

# Effectiveness of Curriculum-Based Chemical Textbook 2013 in Growing Student Character

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**Abstract-** This study aims to produce textbooks that can effectively develop psychomotor aspects in students in chemistry lessons in SMA / MA Class XI Semester 1. The population in this study is the class XI students in SMA / MA in Medan City, North Sumatra Province. The sample was taken purposively. The research approach used in this research is an experimental study used to see the results of trial use of books on psychomotor growth of students. Prior to giving treatment to the sample, prerequisite test was done by Kolmogorof-Smirnov test and Levene test with significance level  $\alpha = 0,05$ . Data analysis technique use independent sample t test with SPSS 20 for windows at significance level  $\alpha = 0,05$ . The results showed that the psychomotor value of students is more developed in the experimental class that is using the developed book (Curriculum Book 2013) than in the control class using the Curriculum Curriculum KTSP.

**Keywords:** *textbook, character, psychomotor, curriculum 2013*

## I. INTRODUCTION

Teaching materials or textbooks are the dominant instructional medium of their role in the classroom and the central part of the education system [1]. This is because the textbook is an important tool for delivering curriculum materials. The need for textbooks occupies the most important priority scale. This is because the textbook not only serves as a teaching resource that provides learning materials, but even functions as a syllabus. The textbooks provide instructional guidance to teachers, allowing teachers to teach without having to look at the syllabus. Thus, the quality of classroom teaching depends heavily on textbooks. The curriculum in an educational system is dynamic. Changes and curriculum development need to be made to adapt to the development and challenges of the times. Nevertheless, the change and its development must be

systematic and directed, not originally changed. The change and development of the curriculum must have a clear vision and direction. Character education is placed as the foundation to realize the vision of national development, which is to realize the noble, moral, ethical, civilized, and civilized society based on Pancasila philosophy. It is also an effort to support the realization of ideals as mandated in the Pancasila and the Preamble of the 1945 Constitution. In addition, the problems faced by our nation today are increasingly encouraging the spirit and efforts of the government to prioritize character education as the basis of educational development. The spirit is implicitly affirmed in the 2005-2025 National Long Term Development Plan (RPJPN), in which the Government makes character building as one of the national development priority programs [6].

Development of teaching materials should be able to answer the demands of national education objectives. In addition, the teaching materials produced should be able to develop the character of the students. Therefore, these instructional materials must be specially designed to develop the character of the students. Curriculum 2013 focused on the formation of competence and character of learners, in the form of guides knowledge, skills, and attitudes that demonstrated learners as a form of understanding of concepts learned in conceptual.

Rudzitis [2] stated that one of the top concerns about science teaching in high schools and universities is the new design of textbooks with systems and special exercises for students' self-employment so that they discover the ability to learn by themselves. Science textbooks have long been a key issue in science learning. Many reports indicate that textbooks play a dominant role in the teaching of science and have a profound effect on the choice of concepts as best as they are taught. [3]. Other than that, Metsala [4] in his research on analogy concludes that if analogies are provided in textbooks, teachers

can use teaching models using analogies to improve student learning.

The role of textbooks that are quite dominant in the teaching of science makes the need for a review of its effectiveness in learning. The content of the book is developed to achieve the competencies set out in the curriculum [5]. Therefore, the study was conducted with the aim to measure the effectiveness of chemistry textbooks in SMA / MA Class XI Semester 1 which is produced in this research in developing psychomotor students so that in accordance with the purpose of curriculum 2013. Psychomotor value is expected to be relevant to the development of student character values.

## II. RESEARCH METHOD

This research was conducted at High School (SMA) and Madrasah Aliyah (MA) in Medan City, North Sumatera. The population of this research is the teacher of chemistry study in Medan City of the academic year 2013/2014. The sample was taken by purposive sampling technique based on the consideration of the researcher. The type of approach used in this study to achieve the objectives that have been formulated is experimental research.

The steps taken are: preparing the observation sheet, then giving treatment to the students by using the developed chemistry textbook. The type of data obtained at this stage is the observational score data from the students. Then the assessment obtained is collected and tabulated and calculated the average assessment of the feasibility of the content, language feasibility, and feasibility of presentation in accordance with the objectives of the 2013 curriculum.

This study was conducted with the aim to measure the effectiveness of chemistry textbooks in SMA / MA Class XI Semester 1 which is produced in this research in developing

psychomotor students so that in accordance with the objectives of the curriculum 2013. For that done data collection to compare the book being used in schools SMA / MA, which is book based on curriculum KTSP with book developed in this research, that is book based on curriculum 2013. The data obtained in the form of student observation sheet.

Data in the form of assessment of psychomotor value development of students who were taught in the classroom using a book developed in research with psychomotor development of students in the classroom using the curriculum curriculum KTSP. Data were obtained from students' observation sheets in the class. Each indicator on the observation sheet was given a score of 1 - 4, then the scores obtained were summed and given a value, then the value obtained was seen normality with Kolmogorof-Smirnov test at significance level  $\alpha = 0.05$ . Data in the form of assessment of psychomotor value development of students who were taught in the classroom using a book developed in research with psychomotor development of students in the classroom using the curriculum curriculum KTSP. Data were obtained from students' observation sheets in the class. Each indicator on the observation sheet was given a score of 1 - 4, then the scores obtained were summed and given a value, then the value obtained was seen normality with Kolmogorof-Smirnov test at significance level  $\alpha = 0.05$ .

## III. RESULTS AND DISCUSSION

Data The data obtained to describe the results of research that is the average value of observation results psychomotor value of students and the results of hypothesis differences in psychomotor values students in the class using the book developed (Curriculum 2013) with the psychomotor value of students in the class using the chemistry curriculum KTSP. The samples in the study are students of class XI in SMA / MA in Medan City, North Sumatra Province.

TABLE.1 Description of Mean Student Psychometric Data Value

Rating	Description Data	Average Standard	Deviation Value
Psychomotor students	curriculum KTSP	71,26	9,51
	curriculum 2013	78,12	9,28

These data indicate that the mean psychomotor score of students in the class using the developed book

(Curriculum 2013) is higher than the average psychomotor score of students in the class using the

chemistry curriculum KTSP ( $78.12 \pm 9.28$  and  $71.26 \pm 9.51$ ). The normality test of the data was done on the students psychomotor assessment data using SPSS 20

Kolmogorof-Smirnov test with significant level  $\alpha = 0,05$  and obtained data as in Table 2.

TABLE 2. Test Result of Data Normality Result of Psychomotor Student Rating

Data	Kolmogorof-Smirnov	$\alpha$	Information
Psychomotor students	1,063	0,05	Data is normally distributed

TABLE 3. Psychomotor Homogeneity Test Result

Data	Levene's test	$\alpha$	Information
Psychomotor	0,662	0,05	Data homogeneous

TABLE 4. Data Description Average Score of Book Quality Rating Results

Rated aspect	Test Used	Sign	$\alpha$	Conclusion
Psychomotor	<i>independent sample t-test</i>	0,000	0,05	Ha diterima

The book quality hypothesis is a hypothesis for the assessment of the quality of books based on the 2013 curriculum with curriculum based curriculum books. Based on table 4.5 can be seen that the significant price of t-test for student psychomotor results of 0.000 so  $0.000 < \alpha (0.05)$  which means  $H_0$  rejected and  $H_a$  accepted. Then it can be concluded that "students' psychomotor learning outcomes that are taught by using chemistry textbooks developed in this study is better than the chemistry learning result of students who are taught by using chemistry textbooks based on curriculum KTSP."

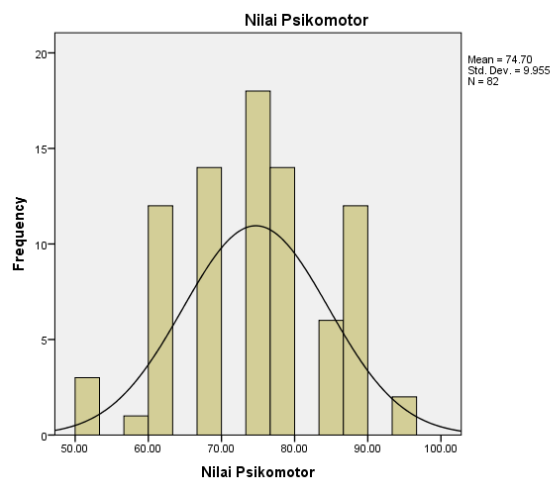


Figure 1. Psychomotor Value Normality Test Result

#### IV. CONCLUSION

Based on the results of research that has been obtained, it can be concluded that the psychomotor value of students in the classroom using chemistry textbooks developed in this study is higher than students in the

class that uses textbook chemistry based on curriculum KTSP. So chemistry textbooks based on the 2013 Curriculum are well used in developing psychomotor students.

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