

ANALYSIS OF TEACHING AND LEARNING MATERIALS CHEMISTRY CLASS X VOCATIONAL HIGH SCHOOL SEI YAPIM ROTAN MEDAN

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Abstract- This research was conducted at vocational high School YAPIM Sei Rotan Medan, and aims to determine whether the use of teaching materials are in accordance with the curriculum and syllabus, whether in the learning process of students and teachers experiencing difficulties, and whether the school facility supports teaching and learning chemistry. This study population is all students of class X in vocational high School YAPIM Sei Rotan Medan. Samples are one class, namely the class X computer network engineering 2 in vocational high School YAPIM Medan. The research data obtained by direct interviews with subject teachers, as well as collecting secondary data such as syllabus, lesson plans and textbooks. Data analysis concluded that teaching materials chemistry, syllabus used, and textbooks used in accordance with the curriculum of 2013. Each student has had textbooks in accordance curriculum of 2013. The chemical laboratory is already there, the constraints obtained is a lack of interest in learning chemistry in vocational school. The results of this study are expected to provide solutions to the schools that have similar problems, so as to optimize the chemistry learning which aims to improve student motivation and learning outcomes.

Keywords: teaching materials, learning process, student motivation, and learning outcomes

1. INTRODUCTION

Teaching and learning in the classroom is an act that involves teachers and students together to achieve a goal. Protege learning activities to get the new behavior. Learning is none other than managing/organizing learning activities, namely the proper functioning of the assortment of collaborative teaching and learning component. Making their learning process will have the knowledge, skills, attitudes or certain values.

Education can be interpreted broadly and generally as a conscious effort made by educators through the guidance, instruction, and training to help students experience the process intact and independent. Education in Indonesia has been a paradigm shift in learning toward constructivism. According to this view that knowledge can not simply be transferred by the teacher to the student's mind, but that knowledge is constructed in the minds of the students themselves. Teachers are not the only source of learning for students (teacher centered), but more is expected is that the student-centered learning (student centered).

One of the problems in the world of education is a problem of weak learning process. In the process of learning, students are encouraged to develop the ability to think. The fact that it happens that in the process of learning in class, students are directed to the ability to memorize information. Students forced to recall and Hoard information without the information required to understand and apply the information in everyday life. This resulted when children leave school, they are just smart in theory but very poor application [3].

In the educational process necessary guidelines governing the so-called curriculum. According to Law No. 20 of 2003 on the national education system states that the curriculum is a set of plans and arrangements regarding the objectives, content and learning materials as well as the means used to guide the implementation of learning activities to achieve specific educational objectives. In the history of education in Indonesia has experienced several changes, and the current changes into the curriculum 2013. Curriculum Development in 2013 is also based on the analysis of the future needs to

meet the golden generation of Indonesia in 2045. Based on these developments formed a determination Graduates Competency Standards (SKL) based on the competence of the XXI century.

On Curriculum 2013 the Government has set up several devices, namely: core competencies, basic competencies, Syllabus and Handbook for teachers, students and a series of books Permendikbud associated with the implementation of Curriculum 2013. The device is very assist teachers in carrying out its primary task as a teacher. The main task of the teacher is learning Plan, implement and evaluate learning Learning. (<http://edukasi.kompasiana.com>, accessed on August 22, 2015).

On Curriculum 2013, competency standards (SKL) is formulated into three domains above, namely (1) the attitude and behavior (including: receiving, running, cherish, appreciate, practice); (2) skills (including: observe, ask, trying, process, menyaji, reasoning, creative); and (3) knowledge (include: knowing, understanding, applying, analyzing, evaluating).

The process of learning in the curriculum in 2013 guided using a scientific approach. Scientific approach in relation to the learning process includes a real-world context, is actively investigating, cooperative, critically, there is an exchange of knowledge between teachers and students, students and other students, as well as menutun students to find out not notified. Students play an active role not only in terms of exploration, elaboration and confirmation but students are also active in observing, ask, collect data, associate and communicate in the learning process.

Correspondence between the teaching materials to the curriculum should be properly addressed in accordance with the demands of the curriculum is based on the standard of competence and basic competences in force. Teaching material is a set of materials / substances subject systematically arranged, showing the figure of the whole of the competencies which students will learn in learning activities. Teaching materials enables students can learn a competence or basic competence in a coherent and systematic, thus accumulatively able to master all the competencies intact and unified.

Legal basis (regulation legislation) the development and refinement of the curriculum in vocational (Vocational High School) is the law No. 20 of 2003, concerning the national education system, as stipulated in article 18 paragraph (2), which reads; "Secondary education consists of general secondary education and vocational secondary education". Free development of vocational curriculum composed, among others, is to be able to give greater opportunities to the learners to be able to continue to improve and develop the quality and competence of self, including therein are faithful and devoted to God Almighty according teachings of their respective religions, understanding and appreciate the significance of belief and be able to apply the noble values contained didalamnuya, able to do something positive to be able to execute certain things in a responsible manner, which aims to discover the identity. Through active learning, creative and effective hoped all the above goals can be achieved.

The success of national education are determined by student performance in each and every school throughout Indonesia. Critical success factors of students consists of several internal and external factors. Internal factors include biological, intelligence, psychological, interest, motivation and learning styles of students. External factors include aspects of the family environment, school environment, community, schools as an external factor determining the success of students plays a no less important than internal factors of students [1].

In this paper the authors want to analyze and describe the chemistry teaching materials Vocational High School YAPIM Sei Rotan who taught teachers to students to look at the curriculum, syllabus, and the application of chemical study in secondary vocational schools in the learning process chemicals to improve the quality of education. As well as the issues contained in Vocational High School YAPIM Sei Rotan Medan, which in its development suitability of these materials greatly affects the quality of student learning outcomes.

2. METHODS

This research was conducted at Vocational High School YAPIM Sei Rotan Medan. The study population was all students of Vocational High School YAPIM Sei Rotan Medan majoring in Computer Engineering and Networks class X sedngkan samples in this study were students of class X TKJ 2. Data obtained through direct interviews with teachers of chemistry, visited classrooms, laboratories. Other data such as syllabi, lesson plans, and books were used.

3. RESULTS AND DISCUSSION

3.1 Results of Interviews

Results of interviews that have been conducted by teachers of chemistry Vocational High School YAPIM Sei Rotan field is as follows: (1) The syllabus used was based Curriculum of 2013. Teachers have prepared prota, prosem based syllabus. (2) Teachers who teach subjects in Vocational YAPIM Sei Rotan just one person. (3) The existing chemical laboratory, facilities for lab work is complete, only the materials that will be used in the chemistry lab must be purchased in advance. And (4) Book to Vocational High School chemicals that exist in these schools are still lacking.

3.2 Infrastructures

Facilities and infrastructure existing in Vocational High School YAPIM Sei Rotan Medan include: (1) space Space principals and vice-principals; (2) the teachers' room; (3) classroom; (4) space toilet; (5) diner; (6) the library; (7) laboratory of chemistry, physics, biology, and computer; (8) courses ceremony; (9) library. Infrastructure facilities are complete compliant Permendikbud No. 20 of 2003.

3.3 Learning Resources

From interviews with teachers of chemistry at Vocational High School YAPIM Sei Rotan Medan that chemistry textbooks still less so that less support the learning process in the classroom teaching chemistry.

3.4 The scope Teaching Materials

Learning Materials is essentially an integral part of the syllabus, namely planning, predictions and projections on what will be done during the learning activity. The scope of teaching materials include the identification and description of the teaching materials teaching materials chemistry.

a. Identification of Teaching Materials Chemistry

As for the standard of competence in chemistry learning class X Vocational High School YAPIM Sei Rotan Terrain is as follows:

Semester 1: (a) understand the concept of matter and its amendments; (b) understand the concept of writing the symbol of the elements and the equation; and (c) 3. Identify the structure of atoms and the periodic properties of the periodic table of elements

Semester II: (a) understand the concept of the mole; and (b) understanding the chemical bond.

b. Description Chemistry Teaching Materials

Teaching materials chemistry class X Vocational High School YAPIM Sei Rotan at Medan first semester include: (1) materials and manifestations; (2) changes in the material; (3) classification of the material; (4) elements; (5) the chemical formula; (6) equal chemical reaction; (7) structure of atom; (8) the periodic system; (9) the concept of mole; (10) gay-Lussac's Law and the Law of Avogadro; (11) the chemical bond; and (12) the nomenclature of compounds.

3.5 Analysis of Instructional Materials

Teaching materials used in vocational YAPIM Sei Rotan Terrain is using the book entitled Chemistry for Vocational learning module Odd semesters. This book contains a summary of the material and chemical issues. The book is supposed to be less suitable for use in Vocational for a very brief explanation of the material.

4. CONCLUSIONS

The conclusion in the study is: (a) teaching materials chemistry, syllabus used, and textbooks used in accordance with the curriculum of 2013; (b) teachers have difficulty in teaching because of

lack of interest in studying chemistry at the vocational school; and (c) chemical laboratory facilities are complete compliant Permendikbud No. 20 of 2003.

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