

# Learning Chemistry using Course Review Horay (CRH) Model Toward Students Learning Activity X Grade at SMA Negeri 1 Muntilan In Nomenclature Name of Chemical Compounds Materials

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**ABSTRACT:** The purpose of this study was to determine the difference of implementation the Course Review Horay (CRH) model on learning activities of students grade X SMA Negeri 1 Muntilan, academic year 2017/2018 in nomenclature of chemical compounds material. This research is an experimental research. Population of this study was all class X students of SMA Negeri 1 Muntilan on 2017/2018 school year, with a total of 7 classes. Samples were taken by purposive sampling technique consist of 2 classes. Data collection techniques used non-test methods. Form of assessment used are observation sheets. Data analysis techniques using the Mann Whitney-U test. Based on the results of the study it can be concluded: There was different of chemistry learning with the CRH model on student learning activities in Nomenclature of Chemical Compounds material.

**Keywords:** Course Review Horay (CRH), Learning Activities, Nomenclature of chemical compounds

## INTRODUCTION

The learning process in the classroom is an important factor for increase student learning success. Learning is an activity and active learning for students to improve learning achievement in the field of knowledge and aspects of attitude with balance [1]. Student learning activeness can be seen directly or indirectly such as when students were discussed, did assignments, asked questions and answered questions in the classroom include during the teaching and learning process on chemistry subjects.

Chemistry subjects was required for high school students or equivalent especially students who major in science [2]. Chemistry lessons have some material that is both theory and abstract, required understanding concepts, needed a memorization quite high, material related to each other, and there are calculation. One of material that was often considered difficult by students is the Nomenclature of Chemical Compounds where the material has a high enough level in terms of abstract and memorize the material. Students in absorb subject matter are relatively low [3]. In addition, material in Nomenclature of Chemical Compounds required a lot of practice [4].

Effective and efficient chemical learning is needed to overcome these problems. Learning chemistry in schools is expected to students learning not only limited to memorizing but actively involved in the learning process. Good interaction between students and teachers in the learning process will make students more active to learning in the classroom. The active involvement of students is expected to increase student's knowledge, increase student's absorption, change student comprehension, attitudes and behavior and student activities as a manifestation of changes in learning outcomes. One way to make this happen is cooperative learning [5].

Cooperative learning can be used as an alternative learning where cooperative learning is centered on students, prioritizing cooperation in the learning process. Students will work together in groups so that students become active in learning in the classroom [3]. The Course Review Horay (CRH) model is one of the cooperative learning models.

The CRH model is the application of learning to be fun, not monotonous and not saturated so that it

can increase student activity, student achievement, understand the concept of learning and students get more practice questions presented in groups [6]. In addition, this CRH model students will discuss in groups and each group will compete to work on questions or questions given by the teacher and packaged in a game with an agreed rule. This learning model makes students more active, passionate about learning, enthusiastic and happy to take lessons. The application of the CRH model to student achievement is higher than the class that applies conventional models [7].

The advantages of the CRH model include learning activities centered on student activities (Learning Center Learning), learning is peppered with games so that the learning atmosphere becomes tedious and not tense, accepts individual differences and develops teamwork skills between groups, the learning process is attractive so that students become active in learning. The growth of student learning enthusiasm because learning is fun, show a positive dependence among students [8, 9, 10].

The purpose of this study was to determine the significant different of the Course Review Horay (CRH) model on learning activities of students of grade X SMA Negeri 1 Muntilan academic year 2017/2018 in nomenclature of chemical compounds.

## METHODS

### Research Design

The type of research used in this study is quantitative research in the form of experimental research. This research was conducted by comparing two classes where the class given treatment was called the experimental class and the class that was not treated was called the control class. The Learning Model applied in the experimental class is the Course Review Horay (CRH) model while the control class uses a conventional learning model. The steps of the CRH model can be seen in Table 1 [11].

TABLE 1. Step of the Course Review Horay (CRH) model

Step of Course Review Horay (CRH) model	Activity
	At the beginning of learning the teacher explains the competencies that must be achieved in the learning process.
Course	Before starting a group discussion, the teacher explains in advance the topic that must be learned. The teacher explains the lecture method or the demonstration method and the students listen to the explanation from the teacher. In this stage there is ask and answer between students and teachers.
Review	After finishing explained the material, students were divided into several groups. Each group depends on the division carried out by the teacher. It is expected that the heterogeneous group division. Students are given a box or paper as much as 9/26/25 according to their needs and each box / paper is filled with a number that is free determined by the student.
Review	The teacher gives a question in an inaccurate manner and the student is obliged to answer the question and write the answer in a box / paper according to the number the teacher mentioned.
Horay	Students discuss each other about the problem and discussed by the teacher to determine the student's answer is right or wrong. For groups that answer correctly can be given a check list (√) or other marks then shout "horay" or cheering yells in the group.
Horay	The score can be determined from the correct answer and how many shout "horay".
Reinforcement	After the value score is calculated, the teacher gives a reward in the form of a prize to the group that gets the highest score or the one who gets "horay". At the end of the meeting, the teacher asked students to draw conclusions on the material being studied and the teacher closes the lesson.

### Place, Time and Subject Research

This research was conducted at SMA N 1 Muntilan on Jalan Ngadiretno No.1 Tamanagung, Muntlan, Magelang. Time this research from October 2017 to October 2018. Subjects in this research are SMA N 1 Muntilan class X in the academic year 2017/2018 on the numberclature of chemical compounds. The sample in this study consisted of two classes. The sampling technique by purposive sampling.

### Data Collection

Data collection techniques used non-test methods. Form of assessment used are the observation sheets. Observation is carried out when learning takes place. Observations were made during the learning process using the Course Review Horay (CRH) model. The assessment using observation sheet was conducted on students in the control class and experimental class. Aspects Learning activities consist of four aspects, namely oral activities, visual activities, listening activities, writing activities.

### Data Analysis

The study used the Mann Whitney-U non-parametric type test. This is related to the preliminary test that has been done before, namely normality test and abnormal homogeneous data test. The prerequisite results (normality test and homogeneity test) and hypothesis testing are presented in Table 2 and Table 3.

**TABLE 2.** Prerequisite test results (normality and homogeneity)

Data	Class	Normality		Homogeneity	
		Sig.	Result	Sig.	Result
Observation of learning Activity	Experiment	0,000	Abnormal	0,925	Homogeneous
	Control	0,200	Normal		

**TABLE 3.** Hypothesis test results

Data	Signifcane	Decision H <sub>0</sub>	Result
Observation of learning Activity	0,000	H <sub>0</sub> rejected	There is Significant Difference

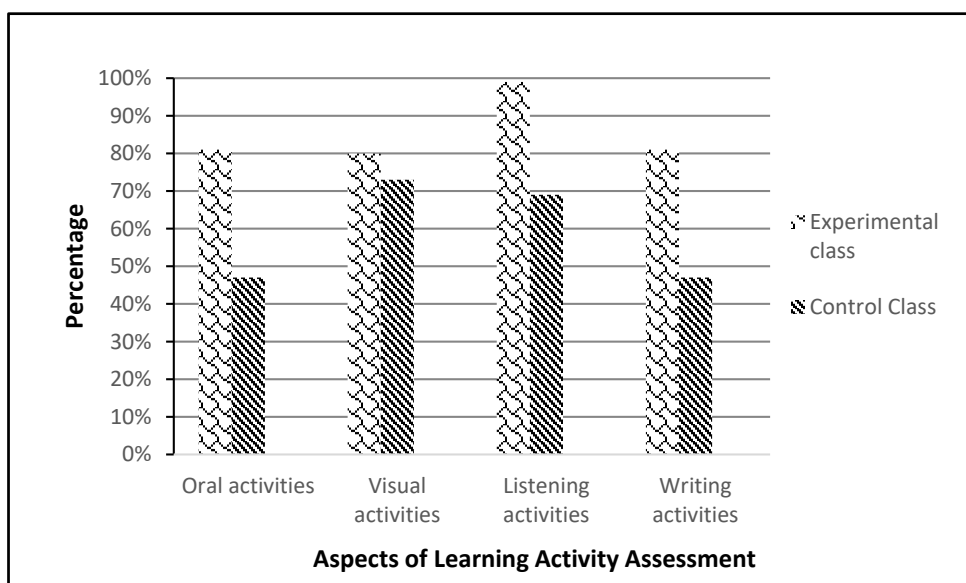
Furthermore, Observation data from learning activities that have been calculated using statistical assistance is calculated using a scale for to know criteria each aspect of learning activities criteria. The criteria obtained are then changed in the form of presentations with presentation ranges referring to Table 4 [12]. The results of the transformation of quantitative data from the data presented in Table 5. Furthermore, the comparison of assessment of learning activities in the control class (conventional) and experimental class can be seen in Figure 1.

**TABLE 4.** Criteria for percentage of each aspect of student learning

Percentage	Criteria
86-100%	Very good
76-85%	Good
60-75%	Sufficient good
55-59%	Less good
≤ 54%	Very less good

**TABLE 5.** The results of the observation percentage of student learning activities

Aspect	Experimen Class		Control Class	
	Average Value	Criteria	Average Value	Criteria
Oral activities	81%	Good	47%	Very less good
Visual activities	80%	Good	73%	Sufficient good
Listening activities	99%	Very Good	69%	Sufficient good
Writing activities	81%	Good	47%	Very less good
Rata-rata Total	84%	Good	61%	Sufficient good



**FIGURE 1.** Assesment of learning activities in the control class (conventional) and experimental class

## RESULT AND DISCUSSION

Test decisions in normality and homogeneity tests, if the significance (sig) > 0.05, the data are normally distributed and homogeneous [14]. The data tested has an abnormal distribution for the experimental class because of the significance (sig) value. 0,000 less than 0.05 and the normal distribution for the control class because of the significance (sig) value. 0.200 more than 0.05 and homogeneous data for both classes because it has a significance (sig) value. 0.925 more than 0.05.

After testing the hypothesis prerequisites and then hypothesis test. Hypothesis test aims to determine whether there is a difference significant or not the application of the CRH model to student learning activities in the nomerclature of chemical compounds class X SMA N 1 Muntilan. The hypothesis test in this study used the Mann Whitney-U non-parametric type test, because the hypothesis prerequisite test was not fulfilled, where there were abnormal data even though the data was homogeneous. Ho assessment criteria are accepted or rejected, if the sig value is > 0.05, then Ho is accepted, but if the value is sig < 0.05, Ho is rejected. Based on the hypothesis test that has been done, the results of hypothesis test can be seen in Table 5. The research hypothesis uses the Ho and Ha assessment criteria as follows:

- Ho : There is no significant difference in the application of the Course Review Horay (CRH) model toward learning activities students of class X SMA N 1 Muntilan in the nomerclature of chemical compounds.
- Ha : There is a significant difference in the application of the Course Review Horay (CRH) model toward learning activities students of class X SMA N 1 Muntilan in the nomerclature of chemical compounds.

Based on the results of hypothesis test that was obtained a significance value 0,000. The significance

was obtained is  $<0.05$  so that  $H_0$  is rejected, so there is significant differences in the application of the CRH model to student learning activities class X SMA N 1 Muntilan in the nomenclature of chemical compounds.

There are significant differences in the application of the CRH model to learning activities of students who are actively involved in the learning process so that student activities in learning also increase. This happened because the application of the CRH model of students was divided into several groups and discussed. Each group will answer the questions given by the teacher and be packaged in an exciting game with agreed rules, so students are more active, passionate about learning, not sleepy and get lessons.

That is supported by research conducted by Noorhafizah and Dahlina [15] that the application of the CRH model has an effect on student learning activities, where student activity shows an increase at each meeting until it reaches very active criteria. This increase can be seen from the activities of students in the learning that is carried out, where they have noticed well when the teacher presents the material. In addition, students can also be orderly when forming groups, when students have really listened to the questions read by the teacher. They also always work together in doing group assignments and enthusiasm and are compact in shouting "horay" when the group gets a sign (✓) or when answering questions given correctly. Student activity increase in this study can't be separated from the learning activities carried out which have more involved students, so students no longer just sit and listen to information or material from the teacher, but they get the opportunity to be able to engage or experience directly and interact not only with learning material, but also with fellow students and their environment. Course Review Horay Model (CRH) is a student-centered learning model where students are required to be active in learning in the classroom [16]. So that when students are active in learning, students can more easily understand the material and improve students learning achievement.

Research that has been carried out produces data on assessment of student learning activities, which have been observed in 4 aspects, namely oral activities, visual activities, listening activities, writing activities. The results of the percentage of observations of student learning activities in each aspect can be seen in Table 4. For a clearer comparison of the results of the observation percentage of student learning activities in the experimental class and the control class can be seen graphically in Figure 1.

Based on the results of the observation percentage of student learning activities, all aspects tested both oral activities, visual activities, listening activities and writing activities showed that the results were higher in the experimental class using the CRH model than the control class using conventional models. Based on the average value of the total percentage of the two classes, it was found that the experimental class was higher than the control class, where the experimental class was 84% with criteria "Good" and the control class was 61% with criteria "Sufficient good".

The research that has been done produces data of the percentage of observation of learning activities and hypothesis test showed that chemistry learning with the CRH learning model toward learning activities in the Compound Nomenclature material was better than conventional models.

Implementation of the Course Review Horay model when viewed from student learning activities can be improving the aspects like students' knowledge skills and students' ability to receive material. Although this CRH model is superior to the conventional learning model when applying the CRH model in the classroom, the teacher must have good time management because it does not want to be time consuming. Then the teacher must be able to condition the class because the CRH learning model forms the game so that it can cause noise between groups and interfere with other classes. Then the teacher is expected to prepare the learning media needed in implementing the CRH model well and the teacher can develop more creative games in implementing the CRH model so students will be more interested in learning.

## CONCLUSION

Based on the results of this study it can be concluded that there is significant difference in chemistry learning with Course Review Horay (CRH) model toward learning activities of class X SMA N 1 Muntilan students in the nomenclature of chemical compounds in academic year 2017/2018.

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