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The Effect of Assessment Model and Cognitive Style on the Students' Achievement in Chemistry by Controlling Their Basic Knowledge (An Experimental Study on Senior High School Students in the City of Manado)

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Abstract

The purpose of this study was to explore the effect of the assessment model and cognitive style, and its interaction'effect toward the chemistry learning achievement by controlling the students' basic knowledge. The experiment was conducted in SMA Negeri 2 and SMA Negeri 7 Manado with a sample of 88 students, which is taken by multistage random sampling technique. The method used is an experimental method to design treatment level and the data were analyzed by using ANKOVA at the significance level, $\alpha = 0.05$. The results of this research showed, after controlling for students' basic knowledge: 1) the achievement of the chemical study group of students who were given writing skills assessment model is higher than those who were given oral skills assessment model, 2) the achievement of the chemical study group of students who have cognitive style field independent higher than those who have field dependent cognitive style, 3) there is an interaction effect between assessment model and cognitive style to the chemistry learning achievement, 4) the achievement of chemical group of students with field independent cognitive style and they were given written skills assessment model higher than the group of those who were given oral skills assessment model, and 5) learning achievement of students were given a chemical group assessment model writing skills who have the cognitive style field independent is higher than the group of students who have a field-dependent cognitive style.

Keywords: assessment model, cognitive style,chemistry learning achievement, students' basic knowledge

1. Introduction

One of the Chemistry textbooks written "this century is science century, our world is the world of Chemistry." This sentence certainly want to motivate readers, the teachers and students to be interested in studying chemistry. Recently people often used the word chemistry to express the harmony fusion between one characteristic to the other one. Chemistry application in everyday life, in technology and industry is also very much to be specified. chemistry as a subject has been organized among others by the Content Standard (SI) and the Competency Standards (SKL), but the reality in schools chemistry subjects considered to be a difficult,boring, uninteresting subject, and the results of student achievement in the daily tests, midterms, final exams and national exams have not been satisfactory.

Considering learning achievement for chemistry in school is low is influenced by various factors that is internal factor in this case the students and external factors such as the teachers. According to UU RI No. 14, 2005 about the teachers and lecturers, competencies required of teachers, among others, is the ability to prepare a tool of evaluation for student learning achievement , and in the implementation of performance-based assessment such as project appraisal, product and portfolio and be authentic (authentic assessment)

Critics of the process and learning achievement of chemistry in Senior High School focused on teaching and learning dominated by the teacher, so teaching seemed like a lecturing contains knowledge (facts, concepts principles, laws, theories, and procedures) transmitted from the teacher without stimulating the students to think. In addition to teachers, students also included a very decisive factor in the learning activities. Each student has their own way or style of learning. There are students who are more interested in analytical subjects such as math and science, while the others interested in social and language. So is the way of socializing. Some students like to be alone and another like groups. How to manage the information of the subject matter, there are students who receive the information for what it is but there are also students who can restructure information. The things described above with respect to what is referred to as cognitive style.

The task of the teacher is to help students learn according to the cognitive style of the students. Ausubel stated "the most important single factor Influencing learning is what the learner already knows. Ascertain this and teach him accordingly. "(Dahar, 1989: 117). Ausubel's opinion suggests that it is important for teachers to know what ideas the students have about the teaching material related to the subject matter . Ideas by Dick and Carey (2005: 73-75) is known as the beginning of knowledge.

Based on the description above, in general, this research aims to determine the effect of the assessment model and cognitive style on learning achievement by controlling the chemical basic knowledge of students, as well as their interaction effect on learning achievement of chemistry in Senior High School students. Concise Dictionary of Science and Computers defines chemistry as a branch of natural science, with regard to studies of the structure and composition of the material, the material changes that may be experienced, and other phenomena that accompany changes in matter. Simply put, chemistry is a part of natural science that studies matter and its changes. (Chang, 2005: 3).

In relation to learning chemistry in Senior High School , learning is defined as a process by which an organism changes its behavior as a result of experience. In chemistry, for example, a change from writing H_2O to be H_2O means there has been a change in behavioral learning since writing the chemical formula correctly. (Dahar, 1989: 11). The opinions expressed Dahar is appropriate as quoted Suryabrata Cronbach (2006: 231), that "learning is shown by a change in behavior as a result of experience." For the constructivist, as stated Suparno (1977: 61), learning is students' active process to construct and assimilate meaning whether text, dialogue, physical experience, and others.

Students' chemistry learning achievement will be assessed in relation to the form of teacher evaluation done. assessment model is an assessment carried out in an integrated manner with the learning process. According Nitko (2001: 240-249), the performance evaluation is sometimes referred to as "alternative assessment or authentic assessment" is basically the assessment requires that students demonstrate the performance of, for example, students were asked to explain in detail in its own way the completion of the chemical reaction, such as different chemical reaction with the nuclear reaction and the redox reaction, showing the structure of simple molecules with molymod perform acid-base titrations, make an example or show endothermic and exothermic reactions in everyday life.

Assessment modeltechniques include: paper-and pencil tasks, a task requiring equipment and resources beyond paper and pencil, demonstrations, experiments, oral presentations and simulations. For example, on paper and pencil tasks, students give an answer or response by writing on paper, whereas in tasks that require equipment and observations, beside paper students also need tools and lab materials and sufficient time to observe, to be able to answer the task given by the teacher. In the oral presentation (oral), students are asked to demonstrate verbal ability, while still considered the skills, facial expressions, gestures which reflect the extent to which learning objectives have been achieved.

Assessment model in this study is the assessment of writing skills and oral performance. Further study of chemistry learning achievement in terms of students' cognitive styles. The term cognitive styles (cognitive style) sometimes equated or differentiated by learning style (learning style). Pask and Entwistle as quoted by Lucas-Stannard (http://www. Personally. Kent.edu /-plucast / cognitive% 20styles.pdf. Retrieved March 28, 2012) equate cognitive styles with learning styles, while Riding and Cheema, Robert and Newton distinguishes between cognitive styles with learning styles, namely that the nature of learning styles can be changed, while the cognitive style of "immutable characteristic of personality." Li-Fang Zhang (http:/www.springerlink.com/content/n6w5783280369m80, accessed December 12, 2011) states the term cognitive style, learning styles and thinking styles are part of the intellectual styles. According to Riding and Rayner (2007:14), cognitive style can be classified into two groups: (1) the wholist-analytic dimension, which includes, among others, field-dependency-independency, converging-diverging thinking, and leveling-sharpening, and (2) the verbal-imagery dimension include abstract versus concrete thinker, and verbaliser-Visualiser.

In this study, we will investigate about cognitive field independent style and dependent one. A student with dependent field style tend to think globally, can be affected by surrounding circumstances, and perceive the problem as something that is confusing, while a student with a field independent style tend to participate actively in the learning process and be able to think analytically, and free from the influence of the surrounding. Another factor that affects the results of learning chemistry is the beginning of knowledge of students. Basic knowledge of a child before the school level can be right or wrong. Piaget as cited by Mc Daniel (http://www.suite.101. Com / article / prior-knowledge-and-teaching-a149783.accessed February 4, 2012), stating when the children enter a classroom, they come with experience and different cultures. The kids have ideas, knowledge and conceptions that have been formed, could be wrong or right. Winkel (1987: 81-83), argues that the prior knowledge of Chemistry is an internal capability (capability) which has become a private person and allows that person to do something or give a specific achievement (performance).

Based on the above explanation, the general aim of this study determine the effect of the performance evaluation and cognitive style on learning achievement by controlling the chemical basic knowledge of students, as well as their interaction effect on learning achievement of chemistry in Senior High School.

2. Research Methods

This study used an experimental method to design treatment by level 2 x 2. Variables in this study consisted of: 1) independent variables include: (a) the assessment model form and (b) cognitive style, and 2) the dependent variable (criterion) is the result of studying Chemistry (Y).

The population in this study were all students of class XI IPA 2 SMA Negeri 2 and SMA Negeri 7 Manado.Sampel research amounted to 88 students who are determined by using multistage random sampling technique. Techniques of data analysis consisted of: (1) descriptive analysis, (2) analysis of test requirements, and (3) inferential analysis. The research instrument is an instrument developed from the chemistry learning achievement, cognitive style and basic knowledge students. Developing instrument is done through the stages of theoretical and empirical validity.

From the analysis result of 40 items in the range continum fit and very fit so it was decided to accept all 40 multiple choice items (PG) and 5 essay items. Valuation obtained reliability coefficient of 0.88 between the panelists. Feasible means tested instruments. Instrument reliability coefficient learning outcomes Chemistry of r = 0.88, in other words, the instrument has high reliability.
Cognitive Style Instrument: reliability testing instruments are valid as many as 52 points carried out using Cronbach Alpha formula, derived cognitive style instrument reliability coefficient of 0.822. Cognitive style instrument can be said to have high reliability.

Early Knowledge of Chemistry Instrument: reliability coefficient obtained students' basic knowledge of the instrument, r = 0.74. It can be said that the instrument basic knowledge students have high reliability. Data analysis techniques used in this study include descriptive and inferential statistical analysis. Test requirements for entry into force of inferential statistical analysis includes tests of normality using Lilliefors test, homogeneity test using Fisher's exact test (F) and Bartlett test, linearity test, test the significance of the influence of regression, and the regression line alignment test. Inferential analysis to test the hypothesis used was analysis of covariance (ANKOVA) manually and with the help of SPSS.

3. Result and discussion

The data were made in the form of frequency distributions, histograms, and the calculation of statistical measures for the mean, mode and standard deviation, written in the following table.

Table 1. Chemistry Learning Outcomes Score Data by Size Statistics

Cognitive style	Statistics	assessment model		Total
		Written skill	Oral Skill	
Independent Field	N	22	22	44
	mean	41,27	34,41	37,84
	Std. deviation	6,18	6,32	7,09
Dependent Field	N	22	22	44,00
	M	34,77	33,59	34,18
	Std. deviation	5,56	5,85	5,67
Total	N	44	44	88,00
	mean	38,02	34,00	36,01
	Std. deviation	6,68	6,03	6,64

Research result

The test results of inferential analysis requirements are qualified to perform the inferential analysis of covariance analysis technique (ANKOVA), and t-test. The calculation is done manually and with the help of SPSS.

Table 2. F test of the difference in mean outcomes Learning Chemistry (Y) after Controlling Foreknowledge (X)

Source of Variance	JK	db	RJK	F_{count}	F_{table}	
					α =0,05	α =0,01
between A	325,066	1	325,066	9,698*		
between B	269,288	1	269,288	8,034**		
Interaction A*B	139,810	1	139,810	4,171*	3,96	6,96
covariates X	228,790	1	228,790	6,826		
error	2782,074	83	33,519	-		
Reduced total	3838,989	87	-	-		

Hypothesis Testing Results:

1. Students'Learning achievement group after given a Chemistry assessment model Writing Skills higher than the Group of students given assessment model Oral Skills after Controlling their basic knowledge

Statistical hypothesis as follows:

H0: μA1 ≤ μA2

H1: μA1> μA2

Results of hypothesis testing analysis shows F-test 1 row A, the value of Fcount = 9.698 greater than F table (0,05) = 3.96, mean H0 is rejected. From the results of this calculation means that there are chemical differences in learning outcomes between groups of students who were given a performance appraisal writing skills with a group of students who were given oral skills assessment model, after controlling for basic knowledge. To find out which group is higher, the views on the corrected average value of the two groups. In the group of students who were given a assessment model writing skills, the average chemical study results corrected by 37, 936, while a group of students who were given oral skills assessment model averages the corrected chemical study of 34.087. It can be concluded that the results of the chemical study group of students who were given writing skills assessment model is higher than the group of students who were given oral skills assessment model.

2. Students' learning achievement Who Have Chemistry Group Field Independent Cognitive Styles is higher than the group Students with Field Dependent Cognitive Styles after controlling basic knowledge

Statistical hypothesis as follows:

H0: μB1 ≤ μB2

H1: μB1> μB2

Results of analysis based on hypothesis testing 2 shows the F-test line B, Fcount = 8.034 value greater than F table (0:05) = 3.96, mean H_0 is rejected. From the results of this calculation means that there are differences in learning outcomes between groups of chemistry students who have a field independent cognitive style with a group of students who have a field-dependent cognitive style after controlling for prior knowledge.

To find out which group is higher, it can be seen from the average value of the corrected two groups. In the group of students who have a tendency to field independent cognitive style, averages the corrected chemical study of 37.763, while the group of students who have a field-dependent cognitive style has an average chemical study results corrected by 34.260. It can be concluded that the results of the chemical study group of students who have cognitive style independent field higher than the group of students who have a tendency field dependent cognitive style after controlling for prior knowledge.

3. Effect of Interaction Between Forms contained Assessment and Cognitive Style on Learning Achievement Knowledge of Chemistry after Controlling basic knowledge.

Statistical hypothesis as follows:

H0: AXB = 0

H1: AXB ≠ 0

Results of hypothesis testing analysis 3 showed that the test based on F, factor A * B with Fcount = 4.171 greater than F table (0:05) = 3.96, mean H_0 is rejected. It can be concluded that there are significant interactions between the assessment model forms with students' cognitive styles on learning outcomes after controlling for basic knowledge of Chemistry.

Based on regression models using univariate GLM procedure by SPSS program (BA design * BX) will present the results of simple hypothesis testing effect.

Table 3. Summary of Results ANKOVA with t-test of mean differences Chemistry Learning achievement (Y) Between All Levels Assessment Form Factor (A) for Each Level of Cognitive Style Factor (B) after Controlling basic Knowledge.

Parameter	B	t_{count}	t_{table}	
			α=0,05	α=0,01
constants	26,221	8,516		
[B=1.00]	0,970	0,556		
[B=2.00]	0(a)	-		
[A=1.00]*[B=1.00]	6,382	3,656	1,67	2,39
[A=1.00]*[B=2.00]	1,317	0,754		
[A=2.00]*[B=1.00]	0(a)	-		
[A=2.00]*[B=2.00]	0(a)	-		
X	1,86	2,613		

4. For students who have a group of Field Independent Cognitive Styles, Students'Learning Achievement are given a Chemistry Group assessment model of Writing Skills higher than the group of students were given the Oral Assessment Skills after Controlling their basic Knowledge

Hypothesis 4 can be written as follows:

H0: μA1B1 ≤ μA2B1

H1: μA1B1> μA2B1

Analyzes the results of hypothesis testing 4 showed that based on the statistical t-test, t = 3.656 value greater than the table = 1.67, mean H_0 is rejected. Concluded that the learning outcomes of students who have a chemical group field independent cognitive styles are given a performance appraisal writing skills higher than the group of students who were given oral skills assessment model after controlling for basic knowledge of (X).

5. For Students Who Have Group Field Dependent Cognitive Style, Students'Learning Achievement are given a Chemistry Group assessment model of Writing Skills is lower than in the group of students who were given the Oral Assessment Skills after Controlling their basic Knowledge.

Hypothesis 5 can be written as follows:

H0: μA1B2 ≥ μA2B2

H1: μA1B2 <μA2B2

Based on calculations using the t-test with t table = 1.67, obtained t value = 0.754. This value is in the reception area of H_0, so it was concluded that the group of students who have a field-dependent cognitive style, students'learning achievement were given a chemical group assessment model writing skills did not differ from the results of the chemical study group of students who were given oral skills assessment model, after controlling for basic knowledge.

Table 4. Summary of Results ANKOVA with t-test of mean differences Chemistry Learning Achievement (Y) Between All Levels Factor (B) for each assessment model Form (A) after Controlling their basic Knowledge

Parameter	B	T_{count}	t_{table}	
			α=0.05	α=0.01
constants	26,221	8,156		
[A=1.00]	1,317	0,754		
[A=2.00]	0(a)	-		
[A=1.00]*[B=1.00]	6,038	**3,439**	**1,67**	2,390
[A=1.00]*[B=2.00]	0(a)	-		
[A=2.00]*[B=1.00]	0,970	**0,556**		
[A=2.00]*[B=2.00]	0(a)	-		
X	0,186	2,613		

6. For the group of students who are given writing skills assessment model, Students' Learning Achievement who have a Chemical Group Field Independent Cognitive Styles is higher than the group Students with Field Dependent Cognitive Style After Controlling their basic Knowledge.

Hypothesis 6 can be written as follows:

H0: μA1B1 ≤ μA1B2

H1: μA1B1> μA1B2

The results of the analysis 6 indicate that the hypothesis test based on t-test statistics, the value of t = 3.439 is greater than 1.67 t_{table}, means H_0 is rejected. Concluded that for a given group of students writing skills

performance evaluation, learning outcomes chemical groups that have independent cognitive style field higher than the group of students who have a field-dependent cognitive style after controlling for basic knowledge.
7. Students are given for Group assessment model Oral Skills, Learning Achievement of Students Who Have Chemistry Group Field Independent Cognitive Styles is lower than the Group Students Who Have Cognitive Style Field Dependent After Controlling their basic Knowledge
Hypothesis 7 can be expressed as follows:

H0: μA2B1 ≥ μA2B2
H1: μA2B1 <μA2B2

Based on calculations using the t-test, the obtained value table = 1.67 t = 0.556. This value is in the reception area of H_0, so it was concluded that for a group of students who were given oral skills performance evaluation, learning outcomes of students who have a chemical group field independent cognitive styles do not differ from the results of the chemical study group of students who have a field-dependent cognitive style after controlling for prior knowledge .

Discussion of Research Findings

The results of testing 1 shows the hypothesis that there are differences in the learning achievement of students were given a chemical group assessment model writing skills with a group of students who were given oral skills assessment model. Of hypothesis testing also found that the learning achievement of students were given a chemical group assessment model writing skills higher than the group of students who were given oral skills assessment model, after controlling for prior knowledge.

Chemistry is a field of study that uses a lot of laws, concepts, principles, generalizations, and formulas. Required the ability to choose what will be used in the completion or answer a question about whether in written or oral form. Students need to be trained constantly so skillfully combined laboratory work completed chemistry problem.

Study of the chemistry involving three-dimensional reasoning, the macroscopic dimensions (related to what is observed), the symbolic dimension (symbols, formulas, equations), and the dimensions of sub-microscopic (atomic, ionic, molecular structure). Thinking in three dimensions is a demand disciplines of chemistry, but at the same time moving the work between these three dimensions is often seen as the cause of chemistry as a discipline that is difficult to learn. Chemistry mastery by students to be better when they were given performance appraisal form writing skills because this form of assessment consists of several options, namely shape descriptions / essays and objective such as multiple choice, fill out, and completely wrong match.

Performance appraisal writing skills or no skills test termed the written test paper or pencils or paper-test aimed at measuring certain aspects such as cognitive aspects of interpreting, applying, analyzing, synthesizing and evaluating. In this study, a written performance appraisal skills with more emphasis on narrative form combined with the performance of dry and wet labs. Dry lab is using a tool such as molymod skill and observation through a computer, and a wet lab is laboratory experiments available in schools with tools such as test tubes, balance, burette, pipette, etc., and substances such as hydrochloric acid, sodium hydroxide, magnesium ribbon, and so on. This blend intent as to reveal the chemical products need to be complemented with a more comprehensive assessment, such as assessment model when students conduct experiments activities.

In contrast to the performance appraisal form of oral skills. In carrying out this assessment, students were asked to answer directly to give students time to think and respond in turn appoint. Due to the oral nature despite questions developed to the stage of evaluation of cognitive abilities but most likely applied is likely to be low, ie knowledge or C1 and understanding or C2. Maybe students have forgotten what he said and did. In carrying out the oral test, the teacher asks students verbally and asked to answer orally as well. Of how to ask questions, oral tests can be divided into: (1) free oral tests, namely educators or teachers in providing the questions or problems to students without using the guidelines prepared in writing, and (2) guided oral test, the educator or teacher in providing the questions or problems to students using written guidelines about what will be asked. (Winkel, 1987: 44).

Utilization of cognitive style may have an impact on increasing students' self-concept, it includes the concept of academic students. The reason why it is interesting cognitive styles, Sternberg and Grigorenko (1997: 700-712) has several reasons including: 1) that cognitive style is a bridge between the two research areas, namely cognition and personality, and 2) predictions of the learning achievements of students can be improved by measuring the cognitive styles of students.

As part of the learning styles, cognitive styles of students who have more self-reliant in the field of independent learning, and have a strong intrinsic motivation to achieve the desired results. Instead of students who have a field dependent cognitive style is more influenced by extrinsic motivation, or encouragement from the outside as from the teacher, so she always needs reinforcement (reinforcement) from outside himself. Presented by Lucas-

Stannard (http://www.docstoc.com/docs/81569572/ cognitive style) in a test using pictures: "who were field dependent subjects spent more time finding the figure, while field independent subjects found the figure quickly" . Field dependent cognitive style synonymous with global thinking, where does one judge the environment in general and widely. Someone with the field dependent cognitive style has a high sensitivity to the environment. While the field independent cognitive style synonymous with analytical thinking, where a person thinks and assess their environment sequentially, step by step, and very little dependent on their social environment. A field dependent students with style tend to think globally, can be affected surrounding circumstances, and perceive the problem as something that is confusing, while a student with a field independent style tend to participate actively in the learning process and is able to think analytically, and free from the influence of the surrounding.
Some research also revealed that students with field independent cognitive style prefer areas that require analytical skills such as mathematics, physics, chemistry, engineering while students with a field-dependent cognitive style tend to choose areas that involve interpersonal relationships such as field-social sciences, and humanities. (Slameto, 2002: 162). Chemicals included in the group of exact sciences, the results of this study indicate that the learning outcomes of chemical higher in the group of students who have a field independent cognitive styles.

The analysis results of the hypothesis 3 shows that H_0 is rejected based on F-test, with a value of 4,171 Fcount greater than F table = 3.96. Based ANKOVA also found that there are significant interaction and performance appraisal form of cognitive style on learning outcomes after controlling for prior knowledge of chemistry students. The interaction between the performance appraisal form of cognitive style on learning outcomes chemistry means that the effect of the performance appraisal form (writing and oral skills) can not be separated from students' cognitive styles (field independent and field dependent). Analyzes the results of hypothesis testing 4 shows that H_0 is rejected based on statistical t-test, t = 3.656 value is greater than table = 1.67. T values obtained in this study statistically controlled purely from the influence of prior knowledge variables. This means that the treatment assessment model of writing skills given to students who have a field independent cognitive styles to improve learning outcomes Chemistry. The results of the calculation of average corrected to show the group of students who have a field independent cognitive style, learning outcomes chemical group given writing skills assessment model is 40.954 while the group of students who were given oral skills performance evaluation, learning outcomes chemistry has an average value of 35.572 corrected . Chemistry of the given subjects in class XI, it appears that the concept of both theory and practice of chemistry is a chemical concept is excellent writing skills assessed, because the writing skills assessment, students can express in a more systematic response compared with oral skills are sometimes sometimes due to psychological factors such as students feeling nervous cause lack of concentration.

In terms of cognitive style, students who have a field independent cognitive styles with strong intrinsic motivation, and joy on those areas that require analytical skills in subjects like Chemistry, cause he was able to solve the problems of chemical that was given to him. While students who have a field dependent cognitive style, cognitive difficulties in analyzing the problem. In line with Piaget as cited by Pannen (2005: 5-7), which emphasizes that children will learn better if they are active and find their own solutions. The chemical knowledge must be constructed by the students because each person build their own knowledge through activities or experiences. In terms of high school students who are studying chemistry, construction of knowledge that will last well if facilitated by the teacher in providing relevant learning experiences, and activities that foster student curiosity.
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style, cognitive difficulties in analyzing the problem. According to Jonassen and Grabowski told Santrock (2008: 156) with a force field independent students are more likely to perform tasks such as: reading with understanding and interpreting text and solve problems and make decisions. In line with Piaget as cited by Pannen (2005: 5-7), which emphasizes that children will learn better if they are active and find their own solutions. The chemical knowledge must be constructed by the students because each person build their own knowledge through activities or experiences. In terms of high school students who are studying chemistry, construction of knowledge that will last well if facilitated by the teacher in providing relevant learning experiences, and activities that foster student curiosity.
Test results hypothesis by ANKOVA found that for a group of students who were given a performance appraisal writing skills, there are differences in students' learning outcomes Chemistry group has field independent cognitive styles with groups of students who have a field-dependent cognitive style after controlling for the influence of prior knowledge. According to Good and Brophy (Ambiyar, 2005:64), why cognitive style called 'style' rather than 'ability' because cognitive style refers to how people process information and solve problems, not how well.

Cognitive style is one of the characteristics of students,'s being typical of a person's way of learning, both with regards to how the reception and processing of information, attitudes toward information, and practices related to the learning environment. (Uno: 2010: 185). Research on cognitive style in a modern way using psychological laboratory conducted by Witkin, Goodenough, Dyk, Faterson Gardner, Kagan, Messick *et al.* (Sternberg and Grigorenko, http://www.betronder-wijsnederland.nl/files/sternberg% 20grigorenko.pdf (accessed March 28, 2012).
Proposed by Ardana (2008: 4) by Thomas study the implications of cognitive styles based psychological differences that students who have a field independent cognitive style tend to prefer individual learning, responded well and tend to be independent. Besides, they can achieve goals with intrinsic motivation. 7 the results of the hypothesis test is H_0 is accepted by statistical t-test, where the value of $t = 0.556$, H_0 is the reception area, while the t table = 1.67 at $\alpha = 0.05$ level dignifikansi. Chemical means learning outcomes the two groups did not differ, after controlling for prior knowledge. Proposed by Sudjana (1998: 220), that although based on research, we accept or reject the null hypothesis, H_0, but does not mean that researchers have to prove or disprove the truth of the hypothesis. All that is known only accept or reject the hypothesis.
Hypothesis testing based ANKOVA has been done in this study it was found that for a group of students who were given oral skills performance evaluation, learning outcomes of students who have a chemical in field independent cognitive styles there is no difference with the group of students who have a field-dependent cognitive style after controlling for prior knowledge. Means that the treatment is given in the form of assessment model of oral skills on a group of students who have the cognitive style of field independent and field dependent not provide improved learning outcomes Chemistry, and cognitive style factor had no effect on learning outcomes Chemistry.

Explanation of the above is likely derived from the performance appraisal form factor oral skills. Besides, there are advantages but there are also drawbacks, namely its effectiveness in reaching questions that require higher-order thinking skills (high-order thinking skills) in this question analysis, synthesis and evaluation. According to Ibrahim and Sukmadinata (2003: 88), or oral assessment tests are rarely used in the students a large amount, because implementation will take a long time.

Assessment model of oral skills that teachers as well as other forms of assessment should be an ongoing process in a series of teaching plans and teacher for one semester of the school year, but the limitations of the performance appraisal form of treatment of oral skills in the subjects of Chemistry may not be as effective for other subjects such as literature or as proposed by Gharibyan (http / / www.dl.acm.org / citation.cfm.id accessed March 15), in the United States specifically for Computer Science, "an oral exams is a better evaluation method". Of the student if he was a simple nervous, then he would have trouble answering that question assessed with verbal skills.

Important is also thought by the teachers who do the assessment, as proposed by Anonymous that: Classroom assessment is broadly defined as any activity of experience that provides information about students learning. Teachers can learn about student progress not only through formal tests, examinations, and projects, but also through moment-by-moment observation of students in action.

This statement indicates that the assessment of the students have to be comprehensive, and continuous, not only the cognitive aspects but other aspects such as affective and psychomotor

4. Conclusion

Based on the results of data analysis and hypothesis testing results obtained the following conclusions:
First, a group of students studying chemistry results were given writing skills assessment model is higher than the group of students who were given oral skills assessment model after controlling for their basic knowledge.
Second, the learning achievement of students who have a chemical group field independent cognitive style higher than the group of students who have a field-dependent cognitive style after controlling for prior knowledge.
Third, There is an interaction effect between performance appraisal forms and cognitive style on learning outcomes after controlling for prior knowledge of Chemistry.
Fourth, for a group of students who have a field independent cognitive style, learning outcomes of students were given a chemical group assessment model writing skills higher than in the group of students who were given oral skills assessment model after controlling for their basic knowledge.
Fifth, for a group of students writing who are given skills assessment model, student learning achievement chemical groups which have independent cognitive style field higher than the group of students who have a field-dependent cognitive style after controlling for their basic knowledge.

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