Implementation of Student Centered Learning Model in Teaching Learning Process to Increase the Students' Performance and Core Competency

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Abstract - **the low quality of the passing grade students of micro and macro economics is the main reason in formulating a new learning model. low passing grade is predicted as the subjects are less interesting to learn, beside that an understanding of the concept of learning among students is very low. based on observed present model of study applied is still teacher centrality, in which the students' activities are still less than lecturers, so that it is needed a model of student centrality. efforts in creating student centrality will be designed and implemented a learning model student centered learning (scl) by using the method of inquiry and methods of discovery. the implementation of this model is expected able to change teaching learning process in the classroom from teacher centrality to student centrality. the aims of changing the learning model to motivate and to give simulation to students in order to increase the power of their contemplative faculties both hard skills and soft skills so they are able to increase their performance and core competency. We observed the data from the questionnaire and will use samples of students taking subject in micro economics and macro economics and then analyze it using the descriptive method of analysis. The results would contribute to the continuance of this program**

Keywords - **teacher centered learning, student centered learning, method of inquiry and method of discovery**

I. BACKGROUND

Scientifically, economics knowledge is an important knowledge that must be mastered by students studying at study program of management and accountancy. Economics subject is very basic knowledge for other subjects of lecture in study program of management and accountancy. Subjects of lecture belonging to economics knowledge are micro economics and macro economics. The subject of lecture of micro economics, specifically studies about individual behavior in economy. Whereas, the scope of macro economics is to analyze aggregative elements in economy, the issues in macro economics include the instruments of macro economics and the government roles.

A. Present Applied Teaching Method

The present teaching method applied at Widyatama is dominated by speech method in which overall teaching learning process is still lecturer centered model. Critical responses and attitudes of the students toward lecturing material are relatively low and only centered to certain students, whereas most of other students are still passive. The present applied lecturing method can be categorized as teacher centrality with the activities patterns is centered to the lecturer.

B. Analyzed Problems Based On Results Of Study Achieved By Students

The misunderstanding of the learning concept becomes one of the reasons causing low quality score of passed students, other problems are; first, appearing from the students themselves (learners) including; motivations of study, imaginations / the ways of abstract thoughts, responses, initiation, critical and curious attitudes are generally still low. Second, the intention to enrich the information by literary study has not been appear by themselves. The low understanding of the students toward concepts of study leads to low quality of passing grade and great number of failed individual students for the subjects of lecture of economics. This condition can be seen from passing grade within the last two years, the data shows that average passing grade with alphabetical score of A is only : 10 %, B: 20%, C: 40%, whereas the average of failed score, the alphabetical scores of D and E are 30%.

II. LIMITATIONS OF PROBLEM

Based on the background of the problem above, new concepts and approaches are necessary to apply the strategy and method of teaching and learning aimed at *Student Centered Learning* (SCL). Thus, the limitations of the problem are as follows:

A. What kinds of model and method of study are able to develop active role of students and the quality of teaching learning?
B. What are the influences of the model and method of SCL toward the development of students' core competency?
C. What are the impacts of the development of model and method of SCL toward the level of passing, academic performance, and students core competency?

III. OBJECTIVES AND BENEFITS

A. *Objectives*

The objectives of the implementation of SCL model are to motivate and to give stimulant to the students in order to increase the reflecting thinking of students and the level of passing students. Thus, this model can be planning guidance and the implementations of teaching learning process are expected able to increase students' performance and core competency.

B. *Benefits*

The benefits of implementation model and method of SCL are as follows:

1) To motivate the capability of the students to arrange self-direction
2) To motivate students' critical thinking and to increase their bravery to express their free opinion
3) To accustom the students to solve their problem together, so the function of encouragers arises
4) To give experience and deep impression, and contribute the development of both hard and soft skills of the students

IV. TEACHING AND LEARNING MODEL

SCL model in learning model is centered to students, but lecturers are still necessary to give material as short direction with shorter time.

Method of inquiry is a learning method in which the students actively propose questions to be answer and propose problem to solve in connection with finding problems. Problem solving based on module or teaching material provided by lecturer.

T%here are four impacts of method of inquiry [6]:

1. increasing the ability of critical thinking
2. increasing the self capacity of the students to solve problem
3. raising more responsibility toward their study
4. developing students intelligent

Method of inquiry significantly beneficial to increase : the academic performance (33%), critical thinking pattern (77%), skill in learning process (5%), and analyzing skill (14%) [10]. Furthermore, Method of inquiry influences to subject of study, opinion ability and creativity (18%), and for non-cognitive including the students attitude (39%) [9].

Method of discovery is a learning method in which the students are given questions to answer, problem to solve or cases to observe and to explain.

Method of inquiry and method of discovery are more effective when it is applied consistently with facilitation of learning, when the function of lecturers in class room tends to direct, their roles are more as facilitator than transmission of knowledge, so overall teaching and learning process is centered to students. Generally, both methods enable the event of increasing students thinking capacity that is beneficial to develop creative power, critical thinking, and self-estimation of the students.

Application of Method of inquiry and method of discovery in learning process in the classroom can be implemented in some stages [1], as follows:

Stage 1. Objectives (10 minutes)

Lecturer extends the objectives of material in the form of delivering the learned topic for each meeting with purpose to increase the capability of the student to master each learned topic.

Stage 2. Gearing up (15 minutes)

Students answer some questions given by lecturer related to lecturing material in form of topic. From this activity, it can be analyzed:

1. the level of students' basic knowledge of the material in the learned topic. This knowledge level will produce hard skill
2. the capability to give opinion, this capability will produce soft skill in form of Communication skill

Stage 3. Active Poll (60 minutes)

Students present material provided at home, delivered material has been previously determined by the lecture based on syllabus of the subject of lecture.

From this activity, it can be analyzed:

1. The students' mastery level of the learned material. This material mastery can produce hard skill
2. The capability to present material in front of class, this activity will produce soft skill in form of Communication skill

Stage 4. Active Concept Check (15 minutes)

This activity is in form of discussion or interview on the subject of material explained by the students.From this activity, it can be analyzed:

1. the students' mastery level of the material in learned topic. The material mastery can produce hard skill
2. the capability of questioning, answering and giving opinion or rejection in the class. this activity will produce **soft skill** in forms of Communication skill, interpersonal skill and decision making skill.

Stage 5. Active Application (40 minutes)

This activity can be in form of:

1. making conclusion or summary of learned material / topic
2. problem solving of cases from the learned material (it depends of the learned material)

From this activity, it can be analyzed:

1. The students' mastery level of the material based on the final conclusion they make in group. The activity of making conclusion from learned material can produce hard skill
2. Cooperative capability in group. This activity will produce soft skill in forms of problem solving skill, decision making skill and interpersonal skill

Stage 6. Information (10 minutes)

Informing lecturing activity and assignment for next week meeting.

V. IMPLEMENTATION OF SCL MODEL

The implementation of this SCL model is applied for one semester in the lecturing subject of macro economics and micro economics. The following activity is spreading questionnaires to students and lecturers of economics subjects to find out whether there are positive impacts of the improving teaching learning method. Then, evaluated in order to develop better teaching learning method.

At the end of lecturing semester, the questionnaires are spread to students and lecturers of macro and micro economics subjects applying SCL method.

Data of collected questionnaires are processed and analyzed to find out positive impacts toward the results of study.

VI. IMPLEMENTATION STRATEGY

Implementation strategy is carried out by applied planning method, that is" *Student Centered Learning (SCL) by implementation of inquiry and discovery methods*" in some classes learning the subjects of macro and micro economics.

The success of SCL model implementation can be seen from the students' result of study. The result of study can be in the forms of hard skill and soft skill. Hard skill is indicated by the existence of cognitive domain development whereas soft skill is indicated by the existence of affective domain development and psychomotor domain.

A. Cognitive Domain Development

Consistent implementation of SCL model in teaching learning process is expected enable to modify students' cognitive preference more to explore intrinsic factor, that is self- study motivation, it means that a student is really interested and needs lecturing material provided by the lecture so the students focus more attention to catch and comprehend the essence of lecturing material and begins thinking its application.

B. Affective Domain Development

Deep comprehension of students toward the essential meaning of lecturing material presented by lecturers will awake their affective proficiency.

C. Psychomotor Domain Development

The development of psychomotor proficiency of students is as the manifest of the development of creation and feeling domains, it means that the development of imagination power will motivate students' creativity to change creative power in teaching learning process in form of positive behaviors.

TABLE I
INDICATORS AND METHODS OF EVALUATION SCL MODEL

Performance Domains/ Aspects	Evaluated Variables	Evaluation Indicators	Evaluation Method	Expected Competency
A. Cognitive (creativity)	1. Observation	1. able to perform 2. able to compare C. able to correlate	1. oral test 2. written test 3. observation	Hard Skill is students' mastery toward all material in each learned topics
	2. Memory	1. able to mention 2. able to repoint Out	1. oral test 2. written test 3. observation	
	3. Comprehension	1. able to explain 2. able to define orally by themselves	1. oral test 2. written test	
	4. Application	1. able to give sample 2. able to use precisely	1. written Test 2. assignment 3. observation	
B. Affective (feeling)	1. acceptance	1. show acceptance attitude 2.show reject attitude	1. written test 2. attitude scale test 3. observation	Soft Skill: 1. Decision making skill 2. communication skill. 3. Problem Solving 4. Interpersonal Skill.
	2. Response	1. willing to participate / involve 2. willing to use	1. attitude scale test 2. assignment 3. observation	
	3. appreciation	1. regarding important and useful 2. regarding beautiful and harmonic 3. admiring	1. attitude scale test 2. assignment 3. observation	
C. Psychomotor	1. moving and action skill to produce a creation	Coordinate the movement of eyes hands, legs, and other parts of body	1. Observation 2. Action test	

	2. proficiency to express verbal and non-verbal	1. pronunciation 2. facial expression and gesture	1. Oral test 2. Observation 3. Action test	

INSTRUMENTS OF THE SUCCESS OF SCL MODEL

A. Measuring Cognitive Performance

To evaluate cognitive development is applied the concept of standard reference assessment toward the students' capability in forms of: observation, memory, comprehension and application toward the lecturing material of macro and micro economics (table II)

B. Measuring Affective Performance

To evaluate affective development is applied the concept of attitude scale by proposing several questions to respondents by choosing one of the option as follows: absolutely agree, agree, hesitant, disagree, or absolutely disagree

C. Measuring Psychomotor Performance

To evaluate Psychomotor development is applied assessment toward various activities done by students in performing their learning activities (table III)

D. Measuring soft skill

To evaluate soft skill is applied by questionnaires spread to respondents by providing several statements by choosing one of the options: absolutely agree, agree, hesitant, disagree, or absolutely disagree

VIII. OBSERVATION OF SUCCESS OF LEARNING MODEL

The objects of research of the implementation of learning model done for full one semester is the even semester in academic year 2010/2011, is

- the figure of cognitive, affective and psychomotor aspects of the students
- the influence of cognitive aspects toward hard skill competency, the influence of affective and psychomotor aspects toward soft skill competency

IX. THE RESULT OF LEARNING MODEL

The Implementation of learning model for the lecturing subjects of macro and micro economics in semester 1 and 2 academic year 2010/2011 at Faculty of Economy and Faculty of Managerial Business University of Widyatama, the respondents are around 300 students learning those subject

Based on the table IV, it can be clarified that:

- the percentage of passed students achieving above 60 is 75.5%, with details: grade C = 16.4%, B = 21.8% and A = 37.7%
- the percentages of failed students is 24.5%, with details: grade D = 11.8%, and E = 12.7%. *Affective Aspects*

Based on the table V, it can be clarified that:

- Average grade is 38.2%. It means that 38.2% students own average affective development
- Good grade is 54.5%. It means that 54.5% students own good affective development
- Very good grade is 7.3%. It means that 7.3% students own very good affective development *Psychomotor Aspects*

The results of students' psychomotor aspects (based on table VI) are as follows:

- Low grade is 14.5%. It means that 14.5% students own low psychomotor development
- Medium grade is 35.5%. It means that 35.55% students own medium psychomotor development
- High grade is 50%. It means that 50% students own high psychomotor development

TABLE II
EVALUATIONOF COGNITIVE PERFORMANCE

Final Score (Total All Components)	**Grade**	**Credit**	**Qualification**
≥ 80	A	4	Very good
70 – 79	B	3	Good
60 – 69	C	2	Average
50 – 59	D	1	Bad
< 50	E	0	Fail

TABLE III
EVALUATION OF PSYCHOMOTOR PERFORMANCE

	Kinds Of Activities	**Activity And Creativity Level**				
		Grades				
1	Making Summary of Lecturing material.(homework result)	A	B	C	D	E
2	Presenting lecturing material in front of class.	A	B	C	D	E
3	asking and answering questions in discussion.	A	B	C	D	E
4	Summarizing the result of lecturing material and solving problems in the forms of case study in group in the classroom.	A	B	C	D	E

TABLE IV
THE RESULTS OF STUDENTS' COGNITIVE ASPECTS

Cognitive Aspects				
Students' Score	**Qualification**	**Numerical score**	**Grade**	**Procentage**
Under 50 = 12,7%	Very bad	< 50	E	12,7 %
Under 60 = 24,5 %	Bad	50 s/d 59	D	11,8 %
Above 60 = 75,5 %	Average	60 s/d 69	C	16, 4 %
Above 70 = 58,2 %	Good	70 s/d 79	B	21,8 %
Above 80 = 37,3 %	Very good	> 80	A	37,3 %

TABLE V
THE RESULTS OF STUDENTS' AFFECTIVE ASPECTS

	Frequency	Percent	Valid Percent	Cumulative Percent
3.00 average	42	38.2	38.2	38.2
4.00 good	60	54.5	54.5	92.7
5.00 very good	8	7.3	7.3	100.0
Total	110	100.0	100.0	

TABLE VI
THE RESULTS OF STUDENTS' AFFECTIVE ASPECTS

	Frequency	Percent	Valid Percent	Cumulative Percent
1.00 very low	3	2.7	2.7	2.7
2.00 low	13	11.8	11.8	14.5
3.00 medium	39	35.5	35.5	50.0
4.00 high	36	32.7	32.7	82.7
5.00 very high	19	17.3	17.3	100.0
Total	110	100.0	100.0	

C. Regression

To find out the influences of cognitive aspects toward hard skill competency, and the influence of affective and psychomotor aspects toward soft skill, the regression statistic test is applied.

Based on regression calculation, it can be found out that:

- Regression coefficient (B) for affective and psychomotor indicates positive, it means that when the affective and psychomotor raise, so that the soft skill also raise
- The result of R^2 test is 32.20%, it indicates that variable model of soft skill can be influenced by affective and psychomotor variables as many as 32.20%, whereas the rests about 67.80% is influenced by other variables outside of the model
- Simultaneous test is pointed by sig F as many as 0.000 which is less than t table, it indicates that both affective and psychomotor influences soft skill
- Individual test pointed out by sig t, only affective influences soft skill as sig t of affective (0.000) less than t table; whereas sig t of psychomotor (0.160) does not influence as it is more than t table, even though psychomotor is not significant toward soft skill, however regression coefficient of psychomotor is positive, so that high psychomotor causes high soft skill
- There are no influences of psychomotor variable toward soft skill because the number of psychomotor variable is less, so that it is insufficient to regress with soft skill variable

The influence of cognitive aspect toward had skill based on regression calculation test can be concluded as follows:

- Regression coefficient (B) for cognitive variable indicates positive, it means that when the cognitive raises (high), so that the hard skill also raises (high)
- The result of R^2 test is 30.47%, it indicates that variable model of hard skill can be influenced by cognitive variables as many as 30.47%, whereas the rests about 69.53% is influenced by other variables outside of the research model
- Individual test pointed out by sig t as many as 4.0713E-10 less than t table so that there is individual influences from cognitive toward soft skill.

SUMMARY MODEL

			Change Statistics				
R	R^2	Adj R^2	R^2 change	F change	df1	df2	Sig. F Change
.568[a]	.322	.310	.322	25.449	2	107	.0000

Predictors: (Constant), psikomotor, afektif, Dependent Variable: softskill

ANOVA[b]

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1121.371	2	560.686	25.449	.000[a]
Residual	2357.401	107	22.032		
Total	3478.773	109			

X. CONCLUSIONS AND SUGGESTIONS

A. Conclusions

1) Low quality of passing subject of economic s lecture are caused by:
   - problems arises from students themselves (learner), including:
     - ✓ Motivation of study, imagination / abstract thinking, response, initiation, and critical attitude and curiosity are generally still low.
     - ✓ Low comprehension of the students toward concepts of study
   - the previous implementation of learning method is still teacher centrality
2) Implemented SCL model has significantly succeed to form cognitive aspects (75.5% from passing students), affective (54.5% of the students are categorized good and 7.3% is very good) and psychomotor aspects (50% of students are high and 35.5% are medium)
3) There are influences of:
   - Cognitive aspects toward hard skill of the students
   - Affective aspects to form soft skill
   - Psychomotor toward soft skill

B. Suggestions

1) SCL model needs attention from every element of study program in order to sustainable. The sustain implementation of SCL at each subject will grow the students' habit of self study, critical and creative thinking, and appreciation to others, moreover, responsible toward job, at the end enable to graduate students possessing soft skill, hard skill and core competency.
2) SCL model needs more supporting facilities, so that the provision of supporting facilities needs to be improved

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