

# **WEBSITE-BASED INTERACTIVE MULTIMEDIA DEVELOPMENT ON CELL MATERIAL TO IMPROVE CRITICAL THINKING SKILLS AND INDEPENDENT LEARNING OF CLASS XI HIGH SCHOOL STUDENTS**

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## **ABSTRACT**

Critical thinking ability and learning independence at SMAN 1 Ngemplak is still low, This can be caused by the lack of variety of learning media used by teachers. The learning method used is 5M and lectures from teachers. Therefore, it is necessary to create interactive multimedia to improve critical thinking skills and learning independence of students at SMAN 1 Ngemplak through innovation in developing website-based interactive multimedia learning media. This study used two classes as an experimental class and a control class. This research aims to produce feasible, practical and effective learning media to improve critical thinking skills and learning independence. The procedure used in this research and development is the ADDIE model which consists of Analyze, Design, Develop, Implement, and Evaluate. The resulting product is in the form of interactive multimedia based on the website. Validation was carried out with three experts, namely media experts, material experts, and biology teachers. Limited trials were carried out in class XII MIPA 2 SMAN 1 Ngemplak. Large-scale trials were carried out in class XI MIPA 1 (experimental class) and in class XI MIPA 2 (control class). Data were collected by observation techniques, questionnaires and written tests. The data were analyzed in a quantitative descriptive manner with paired sample t-test statistics and independent test sample t-test. The results obtained from this development research are website-based interactive multimedia suitable for use in learning based on expert assessment, website-based interactive multimedia is practical to use based on small-scale and large-scale practicality tests; and website-based interactive multimedia effective to improve students' critical thinking skills and learning independence.

Kata Kunci: *Website-based interactive multimedia, critical thinking skills, learning independence*