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EdTech for Learners with Hearing and Visual Impairments

A Rapid Evidence Review for the Southeast Asian Region

INTRODUCTION

This Rapid Evidence Review (RER) outlines the potential for using EdTech for various educational needs for Southeast Asian learners as part of the Association of Southeast Asian Nations and the United Kingdom's Supporting the Advancement of Girls' Education programme (ASEAN-UK SAGE). This is a UK Foreign, Commonwealth and Development Office (FCDO) programme for ASEAN member states and Timor-Leste. Other partners include the ASEAN Secretariat, the Southeast Asia Ministers of Education Office (SEAMEO), the British Council, EdTech Hub and the Australian Council for Educational Research (ACER).

OVERVIEW AND SCOPE

Despite recent developments, many children with disabilities still struggle to access quality education in Southeast Asia ([UNESCO, 2023](#)). This RER investigates the use of EdTech for learners with hearing and visual impairments in Southeast Asia. By systematically searching academic and grey literature and analysing 22 shortlisted publications, the review addresses two research questions:²

- The key emergent themes in the literature on EdTech for students with hearing and visual impairments.
- The recommendations for improving education quality for these learners.

Themes that emerged from the literature regarding factors that facilitate the effectiveness of EdTech in education for learners with special education needs and disabilities (SEND) include:



Meeting the needs of learners based on their specific disability/ disabilities, such as the use of visual cues, images/symbols ([Techaraungrong et al., 2015](#)), and accommodations such as captioning or sign language interpretation for students with hearing impairments ([UNICEF Timor-Leste & Ministry of Education, Youth and Sport, no date](#)).

¹This spans Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Timor-Leste, and Vietnam.

²Details on the inclusion criteria, as well as the associated limitations, can be explored in the methodology section of the report, see <https://docs.edtechhub.org/lib/M6A4ZHJ3>.



Ease of use and enjoyable learning, which in turn increases motivation to learn, as reported by teachers ([↑Masitry et al., 2013](#)). This may include elements of interactivity or compelling interface design.



The ability to repeat content (particularly helpful for increasing understanding) and to access content in different locations ([↑Masitry et al., 2013](#); [↑Techaraungrong et al., 2015](#)).



Studies have shown that inclusivity in learning environments, where SEND students learn alongside peers without disabilities, can benefit SEND students academically and increase non-SEND students' sense of understanding and acceptance ([↑Kart & Kart, 2021](#)).



Students' and parents' ability to communicate with the teacher, particularly to obtain academic support (including guidance for device/ programme usage) ([↑Dianito et al., 2021](#)).

KEY FINDINGS

01

Additional research and data are needed across Southeast Asia to understand how students with visual and hearing impairments are learning, what works, and what additional support is needed. Gaps identified include:

- Consideration of the multiple dimensions of marginalisation (e.g., SEND) and the complex ways these intersections affect students' access, learning experiences, educational outcomes, and needs.
- Teacher training for students with disabilities must be embedded in pre- and in-service sessions to ensure teachers can meet the diverse needs of a classroom, develop teachers' commitment to meeting these varied needs, and cultivate a culture of inclusivity.
- How caregivers can be trained to support their children with visual and hearing impairments, including through the extension of EdTech devices or interventions from a school to a home setting, and the policies required to develop caregivers' digital literacy.
- An understanding of the socio-emotional impact of having a visual or hearing disability on students and how EdTech may help or hinder their development in this area.
- The cost-effectiveness and quality of interventions and established guidelines for teachers and caregivers.

02

Inclusive practices benefit all students; governments should support relevant accommodations and teacher training. Rather than viewed as an add-on, these investments should be developed as an integral part of the education system. Examples include captioning, visual elements and guides, built-in options for repeating content, general improved ease of use, and a focus on learner-centredness.

03

Many identified barriers affect students with and without visual and hearing disabilities. Steps to address these barriers benefit all students. Examples include strengthening a country's information and communication technology (ICT) infrastructure, ensuring appropriate hardware for all students, and considering multiple disabilities in the design of an EdTech intervention.

04

Other learners must be educated about including students with disabilities by considering their needs. For example, students need to be taught how to appropriately access materials that may be provided to students with visual and hearing disabilities (e.g., computer cameras for lip-reading) and why it is important they do so. They must also identify ways to proactively consider and include their peers with visual or hearing impairments.

05

Governments and educators can further embed principles for supporting students with disabilities in policies and practice. In some instances, we observed the incorporation of good practices or principles for students with disabilities, such as by taking an inclusive education approach ([↑Kart & Kart, 2021](#)). Based on the available literature from this report, we suggest that further analysis can be conducted to identify potential gaps and additional ways in which these practices might be incorporated into policy and practice across the region.



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ABOUT ASEAN-UK SAGE

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