

ABSTRAK

Kevin Ray : Pengembangan Media Pembelajaran Interaktif Berbasis *Chatbot* Telegram pada Mata Pelajaran Dasar-Dasar Program Keahlian (DDPK) Teknik Komputer dan Jaringan (TKJ) untuk Siswa Kelas X TKJ di SMKS Muhammadiyah 04 Medan. Skripsi. Fakultas Teknik Universitas Negeri Medan, 2026.

Penelitian ini bertujuan mengembangkan media pembelajaran interaktif berbasis Chatbot Telegram serta mengetahui kelayakan, akseptabilitas, dan efektivitasnya pada mata pelajaran DDPK TKJ di SMKS Muhammadiyah 04 Medan. Dilatarbelakangi oleh rendahnya keterlibatan siswa dalam belajar mandiri dan minimnya interaksi dengan guru, penelitian ini menggunakan metode *Research and Development* dengan model ADDIE yang dikombinasikan dengan model Waterfall. Subjek penelitian meliputi ahli materi, ahli media, dan siswa kelas X TKJ. *Chatbot* dikembangkan dengan fitur penyajian materi, latihan soal interaktif, umpan balik otomatis, integrasi grup diskusi, akses Google dan YouTube, serta laporan capaian pembelajaran. Hasil penelitian menunjukkan: (1) uji kelayakan ahli media memperoleh skor 4,21 (Sangat Layak); (2) uji kelayakan ahli materi memperoleh skor 4,30 (Sangat Layak); (3) uji akseptabilitas siswa memperoleh skor 4,56 (Akseptabilitas Sangat Tinggi); (4) uji efektivitas dengan desain Pretest-Posttest Control Group Design menunjukkan peningkatan hasil belajar signifikan pada kelas eksperimen. Nilai *N-Gain* kelas eksperimen sebesar 0,73 (kategori tinggi/efektif), sedangkan kelas kontrol sebesar 0,51 (kategori sedang/cukup efektif). Hasil uji Independent Sample t-test menunjukkan nilai signifikansi $p = 0,000 < 0,05$, yang berarti terdapat perbedaan hasil belajar yang signifikan antara kedua kelompok. Kesimpulannya, media pembelajaran berbasis Chatbot Telegram yang dikembangkan layak, dapat diterima dengan baik, dan efektif meningkatkan hasil belajar siswa pada mata pelajaran DDPK TKJ.

Kata kunci: Media Pembelajaran Interaktif, *Chatbot* Telegram, Dasar-Dasar Program Keahlian (DDPK), Teknik Komputer dan Jaringan (TKJ), ADDIE, *Waterfall*.

ABSTRACT

Kevin Ray : Development of Interactive Learning Media Based on Telegram Chatbot for the Basic Vocational Program (DDPK) Computer and Network Engineering (TKJ) Subject for Grade X TKJ Students at SMKS Muhammadiyah 04 Medan. Thesis. Faculty of Engineering State University of Medan, 2026.

This study aims to develop interactive learning media based on a Telegram chatbot and determine its feasibility, acceptability, and effectiveness in the DDPK TKJ subject at SMKS Muhammadiyah 04 Medan. Motivated by low student engagement in independent learning and minimal interaction with teachers, this research uses the Research and Development method with the ADDIE model combined with the Waterfall model. Research subjects include material experts, media experts, and grade X TKJ students. The chatbot features structured learning materials, interactive exercises with automatic feedback, discussion group integration, Google and YouTube access, and learning achievement reports. The results showed: (1) media expert feasibility test scored 4.21 (Very Feasible); (2) material expert feasibility test scored 4.30 (Very Feasible); (3) student acceptability test scored 4.56 (Very High Acceptability); (4) effectiveness test using Pretest-Posttest Control Group Design showed significant improvement in the experimental class. The N-Gain value for the experimental class was 0.73 (high/effective category), while the control class was 0.51 (moderate/sufficiently effective category). The Independent Sample t-test showed a significance value of $p = 0.000 < 0.05$, indicating a significant difference in learning outcomes between the two groups. In conclusion, the developed Telegram chatbot-based learning media is feasible, well-accepted, and effective in improving student learning outcomes in the DDPK TKJ subject.

Keywords: Interactive Learning Media, Telegram Chatbot, Basic Vocational Program (DDPK), Computer and Network Engineering (TKJ), ADDIE, Waterfall.

