

**PENGEMBANGAN MEDIA PEMBELAJARAN SYARATALK:  
INTEGRASI *AUTOMATED SPEECH RECOGNITION* DAN ANIMASI  
BAHASA ISYARAT UNTUK SISWA TUNARUNGU**

**KOMANG KURNIAWAN WIDIARTHA**

**ABSTRAK**

Penelitian ini bertujuan mengembangkan dan mengevaluasi media pembelajaran inklusif berbasis transkripsi *Automated Speech Recognition* (ASR) yang terintegrasi dengan animasi bahasa isyarat digital untuk meningkatkan aksesibilitas pembelajaran bagi siswa tunarungu. Penelitian menggunakan metode *Research and Development* dengan model ADDIE yang meliputi tahap analisis, desain, pengembangan, implementasi, dan evaluasi. Produk yang dihasilkan berupa platform media pembelajaran SYARATALK yang mengintegrasikan transkripsi suara guru secara real-time, animasi bahasa isyarat, video pembelajaran, serta fitur pengelolaan kosakata isyarat. Validitas media diuji oleh para ahli, sedangkan kepraktisan dinilai menggunakan System Usability Scale (SUS). Efektivitas pembelajaran dianalisis menggunakan *One-Sample t-Test* dengan acuan Kriteria Ketuntasan Minimal (KKM). Hasil penelitian menunjukkan bahwa media memiliki tingkat validitas tinggi, *usability* yang baik, dan rata-rata nilai *posttest* siswa mencapai 75,15, memenuhi standar KKM. Temuan ini menunjukkan bahwa integrasi teknologi ASR dan animasi bahasa isyarat berpotensi menjadi solusi inovatif dalam mendukung pembelajaran inklusif bagi siswa tunarungu.

**Kata-kata kunci:** pendidikan inklusif, siswa tunarungu, *Automated Speech Recognition*, animasi bahasa isyarat, model ADDIE, media pembelajaran digital

**DEVELOPMENT OF SYARATALK LEARNING MEDIA: INTEGRATION  
OF AUTOMATED SPEECH RECOGNITION AND SIGN LANGUAGE  
ANIMATION FOR DEAF STUDENTS**

**KOMANG KURNIAWAN WIDIARTHA**

**ABSTRACT**

*This study develops and evaluates SYARATALK, an inclusive learning medium that integrates real-time Automated Speech Recognition (ASR) with animated sign language to improve learning accessibility for deaf students. The research adopts a Research and Development approach using the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). The resulting system provides real-time speech transcription, animated sign-language visualization, learning videos, a virtual learning room, and a sign-language dictionary that can be managed by teachers. Product validity was assessed by experts, usability was measured using the System Usability Scale (SUS), and learning effectiveness was analyzed using a One-Sample t-Test against the Minimum Mastery Criterion (KKM). The results indicate that the media achieved high validity, good usability, and a mean posttest score of 75.15, meeting the established KKM threshold. These findings demonstrate that integrating AI-based speech transcription and animated sign language can enhance accessibility, engagement, and comprehension for deaf learners. The study highlights the potential of intelligent multimodal learning systems to advance technology-driven inclusive education.*

**Keywords: inclusive education, deaf students, Automated Speech Recognition, sign language animation, ADDIE model, digital learning media**