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RELEVANCE, EFFECTIVENESS AND ADEQUACY OF ASSISTIVE TECHNOLOGY FOR LEARNERS WITH PHYSICAL DISABILITY IN RURAL PRIMARY SCHOOLS IN KENYA

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Abstract

Assistive technology and devices includes a variety of tools and equipment that enable people with disabilities to acquire independence in their functioning capabilities. . Quantitative and Qualitative data was used in this study. The researcher's role was to gain a holistic overview of the context under study. The sample comprised teachers educating learners with physical disabilities and learners with physical disabilities (LWPD) in Kisumu and Machakos Districts. Findings indicate that the assistive devices provided to learners must be relevant and effective and that teachers should provide information on how learners ambulate and the activities that are required to engage in while in school, further, they will need to observe the difficulties faced by these learners while using the current devices and recommend what they think is likely to suit the learners better.

Introduction

This research study focused on the assistive technologies that are required by learners with physical impairment to enable them be successfully educated in their school? While the question may seem simple and obvious, there is little research within developing countries that addresses this question. To some extent the question of 'What makes children with disabilities successful in school?' is one that educational planners, administrators and teachers have been wrestling with since formal education began. In the case of children with physical impairments some might even argue that the question is irrelevant, because in most countries around the world the likelihood is these children will not get to school. Globally, the majority of children with impairments are excluded from education. By the year 2030, children with disabilities including those with physical disabilities, should enjoy equal educational

opportunities across the globe. To achieve this goal, Governments will need to focus their energies and resources in the right areas, they will need information about what works and what doesn't. It is clear that if this goal of equal educational opportunities is to be achieved, then the rural schools are the most likely settings where children with physical impairment will access education. It is important to note that simply getting children to schools does not solve the problem. If they feel unhappy or unwanted in school, or if they cannot access the curriculum or the environment where the learning takes place, they will dropout. There is often inequity in participation between children with and without disabilities. It is known, that children with disabilities participate less in some types of activities than their peers without disabilities (Anaby, 2014)

Assistive technology includes a variety of tools and equipment that enable people with disabilities to participate more equitably in any given activity. Examples include mobility devices such as wheelchairs, white canes or hearing aids used by those with Hearing Impairments (HI). Such devices help to ensure that people with disabilities function as active members of their society.

While Assistive Technology and Devices (AT and Ds) are used by other categories of disabilities such those with Visual Impairments (VI) and those with HI, there is need to understand more about assistive technology and devices used by learners with physical disabilities in terms of their relevance and effectiveness. These devices are instrumental providing person with physical disabilities (PWD) the opportunity to attain the high levels of function.

In Kenya, the potential of these AT and Ds has not been tapped, and the basic facilities in this field are also lacking (Kimondiu, 2012). Various physical, cultural, and socioeconomic constraints heighten the challenge. Further, it is important to understand the barriers to participation and success in school experienced by these children as a result of irrelevant or inefficient assistive technology. Lessons learnt from this research have made contributions that can be utilized by programs aimed at providing relevant and effective AT and Ds in the most appropriate manner to learners with physical disabilities in rural schools, in order to optimize their function. There was urgent need for such a research to find out how to best provide assistive technology to the tens of thousands of learners with disabilities in rural schools who need it.

Materials and Methods

The methodological approach used in the current study will be highlighted and brought in context in describing the use of AT and Ds of learners with disabilities. The study assumed a descriptive survey approach. The aim of descriptive research is to accurately examine events or phenomena (Pandey and Pandey 2015). Thus descriptions must be given precisely and completely as possible. In this study the researcher's aim was describe the types of physical disabilities the learners have and the AT and Ds in the selected schools in terms of their effectiveness and relevance.

Quantitative and Qualitative data was used in this study. The researcher's role was to gain a holistic overview of the context under study. Events cannot be isolated from their context. In this regard, this study was contextually based as it looked AT and Ds for learners with physical disabilities in rural schools within Kisumu and Machakos districts. The educators and learners were directly observed,

quantitative and qualitative data was yielded through the use of questionnaires and the open-ended section for qualitative data. The sample of the study comprised teachers educating learners with physical disabilities and learners with physical disabilities (LWPD). In Kisumu and Machakos Districts, a purposive sampling was done to select the only special schools in the region namely; Joy and special school (Kisumu) and Masaku school for the physically handicapped (Machakos). Further, random sampling was done to select two more integrated schools for LWPD in both districts due to the existence of several such schools. In Machakos, St. Alloys (Integrated school) was randomly sampled while in Kisumu, Ojola integrated school for LWPD was sampled in the same manner. From these schools teachers serving students with special needs from class 6 to 8 were purposively selected. The reason for their purposive selection was due to their small number. Learners with physical disabilities in these classes were randomly sampled by being assigned numbers and selecting all the odd numbers to use for the study, this gave all the students an equal chance of representation. The justification for using learners from these classes was that they were better able to respond to issues considered pertinent for the current study regarding the use of AT and Ds raised in the questionnaire more than learners in the lower classes. This was considered an important factor by the researcher in order to gather accurate information.

In Machakos, the selected schools were Masaku and St. Alloys, each had a population of 30 and 25 teachers respectively, while from Kisumu, Ojola and Joyland schools had a population 35 and 26 teachers respectively. A purposive sampling selection was done to sample teachers educating learners from class 6 to 8, from Kisumu district, a purposive selection was done to arrive 26 teachers, 12 from Ojola and 14 from Joyland. While from Machakos, the same procedure was done to select 24 teachers 16 teachers from Masaku and 8 teachers from St. Alloys integrated school. The total number of teachers was 50 as indicated in the sampling grid, though 3 respondents did not return their questionnaires. The total number of teacher questionnaires analysed were therefore 47. A further random sampling method was done to select students from class 6 to 8. From Machakos, the sampled students comprised a population of 28 (20 from Masaku and 8 from St. Alloys) while from Kisumu 22 (20 from Joyland and 12 from Ojola). The total number of students was 50.

Special education teachers were selected since the focus of the current study was to determine their views with regard to their profession and use of assistive devices. As indicated the students selected for the study were from grade 6 to 8 with the aim of capturing their views at the higher grade levels because it was assumed they would be more expressive and accurate. Studies have shown that teaching different grade levels of learners with special needs has different demands on the teachers given the different curricular requirements. Further, some physical disabilities such as MD are progressive in nature in that they worsen as the child progresses from one grade to the other. This implies that children would require more accommodations and adaptations to curriculum and devices as their situation worsen.

The study used mainly primary and secondary sources. Primary data obtained from teachers was the demographic characteristics which included age, highest educational level, level of special education training for the teachers while section two required them to respond to the questions such as the most prevalent disability, the most common assistive devices. This section also had a four point likert-scale section where teachers were required to respond to statement provided to them by checking against the

options ranging from Strongly Agree, Agree, Don't Agree and Strongly Disagree. Contained in the items were statements addressing issues of adequacy of assistive devices, instructional problems related to assistive technology, collaboration with parents and funding partners, Government involvement in provision of AT and Ds, Availability of workshops in schools etc. open ended questions were also used to gather qualitative data and produce further information not captured in the questionnaires.

For the learners, demographic characteristics included level of class and type of disability. Section two of the students' questionnaire had a four point likert-scale questionnaire which required them to indicate their response to the statement provided by checking against the options ranging from strongly agree, agree, don't agree, strongly agree. Statements included factors such as suitability of the device, effectiveness to move independently using AT and Ds, whether consultations are made with them or their parents before being issued with at, maintenance of at and their adequacy. Open ended were also included in the student's questionnaires. According to Pandey and Pandey, (2015) observation is essentially a technique for gathering 'live' data about the individuals and events being studied. Validity and reliability of data collection instruments was ensured through pilot testing of the data collection instruments and use of triangulation in the study. Triangulation is the combination of methodologies, in the study of the same phenomenon, (Frankel and Wallen, 2009) identify four types of triangulation: data triangulation, investigator triangulation, methodological triangulation and triangulation theories. This study was based on data and methodological triangulation, in the sense that data was collected from different sources of respondents namely, the teachers and the students at different times on the same aspects in the same study and also from different types of research instruments. This approach enhanced consistency in the quality of data collected.

Findings and Analysis

Information in this section was based on selected demographic characteristics of the teachers including: academic qualifications, level of training in special education and years of experience.

The teachers academic qualifications was examined to determine whether they possess the relevant qualification and training to educate learners with physical disabilities. This was considered significant for the study because academic qualifications of a teacher may impact on their teaching skills and instructional methodologies. Results indicate that 59.6 percent (n = 28) of these teachers had attained the level of Kenya Certificate of Secondary Education (KCSE), 19.1 percent (n = 9) Kenya Certificate of Education (KCE) and while 21.3 percent (n = 10) Kenya Advanced Certificate of Education (KACE) holders. The highest academic qualification obtained by these teachers was therefore noted to be KCSE. A further analysis was done to determine if the selected teachers had undertaken special education training to enable them handle learners with physical disabilities.

Teachers' level of trainings in special education

Results reflecting the training of teachers as indicate that 74.5 percent (n = 35) of the teachers had undertaken training in special education. The remaining 25.5 percent (n= 12) had not, of those who had received special education training, results showed that 10.6 percent (n 15) had undergone in-service training in special education, 61.7 percent (n = 29) trained at diploma level, 6.4 percent (n = 3) at

bachelors level and 4.3 percent (n = 2) had masters in special education. 17.0 percent (n = 8) of the sampled teachers were not committal.

This situation can be explained by the fact that a large number of teachers have taken advantage of the incentives by the Teachers Service Commissions (TSC) which encourages them to pursue study leave with pay after which they are awarded automatic grade promotion. This incentive has highly increased the numbers of teachers trained in special education. Training in special education is a critical issue; given these learners have specific challenges that hinder them from accessing the curriculum unless certain adaptations are made. A teacher who has not undertaken training may lack the necessary knowledge to adapt instruction and teaching materials to suit learners with physical disabilities or may lack the required skills to tackle the challenges posed by the disabilities of the learners.

Teachers cannot adapt the curriculum for learners with special needs unless they undergo the necessary training; further, they need to be knowledgeable, innovative, patient, committed and posses a positive attitude towards children with special needs. According to the MOEST (2010) special education teachers are expected to adapt learning activities to suit the individual needs of a learner, therefore training in this field provides the basis for such intervention strategies. Several studies support the idea that some of the children with special needs have profound impairments, some of these children require physical support while their pace of learning is generally slow, this characteristics require higher level training and also lot of patience on the part of the teacher; It is generally believed that even specially trained teachers are not able to deal successfully by the problems exhibited by these learners therefore the situation is likely to be far worse if the training is at a lower level such as diploma.

The implication of these findings are that special education teachers require higher level training beyond the diploma level to be able to educate these learners more effectively. Though the teachers indicated that they had undertaken some training at diploma level, they would be better equipped to handle the learners with physical disabilities if the training was at a higher level such as degree. Higher level training may equip them with the better skills enable to cope with the challenged posed by these learners. Therefore as noted by the study though training in special education is crucial for discharging their responsibilities assigned to the teachers, diploma training is generally considered quite insufficient in equipping them with the necessary skills to handle these learners.

One of the most significant characteristics of the learners with disability that the current study sought to establish was their type of disability. As indicated by results, the most common physical condition was found to be CP with 33.3 percent (n 39) while SB and polio cases had of 2l .7 (n 13), 18.3 respectively. These results agree with those of teachers who indicated that CP is the most prevalent disability in the schools used for this study. The results of the current study however agree with those of Bigge, Best and Heller (2010) who note that one of the most common categories of physical disability is CP, a condition characterized by paralysis, weakness, un-coordination, and/or other motor dysfunction. It is non-progressive brain damage that occurs before or during birth or in early childhood. The educational problems associated with CP are varied because of the multiplicity of symptoms and as (Bigge et al., 2010) point out, a careful clinical appraisal must be made of each individual to determine the type of special education needed.

Although physical disabilities comprise CP, SB, and Polio among other conditions, there are no statistics on the number of children with these conditions in special schools and units in Kenya (Kimondiu, 2012). Most research conducted on the population of persons with disabilities in Kenya have dwelt on the four traditional categories of disabilities, which include the visually impaired, the hearing impaired, mentally handicapped and the physically handicapped (MoE 2003). This presents a knowledge gap on the numbers of specific types of physical disabilities in Kenya which the present study could not fill since the research location was only two districts whose findings cannot represent the whole population of learners with physical disabilities in Kenya. Such statistics would provide useful information that could help in planning intervention measures for these children based on their type of disabilities, wherever they are receiving special education.

Another type of physical disability found prevalent in the sampled schools was is SB which is a congenital midline defect, resulting from failure of the bony spinal column to close completely during foetal development. The resulting damage generally causes paralysis and lack of sensation below the site of the defect. According to Bigge et al., (2010), the educational implications of SB are determined by the extent of the paralysis and medical complications as well as the child's cognitive and behavioral characteristics. They observe that teaching strategies and AT and Ds for child with this condition must be individualized to meet their specific needs as well as the needs concerning the most suitable at. Indeed all categories of disabilities require individual based instruction and resources due to their varying needs.

Several authors support the notion that impairments translate into disabilities when they have a negative impact on the individual's participation in curricular, extracurricular, and other major life activities (Penny and Reed, 2007). The study by Penny and Reed found that it is possible to minimize these negative consequences of the impairment by providing learners with the required intervention in terms of assistive devices and technology. While there are different categories of AT and Ds such as those for mobility, communication, for recreation and leisure, for instruction (which included reading and learning among others); the current study confined itself to AT and Ds used for instruction and mobility as the most common at used by learners with physical disabilities in schools. As noted by the MOEST (2012) the problems of learners with physical disabilities are related to mobility, manipulation of learning materials and access to the learning environment. Further the report MOEST report named the resources required by learners with physical disabilities which include adapted seats, writing equipment, adapted computers, therapy equipment, sports and recreational facilities, wheelchairs, audio-visual recorders, crutches, calipers, braces and adapted functional aids.

The results of the current study shows that the most common assistive technology for mobility used in their schools by learners are crutches (44%) followed by wheelchairs (30%), the least were adapted shoes and canes were the least responded to with a percentage of (25%). While teachers cited the common AT and Ds used for instruction as adapted writing instruments (35%), adapted seats and adapted work tables followed with (28%) and (1 1%) respectively while adapted reading materials had the least respondents. Since majority of the learners use crutches and wheelchairs for mobility as found in the current study, it therefore raises the question of their suitability and effectiveness to the individual

learners using them. The role of special education teachers therefore is to establish the instructional needs of their students and to identifying if these instructional and mobility devices are tailored for use by the students according to their needs. The importance of establishing if they are tailored is to help increase the amount and quality of their participation in curricular and extracurricular activities. According to studies conducted in the area such as Kimondiu, (2012), teachers who ensure that the devices are tailored for the learners through several ways, first, they will need to establish the circumstances that give students difficulty when they try to participate in learning and second, use that information on areas of difficulty to provide adaptations that might present helpful solutions for these learners.

While sometimes identification of the problem and the nature of the needed assistive technology are obvious, in many cases, information is needed to develop and support avenues to participation for individuals with physical or multiple disabilities. Identification of the salient problems and generation of useful solutions stem from understanding the individual nature of the students, as well as knowledge related to specific physical conditions, therapeutic management of the conditions, and implications for management by the disability.

Research indicates that mobility devices should be regarded as an extension of the user's body (Cooper et al 2007). For example it is recognized that an amputee with a proper prosthesis can fully participate in society whereas a WC user, even with a good WC, may be severely limited by architectural and environmental barriers. This information is crucial in ensuring that if most learners use wheelchairs and crutches as indicated by the current research, service providers much consider as a matter of priority, if they have been adapted according to the individuals needs and if the environment in which they operating is conducive for wheelchair mobility.

Reviewed literature indicates that AT and Ds are donated to developing countries without the formal service necessary to ensure the device fits properly the individual person it is meant for. For example, wheelchairs (WCs) are not checked to determine if they have the appropriate pressure-relieving cushion nor are the users provided with proper skills training (Cooper et al. 2007). Projects that provide WCs in this way take a "something is better than nothing" approach. This approach is most common with projects providing hospital type WCs that are donated in bulk, where distribution partners (rotary club) have little or no training in service provision. In cases where WCs are not custom built such as in Kenya, they are built in several fixed sizes or designed to be adjustable so they can be appropriately fit to the user. The end result is majority of these WC users are unable to use them because they have not been customized to their use. The same situation applies to crutches and braces where individual consideration is not made before providing these devices to the users. When this happens most learners with disabilities are predisposed to using devices that are not conducive to their needs and therefore not effective and other cases these devices can be dangerous if they are too small or too tight.

In many developed countries such as Kenya, policies are not in place to help protect consumers of mobility devices. As indicated by research quality standards protect the users are from receiving inappropriate, low- quality WCs and other mobility devices such as crutches hence resulting to an influx of sub-standard mobility devices, Cooper et al. (2007). Lack of appropriate clinical service delivery

especially on AT and Ds can result in dangerous and sometimes deadly scenarios for individuals with disabilities e.g., WC users commonly have sensory-motor impairments (stroke, CP, polio, or a spinal cord injury), which require pressure-relieving cushions or postural support. Individuals with sensory impairments cannot feel the discomfort associated with high seating pressures on their buttocks and back over time, these unrelieved high pressures will slow blood and fluid circulation and result in both internal and external ulcerations, which are debilitating and deadly.

Additionally, learners with motor impairments have musculoskeletal instabilities that result in postural and extremity deformities. If appropriate postural and extremity supports are not provided, these deformities can become fixed, significantly affecting the range of motion of the joints (and thus the user's functioning and independence). Most learners in the sampled schools indicated using wheelchairs and crutches to facilitate mobility and due to having conditions such as CP and polio. Education programs serving these children must therefore include trained clinicians to evaluate the students' needs so as to avoid such consequences, further; schools must ensure they provide a barrier free environment by smoothening rough or uneven terrain, removing obstacles and building ramps. Such barrier free strategies ease movement and provide safety for children with physical disabilities.

According to reviewed literature, in low-income countries such as Kenya, WC technology, service provision, and training are donor and project dependent. Some organizations such as whirlwind provide mass donations of wheelchairs to schools. Results from the current study confirms findings of earlier studies; that besides hospitals and Government, donors are the major funding organizations of AT and Ds. Reports however point out that the variation across donor projects puts the users at risk of receiving low-quality or inappropriate AT and Ds. Therefore it is imperative that standards are put in place by the Government to ensure that learners with disabilities are protected from the risk of using devices that do not meet the set standards.

Another important strategy of ensuring provision of quality AT and Ds devices to schools as suggested by Cooper at al. is to develop research protocols (such as the one by the current study), that provides feedback on what is best for the learners with disabilities (in terms of safety, effectiveness, relevance, etc.) so that AT and Ds, service provision, and training can be continually improved. The current study can be used as a basis for further enquiry into issues related to AT and Ds expressed by learners in the schools. The study focused on primary school children in rural areas because as indicated by various reports (MOEST 2010), majority of the learners with disabilities are found in rural parts of the country such as those who participated in the study. If we want to ensure that they access schools and participate in learning alongside their "able bodied" peers, they will require wheelchairs and crutches and adapted learning devices that are specific to their needs as well a barrier free environment to function effectively. If such requirements are not met, these students are likely to continue facing challenges that will limit or deny them equitable access to learning opportunities.

Adequacy of ATD

Besides the issue of relevance of at devices another focus of the current study was to determine if the devices were adequate in meeting the needs of the learners. Findings of the study show that majority of

the teachers indicated that they did not agree with the statement that teaching materials were adequate; these comprised 47 percent while those who strongly disagreed were l5 percent. A very small percentage 4 percent strongly agreed with the statement while those who agreed constituted 34 percent of the population (Confirm with earlier statement". Findings tended to agree with MOEST 2010, Cooper et al.,(2007), indicating that most schools lack adequate teaching and learning materials for students with disabilities. This factor has also been linked to poor performance and dropout rates by these learners. The issue of inadequate AT and Ds has been found to be a long standing problem in the field of special education. The study by Kimondiu, (2012) on special education teacher motivation found that inadequate teaching materials was ranked as a low motivator, this factor is also supported by the MOEST (2010) indicated that quality of education of learners with special needs has deteriorated at all levels in Kenya due to the limited instructional materials. The Governments' cost-sharing policy that requires them to participate in funding their children's' education has been blamed for this situation. Many parents, especially those in the rural areas living below the poverty line have not been able to achieve their end of the bargain.

Further, the study by Kimondiu reiterates that, special schools in Kenya, especially those in the rural communities were worst hit by this lack of AT and Ds. This situation was worsened by the fact that special schools require specialized expensive materials such as Braille machines and audiometers. Further, the study noted that most learners with physical disabilities come from very poor backgrounds that their parents can hardly afford to pay school-fees, majority of these children are supported by donations and well-wishers.

A study by on adapted physical education for learners with physical disabilities had similar results indicating that facilities and equipment necessary for adapted PE were not adequate due to the fact that parents were not financially capable of providing them. The percentage of learners from poor backgrounds stood at 70 percent. Due to parents' inability to support their children's education, the responsibility is then shifted to donor organizations such as DANIDA, CBM, UNICEF and faith-led organizations. Results from the current study show that majority of the learners felt that the teaching and learning resources in the sampled schools were not adequate to meet their instructional needs. These results concur with earlier studies which found that one of the major impediments to the instruction of learners with disabilities in Kenya is the lack of adequate materials due to poor funding and poverty related factors. The proposal by the current study and its findings should provide a basis for strategies to be put in place for collaborations with the Jua Kali Sector to address the problem.

Relevance of Assistive Technology and Devices Consultation with Parents

The researcher sought to determine if the AT and Ds provided to learners were relevant to meet their needs. To establish the aspect of relevance the researcher sought to find out from the teachers if the parents were consulted before AT and Ds were purchased and issuing them with the devices. As shown in the findings majority of the teachers (85.1%) agreed there was always consultation with parents in decisions concerning provision of assistive technology to their children in schools, while only 15 percent did not agree.

When learners were asked if they are consulted before assistive devices are purchased for them, majority agreed that their opinions are sought on the type of devise that would work best for them. These responses tend to agree with those of the teachers in the current study. Finding out opinions of teachers and learners is crucial as it helps determine the relevance of the devise given. Consultation between parents and teachers in the education of learners with disabilities help to provide information that could be used to structure their learning. Parents can inform teachers on the most convenient manner in which the child functions at home thereby provide a basis on which learning experiences can be structured. Likewise, activities at school can be enhanced by parents at home to help the child gain mastery. The selected devise for reading, writing, or mobility must reflect the opinion of both the child, parents and the teachers to enable them feel part of the whole process. However responding to whether the AT and Ds were effective i.e. if they were repaired when they broke down, results show that majority of the students (50) said they did not agree that the mobility devices were repaired when they broke down.

Recommendations

The main aim of the current study was to establish the relevance and adequacy of the assistive technology and devices used in schools for children with physical disabilities. It is further recommended that teachers educating learners with physical disabilities at primary level should be minimum university degree and all teachers with diploma or in-service training be encouraged to pursue further education in the area. Higher qualification of teachers at degree level will ensure that learners with disabilities are provided with the correct instruction using appropriate methodologies, equipment and early intervention at primary level which is considered critical in special education.

It is imperative that apart from the curriculum for learners with physical disabilities, the curriculum for all categories of disabilities should be scrutinized for identification of all AT and Ds requirements by learners in order to incorporate these as components within the curriculum. Ensuring that teachers receive adequate training will hopefully pave way for enhanced academic performance among learners with physical disabilities. Teachers handling such learners would therefore be required to understand the various limitations imposed on them by the disabilities, further they would need to identify the specific functional limitation and recommend the different ATD that can be provided to such a learner to enable them function better despite these limitations. Since many of these learners are wheelchair bound, it is imperative that the WCs given to them are carefully tailored not only to their individual specifications but also to the environment in which they operate.

The implications of these findings are that teachers must ensure that these mobility devices that they used by learners correspond to the specifications of each child in terms of height and age. It is common to find learners in rural areas struggling to ambulate with crutches that are made of very heavy wood and are not tailored to their size or height, wheelchairs that are too big, bulky and not conducive for the rural terrain. The outcome of such cases is that the child's develops poor posture and the physical deformity worsens because they are forced to adopt a posture that suits the mobility devise given to them and not vice versa. Such a child is likely to have their mobility slowed down further due to the difficulty associated with using a mobility devise that is not conducive to their needs.

Conclusion

To ensure assistive devices provided to learners are relevant and effective, teachers should provide information on how learners ambulate and the activities that are required to engage in while in school, further, they will need to observe the difficulties faced by these learners while using the current mobility devices and recommend what they think is likely to suit the learners better. The parents on the other hand also have a significant role to play in that they will provide useful information to the teachers on how the child functions and home and also recommend the devices they think might work to facilitate better mobility for their children. The learners should give their own experiences of the obstacles faced while trying to participate in various activities both within and outside the school and their suggestions of the mobility devices that can help overcome those obstacles. Involving the learners themselves in crucial because they are the consumers of those mobility devices and other AT and Ds and can provide information on those that fit them comfortably and those which causes them.

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