

ABSTRAK

Kurniadi, Rezi. 2025. Pengembangan E-Modul Berbasis Masalah Menggunakan Aplikasi *Pages* Guna Meningkatkan Kemampuan Berpikir Kritis Peserta Didik Pada Materi Ikatan Kimia. Program Magister Pendidikan Kimia, Fakultas Keguruan Dan Ilmu Pendidikan, Universitas Jambi. Pembimbing I: Prof. Dr. M RUSDI, S.Pd., M.Sc, Pembimbing II: M HARIS EFFENDI HSB, S.Pd., M.Si., Ph.D.

Kata Kunci: *ADDIE, Berpikir Kritis, E-Modul, Gaya Antar Molekul, Ikatan Kimia, Pages*

Chemistry bonding concept is often considered difficult by students as this is abstract in nature which makes challenging to master. Critical thinking skills (CTS) are urgently needed to learn this concept. However, based on some observations towards students in an Islamic high school in Jambi city Indonesia revealed that 59.7% of students had low level of CTS, 22% had moderate level, and only 16% had high level. An e-module can be used to improve those students' CTS. This will be more improved when it is based on problems. This study thus aimed at developing a problem-based electronic module under Pages platform in chemistry bonding concept. This study also on purpose to investigate the validity of the e-module and the effectiveness of its use in improving those students' CTS in that concept. Therefore, the ADDIE approach was used to develop the module which involved the step of analysis, design, development, implementation, and evaluation. Experts, a class of students, and one chemistry teacher of the school were participated in the development process. Data were collected using observations, questionnaires, interviews, and tests. The qualitative data were analyzed using a descriptive technique and the quantitative data were analyzed using t-test by SPSS 25. The results of analyses revealed that the e-module had been successfully developed using the ADDIE approach. It was also found that the e-module had been valid and thus effective in improving the students' CTS. This was proven by the statistical results indicating that the data were normal and homogeneous (p -value $> .05$) which produced significant difference between the students' pre-test and posttest (p -value $< .05$). The produced valid and effective e-module may be coming from the strict process under the prescribed steps by Lee and Owen (2009) employed during the development process.