement competition students at the last siklus II is 7,0 – 10 or 86,67% is mean the students can said that they are competent in learning.

Keyword:- *Mapping concept, pump, compressor, siklus*

I. INTRODUCTION

Indonesia State was developing, focused with built for enhancing human power source that could make to build in every field. This things very awared that built' result of the nation very depend at the potence human power source themself as an important element.

National build was accountability all nation Indonesia, therefore sector education must be placed position and as that very important at the crucial point process enhanced quality human power source, because education as one aspect build and as that condition fulfilled at the national build that purposed.

For accomplishing the things, thus any efforted have done of government example prepared education power through education institution, made any training teacher, repaired and development curriculum, repaired infrastructure education et cetera, though it quality output still unsatisfied (Hamalik, 2003:24). Therefore, for making the phenomena thus done one efforted for accomplishing a best quality that applied education technology system. Education technology was minded that systematic about a method *problem solving* in education that could do with instrument communication modern but the instrument too (Nasution, 1994:94).

According research of the expert, education technology not only offer one method learnt, but have any types of learnt, every type learnt to want the specially learnt method and the way of study. There are not one teaching method that same for all types learnt process that could make method taught that the over same to each type teaching method. Theory learnt have many known and each could give to contribute ascertain about learnt process or learning method for effective learnt.

Learnt process especially lesson base counted Mechanical Engineering that called Basic Theory Vocational was lesson Mechanical Engineering that as material literature about engines and how the counted and application that many used at the industries that manufactory mechanical. Therefore, very important to know more deeply lesson material in Basic Calculation of Mechanic Engineering as for development Vocational Middle School especially Mechanical Engineering Department in the relation with increased quality and professionalism human power source that orientation at increased competency output could receive for jobing and competitive world industries, although whole domestic or international scale.

As observation former at the school, have met that done process teach-learn in this things method material lesson have received means less effective because used to teach with written at the white board and essay manner, so not effective and efficient in teaching and student difficult known as comprehensive according Soetedjo (1997:7). Began from problem above, thus needed method new learnt that consider effective. The new learnt method was used Main Map concept.

therefore, this research have done to know how far was applied method used *Main Map* concept in processing teaching and learning at Mecahanical Engineering Department in Universitas Negeri Makassar.

II. RESEARCH WAY

This research was classroom action research with quality approach. This research data as student jobsheet result against problem set that have given involved: 1) pretest, problem set exercise when the lesson, and test/evaluation at each the last of the lesson, 2) interview result with research subject and lesson teacher, 3) observation research result during the lesson done, 4) noted result research activity and student activity during have done the lesson activity. Source data in thi research 15 person student with consideration so research focus could observe more accurately. Action in this research divided in two actions. The first action design learnt, and the second action applied method Main Map concept. The action finished after 15 person of the student that have been as the research's subject could know in Basic Calculation of Mechanic Engineering with result test/evaluation reach score 75 above.

Criteria result for each action if student have known in Basic Calculation of Mechanic Engineering with method *Main Map* concept. The accomplished to know of the student through three strategy step that have used that fase exploration, fase known the concept, and fase application the concept.

III. RESULT AND DISCUSS

A. Result,

Result analysis data where have done in this result research pointed learnt apply with method used *Main Map* concept at subject discuss Pump and Compressor, commonly level competency student at the last test/evaluation cycle II there are at the range score 7,0 – 10 atau 93.3 % student could have competency category in learning.

At cycle I average score prestation learning student not yet increased. This things could see from sheet observation actiity student where still many students that not included in process teaching and learning (96,68 %), between others still many students that done others activity when leant (45,28 %), still less a good noticed between student done the task that have given, so student more played than made our job consequence the noticed of student against tasks that have given less, this things could see at when discuss the problem set where student only waited the answered frpm the lecturer compared active answer the problem set, and student still waited from our friend helping to do the problem set. Still many happened error since consequence the score that the student found still less.

Through observation about prestation learnt in Basic Calculation of Mechanic Engineering could see that with used *Main Map* concept, commonly student wanted to enjoy with the in Basic Calculation of Mechanic Engineering lesson.

Learnt with method *Main Map* concept could increase student'interesting to in Basic Calculation of Mechanic Engineering. This things have seen at process learning where student learnt very satisfied, so the noticed of student at teaching and learning process with all consentration without played that unfortunately, student with serious done the problem set because they must done problem set with that its detail.

For more clear the imaged observation result student'activity at process learning with used method *Main Map* concept at cycle I and cycle II could see at the diagram as the next:



Table 3. Distribution frequency score competency student at last test cycle II Applied *Main Map* concept

Score	Category	Frequency	Percentage (%)	% Cumulative
0 - 6,9	Not yet Competency	2	13.33	13.33
7,0 – 10	Have Competency	13	86.67	100
Total		15	100,00	

B. Discuss

Analysis result data that have done in this research result pointed apply learning with method that used *Main Map* concept at subject discuss Pump and Compressor, as commonly level competency student at last test/evaluation cycle II there are at range score 7,0 – 10 or 86,67 % student could have competence category in learning.

At cycle I score average prestation student learnt not yet increased. This things could see from sheet observation student activity where still many student that have not done at the process teaching and learning (91,68 %), between others still many student that done others activity when learning (48,6 %), still less a good noticed between student done the tasks that have given, so many student played than worked consequence student noticed against tasks that have given less, this thing could see when discuss problem set where many student only waited the answer from the lecturer compared active answered the problem set, so student still waited our friends'helping and done the problem set still many happened error consequence score that student found still less.

Through observation about prestation learning in Basic Calculation of Mechanic Engineering could know that with used *Main Map* concept, commonly student enjoyed with in Basic Calculation of Mechanic Engineering lesson.

Learnt with method *Main Map* Concept able to increased student'interesting to Basic Calculation of Mechanic Engineering. This things involved at learning process where student learnt very satisfied, so the noticed of student at teaching and learning process with all concentration without played that unfortunately, student with serious done the problem set because they must done problem set with that its detail.

Learnt with method *Main Map* concept have given contribution increased student'noticed, this things could see from job sheet result that they done the problem solution that have given, so at done the problem they did not have difficulty more, student have asked and answered the questions without felt fear. So lecturer only given the urgent concepts that the student have known about it.

IV. CONCLUSION DAN SUGGESTION

Conclusion

From data that described at chapter IV the conclusion as the next: Learnt with used *Main Map* concept could increase to learn result the student in Basic Calculation of Mechanic Engineering Universitas Negeri Makassar. This things could see from increased average learnt result from cycle I to cycle II.

Suggestion

1. To Head of Department as the consideration material for taking application policy method *Main Map* concept learnt to all lecturer others lesson.
2. To lecturer lesson especially in Basic Calculation of Mechanic Engineering and lecturer that taught at Universitas Negeri Makassar at commonly wanted to use learning model that as with learning subject material, because with chosen exactly learnt model would given maximal result.
3. To student so more increased our prestige followed all especially lesson that used method *Main Map* concept and others approached that used from others lecturer lesson.

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