The Sorogan-Bandongan Model as Active Learning Model in Indonesia

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Abstract—Active learning is teaching and learning process its student centered. Exposure at this article bent on for to prove that *Sorogan-Bandongan* Model can be categorized as the active learning model that center on student. Method as used in exposure this article namely descriptive qualitative, use 52 students that organic chemistry I programming as the research subject. 52 student of research subjects are referred as grouped become 2 groups. namely 26 groups *Sorogan-Bandongan* Model and 26 conventional groups. Research Result is got activities dominant student at group *Sorogan-Bandongan* as high as 79% and 51% at conventional group. In this presentation it was found that the *Sorogan-Bandongan* Model is an active student-centered lecture.

***Keywords— Sorogan-Bandongan* Model, active learning**

I. INTRODUCTION

Indonesia national Education bent on to develop participant potency is educated in order to become human that believe and worship the Lord God, good moral, healthy, knowledgeable, competent, creative, being independent, and become democratic and responsible citizen. To realize national education target must conducted improvement and patterned thinking change in course of learning optimally: a) from teacher center on go to student centered; b) from one way become interactive; c) from idea factual go toes critical; d) from forwarding of knowledge go to knowledge transfer [1]. Patterned thinking change in a learning process that student centered does so at implementation of a learning model that student centered.

Student-centered learning is learning that makes students active in the learning process. In the learning process, not supposed to treate like passive empty canister by accept teacher discourse about science or information, at process of teacher learning claimed can create conducive atmosphere participant is educated in active find, process and construct science and deftness's new.

Teacher Effort in creating active learning atmosphere is helped with implement learning model that student-centered. Activities student at learning of student centered for example read book, do student worksheet, work together in groups, discuss with other student to find concept, and ask to lecturer. One of range from to learning model, that can force active student in learning namely of *Sorogan-Bandongan* Model.

Sorogan-Bandongan model is models integrated learning from two methods namely *Sorogan* Method and *Bandongan* Method. *Sorogan* Method is method of individual learning where *santri* (religious person, students of Islam) must delivers result (*sorog*) concept matter of that already the off to *Kyai* (teacher) [1; 2; 3; 4; 5]. *Kyai* (teacher) as the receiver of growth result learn individual, *santri* its must give a feedback either reinforcement or justification in the event of mistake from *santri*, in this case *Kyai* (teacher) is science/knowledge source [6;7]. *Bandongan* Method is a learning method where student get learning in group and given opportunity to discuss about subject matter [5; 8]. In *Bandongan* Method this research is lecturer submits subject matter to student in classical. Implementation *Sorogan-Bandongan* Model at this article bent on to prove that *Sorogan-Bandongan* Model can be categorized as the active learning model that student-centered.

II. METHODOLOGIES

This Research uses descriptive qualitative method. Observation of activities student is conducted at learning that use *Sorogan-Bandongan* Model and conventional. Subject of this research's namely 52 students, that Course program Organic Chemistry I. 52 students that become research subject are referred as divided into two classes, namely 26 students at *Sorogan-Bandongan* class and 26 students at conventional class. Second class is referred as conducted learning during 150 minute. Activities student that perceived namely: 1) listen to lecturer's explanation; 2) read book; 3) work on student worksheet; 4) work together in groups; 5) discuss with other student to find concept; 6) ask to lecturer; and 7) irrelevant activity with teaching and learning activities. After conducted perception to activities learning then analyzed by compare to percentage activities that emerge in seven activities referred as at class of *Sorogan-Bandongan* Model and conventional.

III. RESULT AND DISCUSSTION

At model of *Sorogan-Bandongan* class implementation Organic Chemistry I learning alkyl halide matter by using model are referred as. There is 9 indicators that implementation in 8 steps with indicator of every step as follows: Step 1 there is 2 indicators namely determine electron configuration of every chemichal elementand determine its chemichal elementare if known its electron configuration; Step 2, determine existence of covalent bond at one particular compound; Step 3, show existence of couple of valence electron that stand apart in a compound

formula; Step 4, determine dipole + and dipole – bonding of a compound; Step 5, classify alkyl halide after shown its structure form; Step 6, give alkyl halide name bases system IUPAC; Step 7, write down formula of alkyl halide compound; and step 8, differentiate between nucleophile and not nucleophile and show electron couple stand apart that existed in an atom at one particular compound.

Implementation *Sorogan-Bandongan* Model is referred as is follow-up from diagnostic result that has been conducted before learning, which student that has been complete at certain point at diagnostic tes needn't do certain step at student worksheet. Diagnostic Activity and its application in doing student worksheet is adaptation from learning activity *Sorogan* from maisonette *pesantren*. Student Activity can be seen at Figure 1.

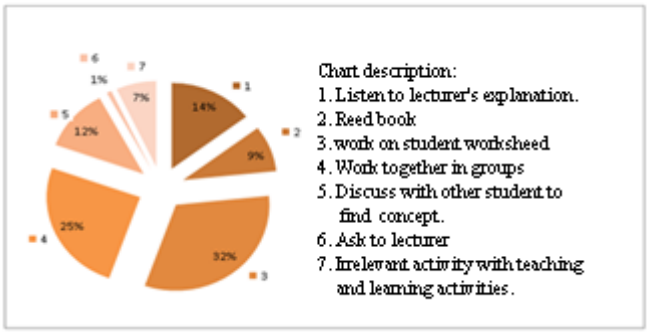

Fig1. Active Learning in Class *Sorogan-Bandongan* Model

Figure 1 indicates that dominant student activity namely do student worksheet as high as 32% and work together in groups as high as 25%. Activity work student worksheet is dominant activity in *Sorogan* method. work together in groups is dominant activity in *Sorogan* method also. That describe that student has self-supporting in learnt.

Circle Graph at Figure 2 seen that activity most dominant namely listen to lecturer's explanation. Figure are referred as also inform that there is no diagnostic activity before learning, until activity 4 namely work together in groups not emerge. teaching and learning activities are conducted for 150 minute, 9 steps in student worksheet that discussed only till step 5.

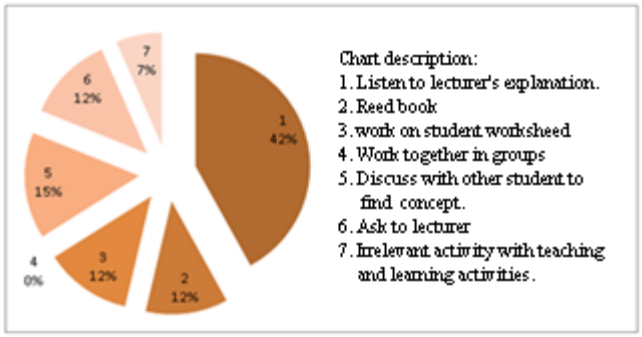

Fig 2. Activity Student at Conventional Class

Learning Implementation in conventional class takes place in teacher center. Lecturer feels difficulty teaches concept of reaction mechanism in conventional class, because handle 26 students by itself, lead student to find concept of reaction mechanism S_N1 and S_N2 phase to phase. Reaction Mechanism is difficult concept, will never see with naked eye, happened in the situation of molecular. The happening of reaction mechanism in macroscopic marked with formed of a product of reaction result, with marking formed sediment, happened bruising, temperature increase (when formed reaction result). Explanation Process the happening of reaction mechanism in microscopic only can be conducted with computation, and knew reaction result pass by chemistry instrument (chromatography, spectrometry). At this implementation only explained in symbolic, whereas reaction mechanism is concept of abstract. Handling 26 students as the subject very difficult for lecturer, in consequence, student behavior that irrelevant with teaching and learning activities reach 7%. Situation is referred as happened at twentieth minute student there is sleepy, 64th minute there is student that play HP and in minute 80th – 84 situation of multitude classes.

Symbolically, reaction mecanisme alkyl halide has the character of abstract, hence required prerequisite matter to comprehend it. Concept of prerequisite is referred as namely electron configuration, formula Lewis, orbital atom, electronegativity, and covalent bond. Implementation of reaction mechanism concept S_N1 and S_N2 at control class conducted conventionally, without see how far student controls concept of prerequisite. That very encumber lecturer, until at introduction (twentieth minute) feel difficulty to activate student. Condition is referred as leave for back with value result pretest and do duty handout/superordinate book before experiment class. Ineffectiveness teaching and learning activities at this meeting supported also because lecturer will never forces student to read book Fessenden. Not capable lecturer in conducting that because student has been become accustomed conduct activity listens lecturer explanation in each multiply learning.

Graph at Figure 1, is descripts active learning in Model of *Sorogan-Bandongan* class. Graph is referred as state 9% student activity reads book; 32% work student worksheet; 25% work together in groups; 12% discuss with other student to find concept; 1% ask to lecturer. Statement is referred as describe that 79% learning activity is predominated by student. At learning activity use *Sorogan-Bandongan* Model, activities of dominant lecturer reaches 14% namely explain learning matter, while activities that irrelevant with teaching and learning activities reach 7%.

Graph at Figure 2, is descripts learning at conventional class. Graph is referred as state 12% student reads book; 12% work student worksheet; 15% discuss in finding concept; and 12% ask to lecturer. As a whole teaching and learning activities that predominated by student activities namely as high as 51%. Lecturer activities the most dominant in conventional class namely explain learning matter as high as 42%. Behavior, that irrelevan with teaching and learning activities as high as 7%.

Active learning Comparison at conventional class and *Sorogan-Bandongan* class can be conducted by compare to graph at Figure 1 and Figure 2. At learning

activity that perceived in this article, that is activities student namely at activity: 2 = read book; 3 = work student worksheet; 4 = work together in group; 5= discuss with other student to find concept; and 6 = ask to lecturer. Learning activities that predominated by lecturer namely activity 1 = listen to lecturer explanation. Student activities at Model *Sorogan-Bandongan* class (79%) higher if compared to activities student at conventional as control class (51%). Comparison is referred as indicate that learning *Sorogan-Bandongan* model is active learning. Learning *Sorogan-Bandongan* model student centered because student activities more dominant (79%) compared with activities lecturer as big as (14%).

IV. CONCLUTION

Sorogan-Bandongan Model is categorized as the active learning model that student centered. Category is referred as supported with statement that activities in learning predominated by student. Activities learning is pre dominated by student indicate *Sorogan-Bandongan* Model student centered

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