Effect of Ability Grouping in Collaborative Learning and Locus of Control on Individual Achievements

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Abstract: This research focus on effect of ability grouping and locus of control in collaborative learning on individual achievements. Investigated important forms of grouping are used in collaborative learning. Expected to be obtained form the appropriate grouping for collaborative learning. The results research showed that (1) there are differences in individual achievement significantly between high homogeneous group, low homogeneous group, and heterogeneous group in collaborative learning, (2) there are differences in individual achievement significantly between with an internal locus of control and external locus of control, (3) there is no interaction effect between ability grouping in collaborative learning and locus of control on individual achievement. Based on the results of descriptive statistical analysis showed that the individual achievement of high homogeneous group turned out to mean the highest, followed then a heterogeneous group, and the lowest low homogeneous group; the individual achievement who have an internal locus of control is higher than the individual achievement who have an external locus of control.

Keywords: Ability grouping in collaborative learning, Locus of control, Individual achievements

1. Introduction

Efforts to determine the type of grouping would need a variety of considerations, including grouping in learning, so that these efforts can improve the effectiveness and efficiency. In connection with the arrangement of grouping applied in collaborative learning strategies, the group may set up one of them in a small group consisting of three members for each group based on ability.

Collaborative learning as one of strategy is basically intended restructurization or at least compensate for the shortcomings in the classroom learning traditionally centered on the learner, by dividing the class into groups or smaller teams to get interaction among learners in certain fields intensively and extensively [1]. Through continuous interaction and thorough study of the activities of the group are expected to bond formation, experience, and learn actively. Thus, collaborative learning environment emerged as a method of teaching a student-centered, focused on sustainability and development activities and performance meaningful. Collaborative learning environment to make improvements in teaching methods, the involvement of the learners become more active, as well as the improvement of knowledge and skills. Friedman [5] argued that collaborative learning in an effort to reduce the negative effects of using educational activities that are competitive, isolatif, apatif, and mass customization.

Reforming the collaborative learning environment is basically a way to form and manage groups that are expected to occur optimal interaction. The formation of groups based on personality attributes and capability of learners is the purpose of managing collaborative learning environment. Emphasis the importance of personality attributes the basis for the formation of the composition of the group members. The experts argue that the level of ability, attributes such as gender, ethnic background, motivations, attitudes, interests, and personality (argumentative, extrovert, introvert, etc.) should be of concern in the process of group formation [10]. The learning conditions with appropriate member composition would allow increased optimization of the learning process. It is worth noting because a group can be formed in a state with the composition of the assortment. There is a group that if the terms of factor of capacity, then the composition of its members homogeneous conditions and some members of the group conditions of heterogeneous composition. The composition of a homogeneous group in a situation may be more optimal than the composition of a heterogeneous group. Otherwise, the composition of the heterogeneous group into a situation may be more optimal than the composition homogeneous group. The way to do is to set the initial conditions of a group, namely with the process of identification of learners properly. Differences in composition (homogeneous and heterogeneous) members of the group that is the focus of this study, Webb, Baxter, & Thompson [14] have raised the issue of equity in learning and social behavior in heterogeneous groups and the opportunity to learn from others, which suggested that all children must participate and learn regardless of race, gender, preferences, or level of learning achievement.

Homogeneous group can be divided into high homogeneous
This research was designed to use a quasi-experimental [2]; [3]. The design was chosen for the determination of research subjects in the treatment group or the control group can not be selected at random [13]. The independent variable in this study is ability grouping in of collaborative learning with three kinds of group composition, ie high homogeneous group, low homogeneous group, and heterogeneous group. Technique of collaborative learning used the reciprocal teaching. The students ability used in grouping be found from the academic potential test. Moderator variables considered in this study is the locus of control students were categorized into two: internal locus of control and external locus of control. The dependent variable is observed as a result of the independent variable and moderator variable is the individual achievements.

Data collection instruments such as questionnaires locus of control and learning achievement test. Instruments Locus of control was developed by adapting the instruments developed by Terry Pettijohn from Darden Business Publishing University of Virginia (A professor in the Psychology Department at Mercyhurst College in Erie, Pennsylvania, Terry Pettijohn developed this variation to Rotter's original Locus of Control survey). While learning achievement test instrument was developed by the researchers themselves. Both of these instruments have been through a validation test, has been qualified as a research instrument.

The research was conducted on students of Primary School Teacher Education Department, Teacher Training and Education Faculty, University of PGRI Ronggolawe, in Tuban, East Java, Indonesia. The state of research subjects is determined by two classes. Classes are used as research subjects were selected randomly from the students enter 2014 year. The treatment of experiment had was academic year 2015/2016 with social science subject matter. While students are grouped on high homogeneous, low homogeneous, and heterogeneous selected cluster random sampling.

The data analysis in this research include descriptive analysis and inferential analysis of data for the purposes of testing the hypothesis. Descriptive analysis is done to provide a description or illustration of the data collected without intent to generalize. Inferential analysis is used in order to test the hypothesis the researchers. To test the difference test was used Analysis of Variance (ANOVA). Statistical hypothesis testing performed at a significance level of 5% or α = 0.05. All statistical analysis using SPSS 20.0 for Windows.

3. Result and Discussion

3.1 Differences in Individual Achievement between High Homogeneous Group, Low Homogeneous Group, and Heterogeneous Group in Collaborative Learning

F test results shows the significant value of 0.00. While LSD test results show that among high homogeneous group with low homogeneous group significance value of 0.00, the high homogeneous group with heterogeneous group significance value of 0.002, and the low homogeneous group with heterogeneous group significance value of 0.016.
Based on test results obtained F and LSD test all minor significance value of 0.05. This shows that there are significant differences between the individual achievement high homogeneous group with low homogeneous group, high homogeneous group with heterogeneous group, and low homogeneous group with heterogeneous group. Calculation of individual achievement data obtained a mean improvement from pre-test to post-test for high homogeneous group of 19.5, the low homogeneous group of 11.75, and heterogeneous group of 15.0. This means that an increase individual achievement highest in high homogeneous group and lowest in low homogeneous group.

3.2 Differences in Individual Achievements between Internal Locus of Control and External Locus of Control

F-test and LSD-test obtained significance value of 0.00 less 0.05. This shows that there are significant differences between the individual achievement who have an internal locus of control and external locus of control. Calculation of the individual achievement data obtained a mean improvement from pre-test to post-test for students who have an internal locus of control amounted to 17.75, while those with an external locus of control of 13.08. The individual achievement of students who have an internal locus of control better than the students who have an external locus of control. This means that the locus of control factor turned out to have a significant impact on the individual achievement.

3.3 Interaction effect between ability grouping in collaborative learning and locus of control on individual achievements

F-test the interaction between the grouping in collaborative learning and locus of control on student achievement values obtained a significance value of 0.444. Therefore the value of a significant value of 0.444 > 0.05, then the decision was made to accept H0. Meaning, there is no interaction between the grouping in collaborative learning and locus of control on student achievement. Thus that the grouping in collaborative learning and locus of control together no effect on student achievement.

The results are consistent with the results Setiawan, Saragih, & Siagian [17] showing no interaction between learning approach (open ended and conventional) and locus of control on mathematical reasoning abilities of learners. Based on this research can be said that the difference between the ability of mathematical reasoning learners who have internal locus of control on learning open ended and with conventional learning is not significantly different than the difference between the ability of mathematical reasoning learner who has locus of control extrenal on learning open-ended and with conventional learning. Likewise, research results Karlimah [18] showing (1) there is no significant interaction between learning and the level of prior knowledge of mathematical students to the achievement of communication skills and problem solving mathematical, (2) there is no significant interaction between learning and the level of prior knowledge of mathematical students' achievement in student learning disposition.

4. Conclusion

Based on the discussion of the results of the study can be drawn conclusions as follows:

4.1 The learning achievements between high homogeneous group, low homogeneous group, and heterogeneous group in collaborative learning differ significantly. Evidently, high homogeneous group shows the value of the learning achievement of the highest, while the low homogeneous group shows the value of the lowest learning achievement.

4.2 The students learning achievement between who have an internal locus of control and external locus of control are significantly different. The students learning achievement between who have an internal locus of control proved to be better than who have an external locus of control.

4.3 No interaction effect between grouping in collaborative learning and locus of control on the students achievement.

References


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