What evidence is there for the benefits of flexible and adaptive curricula in inclusive education?

The question and the problem

Promoting inclusive education, underpinned by the acknowledgement that every child has the right to a quality education - is a challenge globally, but even more so in Low- and Middle-Income Countries (LMICs) where many schools struggle with clashing priorities due to limited funds and resources. Flexible and adaptive curricula, often referred to as curriculum modification strategies, are one of the key components of including and engaging students with disabilities in the educational systems. These modifications make regular curricula more responsive to the diverse needs of children with special educational needs by including targeted content and methods for teaching. There are a variety of challenges facing students, parents, teachers and schools when attempting to achieve and benefit from adapted curricula as well as accessing, the evidence for which will be presented and outlined below including recommendations to overcome these challenges.

Recommendations

- **Recommendation #1:** Adapt curricula and teaching methods to facilitate inclusive education
- **Recommendation #2:** Community awareness raising to break down negative perceptions.
- **Recommendation #3:** Generate greater awareness of assistive technology and its benefits among teachers, students and parents.
- **Recommendation #4:** Make assistive technology affordable and develop a knowledge base
- **Recommendation #5:** Adaptations of minor characteristics of certain sports

“Consultation and empowerment work hand-in-hand, and both can have beneficial effects on the child’s ability to cope with his/her disability, and develop mechanisms to overcome difficulties [...]

Children should be allowed the opportunity to fail, and judge for themselves where their abilities lie"

- Coates et al. (2008)
Challenges

Challenge #1: Across the world, a majority of students with disabilities tend to be either in segregated special schools or out of school.

- Curriculum modifications and assistance have mainly been used in special needs classrooms and not in mainstream schools. In Japan for example, students used to be forcibly transferred to schools exclusively for certain types of disabilities. This was later addressed by implementing the modified curriculum of special schools in mainstream educational institutions to ensure inclusive classrooms.

Challenge #2: Negative perceptions in the community continue to act as barriers for differentiated learning techniques.

- There is a belief that inclusive education and curriculum modifications might negatively impact and impede the learning of non-disabled students. However, all students have been found to benefit academically and socially from differentiated learning techniques and curriculum modifications such as visual resources and comprehension strategies as all students learn differently irrespective of disability.

Challenge #3: Often times in LMICs, the challenge is not only to adapt the curriculum, but to access it. In-accessibility to adapted curriculums reduces the full range of its benefits for learners with disabilities.

- Learners with disabilities are not always able to access a shared and full national curriculum independently, indicating that additional mechanisms need to be incorporated to enable the full benefits of such curricula. Educational technology has been found to play an important role in ensuring that students with disabilities can have equal access to the curriculum.
- There has been a significant growth in the number of assistive technology that also has a tremendous impact on how, when and where students access the curriculum, e.g. through videos to teach sign language and zooming apps for visually impaired students to read the material.

Challenge #4: Lack of funding, high unit costs and a lack of infrastructure are continued barriers for the access of assistive technology, especially in LMICs

- The use of assistive technology has seen benefits in all aspects of learning for students with disabilities, including developing the independence and confidence in accessing and adapting their curriculum. However, in many LMICs, parents, schools and persons with disabilities are unable to fund assistive technologies as most devices and programs are imported and priced in a foreign currency, making them too expensive for most to benefit.
- A lack of infrastructure also limits the access to assistive technology such as unreliable or no electricity supply and unreliable or no internet access. This also leads to a dearth of opportunities to test products so it is unclear the extent to which EdTech is being used in LMICs as many solutions in HICs cannot be replicated in resource constrained areas.

Challenge #5: More work is required to adapt physical education curriculum to engage and include all learners

- Curriculum modifications in inclusive education holds a variety of benefits for students with disabilities such as social, communicational and physical benefits. However, most conventional physical education curricula focuses broadly on competitive and collective activities such as sports which often excludes students with physical disabilities as students can feel socially excluded when they cannot take part and lack physical exercise opportunities.
- Limited opportunities for appropriate training of teachers and PE instructors in many institutions can create a lack of confidence in adequately providing high-quality inclusive physical education for children with disabilities. Moreover, to date only a handful of research has involved the perspectives of children with disabilities regarding their experiences of physical education, which is essential in ensuring adaptation to curricula is reflective of their needs.
How did we find answers?

We conducted a review of reviews, examining systematic and literature reviews including other studies to review the evidence on the topic of benefits for flexible and adaptive curricula in inclusive education. All recommendations are based on reviews of literatures from low- and middle-income countries. This evidence note is based on the findings of 4 systematic reviews, 3 literature reviews and one study of low- and middle-income country evidence covering a range of setting and aspects of school-life for students with disabilities.

Evidence-informed Recommendations and Actions

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<th>Key Recommendations</th>
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<td><strong>Adapt curriculums and teaching methods to facilitate inclusive education</strong></td>
<td>Inclusive education i.e. the desegregation of special needs schools can be achieved by making an effort to accommodate and adapt the content and materials of the general curriculum. This includes making modifications to instructions and the use of assistive technologies in consultation with students with disabilities. Ensuring that children with disabilities are part of the consultation process and decision making about their educational curricula empowers them and introduces the opportunity for more relevant solutions to increase participation by both disabled and able-bodied learners</td>
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<td><strong>Raising community awareness to break down negative perceptions</strong></td>
<td>Community awareness initiatives targeted to parents and teachers should cover the benefits of curriculum modifications in inclusive education for both students with and without disabilities. Awareness-building activities should include personal reflection and dialogue with an emphasis on the attitudes of teachers, students and parents prior to the placement of children with disabilities in mainstream schools</td>
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<td><strong>Generate greater awareness of assistive technology and its benefits among stakeholders in education</strong></td>
<td>Teach an additional or specialist curriculum to educators and all students on how to use and incorporate Edtech to promote independent learning. This can be in the form of targeted technological support to engage with the national curriculum. It is critical to involve children with disabilities and their teachers in the design and implementation of Edtech initiatives and evaluation studies for increased engagement and ownership over the long-term</td>
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<td><strong>Make assistive technology affordable and develop a knowledge base</strong></td>
<td>Solutions can include government subsidies to make it more affordable, encourage and promote investment in assistive technology as well as source products more locally to reduce cost. In order to assess assistive technology and generate solutions to increase its use, there is a great need to develop a diverse knowledge base for these initiatives</td>
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<td><strong>Adaptations of minor characteristics of certain sports that form part of the curriculum.</strong></td>
<td>The adaptation of minor characteristics of sports programs, in consultation with disabled learners enables the inclusion of more students with disabilities while not completely changing the sport as to not frustrate able-bodied peers. Providing teachers with protected time to participate in training and professional development for adequately delivering physical education criteria is essential for skills building and improved confidence</td>
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Policy priorities

Policy makers in education, educational officers, relevant stakeholders and the general community need to be more aware of the importance of, as well as how to adequately adapt; physical environments, the availability of appropriate adaptive equipment and how to adapt competitive sports. Furthermore, in many LMICs, the inclusion of students with disabilities is a significant challenge and task for policy makers. Therefore, EdTech interventions should be prioritised as part of the larger solution. As mentioned above, there is a lack of access and issue of affordability of EdTech in LMICs. Policymakers are encouraged to promote the awareness as well as investments in educational technology. It is also highly recommended to subsidise the costs of these products in order to make it more affordable for every student and school.

Conclusion

It is seen here that a great deal of work is yet to be done to achieve curriculum modifications in order to ensure inclusive education. This is often due to not only a lack of modifications, but also a lack of access to the curriculum. This evidence note concludes that greater awareness among; parents, teachers, students, schools and policy makers is needed to ensure equal access and adequately adapted curricula. It is further proposed that assistive technology needs to be made available to all students in order to achieve independent access and adaptability of the curriculum. This evidence brief concludes that all relevant stakeholders have a role to play in the access and adaptability and places emphasis on the importance of assistive technology and awareness raising.

Included sources

1. Hayes AM, Bulat J. Disabilities inclusive education systems and policies guide for low-and middle-income countries.

Peer reviewer: Sadat Rabbi, Lecturer at University of Education Winneba and Onaiza Qureshi, Knowledge Exchange Officer at Disability Evidence Portal, LSHTM.

Publication details: © London School of Hygiene & Tropical Medicine, May 2022.


Disclaimer: The views expressed in this publication are those of the author/s and should not be attributed to Disability Evidence Portal and/or its funders.