Construction of Learning Chemistry Materials Integrated Vocational Context to Improve Scientific Literacy and Interest of Automotive Engineering Students in Chemistry Learning

by Antuni Wiyarsi, Heru Pratomo, Erfan Priyambodo

ABSTRACT

This study aims to produce chemistry learning materials appropriate with vocational context, examine the feasibility and impact in chemistry learning for vocational automotive engineering program. Construction of learning materials based on integration of chemistry content with vocational content of automotive engineering.
The study was conducted using the method of exploratory mixed method design consisting of four stages: a qualitative phase, instrument development, quantitative phase, and interpretation. Qualitative stage begins with an analysis of curriculum to obtain guidelines for developing electrochemistry learning materials integrated automotive vocational context (ETKKO). The next step is the drafting of learning materials and research instruments. The research instruments are includes assessment sheet of learning materials, questionnaires of student's interest and test of scientific literacy. Then proceed with the validation of experts, the revision and assessment of learning material by chemistry teacher as potential users. Quantitative phase is done by implementation of ETKKO in learning chemistry with technological science and society (STS) learning models.
The analysis result showed that the ETKKTO otherwise have eligibility to be used according to the expert. Overview of the feasibility by chemistry teachers and students of automotive engineering also stated that the learning materials eligible for use in electrochemical learning in vocational school. The other studies indicate that vocational students' interest is better. Application of ETKKO learning materials in chemistry learning improve scientific literacy of students with good enough category and the scientific literacy of students are better in the application of learning materials ETKKO.

Kata Kunci: *integration, chemical vocational context, learning materials, electrochemistry, scientific literacy*