

## ABSTRACT

**Leonardo Sitorus: The Development and Standardization of Senior High School Chemistry Textbook for Class XI Semester II in RSBI Class.**  
Thesis. Medan: Postgraduated Program of State University of Medan.

The development and standardization of senior high school chemistry textbook for Year XI Semester II at RSBI Class was explained. The research was aimed (1) to analyze the performance of chemistry textbooks Year XI Semester II, those were obtained from various publishers that were commonly used in RSBI class in North Sumatra, (2) to develop standar chemistry textbooks for Year XI Semester II based on KTSP and meet the BSNP criteria that was suited to RSBI class in North Sumatra, (3) to obtain the opinion of chemistry teachers and lecturer for the performance of developed chemistry textbook according to BSNP requirements, and (4) to know the affectivity of developed chemistry textbook to be used in increasing the students achievement in the teaching and learning chemistry for Year XI Semester II RSBI class in North Sumatra. The study was conducted in North Sumatera on March to July 2012. The populations of the research were (1) chemistry textbooks for Year XI Semester II, (2) chemistry teachers who teach Year XI Semester II RSBI in North Sumatra, (3) chemistry lectures in Unimed, (4) RSBI students in senior high schools. The samples were purposively selected. They are (1) three chemistry textbooks from different publisher that were commonly used in RSBI class in North Sumatra, 6 (six) chemistry teachers that have experience in teaching chemistry Year XI Semester II, (3) 2 (two) chemistry lecturers that were expert in general chemistry, and (4) RSBI students in SMA Negeri 2 Kisaran, SMA Negeri 1 Tebing Tinggi, and SMA Negeri 1 Matauli Pandan. Development and standardization of the textbook were conducted by using research and development technique, while the effectivity of textbook was conducted experimentally. In experimental study, the students were grouped into experimental and control class in every school. They are then divided into two groups, which were categorized as high achievement (HA) group and low achievement (LA) group according their achievement on the previous semester. The experimental class was taught by using the developed chemistry textbook, where the control class was taught by using school chemistry textbook. The instruments are consisted of standard questionnaire with BSNP criteria, and standard multiple choice test that were developed by the researcher. The results showed based on the opinion of chemistry teacher that chemistry textbook that were commonly used in RSBI class were need to be developed, where (1) the contents feasibility for Book A, B and C were respectively 82.91%, 84.05%, and 85.72%; (2) language feasibility for Book A, B and C were successively 80.22%, 90.06%, and 95.92%; and (3) The presentation feasibility for Book A and C were 100%, and for book B was 95.65%. The developed chemistry textbook Year XI Semester II consist of Acid-Base, Buffer Solution, Salt Hidrolysis, Solubility and Solubility Product, and Colloidal System. The teacher gave positive response to a developed chemistry textbook for Year XI Semester II, where it was categorized as very good. Specific judgement based on BNSP criteria: (1) contents feasibility was 37.5 (93.75%); (2) language feasibility was 3.85 (96.25%), and (3) presentation feasibility was 4.00 (100%). The developed chemistry textbook was very effective to improve students' achievement on teaching and learning chemistry, where the mean for experimental class was 76.44 where for the control class was found 75.00, and both was significantly different (t-test,  $1.92 > t\text{-table}, 1.70$ ). It was suggested to use developed chemistry textbook in the teaching and learning for Year XI Semester II.