Advances in Social Sciences Research Journal – Vol.3, No.11
Publication Date: Nov. 25, 2016
DoI:10.14738/assrj.311.2293.
Derlina, Mihardi, S. & Sabarri. (2016). The Influence of Learning Model Based Character Education to Student Characters nad Learning Outcomes. *Advances in Social Sciences Research Journal,* 3*(11)* 135-140.

The Influence of Learning Model Based Character Education to Student Characters and Learning Outcomes

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Abstract

This research objective is to know the influence of learning model based character education to students learning outcome in cognitive domain in general physics I subject and the characters that can be developed. This research used quasi experiment method, the population are all of the students in mathematics education science faculty in State University of Medan that attend the general physics I subject, with sample of two classes. One class is experimental class that treatment by learning model based characters, the other one is control class without learning model based characters. Through this model also developed the character of interpersonal and intrapersonal students. Interpersonal character involve the religious aspect, curiosity, responsibility, thoroughness, perseverance, honesty and confidence and intrapersonal characters involve aspects of cooperation and tolerance. The conclusion is that there is the influence of learning model based characters education to students learning outcomes in cognitive domain, where the cognitive learning outcomes of students that learned by the learning model based character education is higher than that learned without learning model based character education.

Keyword: Learning Model, Character, Learning Outcomes

PREFACE

National education aims to develop skills and character development and civilization of the nation's dignity, develop the potential of students to be perfect man, a man of faith, devoted to God Almighty, noble, healthy, scholar, creative, independent, become citizens of a democratic and characterized. The era of globalization is a fact that cannot be denied. Revolutionary technology, transportation, information and communication makes the world more narrow as limitless. Knowledge and technology become the vanguard that should be prioritized in order to adapt to the era of globalization (Asmani, 2011). Physics subject in school expected to develop knowledge and concepts of physics and technology that can be applied in daily life so that can produce students who are able to compete in the development of science and technology (Astra, et.al. 2012). Beside of that learning physics is expected to produce students who have good character.

Physics is a part of Natural Science (Science). In essence, physics is as well as product and process. As a product of physics is a collection of knowledge consists of facts, concepts, principle, law and procedures. As the physical processes is a way to find out about the facts on the natural surrounding systematically. Physics can develop the ability to think analytically inductive and deductive in solving a problem that can develop the knowledge, skills and confidence. Physics has a strategic role and very important in the development of future technologies. Therefore, in promoting the development of science and technology, physics learning needs serious attention from primary education to universities (Rapi, 2016). Thus the study of physics is not enough to understand the concepts but must be able to experience the process of getting these concepts. Physics learning should be implemented by involving students directly in the learning through scientific methods

Most teachers implement conventional physics learning so that students become less passive participation, lack of initiative, and lack of creativity in thinking. Physics learning require teachers who not only provide the information in one direction but in different directions because it will affect the learning process (Mundilarto, 2013). Learning by interaction in one direction, only emphasizes the aspects of the product such as memorizing formulas or concepts cannot facilitate the students to interact in different directions where Bybee (2002) states that learning is the interaction of ideas and processes, new knowledge builds upon previous knowledge, meaningful learning when students are involved and interact with ideas and processes.

However, the learning process does not always have to use the same learning model. Researchers developed a general physics learning model based character education (PLMBC models) is designed in such a way to emphasize the importance of communication and meaningful learning. PLMBC models developed based on constructivist theory which says that meaningful learning occurs when students construct their own knowledge. Model PLMBC provides the opportunity for students learning activities through a problem resolution requires students to find solutions and measures used in the PLMBC are (1) communicate its goals and motivate students; (2) present information about the subject matter; (3) organize students in learning groups; (4) investigation; (5) presenting the results of the investigation; (6) evaluating the results of the investigation; (7) reward (Derlina, 2015)

The Ministry of National Education in the grand design of the character education has made policies to integrate character education into the curriculum from pre-school education elementary to college. Character education became a necessity because it not only makes students become intelligent but has character and manners that have meaning as citizens and communities. This is motivated the rise of people's behavior as well as students who are not showing good character.

RESEARCH METHODE

Research conducted in Mathematics Education Science Faculty State University of Medan. The study population was all students of the first semester of 2016 who took the general physics course II. This research sample are two classes determined by cluster sampling. One class as an experimental class (chemistry education extension a class) learned with learning model based characters, one control class (chemistry education a class) learned without learning model based characters. The research design used in this research is the design of two-group pretest-posttest as shown in Table 1.

Tabel 1. Research Design

Class	Pretest	Treatment	Posttest
Experiment	T_1	X	T_2
Control	T_1	Y	T_2

Information:
T1 : Pretest cognitive learning outcomes
T2 : Posttest cognitive learning outcomes
X : Learning general physics II with learning model based characters
Y : Learning general physics II without learning model based characters

Data collection techniques in this study used the result test and observation sheet. Cognitive learning outcomes test and observation of character observed before and after learning. Observation sheet arranged to observe the character shown by the students to the religious, curiosity, responsibility, accuracy, diligence, honesty, confidence, cooperation and tolerance aspect. Data analysis in this research used descriptive analysis. Descriptive statistical analysis performed to present or discover the level of development of cognitive learning outcomes and student character. The results obtained consist of pretest and posttest data and then calculate with % N-Gain to gain score as following formula:

g = x 100%
Information:
g = Average of gain
Spost = Average of posttest character
Spre = Average of pretest character
Smax = Score max ideal
High and low% N-gain categorized as follows: (1) if the% N-gain> 70%, high category; (2) if 30% ≤ N-gain ≤ 70%, the moderate category; and (3) if the N-gain <30%, the low category (Hake and Richard, 2002).

RESULT AND DISCUSSION

Students Cognitive Learning Outcomes

Description of research results to the cognitive learning outcomes of students in the learning model based character education and without learning model based character education on the pretest is presented in Figure 1. Description Value of pretest-posttest and % N-Gain of cognitive learning outcomes Control and Experiment class.

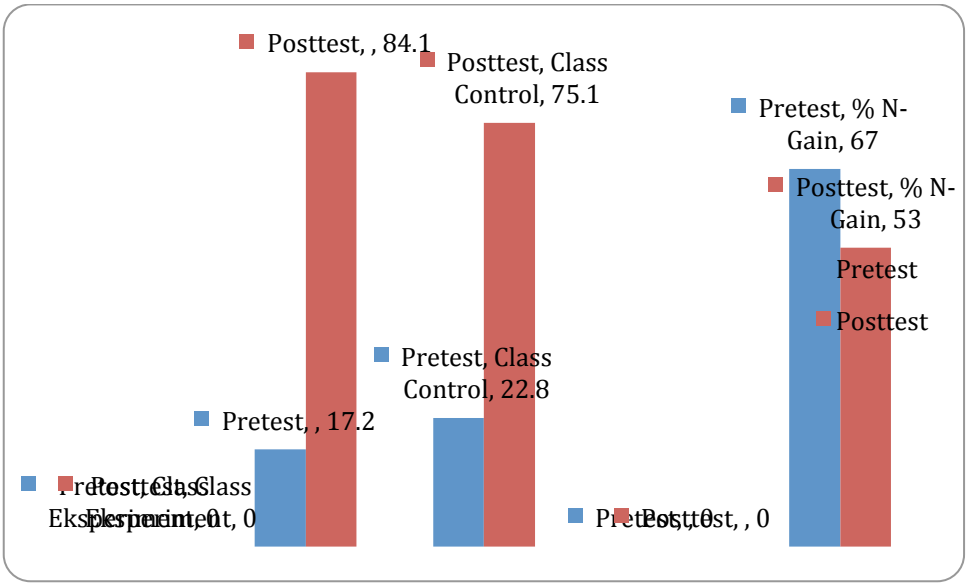

Figure 1: Cognitive learning outcomes and % N-Gain Class of Experiment and Control

In Figure 1 shows that the cognitive learning outcomes of students in control and experiment class before being given treatment are not much different and include the category of relatively low. After being given the treatment cognitive learning outcomes of students in the experimental class is better than the control class. Moreover % N-Gain experimental class is higher than the control class. So, it can be concluded that the increase in cognitive learning outcomes of student in experimental class that learned with learning model based character education is better than the control class that learned without learning model based character education

Development of Student Characters

Before and after treatment for each class is presented in Figure 2, Aspect of characters that discussed in this research include interpersonal character (gratitude, curiosity, responsibility, accuracy, diligence, honesty, and confidence) also intrapersonal character (cooperation and tolerance). Aspects selection was based on the results of the analysis of the learning outcomes developed learning model. Results of statistical analysis of descriptive character of students in the pretest, posttest and increasing percentage of character (% N-Gain) experimental class and control class can be seen in Figure 2.

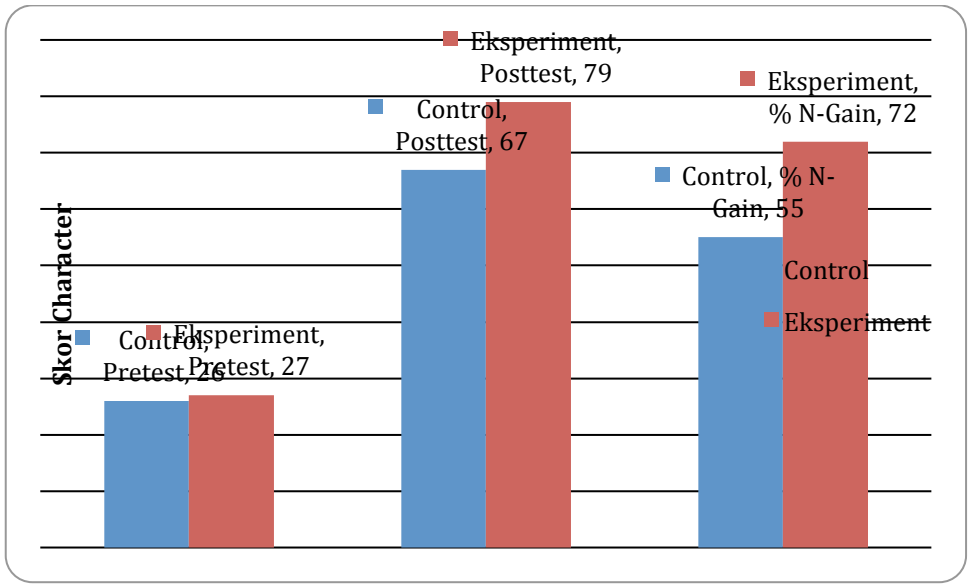

Figure 2. Comparison of Average score of Pretest Posttest and % N-Gain of character in Experiment and Control Class

Based on Figure 2 shows that the mean score pretest character of control class is lower 1 than experimental class, the experimental class characters mean score higher 10 than compared to the control class. Results of students character in pretest and posttest produces % N-Gain experimental class 17% higher than the control class

Comparison the scores of characters to some aspects of the character that was developed is shown in Figure 3. The highest percentage score pretest of character in experimental class contained on aspects of cooperation (33), the lowest in the aspect of confidence and responsibility (22). In the control class highest score of character on aspects of honesty by 33. The lowest score in the aspect of curiosity, confidence and tolerance at 22.

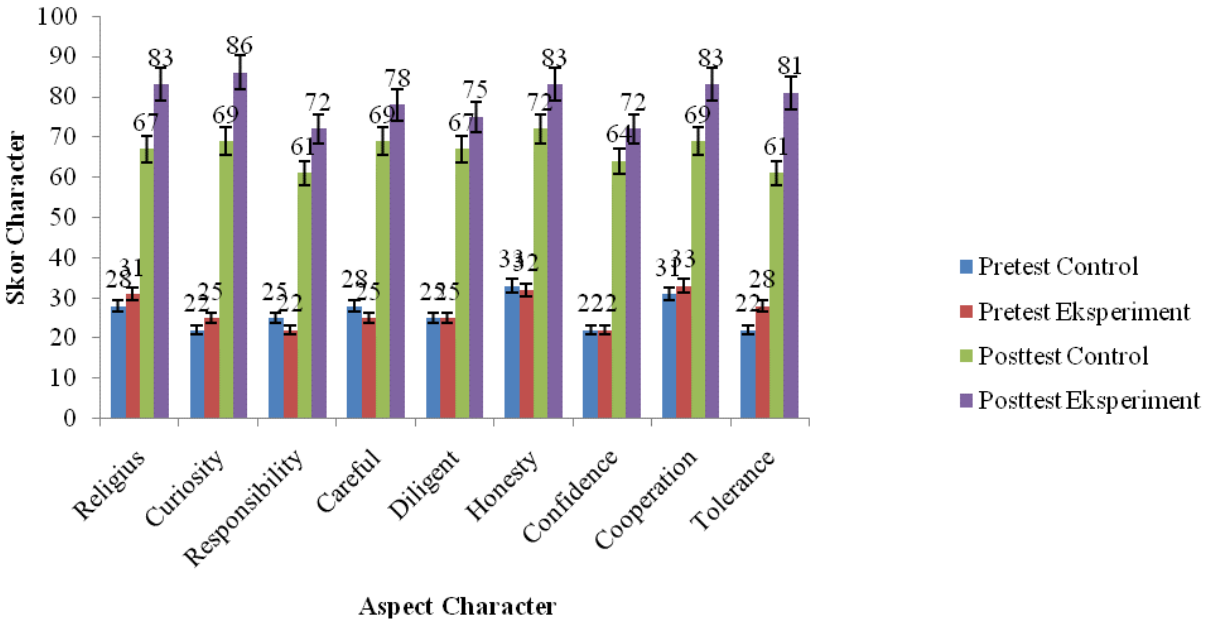

Figure 3. Comparison of Average Score for Every Characters Aspect to Pretest Posttest Experiment and Control Class

The highest character percentage of posttest in experimental class is in curiosity aspect (86), the lowest is in the confidence aspect and responsibility by 72. At control group posttest the highest score is in the honesty aspect by 72, the lowest is in the tolerance aspect and responsibility by 61. The percentage score of characters in every aspect of every character after learning was increased.

Pretest and posttest scores of characters in experimental class and control class produce N-Gain percentages shown in Figure 4. It is seen that the percentage of N- Gain of the experimental class is highest in the aspect of curiosity by 81 in the high category and the lowest for the aspects of responsibility and confidence by 64 with medium category. In the control class N- Gain percentage is highest in the aspect of curiosity by 60 with the medium category, lowest for the aspects of responsibility by 48 also in the medium category.

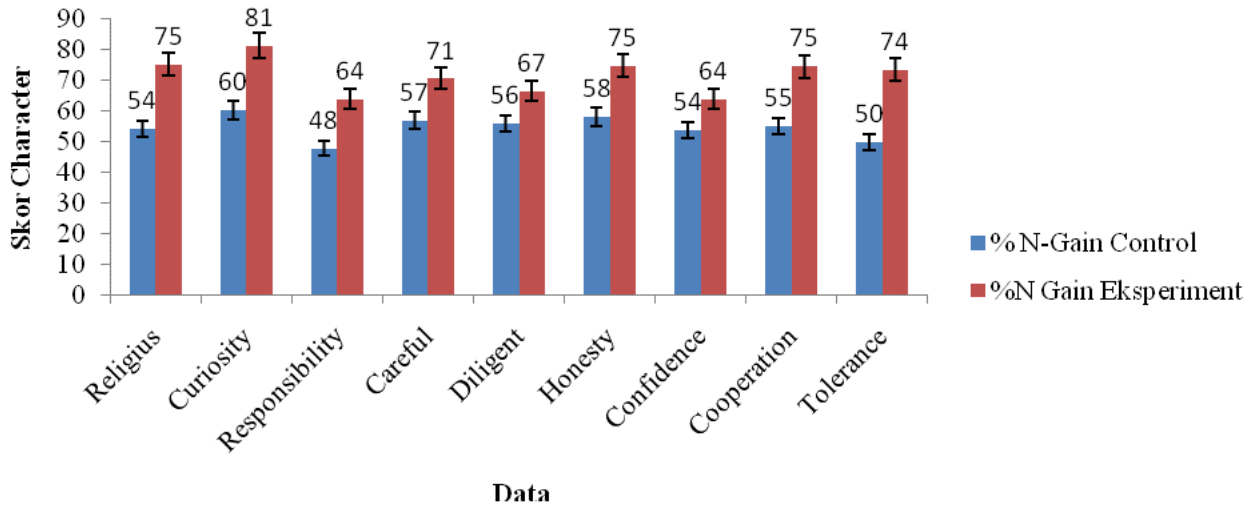

Figure 4. Comparison of % N-Gain for Every Character Aspect between Experiment Class and Control Class

References

Astra, I. M., Umiati, M. Jannah. (2012). Pengaruh Model Pembelajaran Problem Possing Tipe Pre-Solution Posing Terhadap Hasil Belajar Fisika dn Karakter Siswa. Jurnal Pendidikan Fisika Indonesia. 8 (2012), 135-143.

Asmani, Jamal Ma'mur.(2011). Buku Panduan Internalisasi Karakter di Sekolah. Jogyakarta: DIVA Press.

Bybee. R.W. (2002). Learning Science and the Science of Learning. New York: Kyrbi Lithografic Company.

Derlina, (2015). Disain Model Pembelajaran Fisika untuk Mengembangkan Intrapersonal dan Hasil Belajar Mahasiswa. Prosiding Seminar Nasional Fisika (Sinafi). ISBN 978-602-74-598-0-9.

Hake and Richard, R. (2002). Relationship of Individual Student Normalized Learning Gains in Mechanics with Gender, High-School Physics, and Pretest Scores on Mathematics and Spatial Visualization. Tersedia: http://www.physics.indiana.edu/~hake.

Mundilarto. (2013). Keefektifan Pendekatan Inquiri Based Learning untuk Peningkatan Karakter Siswa SMA pada Mata Pelajaran Fisika. Jurnal Cakrawala Pendidikan. Juni 2013, Tahun XXXII, No.2.

Rapi, Ni Ketut. (2016). Pengaruh Model Pembelajaran dan Jenis Penilaian Formatif terhadap Hasil Belajar Siswa SMPN. Jurnal Cakrawala Pendidikan. Februari, 2016, Tahun XXXV. No.1.