Nationalism Card: Innovation Model-Based Learning Time Token Arends *Uno Card* In Form Generation KUA

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Abstract

This study aims to describe the understanding of learners in studying the Periodic System of chemical material element as well as to determine the effect of the Time Token Arends learning model based on Uno Card to improve the learning outcomes of students of one of the high school in Makassar on the material element of the Periodic System. The approach used in this study is a quantitative approach, where quantitative research is a study using statistical data in the form of numbers. The type of research that researchers use is a type of pre-experimental research. This study design using one-group pretest-posttest design, (Sugiyono, 2016) in the study of this design are pretest, before being treated. Thus the treatment results can be known more accurately, because it can compare with the situation before being treated. In this study the researcher gave pre-test before the treatment and gave posttest after the treatment. The variables used in this study consisted of two types, namely, independent variable (independent) is a media Uno Card and the dependent variable (dependent) is the result of learning the Elements Periodic System 7 XI IPA one of the high school in Makassar. Based on the results of research and discussion, it can be concluded that there is the influence of the learning model based on Uno Arend Time Token Card to the learning outcomes of students. It can be seen with the increase of pre-test result and post-test of student. The average pre-test score of 65.36 has increased in the post test score to 84.46. In addition, it can also be seen in the analysis after hypothesis testing obtained value of significance in the experimental class <0.05.

Keywords: nasionalism card, periodic system of elements, time token.

Introduction

Learning is an activity seeking information, knowledge and insight about something. Learning is not just a person's duty, but learning is a must-fulfillment requirement. A person who has learned will experience a change of behavior, knowledge, and attitude. Formal learning processes are implemented in schools and are intended to make changes to the students themselves, both in behavior, knowledge, and attitudes. Learning is not only done in school, but it is also done

anytime and anywhere, because learning is not limited space and time. Based on interviews with Mother Qalbi known that the process of learning chemistry in school has always been using lecture and discussion methods, so that learners feel bored and bored. Learning media used is inadequate so that learners tend to be passive in following the learning process. This resulted in less effective and efficient learning process (Sugiyono, 2009: 1). The results of research conducted so far indicate that the low learning outcomes of learners due to the difficulties of learners in general in solving problems related to reaction and chemical count. This is due to the low understanding of the concepts of chemistry and the lack of motivation of learners of chemistry lessons (Sugiyono, 2009: 2). Therefore, choosing the right media in learning is very important. This is because with the selection of appropriate media then the science channeled can be accepted by learners so that the learning process can be effective and efficient (Sanjaya, 2008: 198).

Media that is currently being developed to follow the rapid development of information technology is the educational *game.* Educational *game* is a multimedia presentation system that uses various types of teaching materials that form a single unit or in the form of a software package in the learning process (Warsita, 2008: 153). This educational *game* emerged in response to the negative vote among the community about the *game.* During this *game* rated only damage and no educational content in it. Many children are addicted to *the game,* so that their long hours sitting at a computer, *play station,* and the like. Moreover, human psychology prefers to play rather than learn. This if directed correctly, can be a fun learning tool and is believed to be more effective (Rivai, 1992: 11). Based on these problems, we initiated to develop an educational game *ON-TIME CARD* innovate *Time Token Arends* learning model based on *Uno Card* that can improve the understanding of the concept of learners on the Elements Periodic System of chemical materials.

Material and Method

This study uses descriptive statistical methods. Descriptive statistics are statistics used to analyze data by describing data that has been collected without intending to make conclusions that apply to the public or generalization (Sugiyono, 2016). Descriptive statistics were used in this study to present the cognitive domain learning outcomes. Cognitive domain data taken from the pre-test and post-test students. After conducted a descriptive test, then test the hypothesis. Testing this hypothesis using t test to compare the mean of pre-test and post-test. This is in accordance with the opinion Arikunto (2010) which states that data analysis on experimental research using the t test or *t-test.* So it is known difference of learning result between pre-test and post-test. Testing is done to use your t test SPSS *for windows 21*. After the t test, and then calculating the N-Gain, which is to know the increase in critical thinking skills, according Arikunto (2010) to calculate the N-Gain using the following formula:

$$g = \frac{Spost - S\,pre}{S\,maks - Spre}$$

description: g = N-Gain
Spost = posttest score
Spre = pretest score
Smaks = maximum scores of questions

With the following criteria: $g \geq 0.7$ = Height
$0.3 \leq g < 0.7$ = Moderate
$g < 0.3$ = Low

Result and Discussion

1. Data *Pre Test* Students

This pre-test is the first stage in pre experimental research conducted. Prior to the initial test the researchers consulted the material to be used as a benchmark of student learning outcomes. Once the material is approved by the teacher, the researcher creates a test instrument tailored to the curriculum and instruction manual.

The material used in this study is Periodic Element System, then the researchers consulted the materials and instruments about to the chemistry teacherone of the high school in Makassar. For validity and reliability of the instrument that has been created by the researchers analyzed the results of the test instrument premises using SPSS *for windows* 21. Those items are valid used to do *pre-test.* Crew test results are processed using statistics which then used as a guide to carry out the next stage. The results of the initial test *(pretest)* students seen in the following table:

Table 1. The result of pre experiment class score

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	28	50	80	65.36	8,043
Valid N (listwise)	28				

From the results of statistical calculations, it is obtained that the average score (mean) of the class is 65.36, the minimum score obtained by students is 50, the maximum score obtained by students is 80.

Table 2. Results of pre test scores control class

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	26	15	50	29.81	10.998
Valid N (listwise)	26				

From the results of statistical calculations, it is obtained that the average score (mean) of the class is 29.81, the minimum score obtained by students is 15, the maximum score obtained by students is 50.

2. Data *Post Test* Students

Post-test is the third stage in the pre-experiment conducted research. *Post test* was conducted after investigators to *treatment* or administration of treatment, while

the *treatment* is done in this research is learning to use the Uno card material Elements Periodic System. Provision of *post-test* is intended to measure learning outcomes in the cognitive and to determine the use Uno card media influence on learning outcomes Periodic System Elements. Final test results can be seen in the table below:

Table 3. The result of post-test experiment class score

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Postest	28	70	95	84.46	8.855
Valid N (listwise)	28				

From the statistical calculation, it is obtained that the average score (mean) of the class is 84.46, the minimum score obtained by students is 70, the maximum score obtained by students is 95. And the standard deviation obtained is 8.855.

Table 4. Results of post test class score control

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Postest	26	20	95	49.81	20711
Valid N (listwise)	26				

From the results of statistical calculations, it is obtained that the average score (mean) of the class is 49.81, the minimum score obtained by students is 20, the maximum score obtained by students is 95. And the standard deviation obtained is 20,771.

3. Test Result T

The criteria used in the t test are as follows:

Ha: if sig <0,05then there is difference of pre-test result and post test

Ho: if sig> 0,05 then there is no difference of pre-test result and post test result

The results of the students' pre-test and posttest analysis for the experimental class are presented in the table as follows:

Table 5. Experiment Class t-test data

Paired Samples Test

		Paired Differences					t	df	Sig.(2-tailed)
		Mean	Std.Deviation	Std.Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Pretest - Postest	-19.107	8.612	1.628	-22.447	-15.768	-11.740	27	.000

Based on the above table, the result of t test analysis shows that sig <0,05. So it can be concluded that there are differences in pre and post test results. Then Ha accepted and Ho rejected, thus it can be concluded that there is influence of usage of media of Uno card to result of study of Elite Periodic System.

Then calculated the value of N-Gain with the formula:

$$g = \frac{Spost - S\,pre}{S\,maks - Spre}$$

With the following criteria: $g \geq 0.7$ = Height

$0.3 \leq g < 0.7$ = Moderate

$g < 0.3$ = Low

The results of data calculations performed on control classes are:

$$g = \frac{Spost - S\,pre}{S\,maks - Spre}$$

$$g = \frac{1295 - 775}{2600 - 775}$$

$= 0{,}28$

The results of data calculations performed on the experimental class are:

$$g = \frac{Spost - S\,pre}{S\,maks - Spre}$$

$$g = \frac{2365 - 1830}{2800 - 1830}$$
$$= 0{,}55$$

It can be concluded that the value of N-Gain in the experimental class is in the medium category and the control class is in the low category. This means that there is a higher increase in critical thinking in the experimental class after being treated than the control class.

The media that researchers have been adapted to the syllabus and learning handbook of students of class XI IPA 6 and XI IPA 7 and also have been consulted to be assessed feasibility. From the data above can be concluded that the learning of Chemistry on Elite Periodic System material by using Uno card media can improve the quality of student learning activities. This can be seen from the observation that the students become more active in building their knowledge and experience, students are directly involved in learning and communication between teachers and students become not only in the same direction but there is a positive response from students so that the learning result also increases.

One effort to overcome the lack of interest, the enthusiasm of students in stabilizing the acceptance of students to the content of learning is to use the media.Djuanda (2006) the use of media not only makes learning more efficient but the subject matter can be more absorbed and precipitated by the students. Students may already understand the problem, the concept of the teacher's explanation, but it will be longer recorded in the student's mind if enriched with the activity of seeing, touching or experiencing it yourself. The results of research that researchers do in sync with the expert opinion. And it can be seen that students do not have difficulty in working out the problems and learning outcomes in the cognitive domain of students have increased.

Conclusion

Based on the research that has been done, it can be concluded that there is influence on the results of the application of *Time Token Arends* learning model based on Uno card in Chemistry learning grade XI 7 in matter Elements Periodic System. It can be seen with the increase of pre test result and post test of student. The average pre test score of 5.96 has increased in the post test score to 9.96.

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