



LEARNING PAPER

A school-based approach to providing assistive devices to young people

Introduction

Sierra Leone's Radical Inclusion Policy is bold in its commitment to increase the inclusion of children with disabilities in basic education. Girls and boys with disabilities have the potential to learn at the same level as their peers, but to do so they sometimes need direct intervention. For children who have difficulties in seeing, the simple provision of eyeglasses can make a huge difference to their wellbeing, safety and learning. However, at present there is no clear system or model for provision of glasses at scale to those who need them.

This paper presents a synthesis of learning from Leh Wi Lan's school-based approach to providing assistive devices (eyeglasses) to young people.



Background

In Sierra Leone, it is estimated that approximately 5% of the population are affected by early visual impairments; 7% by moderate visual impairments; and 3% by severe visual impairments (Jolley et al., 2022). Given these figures, it is likely that there are many thousands of children across the country who struggle to see blackboards, walk home safely, and complete their homework without support, such as classroom strategies and assistive devices, like glasses.



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For many families, different barriers constrain their ability to secure a pair of glasses for a child who is struggling to see. The nearest assessment centre may be miles away, and families may not have the money to get there, the funds to pay for the assessment and treatment, or the time to dedicate to the appointment. Parents may not know that assistive devices exist and may have resigned themselves to their child always having issues with their sight. Children themselves may not even have identified their vision as problematic, as they become accustomed to their own day-to-day experiences and accept headaches, squinting or difficulties in seeing as the norm. Community members may not know of anyone else who wears glasses, and teachers may perceive that learners who cannot answer questions based on what is on the board or in a textbook are just 'slow'.

Against this backdrop, Sierra Leone's primary and secondary enrolment rates, for both girls and boys, continue to rise. Support for the idea of 'education for all' – including marginalised learners such as pregnant and parenting girls, or children with disabilities – has rapidly expanded. Within this context, there is therefore an opportunity for schools to become more inclusive for these learners with seeing difficulties and for them to be positioned as the central delivery point for getting prescription glasses into the hands

of children who need them. However, at present there is no clear system for assessing learners, or funding low-cost assistive devices, such as glasses.

Donor-supported education projects have distributed devices but in general, they do not use a common distribution process or help education authorities with capacity to monitor, repair or replace them. Reasons for assistive devices getting broken are not well understood, with little thought given as to the follow-up strategies that need to be in place.

In 2019, Lei Wi Lan, working in close partnership with the MBSSE and local health service providers, embarking on a process of designing and trialling a school-based model for the inclusion of learners with disabilities. In 2020 and 2021, the model was rolled out to every secondary school, in all of Sierra Leone's 16 districts.

The model was part of a broader twin-track approach to inclusive education, in which more systemic, whole-school change was created (through teacher learning circles, for example, where teachers could discuss inclusive and class management methods), alongside plans to address the needs of specific groups of learners (in this case, learners with visual impairments). Critical to the model was ensuring that every school produced dependable Annual School Census data, as this would allow for the identification and verification of children with disabilities. The capacity of school staff was strengthened to ensure that data was reliable, safely stored, and linked to processes and ways in which school leadership could use it.

A School-Based Model for Inclusion of Learners with Disabilities

The constraints outlined above often mean that efforts to improve the inclusion of children with difficulties in seeing are characterised by short-term efforts at limited scale to screen and assess children and provide them with glasses - without involving or empowering individuals within the education system.

The LWL team developed a School-Based Model for Inclusion of Learners with Disabilities in response to these limitations. The Model provides a framework for the MBSSE and other practitioners to use to plan practical steps for inclusive education implementation which would not only benefit learners with visual impairments at the secondary level, but all learners with disabilities, at every education level.

Step 1

Step 1 was focused on schools and their mainstream classrooms. This initial step was based on fostering a common understanding that educating children with disabilities can be done by improving teaching and learning for all children – the key to which is knowing who the children are in terms of their different characteristics and needs. Therefore, this step involved working with school leadership staff to strengthen data management systems.

Central to the success of the model was the existence of annual school census data alongside a new data source, the 'Teachers' Checklist'. The checklist was intended to collate numbers of children observed by maths and English teachers to have possible learning difficulties (including difficulty in seeing). This provided schools with reliable information on the learners with disabilities in their school and a useful picture of different learning needs overall.

Step 2

Step 2 was primarily focused on teachers and District Inclusion Officers (DIOs).¹ All teachers in every school took part in training on how to identify children with different kinds of difficulties. Training content also challenged the assumption that teaching girls and boys with disabilities requires extra training and skills. Training sessions gave teachers easy-to-implement techniques and strategies for better inclusion of children with visual disabilities in their classrooms. The training also covered follow-up and use, making sure that children with newly provided eyeglasses are taking care of glasses, making sure they are used within class, and generally checking on their usage. DIOs received a similar training but were also shown how to conduct Washington Group Question assessments; manage disability logistics; consent; confidentiality and safeguarding; and budgeting and forecasting for disability-related costs.

Steps 3, 4 and 5

Steps 3, 4 and 5 introduced an element of direct, time-specific support in the form of identification and validation (step 3), assessment (step 4), and procurement and distribution (step 5) of eyeglasses. These three steps should not be seen as sequential to steps 1 and 2 (which work at the universal level) but carried out in parallel.

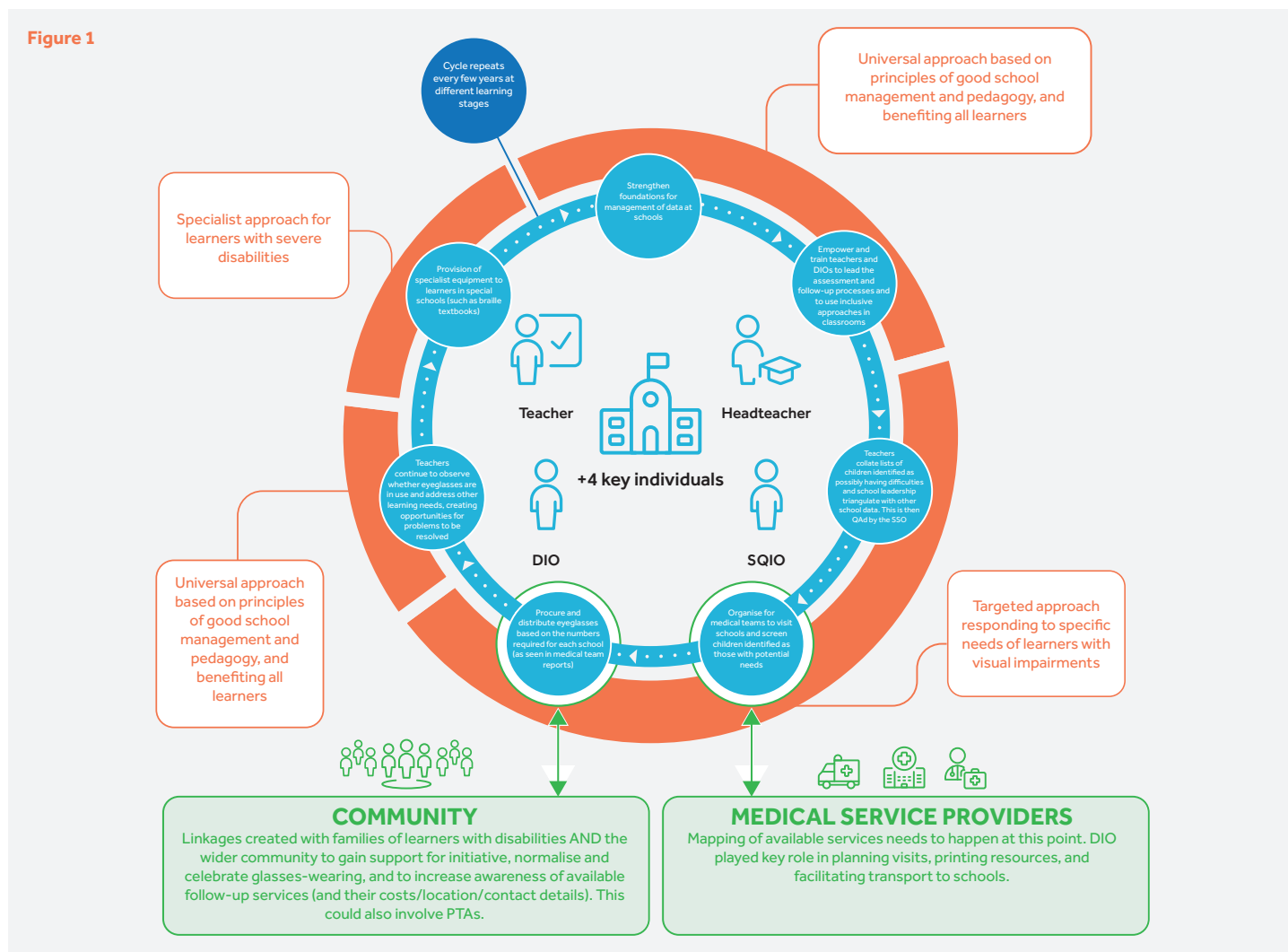
Step 6

Step 6 was concerned with follow-up, which links back to the skills developed and attitudinal change achieved in steps 1 and 2.

Step 7

Step 7 was the final step. It recognised that some specific impairments make it impossible for learners to achieve at the same pace as their non-disabled peers and, as a result, different provision is needed. This is where more specialist strategies are appropriate for a smaller number of students with severe disabilities. In this case, the support took the form of learning materials provided to special schools.

What was unique about this model is that it brought together all three approaches to inclusive education (quick-win actions that make mainstream school management and teaching more inclusive; targeted strategies to provide assistive devices; and highly specialised strategies for learners with severe disabilities²) in a way that puts the school at the centre. MBSSE staff were positioned as critical change-makers and implementors when it came to supporting struggling students and linking in with other duty-bearers such as the Ministry of Health and Sanitation (MoHS). Specific details on each of these steps can be seen in Figure 1 below.



Impact on learners

Key numbers

3489 girls and
2932 boys
screened for visual impairments

1264
Junior Secondary Schools and
388
Senior Secondary Schools reached

2210 girls and
1899 boys
given glasses*

41 female and
145 male
DIOs and School Quality Assurance Officers (SQAOs) trained

*Children who were screened but didn't receive glasses were those who a) were medically assessed as having no visual impairment b) who required treatment by drugs alone and c) required treatment by surgery alone.

Improved learning

- The overwhelming findings from the study was that glasses were welcome and that they had strong positive impacts on students' ability to participate in class and access learning.
- 98% of students in Focus Group Discussions (FGDs) agreed they could read books more easily; 99% of students could read the classroom board better and 100% could write better.
- Several students reported improved vision at night, enabling them to read and do homework independently.
- Teachers noticed not only improved reading and writing skills, but improved learning and participation across subjects, and more confidence and the ability to move around independently.
- Caregivers and parents also noted improvements for their children, especially in terms of improved school attendance, movement, and ability to study at home.

Improved health, wellbeing and safety

- Students experienced a reduction of accidents, greater safety when walking around, and less eye pain.
- 95% of students could get to and from school, and around school, more easily.
- The greatest additional benefit reported was protection of the eyes from sun and weather, resulting in fewer headaches and better vision and comfort. Reduced eye itching and watering were also reported, especially when students were given eye drops.
- 89% of students found interaction with peers and teachers easier with the glasses.
- It is notable that students valued the ability of glasses to protect them against the sun. Further research is needed to understand the link between comfort and tinted lenses (and learning) and consider provision of tinted lenses if recommended.

Sustained usage

Three years after initial distribution of glasses, 59% of students interviewed were still using them³. The significant minority no longer using glasses were largely doing so due to loss or breakage, rather than the glasses not being fit for purpose.

Differences across gender and other sub-groups

Benefits and challenges from glasses appeared to be experienced consistently across locations and gender, and across recipients who were still using glasses versus those who were not. Future monitoring and research could take a deeper dive into the gendered impact of disability and of eyeglass provision as well as intersectional impact across both universal and contextual characteristics (such as socio-economic status).

Alice's Story

Alice was identified by one of her teachers as a student who might be struggling in class on account of having difficulties with seeing. Alice said that she had been dealing with an



eye problem for as long as she could remember. When an optometrist came to her school to assess learners' eyesight, Alice's eyes were tested in several ways, and an appropriate lens identified. Alice's parents were called into school, and the optometrist helped the whole family to understand that Alice's left eye had undergone some optical damage, or glaucoma, but that glasses would help enormously. Soon, Alice received her first pair of eyeglasses along with a solar light to use at night. She said, "the frames are modern and the glasses stylish. They look cool. They give me the confidence I need to wear them". Alice soon got used to seeing clearly, and reports that she can now easily follow lessons and is starting to catch up. "My confidence has returned", she said. "Wearing glasses is not only helping me learn but helping me at home, too".

Factors for success

Several factors that appear to have influenced attitudes towards the inclusion of children with visual disabilities, teacher practice, learners' perceptions on eyeglass-wearing, and the quality of data management, assessment and follow-up systems.

Enabling teachers to identify and monitor student challenges

Teachers were identified as those who knew their students best. After orientation on inclusive education, teachers were found to be highly motivated, knowledgeable and committed when it came to listing children, they believed to have difficulties. Teachers were able to articulate which students had benefited, and how, and to notice when students stopped wearing glasses.

Using strong school data management systems and competencies

Leh Wi Lan had already built principals' capacity to use the Tangerine tablet-based data entry system to capture data on students. As a result, competencies and processes already existed that could be utilised to collate lists of children believed to have difficulty. Similarly, school leadership capacity to collect and use Annual School Census Data enabled a process of triangulation. When teachers and school leaders saw how easy it was to collect data on disability, and ways in which this could be used to benefit learning, they became more motivated to continue to maintain good data management practices and to discuss key trends in fora like Teacher Learner Circles.

Using the school as the screening, assessment and distribution point for healthcare

Closely connected to the factors above, the decision to use the school as the site for screening, assessment and distribution was a major factor for success. It enabled the programme to reach many thousands of learners, and to cement a connection in the minds of learners, parents and teachers between being able to see and being able to learn effectively. It maximised the opportunity to further strengthen the capacity of school and district office staff across broad domains including inclusive pedagogies, data management and usage, linking with the health sector, and child-centred research.

Training students on glasses maintenance

Most students reported being strongly motivated to protect and look after their glasses. Students in all groups who had received orientation were able to report in detail what the training had covered and to describe what they had done to follow it (such as keeping the glasses in their pouch, using the cleaning cloth, using hot water for cleaning, and not using glasses during play). This information could be extended to include details on where students can go for minor repairs and for follow-up appointments or new

glasses. Additional content could also guide students on what to do if peers want to share glasses, and how to report bullying or stigma.

Conducting follow-up research at the district-level

In 2022, Leh Wi Lan was able to undertake an important and insightful study of all those who received eyeglasses to understand impact and generate lessons on what worked. The participation rate amongst the sample was 100% - testament to high District Officer capacity to mobilise communities. The usage of qualitative methodologies was also beneficial as new and surprising findings were generated – such as the value that children gave to tinted lenses. FGDs and individual interviews were of high quality, suggesting an untapped potential to empower similar cadres of government staff to conduct more follow-up research on such initiatives, to generate more understanding on what works and to build their own expertise within inclusion.

What did not work?

Some glasses were reported as broken (for example, the frames were loose). If teachers and schools had training and resources, they could have been fixed.

Linkages with the community, and Disabled People's Organisations (DPOs) within it, could have been stronger. This would have identified opportunities to gain wider acceptance of wearing glasses, mobilised people to collectively protect glasses and to encourage learners to wear them, and to erode stigma and learners' self-consciousness.

Low student awareness of the assessment day meant that some students missed out because they were absent. Some reports suggested that so many students missed out that it resulted in learners sharing glasses - which then led to breakages.

Follow-up by service providers was uneven. Some service providers proactively provided their contact details to schools and learners, but others did little to encourage follow-up.

Students reported low awareness of how to contact eyecare centres.

A major barrier to accessing follow-up services is financial. Consideration needs to be given of how families can access free or low-cost follow-up if glasses are broken, or a new prescription is required.

Recommendations

Recommendations emerging from the experience of implementing the school-based model for inclusion of learners with disabilities vary according to level, and an examination of what can be done at each level is needed to ensure education is inclusive.

Recommendations for relevant national Ministries

Scale up school-based assessment and distribution of glasses and related eyecare materials based on cooperative leadership between health and education duty-bearers.

Begin the cycle of school-based assessments as early as is feasible. Ideally, the first round of assessment would take place soon after a child starts school, around the age of six. Subsequent rounds of assessments at appropriately frequent intervals would mitigate against the risk that children spent several years struggling to learn because of seeing difficulties. After every cycle is complete, the process of teacher-supported screening should begin again, with each school becoming more efficient at managing the process as time goes on.

For greater sustainability and reach, the government should consider developing a system for ensuring that all students have access to eyecare. Having regular eye checks carried out in schools, and uploading data on school tablets to MBSSE, would allow for more predictable budget allocation and bulk purchase negotiations.

Professional teacher development should encourage teachers to notice students who are struggling with learning, and in providing catch-up education for those with problems such as children who have been unable to read or see the board for some time. Teachers should be made aware of the additional effects of eye pain and headaches for students who do not have the right vision correction.

The MBSSE should initiate discussions with health and welfare ministries on how the school system could support child health and disability to promote more cross-sectoral planning and implementation and allow education and health ministries to deliver on their respective mandates when it comes to supporting children with disabilities.

Recommendations for district-level health and education officers

Set up funding and accountability arrangements with eyecare providers for replacing eyedrops and glasses, and for reaching out to schools to check glasses use. SQAOs are particularly well placed to coordinate health service visits to schools.

Where community health initiatives are taking place, link these with eyecare provision for children and young people.

Recommendations to schools

Take action to make sure that as many students are present on assessment day as possible. This could involve repeat announcements within assemblies, informing parents of the date of assessment, and messaging from teachers that reinforces the idea that assessment is nothing to be worried about or to avoid, but is designed to help all learners.

Set up one member of school staff to help with minor glasses repairs and note challenges with use of glasses.

Trainings for students and teachers associated with glasses distribution should cover some common ways in which glasses can become broken, and how to carry out minor repairs, such as tightening frames and binding broken frames together using locally available materials.

At the point of distribution, ask school committees and community leaders to conduct a large-scale community meeting to explain the benefits of glasses use for young people and how to support their use. Ask leaders to follow up the same messages regularly in the community. This can be complemented with other social and behavioural change methodologies and ideally planned in partnership with local DPOs.

Be clear that glasses can be used outside of school if protection advice is followed

Initiate and/or strengthen a whole-school approach to bullying and harassment based on recommendations within the National Policy on Radical Inclusion within schools and the National Referral Protocol on gender-based violence. This should include a multi-dimensional approach that considers the experiences of those with disabilities, including those with difficulties in seeing and those who wear glasses. Each school can identify the best way for its students and teachers to work together to create a norm where such bullying is seen as unacceptable; to ensure that learners experiencing this type of violence know where they can go to report and get help; and to guide teachers on how to prevent, react and escalate.

Recommendations for NGOs and development agencies

Think through sustainability and system-strengthening of any assistive device distribution from the beginning, involving relevant ministry staff and teachers in the process and planning for longer-term initiatives.

Support schools and relevant government officers to identify and connect with DPOs working in each targeted community. Based on a principle of 'nothing about us without us', consulting with these groups as part of the planning process and engaging them in efforts to reduce stigma around visual disabilities and eyeglass-wearing, would increase effectiveness of awareness-raising efforts, and build lasting relationships and connections between schools and DPOs that could have multiple unforeseen positive impacts.

Ensure that existing systems or pilot project budgets contain provision for data collection and follow-up research on impact. Research design should be reviewed with a GESI lens, taking advantage of the opportunity to unpack gendered and intersectional impact so that different impacts on different groups are made visible.

Conclusion

When children with disabilities have better access to more inclusive schools, and assistive devices like eyeglasses, their outcomes improve. These are not only academic outcomes but also those relating to their wellbeing, confidence, health and safety. When policymakers, schools and communities understand learner differences within their own schools, this reduces inequalities and leads to more inclusive societies.

Further reading

Jolley E, Mustapha J, Gondoe T, Smart N, Ibrahim N, Schmidt E (2022). *Rapid Assessment of Avoidable Blindness (RAAB) report, Sierra Leone*. Haywards Heath, UK: Sightsavers.

Sarton, E. and Smith, M. (2018). *UNICEF Think Piece Series: Disability Inclusion*. Nairobi: UNICEF Eastern and Southern Africa Regional Office.



¹ District Inclusion Officers worked with the Leh Wi Lan programme. They were not employed by the MBSSE. Some of their responsibilities have been taken on by the MBSSE's cadre of SQAOs.

² This approach is based upon principles outlined within the proposed 'Wave model of inclusive education' (Sarton and Smith 2018).

³ This number may seem low, but it is worth bearing in mind that in well-resourced contexts, education systems assume that children's glasses will need replacing on an annual basis due to loss, breakage or change in prescription needs.

Leh Wi Lan/Sierra Leone Secondary Education Improvement Programme (SSEIP) is a five-year (2016–2021) UKAid-funded programme aimed at improving English and mathematics learning achievement in all secondary schools of Sierra Leone, especially for girls. Any views and opinions expressed do not necessarily reflect those of the UK Foreign, Commonwealth and Development Office (FCDO), the British High Commission in Sierra Leone, or MBSSE.