

Best Practices of Accessibility and Assistive Technologies in Education for Students with Disabilities

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Abstract

In education, Accessible and Assistive Technology (AT) is vital for students with special educational needs and disabilities (SEND), addressing various cognitive and physical challenges. AT enhances communication, social interaction, and academic performance through tools like speech-to-text software and mobility aids. Despite its benefits, implementation faces obstacles such as inadequate teacher training, economic barriers, and rural access disparities. Research highlights AT's importance in accessibility and inclusion but calls for further development and increased awareness due to low citation and research impact. The best practices of accessibility and assistive technologies are interlinked to provide the best inclusivity and learning environment for students with disabilities in the education system. Researchers at Bournemouth University (BU) have developed accessible and assistive technologies to foster inclusive education for students with disabilities. Whittington and Dogan's work on the EduAbility application help pupils with reduced physical and cognitive abilities by recommending suitable assistive technologies and offering a training package for educators. They have also developed the SmartAbility Framework to recommend appropriate assistive technologies based on users' needs to promote independence. Additionally, BU collaborates with Bournemouth, Christchurch and Poole (BCP) Council's Morebus to provide accessible transportation for students with disabilities. BU also has other AT research initiatives including SmartPowerchairs, accessible authentication (Authentibility) and improving the accessibility of healthcare services (HealthAbility). As a case study, the usability evaluation of EduAbility is presented. The EduAbility Android application considers AT for education, providing recommendations to teachers and teaching assistants, as well as pupils with disabilities. It consists of three categories within its Training Package: Training, Learning, and Videos. This article highlights the best practices developed by researchers and policymakers at BU to enhance accessibility, transportability, and inclusivity, reflecting the lived experiences of these initiatives for SEND students.

Keywords: accessibility, inclusivity, transportability, lived experiences, awareness, education, research

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