## *ABSTRAK*

**Devilia Yuliani. 2018. Optimization of Multimedia Animation-Based Learning to Improve Students' Critical Thinking Ability in Virus Material. Preceptor I Prof. Dr. H. Toto Sutarto Gani Utari, M.Pd dan Pembimbing II Dr. Cartono, M.Pd., M.T.**

*Learning multimedia animation is a learning process by using media that operate directly by students so that students are more free to control and easier to understand the material by combining various media elements consisting of text, graphics, sound and animation that are presented interactively in learning media. The ability to think critically is the process of thinking about things, substance or any problem in which the thinker improves the quality of his thinking by handling skillfully the structures inherent in thought and applying intellectual standards to him. This study aims to determine the use of animated multimedia-based learning media in increasing the level of critical thinking on viral material. The research method used was Pre-Experiment Design using the One-Group Pretest-Posttest Design research design. The subjects of this study were determined by purposive sampling technique, namely students of class X MIPA-2 in SMA Pasundan 7 Bandung in the odd semester of the 2018-2019 academic year. The results of the cognitive aspects obtained an average pretest score of 27.11 and the average posttest score of 78.44 and the results of the N-Gain test obtained a score of 0.71 with the high category. Then, the results of the research on the affective aspects get an average score of 80 with good categories and psychomotor aspects get an average score of 85 with a very good category. While student learning responses as long as students follow learning by using multimedia-based animation learning. The results of the student response questionnaire assessment with the number of students 36 people get a percentage of 86% in positive statements with almost all categories and 72% in negative statements with more than half categories, then the overall average number obtained is 79% reach almost all categories. The results of the questionnaire explained that there was an increase in learning outcomes after applying animation-based multimedia learning media on viral material. From the results of the research data it can be concluded that the use of animation-based multimedia learning media can improve students' critical thinking skills in viral material.*



***Keywords**: Student Critical Thinking Level, Multimedia Animation Based Learning Media, Virus*