ABSTRAK

Annisa Putri, NIM 5203351013 (2025). Pengembangan Media Pembelajaran Interaktif Berbasis Model *Case Based Learning* Pada Materi Sistem Keamanan Jaringan Telekomunikasi di SMK Swasta Trirtech Informatika Medan.

Penelitian ini bertujuan untuk mengembangkan media pembelajaran interaktif berbasis model *Case Based Learning* pada materi Sistem Keamanan Jaringan Telekomunikasi di kelas X SMK Swasta Tritech Informatika Medan. Latar belakang penelitian ini didasari oleh pesatnya perkembangan teknologi informasi yang menuntut inovasi dalam pembelajaran, khususnya pada Kurikulum Merdeka yang menekankan pada pembelajaran yang berpusat pada peserta didik. Hasil observasi menunjukkan bahwa media pembelajaran yang digunakan masih bersifat konvensional dan kurang mendukung pemahaman peserta didik terhadap materi yang kompleks. Oleh karena itu, media pembelajaran interaktif berbasis Adobe Animate CC dikembangkan untuk menyajikan materi secara visual dan menarik, sesuai dengan karakteristik peserta didik. Melalui model *Case Based Learning*, peserta didik diajak menganalisis dan memecahkan kasus nyata yang relevan, sehingga mampu meningkatkan pemahaman, motivasi, serta keterlibatan dalam proses pembelajaran. Prosedur penelitian ini menggunakan model ADDIE *(Analysis, Design, Development, Implementation, and Evaluation)* dan untuk pengembangan produk media menggunakan metode *Multimedia Development Life Cycle* (MDLC). Pengujian media pembelajaran mencakup kelayakan materi dan media, kebergunaan, serta keefektivan.

Berdasarkan hasil uji kelayakan yang telah dilakukan, media pembelajaran ini dinyatakan layak untuk digunakan dalam proses pembelajaran. Skor kelayakan materi mencapai 4,78, yang masuk dalam kategori sangat layak, menunjukkan bahwa isi dan penyajian materi sudah memenuhi standar yang ditetapkan. Demikian pula, dari aspek kelayakan media, diperoleh skor 4,38, yang juga dikategorikan sangat layak, mencerminkan kualitas tampilan dan fungsi media yang mendukung pembelajaran. Dari sisi akseptabilitas, penilaian peserta didik memberikan skor 4,86, termasuk dalam kategori akseptansi sangat tinggi, yang menunjukkan bahwa media ini diterima dengan sangat baik oleh siswa. Untuk mengukur efektivitas media, dilakukan pretest dan posttest pada kelas X TEX, dengan hasil N-Gain sebesar 0,7, yang tergolong sedang. Jika dikonversi ke dalam bentuk persentase, nilai tersebut setara dengan 70%, menandakan bahwa media ini tergolong cukup efektif dalam meningkatkan hasil belajar. Dengan demikian, secara keseluruhan dapat disimpulkan bahwa media pembelajaran ini sangat layak dan cukup efektif untuk digunakan dalam mendukung proses pembelajaran di kelas.

Kata Kunci: Media Pembelajaran, *Case Based Learning*, Keamanan Jaringan, Telekomunikasi

ABSTRACT

Annisa Putri, NIM 5203351013 (2025). ***Development of Interactive Learning Media Based on the Case-Based Learning Model on Telecommunication Network Security Materials at SMK Swasta Tritech Informatika Medan***

This study aims to develop interactive learning media based on the Case-Based Learning model for the subject of Telecommunication Network Security in grade X TEX at SMK Swasta Tritech Informatika Medan. The background of this research stems from the rapid development of information technology, which demands innovation in education, especially in the context of the Merdeka Curriculum *that emphasizes student-centered learning. Observations indicated that the learning media used in the classroom were still conventional and did not adequately support students' understanding of complex materials. Therefore, interactive learning media using Adobe Animate CC were developed to present the content visually and engagingly, in line with students' learning characteristics. Through the Case-Based Learning model, students are encouraged to analyze and solve real-world cases, thereby enhancing their comprehension, motivation, and engagement in the learning process. The research procedure employed the ADDIE model (Analysis, Design, Development, Implementation, and Evaluation), while media development followed the Multimedia Development Life Cycle (MDLC) method. The media was evaluated based on content and media feasibility, usability, and effectiveness.*

Based on the results of the feasibility test that has been conducted, this learning media is declared suitable for use in the learning process. The material feasibility score reached 4.78, which falls into the highly feasible category, indicating that the content and presentation of the material meet the established standards. Similarly, in terms of media feasibility, a score of 4.38 was obtained, which is also categorized as highly feasible, reflecting the quality of the media's appearance and functionality in supporting learning. From the aspect of acceptability, student assessments gave a score of 4.86, which falls into the category of very high acceptability, showing that the media was very well received by the students. To measure the effectiveness of the media, a pretest and posttest were conducted in class X TEX, resulting in an N-Gain score of 0.7, which is classified as moderate. When converted into a percentage, this value is equivalent to 70%, indicating that the media is fairly effective in improving learning outcomes.

Therefore, it can be concluded that this learning media is highly feasible and fairly effective for supporting the classroom learning process.

Keywords*: Learning Media, Case-Based Learning, Network Security, Telecommunication*