



Assessment of the Adequacy of Competencies Possessed by Teachers for Teaching Children with Vision Disturbances in Tanzania Primary Schools

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Abstract: *This study aimed to assess teachers' competencies in teaching learners with visual disturbances (LWVD) from teachers' perspective and as experienced by learners in Ilala and Moshi Municipal Councils. A descriptive qualitative approach with descriptive design was employed. Data were collected from teachers and primary school learners. Data were collected through open-ended questionnaires, interviews, documentary review and observational guide. The data were analysed using qualitative thematic analysis. The study found that teachers faced challenges in providing instructions to LWVD as they had inadequate competencies, knowledge and skills to implement an Individualised Educational Program (IEP) for such learners. As a result, the participation in the academic activities among LWVD was lower compared to that of pupils termed as 'normal'. From teachers' and learners' perspectives, all these challenges can be addressed in two ways: the government should include special and inclusive education courses in all teacher colleges and the import taxes for learning and teaching materials for learners with special needs including LWVD should be removed. The government should regularly conduct in-service training for teachers to acquire competence, knowledge and skills that would help them manage LWVD in the learning and teaching process.*

Keywords: *Visual Disturbance, Competence, Individualized Education Program, Inclusive Education, Visual Impairment.*

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1. Introduction

This study assessed competencies possessed by teachers for teaching children with visual disturbances in Kilimanjaro and Dar es Salaam regions. A teacher is one of the key elements of a curriculum. It is by the actions of this agent that the intended learning may occur (Dillon, 2009). Teachers need to improve their knowledge and skills to enhance, improve and explore their teaching practices (Darling-Hammond & Hyler, 2020). This means

adding more knowledge and intervention skills in managing the learning and teaching of individual students with visual problems. UNESCO (2021) is of the view that teachers and educational administrators are to be sensitized to bridge the gap of discrimination that continues to permeate schools and educational systems. According to Darling-Hammond (2017), teachers are probably the most important resource that any country has. In that case, having them with the competencies and skills enough to educate individual students regarding their educational needs is a must.

Human beings are among the species most dependent on vision, with research indicating that approximately 80-90% of perceptual information is processed through the visual system (Huberman & Niell, 2021; National Eye Institute, 2022). Teachers need to have competencies (skills) that can be used to help them create a conducive environment for the students to learn better. Sometimes modifying the environment in which someone lives or works may have a dramatic influence on how efficiently he or she can use vision. Corn and Koenig (2019) observed that choices related to environmental manipulation are usually based on one or more factors, among others, lighting, contrast, colour, distance, and size. Teachers should consider these factors when managing learners with visual disturbances during learning and teaching practices.

Teachers cannot give instructions to students until they have identified their special educational needs. After the identification then the plan to support teachers during learning and teaching has to be made. This plan is an individualized education program (IEP). IEP is a management tool and monitoring document that is used to ensure that there is compliance in providing each learner with special education and related services appropriate to individual learning needs (Brady et al, 2019). All individual programs have to be built on the child's vision function and the progress of their diagnoses. Teachers ought to possess the requisite competencies to implement IEP. Despite Tanzania's Fee – Free Education (FFE) policy, screening and IEP implementation remain weak. This study therefore was set to answer the following questions: How adequate are the competencies possessed by teachers of learners with visual disabilities? What measures can be taken to strengthen competencies among teachers of learners with visual disabilities?

2. Literature Review

Teachers are pivotal in curriculum delivery, yet gaps persist in their ability to support learners with visual disabilities (UNESCO, 2020). Recent studies highlight systematic challenges in inclusive education. Chan et. al (2022) conducted a study in Bariadi, Tanzania to assess the ability of Vision Champions (VC) to identify and refer children and the community with refractive error and obvious ocular disease and to assess the change in knowledge and practice of eye health-seeking behaviour of the community 3 months after the introduction of the VC Program. Primary teachers can best help this approach function since children are mostly found in primary schools and can easily be trained; however, the study has not considered teachers' competencies to do so.

HakiElimu (2022), in another study, assessed the implementation of inclusive education in public primary schools, its challenges and means of tackling them.

These studies did not focus on teachers' competencies about the implementation of inclusive education in primary schools in which LWVD are part, yet Haki Elimu (2022) established that teachers' qualifications and competencies are crucial aspects to effective and efficient teaching at any level of education. Moreover, Darling (2017) noted that highly professional teachers, who are dedicated, are needed in school. On the other hand, teachers have the responsibility of making students perform well in their examinations through their competence during the lessons. Wilhelmsen & Felder (2020) reported that in many countries, the problems of vision in children are not assessed thus leaving them untreated. Screening and treatment given through the eye healthcare system is not always sustainable, since regular follow-up is lacking. But in any case, before screening is done at the school level, teachers have to be competent enough to do the job.

Thus, being a teacher at any level requires a significant amount of knowledge and skills. Paying attention to the core competencies of educators helps to ensure that all teachers and others who work in the education sector are prepared to make school a positive experience for students and their families. Competences that teachers should possess include: interacting well with the students with confidentiality on children with special needs (CWSN), creating an inclusive learning-friendly environment (ILFE), being good at lesson plan design (with IEP), able to use varied teaching strategies to help students with multiple learning styles, and maintaining a professional appearance and demonstrating a commitment to the profession (Zeiger, 2018). Teachers should also be able to modify the environment in which they live or work can have a dramatic influence on how efficiently he or she can use vision (Corn and Koenig, 2019).

Currently, most primary teachers have little or do not have the adequate competencies required to provide instructions to learners who are visually disturbed. UNESCO (2020) developed a teacher strategy with three key priorities; the priority is to address the challenge of teacher shortages by strengthening national institutional capacities to increase the supply of qualified teachers at the country level. This requires a focus on teacher training institutions as well as on national capacity development for teacher policy formulation, implementation and evaluation. The second priority is to contribute to improvement in teaching quality, and the third priority is to inform the global debate about teaching with comparative evidence. WEMU (2015) developed "Mwongozo elekezi wa kubaini mahitaji maalumu ya ujifunzaji stadi za Kusoma Kuandika na Kuhesabu (KKK)

kwa Watoto” (a guide for identifying special educational needs for reading, writing and arithmetic (3Rs) for children) but still it is not well known if teachers do possess the competences required.

3. Methodology

3.1 Design

The study used a qualitative research approach, which focuses on exploring and understanding the meaning individuals or groups ascribe to a social or human problem (Creswell & Poth, 2023). The approach involves collecting data in the participant's setting, analyzing data inductively building from particulars to general themes, and interpreting the meaning of the data. The study opted for this approach to obtain an in-depth understanding of the competencies of primary teachers in managing LWVD and sightsee the proliferation of vision disturbances among learners in Tanzania primary schools. The study, furthermore, used a qualitative descriptive research design. Descriptive research was considered an appropriate choice since the research aimed to identify characteristics, frequencies, trends, and categories. It is always useful when not much is known about the problem yet, hence the need to understand how, when and where it happens (McCombes, 2019).

3.2 Area of Study and Sample

The study was conducted in Kilimanjaro and Dar es Salaam regions specifically in Moshi City Council and Ilala Municipality. The reasons for the selection of these two regions were such that there is a mixture of people with different levels of economic status or activities, different levels of education and a mixture of culture and traditions. All these make a society with different perspectives towards education thus having learners coming from different family backgrounds with different challenges, more specifically in vision disturbances.

The population in this study included teachers and students found in integrated and inclusive primary schools in Moshi City Council and Ilala Municipality. Through purposive sampling, two primary schools were selected, one from Moshi City Council in Kilimanjaro and the other from Ilala Municipality in Dar es Salaam. The sample for the study was selected using a criterion sampling procedure, which entails selecting research participants that meet certain criteria. In the current study, participants were selected on the basis of their association with the environment in which learners with visual disabilities receive education. Accordingly, a sample of

25 participants was selected from two schools where 15 were teachers and 10 were grade III students.

The reasons for selecting the two schools were that the schools are integrated and inclusive. In an integrated school such as the primary school in Moshi the learners with vision-related problems or challenges in grades I and II are taught in a special unit or classes until they reach grade III where they are integrated and or mainstreamed with other normal learners. In an inclusive school like the school in Ilala, the learners are included in normal classes. In both settings, the specialist teachers have to give instructions to all learners including LWVD whom the teachers do not pay attention. Under this situation, the researcher was expected to observe if teachers had the competencies essential to identify LWVD.

3.3 Data Collection Tools and Analysis

Research tools refer to specific mechanisms or strategies a researcher uses to collect, analyze or interpret data (Creswell & Creswell, 2022). The tools used to collect data for this study were questionnaires which had open– and closed-ended questionnaires, interview guides, documentary review and observation checklist. The use of more than one data collection tool enabled the researcher to combine strengths and correct some of the deficiencies in the techniques in the process of data analysis and interpretation.

The study employed interviews to ask participants general open-ended questions and recorded their answers, having obtained their consent. An open-ended interview was preferred since it could clarify obscure questions and allow the respondents to expand on answers that are particularly important or revealing. Questionnaires on the other hand were used in this study to gather necessary information from teachers and students. The questionnaires were self-developed by the researcher and were used to solicit teachers' background information and data related to their competencies in teaching LWVD.

Documentary review was also used as a tool to collect data for the current study. Documents consist of public and private records that researchers can obtain about a site or participants in a study, such as newspapers, minutes of meetings, personal journals and letters (Creswell & Creswell, 2022). In this study, various documents were reviewed including syllabi, schemes of work, lesson plans, timetable, lesson notes, individualized educational program (IEP), minutes from meetings, official memos, records in the public domain, and archival material in libraries. These documents were inspected by academic teachers and head teachers. The aim of reviewing these documents was to see if they contain information (such as IEP elements and form) showing how the teachers used

their competencies in the management of LWVD during the learning and teaching process. The observational checklist on the other hand was used to see what was going on in the classrooms and how teachers conducted the learning and teaching practices. Also, the researcher wanted to see whether the learning and teaching environment was conducive.

The study being qualitative, sought in-depth, context-specific, rich, subjective data and meanings by the participants as guided by (Cohen et al., 2018). Consequently, thematic analysis was appropriate and applicable when analyzing the collected data. The researcher transcribed the data obtained from the field to bring out the meaning and then organized those data into themes, sub-themes and codes. The description of the data helped the researcher to get the required information for the study.

In the whole process of the study participants' privacy and information gathered from them were protected and not exposed in any way. They did not reveal their identity on the questionnaires and only willing participants were included in the study.

4. Results and Discussion

The study sought to assess the adequacy of competencies possessed by teachers for teaching children with visual disturbances, where two selected primary schools, one from Ilala-Dar es Salaam and another from Moshi-Kilimanjaro were used as samples to collect data. The study intended to elicit information on the competencies teachers possess for managing learners with visual disturbances. Primary teachers were expected to show the competencies and skills that help them to identify learners with visual disturbances (LWVD), prepare individualized education programs (IEP), apply proper methods for teaching them and overcome obstacles to smooth teaching and learning for LWVD.

In this section, data are presented in detail, analyzed and discussed. Data were collected specifically from 15 teachers and 10 students, using questionnaires, interviews, documentary analysis and observation checklist. Of these research participants, 12 (48%) participants were males out of whom 7 (28%) were teachers and 5 (20%) were grade III students while 13 (52) were females out of whom, 8 (32%) participants were teachers and 5 (20%) were grade III students. The participants' education qualifications were such that 10 (40%) participants were grade III students; 1 (04%) participant was a certificate-holder, 7 (28%) were diploma holders, and 7 (28%) participants were bachelor's degree holders.

4.1 Teachers' Competency to Identify Learners with Visual Disturbances

The research participants were asked to explain whether they attended any special training for learners with vision disturbances. One participant responded as follows:

"No, most of the teachers cannot identify students with vision disturbances but few of them know visual impairment. Other teachers are from hearing impairment and intellectual impairment (T1, July 2020)".

Responding to that, another participant said:

"Yes, because our school is for blind students. That is why I think teachers have gone for special courses for teaching learners with visual disturbances (CT1, July 2020)".

Another participant added that:

"No, because the learners with visual disturbances have been grouped with those who are blind. So, they cannot be identified and taught according to their problem. These are many learners (T4, July 2020)".

The findings of this study showed that teachers mistakenly grouped learners with LWVD and grouped them with blind and low-vision students. All responses showed that teachers had little knowledge about vision and how they should provide special instructions to LWVD.

Screening or vision assessment is of great importance for learners in primary schools in this part, participants were asked to provide information if their vision had been screened and identified at the school level. One of the participants explained that:

"No, I have been screened at KCMC, but they did not give me the results, they gave mother. They told my mother (S1, July 2020)".

Another participant added that:

"Teachers have never screened us before here at school (S2, July 2020)."

The findings showed all participants had never been screened at the school level. This indicates that teachers lack or have very little knowledge, competencies and skills in vision screening and identification. Therefore, teachers should be assessed and screened first before being equipped with the screening competencies and skills so as to serve the students and conduct it at the school level.

The current government's efforts in improving education aim to improve teaching and learning and the quality of education. The research results exhibited that teachers lacked the competencies required to manage LWVD. Teachers need to be equipped to conduct screening at the school level. This is evidenced by Heward, (2018) that visual acuity cannot be assumed to be constant between the ages of 7 and 16 and that careful, regular screening among schoolchildren is essential. The foundation of education for learners who need special attention is good instructions provided by skilled teachers, day in and day out (Heward, 2018). The findings showed that little competencies about VD resulted in ineffectiveness in the learning and teaching for LWVD thus poor academic performance among learners. A child who may need special education usually comes to the school's attention because a teacher reports concern about differences in learning, behaviour, and development or the results of a screening test suggest a possible disability (Kirk, et al 2020). The Tanzanian government takes various measures to improve the quality and accessibility of education. Some of these measures, among others, are the introduction of Fee Free Education (FFE), teaching and learning materials and the establishment of special schools.

The research findings also showed that inadequate competencies about VD among teachers narrowed the provision of quality education, especially for learners with special educational needs including LWVD. Kirk et al. (2020) strengthen this finding by adding that letters or word constancy for example, may somewhat be challenging concepts for LWVD and they need deliberate instructions and an organized friendly environment before they realise the difference in letters, words, colour, size, shape and movements. Although some teachers devoted their time to helping these learners with vision problems, little knowledge of VD precluded them from providing full support. They need knowledge and skills on how to make the learning and teaching environment conducive. HakiElimu (2022) agrees by showing that the national policy on disability (URT, 2018) urges the government in collaboration with stakeholders, to create a conducive environment for inclusive education. The current study agrees with Wilhelmsen and Felder (2020) on the vision competencies required by teachers that vision is a developing sense and important for learning and that teachers can screen children's vision and support visual development. However, with their little knowledge of VD, teachers managed to give help to the learners.

Through documentary analysis, the study sought to establish if there is use of the screening form. Screening form is one of the early strategies in the preparation of an IEP. Without the screening, the IEP cannot be planned or

carried out. Screening is defined as the presumptive identification of unrecognized disease in a healthy, asymptomatic population using tests, examinations or other procedures that can be applied rapidly and easily to the target population (WHO, 2020). Screening is designed to identify conditions which could at some future point turn into an impairment or disease, thus enabling earlier intervention and management in the hope of reducing mortality and suffering from such impairment or disease. In this regard, teachers at public primary schools should be well equipped on how to conduct screening of learners. There are special forms for screening learners to determine the status of their vision. If conducted correctly, screening can provide clear information on LWVD at the school level. The findings show that no screening forms exist in both schools. This denotes that the screening is not performed by teachers at the school level. The reasons behind this might be that teachers are not aware of it or they have little knowledge, competencies and skills concerning the matter, yet it seems that learners may be faced with vision disturbances but remain identified.

4.2 Competences for Preparing Individualized Education Program (IEP)

Preparation of an IEP is one of the indicators of the competencies of the teachers and the concern about learners with vision disturbances. The research participants were required to give information on the preparation of IEP for learners with vision disturbances. One participant clarified that:

"Teachers and parents sit together and identify the problem of a child and plan how to teach them according to the level of disability (T13, July 2020)".

Another participant added that:

"Most teachers do not prepare for IEP. They just use a normal syllabus with slight modification to suit the student (T10, July 2020).

One more participant postulated that:

"By preparing better teaching and learning materials related to their impairment such as the recorded materials and large printed materials (T4, July 2020)".

The research findings showed that one teacher (6.6%) explained how teachers prepared an IEP according to the child's needs. This indicated that few teachers had little knowledge of how to prepare an IEP for LWVD. Teachers very rarely prepare and implement an IEP for

LWVD. This demonstrates that most teachers have little competency in how to manage learners with special needs including LWVD.

More findings were obtained through analysis of documents related to IEP, with the focus being established if teachers had the competency to integrate IEP aspects into such documents. The documents focused on were the syllabus, scheme of work, and IEP form.

The syllabus document was reviewed to assess whether the IEP elements for LWVD have been incorporated. A *syllabus* is a document that communicates information about a specific course and defines expectations and responsibilities. A syllabus is derived from the curriculum. It is about that list of topics to be taught and learned for a specific period or program or an outline and summary of topics to be covered in an education or training course. It is descriptive. Teachers are guided by this important document. If there are no special instructions to guide teachers on the learning and teaching practices, then learners might not get the intended quality education according to their needs. However, even if the syllabus does provide special instructions, teachers may use their competencies to prepare schemes according to the educational needs of the learners. Darling - Hammond (2017) notably, agrees with the argument that highly professional teachers, who are dedicated, are needed in schools.

The finding shows that the syllabus did not have IEP elements for LWVD. These learners were not considered and attended with care in the learning and teaching process from early preparation. The results showed that teachers who prepared their teaching and learning process using these syllabi had not paid special attention to learners with special educational needs including learners with visual impairment in particular LWVD.

The schemes of work were also reviewed. The scheme of work is drawn from the syllabus and broken into pieces to be taken on a termly basis. The lesson plan is a further breakdown of work to be done. From the data collected from the scheme of works and lesson plans, there was no clear information on the IEP for LWVD rather; learners who were visually impaired were considered. This shows that LWVD were not recognized and identified. Therefore, the scheme of work and lesson plan did not consider their learning and teaching needs.

Furthermore, the IEP form was reviewed to determine if teachers were applying it appropriately. The findings showed that there was no IEP form (blank or filled) that showed the specific areas of concern that learners needed educational assistance the most. An IEP is a management tool and monitoring document that is used to ensure that each student is provided with special education, and related services appropriate to individual learning needs.

The researcher was informed to have existed, but the form was not found when it was needed. This indicates that teachers do not prepare these forms, perhaps due to lack or little knowledge. This entails the special training to be conducted for most of the primary teachers.

IEP is a helpful program for learners who have been identified as in need of special instructions to support their academic development. Brady et al. (2022) describe IEP as a management tool and compliance and monitoring document that is used to ensure that each student is provided with special education, and related services appropriate to individual learning needs. IEP gives support to individual learners in reaching the major aim of the provision of education to Tanzanians, a view cited in the URT (2018) on the provision of education, that focuses on the need to provide them with a concrete and reliable basis for a self-reliant life. Therefore, teachers need to be acquainted with the assessment, screening and identification of learners with special educational needs including LWVD to plan for an IEP to support learners.

4.3 Competences for Handling the Teaching and Learning Process of LWVD

Participants were asked to explain which methods were used in the process of learning and teaching practices. Acknowledging that, one participant said:

"Teachers use the lecture method. They give instructions to all of us together. Sometimes they ask us questions, and we answer (S1, July 2020)".

Addressing that, another participant said:

"They teach all of us together...sometimes the teacher uses to read for us and instruct us to write (S4, July 2020)".

Acknowledging that, another participant added that:

"Teachers use to ask us questions and we give out the answer. Sometimes teachers divide us into groups and give instructions (S5, July 2020)".

Another participant asserted that:

"There are times teachers set us in groups, sometimes they just give us works and instruct us study alone (S9, July, 2020)".

Explaining the situation, another participant added:

"We sit three on one desk; others are sitting two on the desk. Teachers use to ask us questions, and we answer them (S10, July 2020)".

The results showed that most of the participants (70%) explained that teachers preferred lecture methods to others. The remaining (30%) responded that sometimes

teachers used grouping, questions and answers and very rare child-to-child (children-helping-children) methods or approaches. This indicates that teachers have little knowledge about LWVD.

The study further probed the use of professional teaching documents for their proper use, notably the academic reports, lesson notes and attendance register.

An academic report is a piece of writing produced for an individual or a whole class. Academic reports are mostly required in schools to see the progress of learners. They may help in early assumptions as to why the learner is not academically performing well, thus leading to the diagnosis to find out the cause. The data from the field did not show any academic report for learners who are visually disturbed. This means that there are no learners who have been identified as visually disturbed so their academic reports could be found rather; there are reports on the general academic performance of the learners including the blind, visually impaired and low-vision students. Academic reports are mostly required in schools to see the educational progress of learners. An academic report is a piece of writing produced for an individual or a whole class (Renner, 2018). Offering an academic report may convince the learner to strategically put more effort into his study. Academic reports that were found in the field did not show the category of LWVD as the assessment, screening and identification were not conducted. Therefore, LWVD might be available but not identified due to the lack of competencies to do so.

Making notes is an easier way to learn and increase progress in a classroom. Lesson notes are basic notes that show how a particular lesson is going and how much the students in the class have understood it. A lesson note shows the effect of learning and teaching on the students of a particular class. The findings show that teachers applied the experience of teaching students with visual impairment and low vision to learners who showed the characteristics of VD. This signposts that teachers lacked or had little knowledge competencies and skill in managing LWVD. A lesson note shows the effect of learning and teaching on the students of a particular class. Lesson notes are basic minutes in that they show how a particular lesson is going and how much the students in the class have understood it. However, teachers used the same notes for all learners. Since teachers preferred the lecture method, notes were written on the chalkboard for the learners to copy from. So, in case there were LWVD, they missed an opportunity, among others, to interact with contrasting text and coloured pictures or drawings.

The findings show that attendance registers were checked by the class teachers. This document was used to show

the attendance of students to check whether they were attending school or not and whether there had been poor attendance. Students were called their names twice a day, in the morning and evening sessions. The attendance showed that students attended school regularly. Those absentees had strong reasons for their absence such as sickness. Attendance registers were used as one of the indicators to show academic performance. The attendance register is a symbol of management and control. This document shows the attendance of students to determine their frequency of coming to school. If the learners show a high-rate frequency of drop-out. It can be used to trigger the start of an investigation for the *why* question. The regular attendance of the learners at the school provides information that learners like to participate in the learning and teaching process. On the other hand, if there are dropouts, such information presupposes that learners are not interested in the learning in which reading and writing work-related are found. Therefore, this study urges that teachers should take the deliberate initiative to have competencies that will assist them in handling learners with special needs in particular LWVD.

Observation was also used regarding teachers' competency to handle the teaching-learning process. The areas focused on for observation were students' participation, teaching methods, sitting plan and head postures, lighting, instructional materials,

4.4 Teachers' Competency in Classroom Management

The study also sought to find out if teachers had competencies related to classroom management. To this end, data were solicited using an observational checklist about the participation of students in the learning and teaching process, together with the related methods, sitting plan, and status of light in the classroom.

Participation of the learners is one of the key elements in the academic performance of the learners. Showing interest in one way or the other in the learning and teaching practices indicates that the learner benefits from the process. For example, showing interest in reading and writing work-related is a sign that the learner does not experience vision challenges. Unfortunately, due to the dominant use of less-participatory methods, few learners were participating in the learning and teaching process. This means that the majority of learners were not involved in the learning practice. As a result of the method in use, their participation was of a minimum level. Therefore, it can be concluded that learners participated little in the reading and writing work-related due to VD.

Learning and teaching methods play a vital role in the facilitation of learning and teaching practices. They may provide a learner with a friendly and conducive learning environment or the opposite. However, the preferred learning and teaching method for effective and efficient learning and teaching practices is participatory. This method places learners at the centre of learning. It was observed that most of the teachers used less participatory methods like lectures and the provision of notes on the blackboard. The disadvantages of this method, among others, are such that LWVD may find it challenging to extract notes from the chalkboard following their vision challenges.

A sitting plan can contribute to the effectiveness of the learners. Learners with special needs or those who require special attention during learning and teaching ought to be properly arranged and placed in the class to make them comfortably learn. For LWVD sitting at the back (far from the chalkboard) may result in spelling errors during reading and or writing. Sometimes LWVD need to be placed in the bright or dim light depending on their vision challenges. The arrangement of the sitting in the class during the learning session depends on the nature of the learner's vision status. Therefore, the seating plan may somewhat help those learners who have vision challenges.

Enough light brings about a great deal in the vision mechanism. This study agrees with Hwang & Peli (2022) who add that for vision to provide the child with meaningful information, the eyes and their related structures must see clearly, they must move and adjust focus on targets that move in space so that lighting and background are constantly changing.

Without light, the mechanism of seeing might not be working properly. Learners may face images which are not encoded in receptors in any reading and writing work-related. Nandakumar and Leat (2023) support the formation of the images with the presence of light that each receptor encodes the intensity of the small point of light in the image that lands on it. Without light learners may experience poor reading and bad handwriting. To have good and improved reading and writing, the learning and teaching environment should be friendly and conducive. Jhetam and Mashige (2023) approve that to have contrast sensitivity and reading improvements light should be of a reasonable amount. Therefore, a reasonable amount of light makes the reading and environment friendly.

The selection of learning and teaching materials must consider the educational needs of the learners. Almost all teachers used white chalk and normal textbooks. A few coloured pictures and drawings were posted on the walls.

This shows that teachers had little knowledge and competencies on LWVD thus ending up using learning and teaching materials that do not fully help all learners to participate in the learning and teaching process. Improper learning and teaching materials may cause learners in this context LWVD not to fully be involved in the process of learning and teaching hence poor academic performance.

Head postures are part of the indicators that suggest whether a learner has vision challenges or problems. If learners tilt their heads to the left or right while reading and writing, that is an indicator of any vision problem, and they may require screening to determine it. VD may be caused by an imbalance in the binocular coordination of eye movements during reading. Jhetam & Mashige (2023) agree that the two eyes make asymmetrical saccades during reading, such that one eye makes a larger saccade than the other. This can cause the learner to tilt the head to the left, or right or place the textbook close during reading and /or writing.

5. Conclusion and Recommendations

5.1 Conclusion

The study revealed that LWVD in Tanzania primary schools were not given as much attention as learners with low vision, vision impairment and or blindness. Learners are not managed well as teachers are faced with inadequate competencies to ensure effectiveness and efficiency in managing the academic performance of all learners including those with VD. Teachers need to be well-equipped with competence, knowledge and skills. If this was done, they would fulfil their duties with confidence in managing learners with special educational needs to raise their academic performance.

5.2 Recommendations

Teachers need to be well-equipped with competence, knowledge and skills. If this is done, they would fulfil their duties with confidence in managing learners with special educational needs to raise their academic performance.

Teachers should be oriented through short educational workshops on awareness about VD, causes, characteristics of a student with VD, and ways to go about helping such students like a visual stimulation program. This may in turn bring the students with an interest in reading and writing vision-related activities. Also, students may benefit from the program as they may stand sturdy in the activities that require the use of vision for a longer period.

Primary teachers should improvise and prepare learning and teaching aids and materials depending on the student's individual needs. This can be determined by the screening results to ensure the effectiveness of the use of learning and teaching materials. The materials and aids should be made of creativity to attract and arouse the interest of the learners.

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