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RESEARCH ARTICLE

## The Contribution of Collaborative Learning in Supporting Learning of Visually Impaired Pupils in Public Primary Schools in Sengerema District, Mwanza-Tanzania

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All authors contributed equally to this research.

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### ABSTRACT

This paper aimed to examine the contribution of collaborative learning in supporting the learning of Visually Impaired pupils in public primary schools in Sengerema District, Mwanza-Tanzania. This study employed a mixed-method approach and explanatory sequential research design. Data were collected using questionnaires administered to 156 teachers and semi-structured interviews administered to 11 headteachers, 3 Ward Education Officers (WEOs), 1 District Primary Education Officer (DPEO), and 1 Quality Assurance Officer (QAO). The quantitative data were analyzed using SPSS version 26, producing descriptive statistics and qualitative data was analyzed thematically. The study found that collaborative learning enhances the academic, social, and cognitive development of visually impaired pupils by promoting peer interaction, inclusion, and active participation. However, challenges such as lack of adapted materials, inadequate teacher training, and poor assessment adaptation continue to hinder its full implementation. The study concluded that collaborative learning is an effective strategy for supporting visually impaired pupils in inclusive classrooms, but its success depends on proper resources, teacher preparedness, and inclusive practices. The study recommended that the government and education stakeholders provide schools with sufficient adapted learning materials, including Braille and tactile resources, to support inclusive teaching. It also recommended regular teacher training and the development of inclusive assessment tools to ensure visually impaired pupils are fully supported and fairly evaluated.

**Keywords:** Collaborative learning; supporting learning; visually impaired pupils; public primary schools

### INTRODUCTION

Visually impaired pupils face many challenges in traditional schools. Their vision loss, whether partial or complete, can come from birth, accidents, or illness (Naipal & Rampersad, 2018). Most teaching methods depend on seeing things like pictures, blackboards, and printed books. Because of this, visually impaired learners need different types of support such as Braille, audiobooks, screen readers, and tactile materials.

Teaching strategies should be adjusted to fit their needs so that they can learn well and feel included (Kasebusha & Banda, 2021). Around the world, organizations like the United Nations and UNESCO promote equal education for all children, including those with disabilities. They encourage schools to train teachers, use flexible teaching methods, and create learning environments that are accessible to everyone.

Around the world, collaborative learning has proven helpful for visually impaired learners in inclusive schools (Mkonongwa & Mwalongo, 2025). In the United States, programs like the “Tech Equity and Access in Math (TEAM)” project at Perkins School for the Blind help visually impaired pupils learn math with the support of special tools and group work. During the COVID-19 pandemic, a hotline was set up to help visually impaired pupils with homework (Daroni et al., 2018; Ghoneim et al., 2024). Teachers and other pupils provided help through phone calls, using tools like screen readers and Braille. These examples show that when pupils, teachers, and technology work together, visually impaired learners can learn just as well as others and feel part of the school community (Sudrajat & Saefi, 2021).

In countries like Indonesia and Ghana, schools are also using collaboration to support visually impaired pupils (Kyei-Gyamfi et al., 2025). In Indonesia, UNICEF helped train teachers to work together with parents and special needs experts so that learning is more inclusive. In areas like Sukabumi, teachers and families worked as a team to help visually impaired pupils feel included in class (Hata et al., 2023). In Ghana, some schools have created learning materials like tactile books, and teachers work together with pupils to use them (Lanbon et al., 2021). Pupils also show that when visually impaired and sighted pupils do group work together, they build friendships and learn better. These efforts help all children feel valued and included (Kyei-Gyamfi et al., 2025). In Kenya, inclusive education is improving through projects that support collaborative learning. For example, the “Pamoja Tusome with Braille” project uses LEGO Braille bricks to help visually impaired and sighted children learn together through play (Muigai, 2025). These highlight the positive impact of collaborative learning in promoting inclusion, academic improvement, and social interaction among visually impaired and sighted pupils. For Tanzania, adopting similar strategies could strengthen inclusive education by encouraging teamwork, teacher-parent collaboration, and the use of adapted learning materials (Magidu, 2022).

In Tanzania, while national policies strongly support inclusive education, practical implementation for visually impaired pupils remains limited. Many public primary schools lack trained teachers, adapted learning materials like Braille and audio resources, and accessible infrastructure. Because teaching methods often rely heavily on visual instruction, visually impaired

learners struggle to participate fully, which affects their academic performance and increases dropout risks. Collaborative learning, which encourages group work and peer support, can help improve participation, confidence, and social skills among these pupils (Msoka et al., 2022). The Education and Training Policy (ETP) of 1995, revised in 2014 and 2023, highlights the need for inclusive and participatory teaching methods and calls for better teacher training to support all learners (Ministry of Education and Vocational Training, 2023). However, challenges such as limited resources and inadequate teacher preparation still hinder the effective use of collaborative learning for visually impaired pupils in many schools (Mbuti et al., 2023).

In Sengerema District, visually impaired pupils in public primary schools face serious challenges that limit their learning and participation. While national policies support inclusive education, schools in Sengerema often lack essential resources such as Braille books, assistive devices, and trained teachers in special needs education (Kisanga & Kisanga, 2020). Many classrooms are overcrowded, poorly arranged for mobility, and heavily dependent on visual teaching methods that do not support visually impaired learners. Teachers usually have limited knowledge of inclusive strategies, and there is little collaboration between schools, families, and the wider community (Kumburu & Nyudula, n.d). Although local organizations like Sengerema Mshikamano on Disability (SMD) are working to raise awareness and support children with disabilities, their efforts are not enough to meet the growing need. As a result, visually impaired pupils in the district are often isolated and face a higher risk of dropping out, showing the urgent need for better teacher training, accessible learning materials, and stronger support systems (Katikiro & Mhagama, 2022). Therefore, from these gaps the researcher was interested in examining the contribution of collaborative learning in supporting learning of visually impaired pupils in public primary schools in Sengerema District, Mwanza-Tanzania.

## REVIEW OF LITERATURE

### Theoretical Review

This study was guided by constructivist Learning Theory, developed by Jean Piaget in the 1970s and later expanded by Lev Vygotsky in 1978, is based on the assumption that learners actively construct knowledge through their experiences and interactions with the environment, rather than passively receiving

information. It emphasizes active learning, scaffolding by more knowledgeable others, social interaction, and engagement in real-world and meaningful tasks. The theory is significant to this study as it aligns with the educational needs of visually impaired pupils by promoting individualized, sensory-based learning strategies such as collaborative learning. These approaches enhance critical thinking, communication, independence, and inclusivity, making learning more accessible, relevant, and empowering visually impaired pupils in public primary schools.

### **Empirical Review**

In German, Siller and Ahmad (2024) examined the impact of collaborative learning on sixth-grade pupils' mathematics achievement and attitudes. A quasi-experimental research design was utilized in which sixth-grade pupils were randomly assigned to control or experimental groups. The results showed significant improvements in achievement and attitudes toward mathematics in the experimental group after a 12-week intervention. While collaborative learning proved effective, a limitation was seen on external factors, such as teacher effectiveness and pupil motivation. Therefore, there needed to be an incorporation of classroom observations and qualitative feedback to understand better the mechanisms driving these improvements.

Steyn et al. (2024) conducted a qualitative study that employed Participatory Action Learning and Action Research to explore how collaboration among Foundation Phase (FP) teachers can support the education of visually impaired (VI) learners in South Africa. Using purposive sampling, seven teachers formed (FP), an Action Learning Set (ALS), engaging in three cycles of data generation through ALS discussions, photovoice, and reflective journal entries. However, this article focused solely on ALS discussions. The findings revealed that there is a necessity for collaboration among teachers, parents, caregivers, and stakeholders to address VI learners' needs effectively and that it is important to develop co-development strategies for inclusive teaching. The study concluded that ongoing collaboration enhances the success of FP learners with VI. However, a critique lies in its limited scope, as it primarily analyzed ALS discussions, potentially overlooking perceptions from other data sources such as photovoice and reflective journals. Thus, multiple data sources should be integrated to provide a more comprehensive

understanding of effective strategies for teaching visually impaired learners.

Also, Oduor et al. (2024) discovered the influence of parent-teacher collaboration on the academic performance of pupils with Learning Disabilities (LD) in public primary schools in Migori County, Kenya. Using a descriptive design guided by Constructivist Theory, the study targeted 47 primary schools, 1,000 pupils, 113 parents, 47 class teachers, and 47 head teachers. A sample of 11 schools, 11 grade 3 teachers, 11 head teachers, 55 pupils, and 22 parents were selected. Data was collected using questionnaires, rating scales, and interviews, and analyzed using descriptive statistics and Pearson correlation. The findings indicated a significant positive correlation between parent-teacher collaboration and the academic performance of pupils with VI. The study concluded that collaborative efforts significantly enhance academic outcomes, recommending that head teachers take the lead in fostering stronger partnerships between parents and teachers, and emphasizing the need for awareness programs about VI. Thus, there is a challenge to the long-term impact of collaboration on academic achievement and the role of technology in supporting collaboration efforts. So, this study included finding the long-term impact of collaboration on pupils' learning.

In Tanzania, Suleiman et al. (2024) evaluated the impact of assistive technology on enhancing academic achievement for pupils with visual impairments in Zanzibar primary schools. Using a qualitative approach, 28 participants were interviewed, and focus group discussions and observations were conducted for data collection. Thematic analysis was employed to process the data. The findings revealed that assistive technology significantly improves the learning capabilities of pupils with visual impairments, enhancing their academic achievement. However, pupils face several barriers, including limited access to Braille-based teaching resources and overcrowded classrooms. The study recommends that the Ministry of Education and Vocational Training collaborate with educational stakeholders, including NGOs, teachers, and parents, to provide adequate and relevant assistive devices and materials for teachers and pupils. Furthermore, the reviewed study used only qualitative data, and this study included a mixed approach, which uses both quantitative and qualitative data to collect enough data.

### **METHODOLOGY**

This study adopted a mixed research approach and an explanatory sequential research design. This design begins with quantitative data collection through questionnaires which was administered to 156 teachers, followed by qualitative data gathered through interviews with 11 headteachers, 3 Ward Education Officers (WEOs), 1 District Primary Education Officer (DPEO), and 1 Quality Assurance Officer (QAO) to provide deeper understandings on the contribution of collaborative learning in supporting learning of visually impaired pupils in public primary schools in Sengerema District. The target population consisted of 1,689 individuals, including 1,555 teachers, 106 headteachers, 26 WEOs, 1 DPEO, and 1 QAO, from which a sample of 172 participants was drawn using both probability and non-probability sampling techniques. Teachers were selected through stratified and simple random sampling, while the other categories were chosen using purposive sampling. The sample size distribution was as follows: 156 teachers, 11 headteachers, 3 WEOs, 1 DPEO, and 1 QAO, reflecting about 10% of each population group, based on

Mugenda and Mugenda's (1999) sampling guidelines. Data was collected using questionnaires, interviews, and direct classroom observations, ensuring both measurable trends and contextual understanding of teaching practices. Validity was ensured through expert reviews for face and content accuracy, and reliability was tested through a pilot study using the test-retest method, with reliability coefficients above 0.9 for all constructs. Quantitative data were analyzed using SPSS version 26 to generate descriptive statistics and correlation coefficients, while qualitative data were analyzed thematically and presented narratively. Ethical standards were strictly followed, including obtaining official permissions from SAUT, RAS, DAS, and DED, securing informed consent, ensuring voluntary participation, and maintaining confidentiality.

**RESULTS AND DISCUSSIONS**

**The Contribution of Collaborative Learning in Supporting Learning of Visually Impaired Pupils in Public Primary Schools**

Table 1. Contribution of Collaborative Learning in Supporting the Learning of Visually Impaired Pupils in Public Primary Schools (n=156)

No	Statements	SD		D		N		A		SA	
		F	%	F	%	F	%	F	%	F	%
1.	Collaborative learning strategy enhances the academic performance of visually impaired pupils in our classrooms.	3	1.9	12	7.7	3	1.9	100	64.1	38	24.4
2.	Teachers in our school effectively facilitate collaborative learning activities that support visually impaired pupils.	2	1.3	10	6.4	2	1.3	110	70.5	32	20.5
3.	Peer collaboration in our school helps visually impaired pupils develop better social and communication skills in the classroom.	-	-	4	2.6	4	2.6	105	67.3	43	27.6
4.	Learning materials and resources used in collaborative activities are adequately adapted for visually impaired pupils in our school.	13	8.3	37	23.7	20	12.8	75	48.1	10	6.4
5.	Collaborative learning activities in our school are effective in promoting critical thinking among visual impaired pupils.	2	1.3	5	3.2	3	1.9	108	69.2	38	24.4

Key: SD-strongly disagree, D-disagree, N-neutral, A-agree, SA-strongly agree

Source: Field Data (2025)

Under the first objective, the study wanted to examine the contribution of collaborative learning in supporting

the learning of visually impaired pupils in public primary schools, the researcher determined the teaching strategies employed by teachers through a 5-likert

scale questions that teachers were required to indicate whether they strongly disagree, disagree, neutral, agree and strongly agree concerning the collaborative learning which teachers apply in different public primary schools in Sengerema District. Data analyzed using frequency distribution table showing frequency and percentage. The responses are presented in Table 1.

Table 1 presents the responses of teachers concerning the contribution of collaborative learning in supporting the learning of visually impaired pupils in public primary schools. The teachers' responses are presented in different paragraphs below:

### **Collaborative Learning Enhances Academic Performance**

Out of the total respondents, 3 (1.9%) strongly disagreed, 12 (7.7%) disagreed, and 3 (1.9%) were neutral about the statement that collaborative learning strategies improve the academic performance of visually impaired pupils in public primary classrooms. However, respondents (64.1%) agreed and 38 (24.4%) strongly agreed. This shows that 88.5% of the respondents believe collaborative learning has a positive effect on the academic success of visually impaired learners. Through interview respondents argued that collaborative learning significantly enhances academic performance by promoting peer support, engagement, and shared understanding among pupils. One of the interviewees said:

When our visually impaired pupils learn in groups with their classmates, they often take a more active part in the lessons. Being with others helps them feel included and makes it easier for them to understand the work. I have seen pupils who struggle in subjects like mathematics, science, and geography start doing better because their classmates explained things in a way that was easier for them to understand. For example, in science (sensory organs), in Art and sports (musical instruments) and English (Listening and speaking). This kind of learning helps visually impaired pupils do well in school and feel more confident. (H 1: Interview; June 2025)

This shows that collaborative learning not only helps pupils take part in lessons but also helps them understand better by learning from their classmates. Siller and Ahmad (2024) found that collaborative learning works well to improve how pupils learn and stay active in class. However, they also said that things like how well the teachers or how motivated the pupils

can affect the results. This means that for group learning to truly help, teachers need to guide it well and make sure everyone is included. This finding concurs with constructivist learning theory, which says pupils learn best when they take part in activities, work with others, and connect learning to real life. So, schools should use more group work and make sure all pupils, including those with visual impairments, are able to join and learn in these activities.

### **Teachers Effectively Facilitate Collaborative Learning Activities**

Regarding how well teachers facilitate collaborative learning for visually impaired pupils, 2 (1.3%) strongly disagreed, 10 (6.4%) disagreed, 2 (1.3%) were neutral, 110 (70.5%) agreed, and 32 (20.5%) strongly agreed. This means a significant 91% of respondents believe that teachers are effective in managing and guiding these learning activities. From the response, interviewees explained that:

We have offered training to teachers on how to manage inclusive classrooms. Many of them are now comfortable mixing learners and making sure visually impaired pupils are actively involved. They check group tasks and encourage equal participation (W 1: Interview; June 2025)

Thus, shows that teachers are playing a strong role in supporting inclusive learning for visually impaired pupils. To keep this support effective, continuous teacher training and guidance should be provided. This idea is supported by Steyn et al. (2024), who found that helping visually impaired learners needs more than just teachers, it also requires teamwork among teachers, parents, caregivers, and other stakeholders. Their study showed that when everyone works together and creates teaching strategies as a team, pupils with visual impairments learn better. Ongoing collaboration helps these learners succeed, especially in their early years. Therefore, schools should encourage regular meetings and planning between teachers, families, and education leaders to make inclusive education stronger and more effective.

Besides, one of the interviewees showed that:

Teachers in my school are now more confident in managing group work that includes visually impaired pupils. They make sure every pupil has a role in group activities like sharing ideas, listening carefully, or helping others complete tasks. In subjects like mathematics, science, English, arts and sports, teachers plan group

work that fits each pupil's ability so that no one is left out. For visually impaired pupils, teachers also guide pupils on how to work together in a kind and respectful way. It is great to see these pupils now taking part in group discussions and, in some cases, even leading the group. This shows that when teachers are well-prepared, inclusive learning becomes a natural and successful part of classroom life across all subjects (H 8: Interview; June 2025)

This implies that teachers play a vital role in ensuring collaborative learning is inclusive and effective. Their ability to actively involve visually impaired pupils shows progress in inclusive teaching practices. However, this success depends heavily on proper training, awareness, and ongoing support. When teachers are equipped with the right strategies and resources, they can confidently design group activities that foster teamwork, communication, and equal participation. Therefore, continuous professional development focused on inclusive education should remain a top priority for school leadership and education stakeholders. Empowering teachers ultimately empowers all learners especially those with special needs to succeed in a collaborative environment. This aligns with constructivism learning theory (1970s), which emphasizes that learners build knowledge through active participation and social interaction. By guiding inclusive group activities, teachers create environments where all pupils including those with special needs can engage meaningfully, collaborate, and learn from one another.

### **Peer Collaboration Supports Social and Communication Skills**

For the statement about peer collaboration improving the social and communication skills of visually impaired pupils, no respondents strongly disagreed, 4 (2.6%) disagreed, 4 (2.6%) were neutral, 105 (67.3%) agreed, and 43 (27.6%) strongly agreed. A large total of 94.9% agree or strongly agree that collaborative activities help pupils become more socially active and communicative. The interviewee said that:

Group work has helped reduce isolation of visually impaired pupils. They talk more, ask questions, and even lead discussions sometimes with growing confidence. Before, many of them were quiet and hesitant to participate in class activities. Now, they are more engaged and interact freely with their peers. Teachers have noticed a big

improvement in how they express their thoughts and work with others. We are seeing really social and emotional growth, not just academic progress (D: Interview; June 2025).

This shows peer collaboration goes beyond academic benefits and plays a vital role in social inclusion. Schools should continue promoting this strategy to build a more cohesive classroom environment. As highlighted by Assefa and Zenebe (2024), engaging families and communities from diverse backgrounds through collaboration with parents, guardians, and community organizations strengthens home-school partnerships, enhances cultural understanding, and ensures that the diverse needs of pupils are met.

The researcher observation from classroom settings reveals that pupils participating in collaborative activities demonstrate improved communication skills. The pupils were participating in group tasks and peer discussions, they learn to express their ideas clearly, listen actively, and respect diverse viewpoints. These interactions help build confidence and mutual understanding among learners. This approach aligns with constructivist learning theory, which emphasizes that learners construct knowledge most effectively through active participation and collaboration. By working together, pupils not only grasp academic concepts more deeply but also develop essential social skills and a sense of belonging. Therefore, fostering collaboration in schools is key to cultivating a friendly, inclusive, and effective learning environment for all pupils.

### **Learning Materials Are Adequately Adapted**

Opinions were more mixed when it came to the adequacy of learning materials. 13 (8.3%) strongly disagreed, 37 (23.7%) disagreed, 20 (12.8%) were neutral, 75 (48.1%) agreed, and 10 (6.4%) strongly agreed. Only 54.5% of respondents feel that learning materials and resources used in collaborative activities are adequately adapted for visually impaired pupils, while 32% disagree. The interviewee said that:

Most schools do not have enough adapted learning materials like braille books, large print charts, or tactile tools that pupils can touch and feel. In subjects like mathematics, science, English, and geography, these materials are very important for helping visually impaired pupils understand the lessons. Teachers try their best by making their own materials or changing the ones they have, but this takes a lot of time and does not always work well.

Sometimes, visually impaired pupils miss out on activities just because the materials are not made for their needs. We need more help from the district and the government to provide proper learning tools in all schools. Without the right resources, it is hard to give every child a fair chance to learn (Q: Interview; June 2025)

This reflects a clear and crucial need for investment in accessible learning materials tailored to visually impaired pupils. While teachers are making commendable efforts to adapt existing resources, their impact is limited without systemic support. Inadequate materials can lead to exclusion, reduced participation, and lower academic outcomes for these pupils. Ensuring availability of braille books, large print materials, audio resources, and tactile learning aids is essential for inclusive education. School authorities and education departments must prioritize budget allocations and supply chains for these tools. Without proper resources, the full benefits of collaborative learning and inclusive teaching cannot be realized. This aligns with Magidu (2022), who found that collaborative teaching factors like face-to-face interaction and group accountability positively influence inclusive education policy implementation, and that cultural and social factors also affect success. The implication is that providing adequate learning materials and fostering collaborative teaching practices are crucial steps for schools to create truly inclusive environments. Education leaders must therefore invest not only in resources but also in training teachers to use these materials effectively within the cultural context, ensuring visually impaired pupils are fully included and supported in their learning.

Likewise, interviewees added that:

In many cases, the learning materials we have are not fully adapted for our visually impaired pupils. For example, we lack braille versions of textbooks and most visual aids are not designed with accessibility in mind. Teachers try their best to adjust by enlarging print or using verbal explanations, but this is not always enough. Sometimes, pupils miss out on key parts of the lesson because they cannot interact with the materials like others. We have raised this concern several times, but support is limited. Honestly, without proper learning tools, inclusion remains incomplete no matter how well we plan our lessons (H 5: Interview; June 2025)

This feedback highlights a significant gap in inclusive education and the lack of accessible learning materials. While teachers are making efforts to adapt existing resources, this creativeness cannot fully meet the needs of visually impaired learners. When materials are not designed with accessibility in mind, pupils are automatically excluded from key learning experiences, which affects both participation and performance. Schools must receive targeted support from educational authorities and stakeholders to access and develop resources like braille books, tactile diagrams, audio materials, and large print resources. Without this investment, visually impaired pupils will continue to face barriers to equal education, limiting the effectiveness of the best teaching strategies. According to constructivism learning theory (1970s), learners build understanding by interacting with materials and experiences, so when resources are not accessible, visually impaired pupils miss out on essential opportunities to construct knowledge. Providing the right tools helps these pupils actively engage and learn alongside their peers.

This issue was further supported by researcher observations conducted during classroom visits. It was noted that the teaching aids prepared by teachers were insufficient to meet the specific needs of visually impaired pupils. Many of the materials used such as visual posters and diagrams were not modified in formats that these learners could interact with. While some teachers attempted to offer verbal explanations or enlarged text, these adjustments were limited in their effectiveness. In several observed lessons, visually impaired pupils appeared disengaged or unable to fully participate in group activities due to the lack of tactile or auditory materials. This highlights the difference between inclusive teaching intentions and the actual resources available in classrooms.

#### **Collaborative Learning Promotes Critical Thinking**

On the effectiveness of collaborative learning in promoting critical thinking among visually impaired pupils, 2 (1.3%) strongly disagreed, 5 (3.2%) disagreed, 3 (1.9%) were neutral, 108 (69.2%) agreed, and 38 (24.4%) strongly agreed. That's a total of 93.6% positive responses, showing strong belief in the cognitive benefits of group learning. Likewise, one of the interviewees explained that:

When visually impaired pupils are part of group discussions, they are encouraged to share ideas, give opinions, and ask questions. This helps them think critically and gain confidence

in expressing their thoughts. It is one of the most important skills we want all learners to have. We have noticed that these pupils are not just participating but also, they are leading, solving problems, and guiding their peers as well. This shows that with the right support, visually impaired pupils can perform at the same level as others and even exceed expectations in some areas (H 3: Interview; June 2025)

The overwhelming support for this item shows that collaborative learning is not just a teaching strategy, it is also a tool for developing reasoning, communication, and problem-solving skills. It empowers visually impaired pupils to become active contributors and independent thinkers. When given opportunities to engage with peers, these learners build both academic and life skills essential for future success. Therefore, it is important for schools to structure group activities in ways that allow all learners to think deeply and contribute meaningfully. Teachers should be trained not only to facilitate such discussions but also to ensure equal participation. Strong collaboration practices can transform the classroom into a space where every learner, regardless of ability, can succeed. This connects Anselimus and Kisanga (2024), who found that while teachers recognized the benefits of including visually impaired pupils, their understanding of how to involve them varied. This variation influenced whether practices were supportive or unsupportive, highlighting the need for consistent teacher training to promote truly inclusive collaboration.

Overall, the data clearly shows that collaborative learning is highly valued by educators for its academic, social, and cognitive benefits for visually impaired pupils. Teachers are seen as effective facilitators, and peer collaboration is helping to break social barriers. However, there are serious concerns about the availability and suitability of learning materials, which could hinder progress if not addressed. Interview responses confirm these findings and highlight the need for improved resources and continued teacher training. For successful inclusion of visually impaired pupils, policymakers and school leaders must ensure that collaborative learning is supported materials, ongoing training, and policy.

## CONCLUSION

The study concluded that teachers generally hold strong positive views about the potential of collaborative

learning to support visually impaired pupils. A large majority agree that group-based strategies enhance academic performance, foster social and communication skills, and stimulate critical thinking. Teachers also see themselves as capable facilitators of these methods, guiding inclusive group work across subjects. However, there were some challenges facing visual impaired pupils such as lack of adequately adapted learning materials and assessment tools designed for visually impaired learners. Without these essential resources, even the most well-intentioned collaborative strategies may fall short of delivering equitable outcomes. Thus, though collaborative learning is viewed as a promising path for inclusion and improved pupil engagement, its success depends on underpinning support in materials, teacher capacity, and systemic investment.

Based on these findings, several recommendations were made. First, education authorities and school leaders should prioritize the procurement and distribution of accessible learning materials such as Braille textbooks, tactile diagrams, large-print charts, and audio versions of lessons to all-inclusive public primary schools. Second, sustained professional development programs must be instituted to train teachers in inclusive pedagogy, focusing specifically on facilitating equitable collaborative learning that ensures all pupils, including visually impaired ones, have defined roles and opportunities to contribute. Third, schools should establish regular forums for planning and reflection among teachers, special educators, parents, and community stakeholders to coordinate support, monitor progress, and adopt practices. Fourth, assessment systems should be revised to include accessible formats and accommodations so that visually impaired pupils are not disadvantaged. By investing in both resources and human capacity, stakeholders can transform the promise of collaborative learning into meaningful gains in academic achievement, inclusion, and dignity for visually impaired learners.

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