

ANALYSIS AND DISCOVERY MODEL FOR LEARNING YELLOW BOOK IN PESANTREN

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ABSTRACT

This study aimed to determine the effect of the Analysis and Discovery (AD) model in learning Yellow Book in pesantren (Islamic Boarding School) to improve students' critical thinking skills in order to find new knowledge. This was a research development or Research and Development (R & D) and continued with experiment. It was conducted in class XI of Pesantren Al-Hidayah Jambi, Saadatuddaren Tahtul Yaman Jambi and Nurul Iman Jambi. This study used two parallel classes, one class as a control group and one class as an experimental group. In this case, the classroom control applied conventional learning model and experimental class applied analysis and discovery model. As the result, analysis and discovery model can further improve students' critical thinking ability than conventional learning model which meant that analysis and discovery model in studying Yellow Book can improve critical thinking skills effectively in order to find new knowledge for each study. Through the assisted teacher of analysis and discovery model in the classroom, learning takes place more systematically implemented and significant in improving students' understanding and critical thinking skills.

Keywords: analysis, discovery, pesantren, yellow book

INTRODUCTION

Pesantren is a vehicle for channeling and studying the Yellow Book by scholars' work and Muslim scholars conducted by pesantren for the development of thought and morals of the Islam generation in the future. However, the learning model applied in the learning process is sometimes not appropriate, for example; the use of less appropriate learning model, preparation of less systematic material and the inappropriate use of time. One of the most important elements in learning Yellow Book in pesantren is the sentence / syntax or called *nahwu*, or *qawa'id* which is one of the sciences to understand *tafsir*. Syntax is the grammar discussing the relationship between words in speech (Verhaar 2006). According to Dahdah (1993), syntax in Arabic is synonymous with the term *al nachw* (النحو). While Hermawan (2011) states that *tarakib* or sentence is also one of the linguistic problems faced by non-Arab communities in learning Arabic.

The experience of researchers during the seven years of study in pesantren who have spent thirteen years teaching in various pesantren, it cannot be denied that the phenomenon occurred in pesantren until the current time, the learning process is still the same as before, such; the learning process applied in pesantren is centered on the teacher, students are only told to *mendhobit*, record and memorize *matan* book, learning only examines the basis Yellow Book, it is not profound, students are rarely given the opportunity to solve problems independently, and students are not trained to argue and analyze the learning materials in depth and not given refutation to the teacher.

In accordance with the statement of Lie (2002), and Suryani, Atmaja, and Natajaya (2013), teachers using conventional learning models and dominated by teachers will result in low active student. Based on the statement and the writer's experience, the development of instructional device oriented to the learning model is needed. One of the alternative models in learning Yellow book is to apply the Analysis and Discovery (AD) model. Learning with this model can improve student activity and learning outcomes, and able to analyze the material in depth based on the ability of reasoning or analysis by using logic and heart.

Nahar (2016), Chiu et al. (2002), Zulhammi (2015), Rusli and Kholik (2013), Zulhammi (2015), Son, Syahrudin, and Widiana (2014), Slavin (2000), Atwi (2012), Shah (2004), and Sanyata (2012) who conveyed the theory of behavioristic learning explain that learning is a behavior change that can be observed, measured and assessed concretely. Changes occur through stimuli engendered a reactive behavioral relationship or response based on mechanistic laws. Stimulants are from learning environment of children, both internal and

external. Meanwhile, the response is a result or an impact, a physical reaction to stimulants. Learning means strengthening the bonds, associations, traits and behavioral responses stimulus (Richar & Rebeca, 2005).

In short, it could be concluded that learning is a behavioral change that can be observed directly occurring through the related stimuli and responses according to mechanistic principles. Individuals will learn whether they do action that brings satisfaction, whether it does not bring satisfaction, then it will not be carried out, even eliminated.

In addition, Piaget (1964), Atwi (2012), and Muzakkir (2014) notice that building knowledge is a mental process through assimilation and accommodation. The imbalance of the cognitive structure (schemata) due to new knowledge is accommodated and then assimilated by interacting with learning resources to form a new, balanced cognitive structure (equilibrium). This process is different for every child due to five things; maturation, physical interaction experience, logical-mathematics experience, social interaction, and equilibrium through assimilation and accommodation process.

Hence, it is clear that cognitive flow is more focus on learning process as a result of our efforts to better understand the world, using all mental equipments for learning purposes. Thinking about situations, by utilizing knowledge, expectations, and feelings, will affect how and what we learn. Furthermore, there are two striking different views; behaviorism flow and cognitive flow. Behaviorism flow is deliberately studied, resulting in changes in the behavioral constellation. While in cognitive flow, knowledge is learned to change knowledge as well as behavior.

Further, Muslich (2009), Alan and Woollard (2010), and Sumarsih (2009) add that constructivism is a learning process that emphasizes the awakening of their own understanding actively in thinking, creatively in conceptualizing and productively in distributing meaning about things learned based on previous knowledge and from a meaningful learning experience. Knowledge is not a set of facts, concepts, and rules that are ready to be practiced. The human must construct knowledge first and give meaning through real experience. Knowledge cannot be moved simply from a teacher's scheme to his student scheme (Purnomo, 2011). Each student must build knowledge in his or her own scheme. The ability to think and create knowledge is a potential that can be developed (Puangtong & Petchtone, 2014). Putrayasa (2011) and Nurhajati (2014) argue that learning in a constructivist view is directed more towards the formation of meaning in learners for what they learn based on their previous knowledge and understanding. Additionally, learning will be meaningful with a clear purpose, it allows people involved in it to carry out more meaning to the world around them. Learning more realistic things is characterized by more active, constructive, intentional, authentic and cooperative learning (Berry, 2012).

Indeed, based on constructivism theory, students acquire knowledge due to the activeness of the students themselves. The concept of learning according to constructivism theory is a learning process that conditions students to perform an active process of building new concepts, new insights, and new knowledge based on the data. Therefore, the learning process must be designed and managed in such a way to encourage students organizing their own experiences into meaningful knowledge.

Furthermore, Bruce (2011), Mahyudin (2014), Winataputra (2005), Arends, (2010), and Apdoludin (2017) also add that learning model is a planning or a pattern used as a guide in planning classroom lessons or learning in tutorials to determine learning tools including books, films, computers, curriculum, etc. Learning model is a conceptual framework describing a systematic procedure in organizing learning experiences to achieve specific learning goals, and serves as a guide for learning designers and teachers in planning and executing learning activities (Winataputra, 2005). It is also a conceptual framework describing a systematic procedure in organizing learning experiences to achieve certain learning objectives and serves as a guide for learning designers and teachers in designing and implementing the process of learning.

According to Solihatin and Raharjo (2007), Purnamasari (2014), Kumara (2004), and Hermana (2010), basically cooperative learning implies an attitude or behavior together in work or assists among others in a regular group structure of cooperation, consisting of two or more persons where success is greatly influenced by the involvement of each member of the group itself. It can also be interpreted as a common task structure in an atmosphere of togetherness among fellow group members. Arends (2004, p. 356) notices "The three instructional goals of cooperative learning are academic achievement, tolerance and acceptance of diversity, and development of social skills." The accelerator explains that cooperative learning model is very helpful for students in growing cooperation, critical thinking, helping group friends in understanding the material and completing the tasks together.

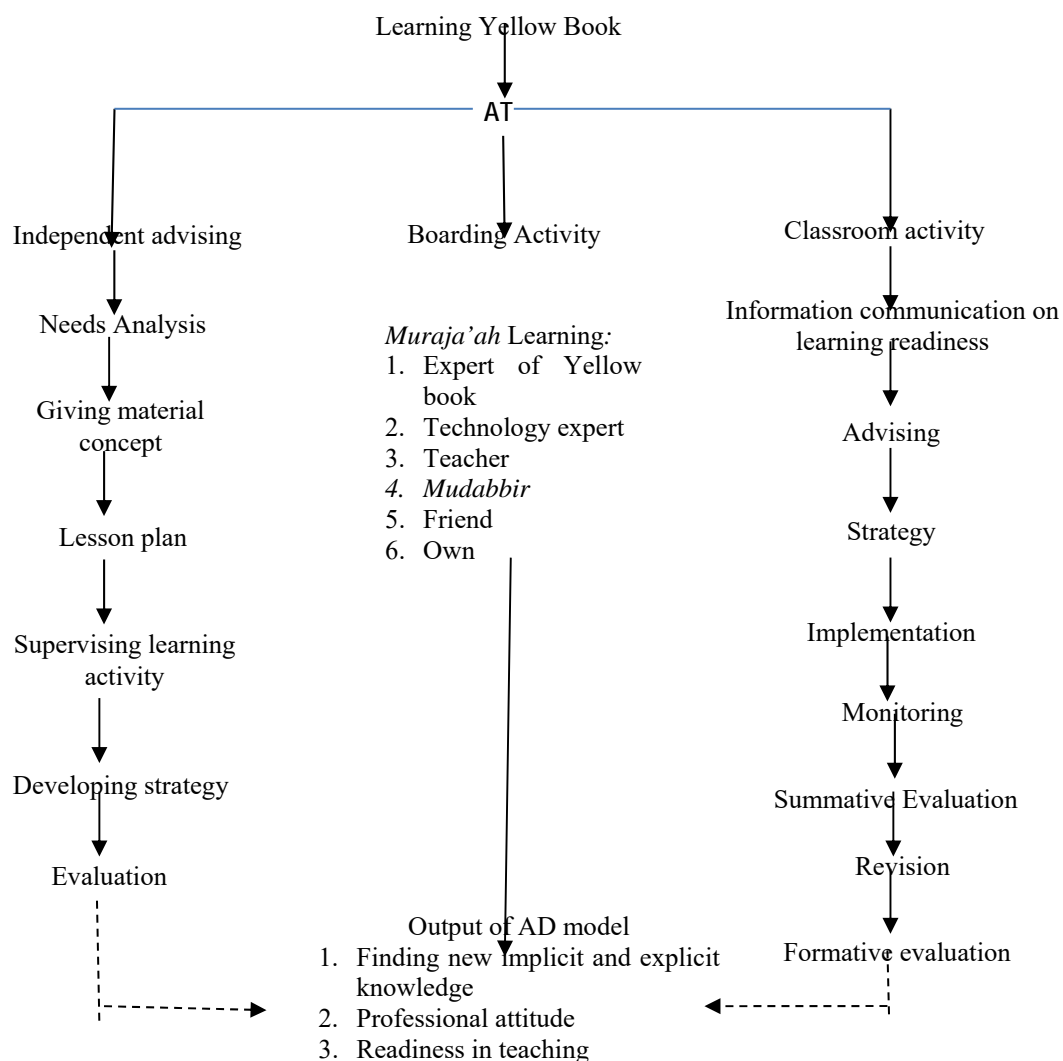
Contextual learning aims to help learners understand the subject matter they are learning by connecting the subject matter with its application in daily life (Yamin, 2011; Sanjaya, 2007; Muslich, 2009). It means that the model of learning CTL is a learning concept involving students to see the meaning of the material learned and relates it to real life situations that encourages students to apply it in their lives. Problem based instruction is a constructivist-based learning model that accommodates students' involvement in authentic learning and problem solving (Arends et al., 2001; Amelia, Hartono, & Sari, 2014). In grabbing information and developing an understanding of topics, students learn how to construct problem frameworks, organize and investigate problems, collect and analyze data, construct facts, and construct arguments about problem solving, individual work or collaboration in solving problem.

On the other hand, Problem Based Learning (PBL) is a learning process delivered by way of presenting a problem, asking questions, facilitating an investigation, and opening a dialogue (Masek & Sulaiman, 2011; Khumsikiew, Donsamak, & Saeteaw, 2015; Rudtin, 2013; Kartikasari et al., 2015; Daryanto, 2014). In short, it is a strategy used in problem based learning, in learning process of students formed group, then given problems discussed with the group created, so the students can play actively, critical thinking, and exchange ideas in solving problems.

The analysis and discovery (AD) model in learning yellow book

The concept referred to as syntax illustrates how Analysis and Discovery model provides concrete experience in three core stages having several different phases and characteristics to gain more experience. The framework concept on the development of this model and the implementation strategy can be seen in the following figure;

Figure1: AD model for learning yellow book



Supportive social system in the Analysis and Discovery (AD) model is cooperation, intellectual freedom, and group equality. In the process of cooperation, student interaction is forced and encouraged. The intellectual environment is characterized by an open nature of relevant ideas. The participation of teachers and students in learning is based on equality paradigm in accommodating all developing ideas.

Role or duty of teacher

Taba provides guidance to teachers in responding at every stage of instruction. When using cognitive tasks in every teaching strategy, teachers must be confident that these cognitive tasks come with optimal instruction and also at the right time. Organizing tasks requires the teacher to review the whole set of data before categorizing, and proceed with looking for relationships. The main mental task of the teacher in working of these strategies is to monitor how students process information and then ask relevant questions. An important task for teachers is to feel the readiness of students to experience new experiences and cognitive activities by assimilating and using these experiences.

Supporting System

The supporting system in the Analysis and Discovery (AD) model is everything that students need to be able to dig up appropriate information in achieving learning objectives, such as student worksheets, instructional media, and books or supporting books. The main application of the supporting system of the Analysis and Discovery (AD) model is to develop thinking capacity. Students should be required to digest and process information. This model can be applied in learning Yellow Book in pesantren. Inducing students to go beyond the data provided is a conscious effort to improve productive and creative thinking patterns. Inductive processes then include creative information processing, such as convergent use of information to solve problems.

Learning effect in using analysis and discovery model

Learning Effect with the Analysis and Discovery (AD) model is a deeper understanding of the concept in students' mind to find implied knowledge, professional attitude, and preparedness of preaching. While an escort effect is to increase the enthusiasm of students in learning Yellow Book, and to raise the critical attitude and habits of students' creative thinking.

METHODOLOGY

Participants

The method used in this study was the development model or Research and Development (R & D) followed by experiment (Borg & Gall, 1983; Gay, 1990; Plomp, 1997). This study was carried out in one of pesantren in Jambi named Pondok Pesantren Sa'adatuddarein.

Instrument

The research instruments used are test and questionnaire (Nurgiyantoro, 2001; Sudaryono, 2016; Sukardi, 2003; & Widoyoko, 2014). Preliminary tests were performed to determine the students' learning knowledge before being treated. The final test was conducted to find out the knowledge and debate skills as well as the material analysis by the students after being treated. This test was performed before the treatment (pre- test) and after being treated (post-test), for both the experimental group and control group (Creswell, 2009).

Table 1: Research design of control group (pre- test and post- test)

Group	Pre- test	Perlakuan	Post- test
1	2	3	4
Exsperimental	O ₁	X ₁	O ₂
Control	O ₃	X ₂	O ₄

Note:

- O₁ : Pre- test of experimental group
- O₂ : Post- test of experimental group
- O₃ : Pre- test of control group
- O₄ : Post- test of control group
- X₁ : Learning Yellow Book by using Analysis and Discovery model
- X₂ : Learning Yellow Book by using conventional model

Data procedure and analysis

Collecting data in order to get empirical data on learning Yellow Book in Pesantren Sa'adatuddarein was carried out after formulating the issue. The data were used to arrange learning model design developed. The empirical data were collected from the third grade students in Pesantren Sa'adatuddarein Tahtul Yaman in Jambi.

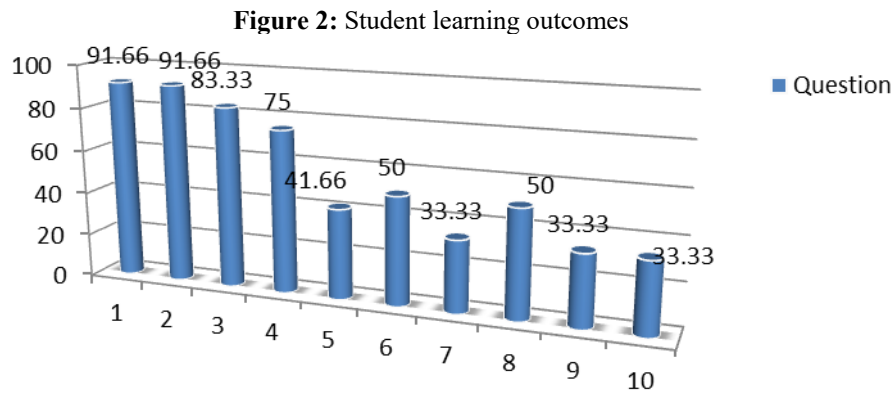
Table 2: Research design of control group (pre- test and post- test)

Group	Pre- test	Perlakuan	Post- test
1	2	3	4
Exsperimental	0 ₁	X ₁	0 ₂
Control	0 ₃	X ₂	0 ₄

RESULTS

Students' results on a limited trial

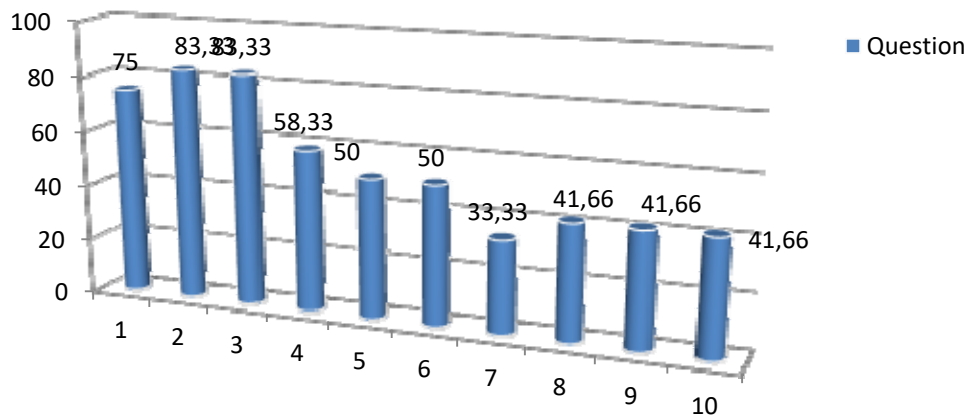
The students' results in class XI A on *tafsir* subject in pesantren Saadatuddaren was showed by the average score of 58.33 from 13 students. The first question with the score reached 91.66%, the second question with the score reached 91.66%, the third question with the score reached 83.33%, the fourth question with the score reached 75.00%, the fifth question with the score reached 41.66% , the sixth question with score reached 50.00%, the seventh question with the score reached 33.33%, the eighth question with the score reached 50.00%, the ninth question with the score reached 33.33%, and the last question with the score reached 33.33 %. Student learning outcomes (%) of each item can be seen in Figure 2 below:



Based on figure 2, the results (%) of student learning in class XI A as the user of Analysis and Discovery model in learning process of Yellow Book on *nahwu* subject in pesantren Sa'adatuddarein.

The results of class XI A on *nahwu* subject in pesantren Saadatuddaren was shown by the average score of 55.83 from 13 students. The first question with the score reached 75.00%, the second question with the score reached 83.33%, the third question with the score reached 83.33%, the fourth question with the score reached 58.33%, the fifth question with the score reached 50.00% , the sixth question with score reached 50.00%, the seventh question with the score reached 33,33%, the eighth question with the score reached 41,66%, the ninth question with the score reached 41,66%, and the last question with the score reached 41,66 %. Student learning outcomes (%) of each item can be seen in Figure 3 below.

Figure 3: Student learning outcomes



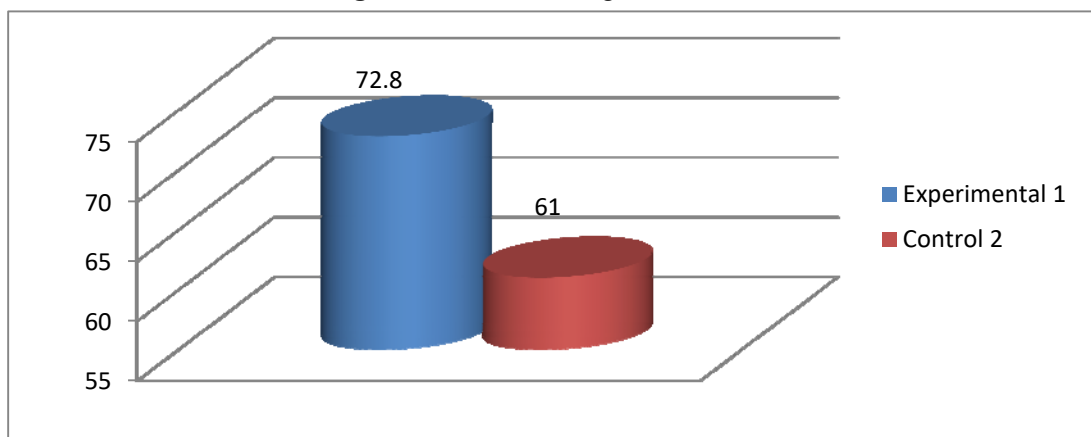
Based on figure 3, the results (%) of student learning in class XI A as the user of Analysis and Discovery model in learning process of Yellow Book on *nahwu* subject in pesantren Sa'adatuddarein.

Experiment data result

Students' learning outcomes on *nahwu* material for experimental class using the Analysis and Discovery (AD) model in Pesantren Saadatuddaren, for the maximum achievement score was 90 and the minimum achievement score was 50 with the average score of 72.80 . From 25 students in class XI A, there were 18 complete students and 7 incomplete students. For student learning outcomes in control class that did not use the Analysis and Discovery (AD) model, the maximum achievement score was 80 and the minimum achievement score was 30 with an average score of 61.00. Out of 30 students in class XI B, there were 18 complete students and 12 incomplete students. Thus, the experimental class is higher complete than the control class.

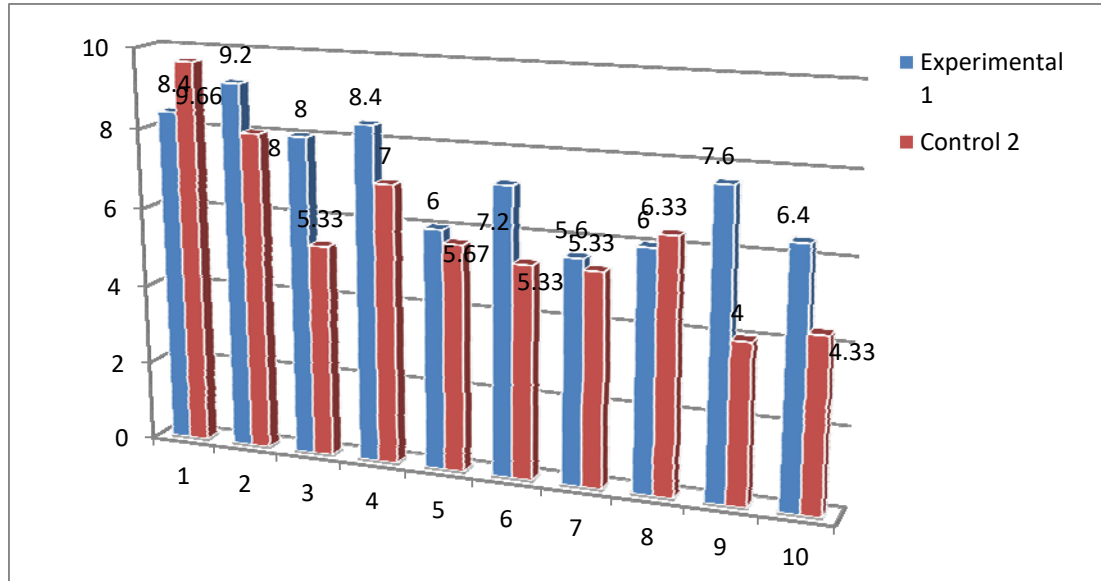
Therefore, hypothesis in this study that there was the difference between student learning result in a class using the Analysis and Discovery (AD) model and a class not using this model in learning process of Yellow Book on *nahwu* subject in Pesantren Sa'adatuddaren. The difference is indicated by the average score of student learning outcomes of 72.80 on completion of learning outcomes on each item in the experimental class and 61.00 completion of learning outcomes on each item in the control class as shown in Figure 4 below:

Figure 4: Student learning outcomes



Based on figure 4, there was the difference between the results of student learning in class XI A as the user of the Analysis and Discovery (AD) model and class XI B that does not use the Analysis and Discovery (AD) model in the learning process of Yellow Book on *nahwu* subject in Pesantren Sa'adatuddaren. This difference can be determined by comparing the average score of student learning outcomes in an evaluation test activity on each item between the experimental class and the control class as described in Figure 5 below:

Figure 5: The experimental class and the control class

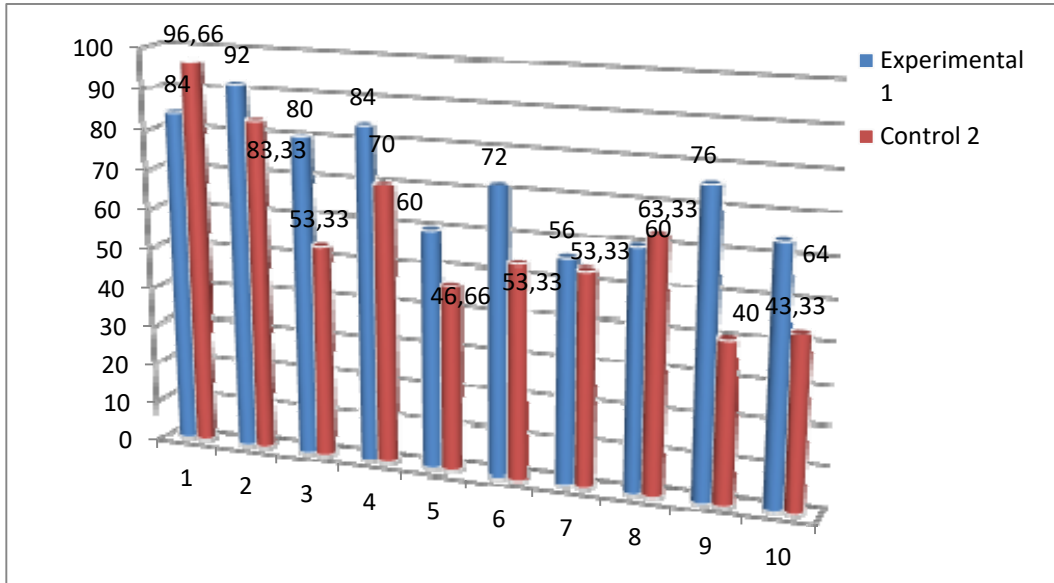


Based on the figure above, it showed the average score of student learning outcomes on the first, second, third, fourth, fifth, sixth, seventh, eighth, ninth and tenth. There was the difference in learning outcomes in the experimental class taught by using the Analysis and Discovery (AD) model and in the control class that does not use the Analysis and Discovery (AD) model.

The first question with the achievement score of experimental class reached 84.00% and control class reached 96.66%, the second question with the achievement score of experimental class reached 92.00% and control class reached 83.33%, the third question with the achievement score of experimental class reached 80.00% and control class reached 53.33%, the fourth question with the achievement score of experimental class reached 84.00% and control class reached 70.00%, the fifth question with the achievement score of experimental class reached 60.00% and control class reached 46.66% , the sixth question with the achievement score of experimental class reached 72.00% and control class reached 53.33%, the seventh question with the achievement score of experimental class reached 56.00% and control class reached 53.33%, the eight question with the achievement score of experimental class reached 60.00% and control class reached 63.33%, the ninth question with the achievement score of experimental class reached 76.00% and control class reached 40.00%, and the last question with the achievement score of experimental class reached 64.00% and control class reached 43.33% .

Comparison scores of student achievement result (%) from each item between an experimental class and control class can be seen in figure 6 below:

Figure 6: The experimental class and the control class

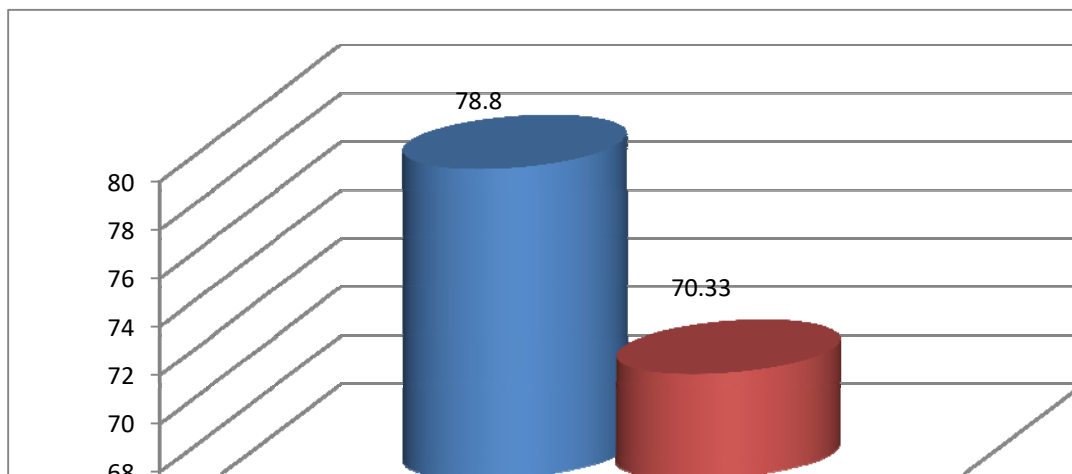


Based on the figure above, there was the difference between the result (%) of student learning in class XI A as the user of the Analysis and Discovery (AD) model and class XI B which does not use the Analysis and Discovery (AD) model in in learning process of Yellow Book on *nahwu* subject in Pesantren Sa'adatuddaren.

Students' learning outcomes on *nahwu* material for experimental class using the Analysis and Discovery (AD) model in Pesantren Saadatuddaren, for the maximum achievement score was 90 and the minimum achievement score was 60 with the average score of 78.80 . From 25 students in class XI A, there were 20 complete students and 5 incomplete students. For student learning outcomes in control class that did not use the Analysis and Discovery (AD) model, the maximum achievement score was 80 and the minimum achievement score was 60 with an average score of 70.33. Out of 30 students in class XI B, there were 20 complete students and 10 incomplete students. Thus, the experimental class is higher complete than the control class.

Furthermore, hypothesis in this study that there was the difference between student learning result in a class using the Analysis and Discovery (AD) model and a class not using this model in learning process of Yellow Book on *nahwu* subject in Pesantren Sa'adatuddaren. The difference is indicated by the average score of student learning outcomes of 78.80 on completion of learning outcomes on each item in the experimental class and 70.33 completion of learning outcomes on each item in the control class as shown in Figure 7 below:

Figure 7: Completion of learning outcomes on each item in the experimental class



Based on figure 4, there was the difference between the results of student learning in class XI A as the user of the Analysis and Discovery (AD) model and class XI B that does not use the Analysis and Discovery (AD) model in the learning process of Yellow Book on *nahwu* subject in Pesantren Sa'adatuddaren. This difference can be

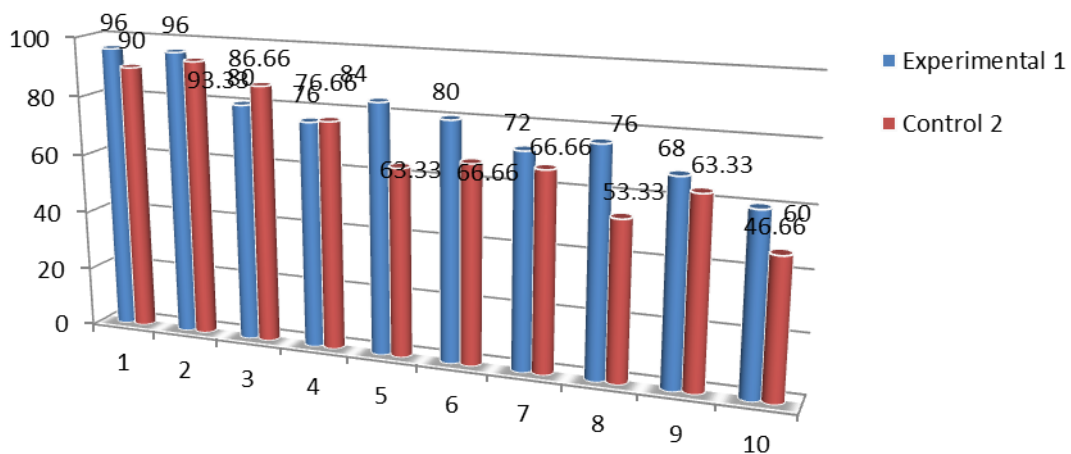
determined by comparing the average score of student learning outcomes in an evaluation test activity on each item between the experimental class and the control class.

Based on the figure above, it showed the average score of student learning outcomes on the first, second, third, fourth, fifth, sixth, seventh, eighth, ninth and tenth. There was the difference in learning outcomes in the experimental class taught by using the Analysis and Discovery (AD) model and in the control class that does not use the Analysis and Discovery (AD) model.

The first question with the achievement score of experimental class reached 96,00% and control class reached 90,00%, the second question with the achievement score of experimental class reached 96,00% and control class reached 93,33%, the third question with the achievement score of experimental class reached 80,00% and control class reached 86,66%, the fourth question with the achievement score of experimental class reached 76,00% and control class reached 76,66%, the fifth question with the achievement score of experimental class reached 84,00% and control class reached 63,33% , the sixth question with the achievement score of experimental class reached 80,00% and control class reached 66,66%, the seventh question with the achievement score of experimental class reached 72,00% and control class reached 66,66%, the eighth question with the achievement score of experimental class reached 76,00% and control class reached 53,33%, the ninth question with the achievement score of experimental class reached 68,00% and control class reached 63,33%, and the last question with the achievement score of experimental class reached 60,00% and control class reached 46,66% .

Comparison scores of student achievement result (%) from each item between an experimental class and control class can be seen in figure 8 below:

Figure 8: Comparison scores of student achievement result



Based on the figure above, there was the difference between the results of student learning in class XI A as the user of the Analysis and Discovery (AD) model and class XI B that does not use the Analysis and Discovery (AD) model in the learning process of Yellow Book on *nahwu* subject in Pesantren Sa'adatuddaren.

CONCLUSION

Students' learning outcomes on *nahwu* materials for experimental class using the Analysis and Discovery (AD) model in Pesantren Sa'adatuddaren Tahtul Yaman in Jambi showed that the maximum achievement score was 90 and the minimum achievement score was 50 with a total score of 72.80. Of the 25 students in class XI A, there were 18 complete students and 7 incomplete students. For students' learning outcomes in the control class in which did not use the Analysis and Discovery (AD) model, the maximum achievement score was 80 and the minimum achievement score was 30 with an average score of 40.00. Of the 30 students in grade XI B, there were 18 complete students and 12 incomplete students.

Students' learning outcomes on *Tafsir* material for the experimental class using the Analysis and Discovery (AD) model in Pesantren Saadatuddaren Tahtul Yaman in Jambi revealed that the maximum performance score was 90 and the minimum achievement score was 60 with an average score of 60.00. Of the 25 students in class XI A, there were 20 complete students and 5 incomplete students. For students' learning outcomes in the control class in which did not use the Analysis and Discovery (AD) model, the maximum achievement score was 80 and the

minimum achievement score was 60 with an incomplete average score of 60.00. Of the 30 students in class XI B, there were 20 complete students and 10 incomplete students.

In conclusion, field test results showed that there was a significant increase and difference between the experimental class by using the Analysis and Discovery (AD) model and the control class by using the conventional model.

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