Teacher Preparation in Zambia's Expanded Core Curriculum: Challenges and Opportunities

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Abstract

Well-prepared teachers are a determinant in the successful implementation of expanded core curriculum. Teachers can give learners skills according to the way they are prepared. Learners with visual impairments in special schools and students at tertiary level manifest deficits in critical skills required in academic success and transition in general. The nature of education of their teachers and challenges encountered during teacher preparation were not well established. The present study explored challenges faced in the preparation of teachers of learners with visual impairments in expanded core curriculum. Purposive sampling was used to select twenty-two teachers, two special education curriculum specialists and three Teacher educators. Open-ended questionnaires were used to collect data from teachers of learners with visual impairments and semi structured interviews were conducted with teacher educators and curriculum specialists. The findings indicated that teacher education/preparation in ECC was insufficient, and the institutions concentrated on braille literacy; and orientation and mobility. The remaining skills in ECC were ignored. Preparation incorporated few practical sessions and was highly theoretical. The major challenges among others were time constraints; insufficient resources in education; enrolments of student teachers; discrepancy between education and implementation; methodological issues. The opportunities were available to improve education were: employ more staff; embark on specialised education; advocacy and collaboration: offering continuous professional development for teachers. The study highlights the nature of preparation of teachers of learners with visual impairment. The teacher education institutions need to realign the curriculum through collaborative approach with other stakeholders so that teachers can effectively deliver skills to the learners.

Keywords: expanded core curriculum; visual impairments; access to curriculum; teacher preparation

Background

Over the years teachers of learners with visual impairment have realized the need to give instructions beyond reading, writing and mathematics (Hatlen 1996). Despite studying the basic academic subjects also called core curriculum which the sighted equally do, learners with visual impairment need to learn additional skills known as expanded core curriculum (ECC). The ECC is sometimes referred to as disability specific skills or vision related skills.

A study by Brown and Beamish (2012) asserted that teachers of the visually impaired learners ranked ECC as most important area and most frequently taught. In fact participants in the study by Brown and Beamish (2012) indicated that teaching ECC to the visually impaired is one way of advocating for the right to inclusion of the persons with visual impairments in many sectors of life.

Instruction, regardless of setting, must be provided by professionals thoroughly prepared and qualified to teach learners with visual impairment. Teachers for learners who are visually impaired should have teaching teams working together to plan, implement, monitor and evaluate programming and services (Alberta Education 2006). A certificated teacher must direct and lead the learning team in developing goals and objectives that are educationally relevant. According to the American Foundation for the blind, (2013), the skills and knowledge needed can be defined with three classifications. Firstly, the teacher must have a foundation in regular education, including methodology in teaching reading, mathematics, and other areas of subject matter. Secondly, the teacher must learn the techniques for curriculum adaptation for visual learning experiences so that the concepts taught remain the same with adapted teaching methodology and materials (Muzata & Mahlo 2019). Thirdly, the teacher must know how to assess skills and deliver instruction in the specialized areas of independent living skills, social skills, career education, and specific areas of academics. The combination of knowledge and skills needed in order to provide appropriate educational services to learners who are visually impaired requires intensive preparation in a teacher education program.

According to Brown and Beamish (2012) the roles of teachers in the education of learners with visual impairment are changing. In one of their surveys, Brown & Beamish (2012) found that teachers of learners with visual impairment have four major roles. These are; supporting learners and administration, teaching ECC, collaborating with the general education

teacher and ensuring that learners with visual impairment have access to the curriculum. These multifaceted roles have implications on the workload, accountability and quality of instruction. In as much as teachers would want to concentrate on the ECC other responsibilities take up their time. With such a change in the roles of teachers of learners with visual impairment, a way to balance additional responsibilities and teaching is necessary. It may be assumed here that teachers of learners with visual impairment would deliver better if they collaborated with other professional if they focus on teaching alone.

The trained personnel is expected to offer hands on experiences and tactile explorations to enable learners to have direct access to information. The education of the visually impaired lacks qualified personnel in the various fields or disciplines like academic, vocational and technical skills. In Zambia, the lack of skills among teachers has been noted in different studies and acknowledged by the Ministry of General Education (Muzata & Ndonyo, 2019; Ministry of General Education, 2014). Sapp and Hatlen (2010) and Boame (2009) found that current education of teachers of learners with visual impairments focused on education in ECC along with the other curriculum. This approach was found to be faulty in that graduates did not feel confident to offer skills in ECC. Equally Institutions for teacher preparation felt that they did not have enough time to prepare graduates in ECC. Teachers without skills in ECC will most likely not transfer the skills which they do not have. Zhou, Parker, Smith, and Griffin (2011) have shown that many teachers had significant deficits in assistive technology use for the visually impaired. About 55 (74.32%) of the 74 assistive technology competencies that were examined and that 57.5% of them lacked adequate confidence about teaching assistive technology to learners. The study further recommended that assistive technology for learners be embedded in university education for teachers. The study proposes that personnel preparation, baseline skills in teacher education in ECC and professional self-improvement of ECC are key to successful implementation of ECC. In another study by Papadopoulos and Goudiras (2005) teachers reported that one barrier to ECC implementation were deficiencies in teacher skills. This challenge was reported by 67 percent of the respondents. It was strongly felt by participants that there was the need for further development of teachers' skills through on-going teacher education. In Zambia, a study by Mtonga (2013) revealed teachers lack of skills in using computers to teach learners with visual impairment, vis vi inadequate computers and other assistive devices to aid learning and teaching. Muzata, (2020) revealed the failure by the school of education at the university of Zambia to use computers to improve the learning

of students with visual impairment. Inclusive education for student teachers in teacher education institutions calls for a skills in the use of assistive devices that can help deliver skills to learners with visual impairment (Muzata, Simalalo, Kasonde-Ng'andu, Mahlo, Banja, & Mtonga 2019).

It is clear from this background that teacher preparation in especially skills for ECC is in dire need. Learners with visual impairment need skilled teachers to be able to learn not only the core curriculum but all the expanded core curriculum skills in order to integrate well in their environments. What is not certain in Zambia is the status of teacher preparation in ECC and hence this study endeavours to answer the following research question:

Research Question

1. What is the status of teacher education/preparation in ECC and the challenges encountered in Zambia?
2. What could be the hindering factors to the implementation ECC in teacher education curriculum?
3. What are the opportunities for ECC in Zambia's teacher education course?

Method

Participants

A total number of three (N=3) e Teacher educators at university and college level were involved in the study. A sample of twenty two (N=22) teachers was also considered for the study. . The teachers were drawn from three special schools for learners with visual impairments. Two (N=2) special education curriculum specialists were recruited to participate in the study. The profiles of participants in the study are presented in the tables 1-3.

Table 1: Profile of Teachers

A total number of 22 teachers participated in the study. These were 13 male and 9 female.

Qualification	Gender	
	Male	Female
Certificate	2	2

Diploma	8	5
Degree	3	2
Masters	0	0
Total	**13**	**9**

Table 2: Profile of teacher Educator

A total number of 3 Teacher educators participated in the study. Table 2 below presents their profiles.

Code	**Gender**	**Work Experience**
TE1	Male	5 years
TE2	Male	5 years
TE3	Female	4 years

Table 3: Profile of Curriculum Specialists

Two special education curriculum specialists took part in the study. Their profiles are presented in table 3 below.

Code	**Gender**	**Work Experience**
CDC01	Male	12 years
CDC02	Male	10 years

In order to select the sample for the study, purposive sampling procedure was used. All the three schools and the university were sampled because they were directly involved in the matter of education of learners with special needs.

Instrumentation

In order to achieve an in depth understanding of the expanded core curriculum for learners with visual impairments, a qualitative case study (QCS) design was selected for this study. The protocols for data collection, data analysis and data representations lead to narrative data that are thick and descriptive in scope. This study used semi structured interview guides to collect data from teacher educators and curriculum specialists and semi- structured questionnaires with

open ended questions were used on teachers. The two instruments yielded rich text information which is required in any qualitative study.

Procedures

Questionnaires were administered to teachers. Teachers were given a brief background of the study. Teachers were allowed to respond to the questionnaire in their own time after which the questionnaires were returned to the researcher after seven days. Interviews were conducted with three teacher educators and two special education curriculum specialists. The researchers opened communication lines with the participants to plan on when and where the interviews were to be conducted. Interviews were conducted in the offices of the participants and participants were given an opportunity to give detailed accounts and the researcher was able to probe or seek further clarifications on issues within the set questions thereby gathering rich and thick data. The interviews were audio recorded after consent was given by participants.

Data analysis

The first strategy in the data analysis was the transcription of audio recorded interviews. This involved critical listening and typing of the actual words used to narrate. The typed scripts were sent to the participants for verification especially to indicate the correctness of the transcribed information. Some participants gave a bit more information after going through their respective scripts. The second stage was to identify nodes or themes used in coding the data. Saldana (2009) describes coding as a transitional process between data collection and analysis.

Having identified the codes or nodes and grouping them in line with the research objectives, the researchers had to begin coding the data in NVivo software. The coding process involved going through each script and coding information on the identified nodes or themes. Sub-categories or themes also emerged. These were coded under the main themes. The quotations that made up the nodes were analysed to arrive at significant findings.

Ethical Consideration

Before commencing the study, approval was obtained from the University of South Africa Research Ethic Review Committee (RERC) with reference number 2015/06/17/50790773/5/MC. Further permission was sought from the Ministry of General

Education in Zambia. Furthermore, ethical aspects such as confidentiality, anonymity and rights to withdraw from the study were considered.

Results

The findings of the study are discussed under the following heading; status of teacher education in ECC; challenges: time constraints; methods; insufficient collaboration; education staff; enrolments in teacher education; discrepancy between education and implementation; education resources.

Status of teacher education in ECC skills

In a question to find out if the teachers were prepared in the education for the learners with visual impairment, particularly ECC, most of them indicated that they were not prepared in teaching ECC skills to learners with visual impairments.

The education preparation of teachers for learners with visual impairments was done at diploma (two years) and degree (where there was one course taken in an academic year and focused on teaching learners with visual impairments) levels. The courses offered at diploma level were mainly 3, namely orientation and mobility, braille and low vision (TT2, TT3). The teacher educators mentioned that the other skills in ECC were embedded in the three main courses. TT3 elaborated on this aspect as follows:

> *The main courses are braille, low vision, orientation and mobility. Under those we have components like devices, ICT they fall under these areas as content of the programme. There are 3 main course, braille, low vision and orientation and mobility. Activities for daily living (ADL) are under orientation and mobility. Assistive technology is in low vision. Braille stands alone.*

At university level ECC skills were part of content of a course called visual impairments in the four-year programme (TE1). The course run throughout the academic year and ECC skills are just part of the main topics taught in the course. The teacher Educator (TE1) made the following submission on this matter:

> *Yes, we do train the teachers, but I think I must be very sincere we do talk about them. We do talk about this ECC skills but I wouldn't say we do train the students to really use them. For example, in the syllabus or in the lecture plan we do have a topic on ECC, we do have a topic on that. So, we do talk about them maybe two there weeks.*

What we don't do is the actual practice of the actual areas we may mention under the ECC but we do really teach them. . .ECC skills they come as part of the course content. Just as I mentioned we have a topic on expanded core curriculum. As a way of breaking down, orientation is part of the course content apart from mentioning it in the ECC then we have time devoted to orientation and mobility, we also have time for assistive technology.

He indicated that the course has a topic on orientation and mobility and also assistive technology. TE1 further amplified that at the university, there was a course which runs for one academic year where student teachers are taught how to teach learners with visual impairments.

At the university braille, which is a skill under compensatory and functional academics, was taught the entire academic year to the student teachers. As a practical component of the course, braille skills seemed to be a dominant area in teacher preparation for learners with visual impairments. According to TE1, student teachers learn braille as a mode of communication.

In terms of short intensive courses in ECC the university did not have such programmes while the study college offered short programmes in the form of rehabilitation and other courses, all these were offered in collaboration with donors for serving teachers. For TE2 the institution offered rehabilitation for those who lost sight suddenly. The programme which lasted for six months focused on orientation and mobility. There was also mention that the institution offered short courses in braille education. The views are presented below:

Yes, the college offers short programmes which run for six months. In the department of education for the visually impaired, we receive serving teachers who may want to sharpen skills in braille. When they enrol they are given the basics in writing and reading braille. Furthermore, we also have a programme for six months for orientation and mobility. On this one we receive clients that become suddenly blind.

TE3 had a slightly different position from that held by TE2 as she stated that the college did not have short courses running directly but there was working in collaboration with other partners that offer short courses in the northern region of the country. This was mentioned to be the only short course the college was offering.

From the confessions by participants in this study, there appeared to be a deliberate neglect of ECC skills emphasis in the preparation of teachers for learners with visual

impairment although some content was inadvertently embedded in the teacher education curriculum in form of braille, and orientation and mobility skills. It can be concluded on this theme that ECC skills for teachers are not covered in teacher education curriculum as an intended curriculum issue but rather latently delivered. Latent delivery may not specifically address the education needs for teachers teaching learners with visual impairment.

Challenges to the implementation ECC

Personnel vs methodology in teacher education

Teacher educators indicated that one challenge was limited number of staff to offer practical skills. Teacher educators reported that they were unable to adequately teach because a combination student enrolments, inadequate teaching staff impacted the choice of teaching methodology. . In the view of TE1 stated the following:

> . . . *Actually for the members of staff we are only two with addition of other courses. . That's why at the end of the day lecture method becomes the normal way rather than using some pedagogical approaches……. No, practical are not adequate because I presume most of the activities in ECC are practical in nature. While we lecture them by teaching our students, it would only make a lot of sense if there is a lot of practice.*

Indeed, with a class as large as 150 students against two members of staff coupled with a lack of teaching resources, the educator felt justified to use lecture methods to teach ECC skill without giving the demonstration and practical aspect of education.

On the contrary, the college had different experience in terms of numbers of students. The college showed concern on the small number of students wanting to train in blind education. TE3 clearly brought out this point by saying:

> *Because most of the time we are dealing with in-service teachers our enrolment numbers are very low, especially the full-time students, issue of study leave they have to be on the education plan. It could be that there are a lot of institutions offering special education. Our numbers are affected. So, in the full time programme the number and class size are small, especially in our department because when the students apply and come they tend to have this perception that braille is very difficult, so they avoid picking this programme. That's another negative effect on numbers. You find that other departments have lots of students while we have small numbers.*

Discrepancy between education and implementation

TE1 and TE3 talked about the discrepancy between education facilities and the actual implementation on the ground. The university or college may give the skills but teachers in the schools may not be teaching these skills to their learner due to a number of factors such as lack of materials, too many subjects to teach and lack of motivation. TE1 stated the following:

> *The other thing is I also think that even if sometimes we teach all these things, the implementation on the ground is weak, because you find that in schools they will just focus on academic aspect of the pupil without really looking at these areas which need development. Already that is creating a problem because you work hard you teach them but they have nowhere to implement except braille. Braille is there but other things may not be implemented. It's a challenge there is no motivation for the students.*

In agreeing TE3 stated that teachers may not find some equipment they were exposed to during education.

An important component of teacher education is hands on experience. This is one aspect which students should have. In his submission TE1 mentioned the following:

> *And maybe lastly, we do not have a lot of areas where our students could go and practice these things even before they go to schools. I would have loved if we had a situation where we are talking about physical education for blind children, maybe we go out, let them see how it should be done in real situations. But you find that there would be no transport to do that.*

Teacher Education Resources

Teaching and learning resources are among the requirements of effective education of teachers. The finding of this study was that resources were a challenge in teaching and learning process. The difficulties were observed right from the point of procurement of resources required in the education of teachers. TE1 indicated that there were challenges in procurement of the materials within the institution. The procurement procedures were long and cumbersome. Besides, most of the materials for learners with visual impairments were not readily available in the country.

In teacher education institutions non availability of resources affected education. This was reported by the teacher educator. At university level the Teacher educator indicated that

resources such as computers, braille production equipment were in short supply. TE1 indicated the seriousness of the situation by saying this:

> *Apart from that already the university doesn't have enough materials to help our students practice these things. I would give you an example, I know recently we bought braille frames and paper but we don't have Perkins brailler so that they can learn. These are some of the things students use in schools. We don't have enough computer with screen readers so that out students get acquainted with assistive technology. We do not have the material that could be require for our students to understand orientation and mobility for example blindfold.*

Similarly, TE2 further argued that:

> *The use of computers in the institution, we don't have that technology for our students. It appears they are so much behind as far as technology is concerned. . . We also receive students that have just become blind. Even in education they seem to be in denial. Moving with those students in the programme is a challenge. . . .This may go actually to the whole community and how they look at the VI. It may not be our institution but the whole community. The VI become isolated, they fail to socialise with other. As a result they lag behind.*

The lack of materials for teacher education was echoed by TE3 that the institution had no materials for students who are visually impaired. The materials that would be used in education teacher would be the same ones students with visual impairments might need to use for their academic work. The teacher educator stated the following:

> *The college does not equally offer good counselling to students with visual impairments. This may contribute to the person with visually impairments' failure to become included in the academic world and also community life.*

TE2 mentioned lack of materials in the correct medium, lack of assistive technology for these students as well as inadequate counselling to enable the students cope with college life. His submission is presented below:

Time Constraints

The major challenges experienced in teacher education for learners with visual impairments included a lack of time to cover the work in the teacher education schedule. This was stated by

TE1 and TE2. At teacher education level time was limited to cover all ECC skills. TT1 felt that students were doing a lot of courses and the course on visual impairments was just one of the many students were supposed to cover. For students at the university the bachelor's degree in special education did not provide specialisation in disability groups but students cover courses from all disability categories. The teacher trainer (TE1) admitted that the university was unjust in educating teachers for learners with visual impairments because teachers were inadequately trained in ECC skills. The teacher educator explained as follows:

> *Adequate time to impart the knowledge is a challenge also. Our students are doing so many courses and this course ECC is just one of the many courses that they are doing. What it means is that for instance here is a student who has five course and has ECC, it means that time to do a lot of other things is limited by the fact that the student must also attend to other courses. . .Because in my view it's the issue of time to do practical for each of these is a challenge. In a way we give students to practice by demonstrating to the friends in a particular situation, for example shirt wearing and buttoning.*

Equally, lack of time was found to be one of the factors influencing choice of methodologies used in education. At the college the reduction in the duration of education from three years to two year meant not having ample time to handle all areas in the ECC. TT2 stated the following:

> *As it is our programme is a crash programme because within two years our teacher do peer teaching, macro teaching and teaching practice. Certain things are not covered fully. . . Looking at the number of skills we want to share, am of the opinion that the time we have is not enough.*

Opportunities for ECC in Zambia

Participants reported several opportunities for ECC to flourish in Zambia's teacher education curriculum. Favourable opportunities can best flourish when a number of challenges presented earlier are addressed. However, key among the opportunities are the enrichment of the ECC curriculum, employment of staff, Increase in teacher education duration, promotion of continuous professional development, advocacy and collaboration. Participants deliberated on the emergent themes as follows:

Enrichment of the curriculum in ECC

The curriculum used in education was not sufficient. This was reported by curriculum specialists and the educator.

> *What we are teaching in colleges is like they are going to lecture, if you look at the way the syllabus is, there are no things like how to help a VI child acquire braille skills. These are not there. It's like we are training lecturers to go and tell students to look for other things (CDC02).*

The education programme at college level comprised three areas of ECC (orientation and mobility, assistive technology and compensatory and functional academics) while the other aspects like social skills, recreation and leisure, self-determination, independent and life management and visual efficiency were not availed to trainee teachers. Similarly, at university level emphasis was put more on braille education and orientation and mobility.

> *As it is our programme is a crash programme because within two years our teacher do peer teaching, macro teaching and teaching practice. Certain things are not covered fully (TT2).*

The implication here is that teachers did not receive sufficient   education in ECC, therefore were not able to teach the learners all skills, which they did not have.

Employment of more staff

Deficits in staffing levels were quite vivid at university and the college levels. This situation affected instruction in ECC. TE1 suggested that the institution should employ more staff to supplement the staffing levels. In his submission, the Teacher educator identified large classes with a small number of teaching staff as a hindrance to effective education in ECC. The proposal was to have more staff employed to enhance the practical aspects of teacher education for learners with visual impairments. He put his suggestion in this manner:

> *Firstly, for instance the big classes, they could just say we may need more members of staff. That requires administrative will. We need more members of staff dealing with this course. If we can have, for argument's sake, if we are 5 members it would be easier to spread ourselves across quite a lot of other areas: attending to braille, practice of orientation and mobility. A tutorial group which is doing some braille and at other times they go for orientation and mobility, they are attending to all those area*

Increase time for teacher education in ECC

The finding of the study was that both at college and university level, Teacher educators felt that time allocated to the teaching of skills in blind education was not adequate and that there was a need to increase it. At the college, the Teacher educators submitted that the reduction of the number of years in education from three to two years had a negative impact therefore the duration of education for the diploma programme should be reverted to three years. TE2 made the following submission on this way:

> *In a period of three years we should be able to cover all the skills in ECC. As it is our programme is a crash programme because within two years our teacher do peer teaching, macro teaching and teaching practice. Certain things are not covered fully. If pushed to three years we can manage. . . In three years, we would exhaust all these other skills in order to benefit the children out there.*

Curriculum specialists suggested that teachers in special education need to specialise in one disability area for them to be more effective. Further, the curriculum specialists advocated for inclusive schooling and the role of the special teachers as resource persons. This was against the backdrop of the current education at university where the teachers for learners with special needs were trained using a holistic approach. CDC - 02 had the following to say:

> *Teachers at the college should specialise and sit in resource centres in special schools. Around the special education schools, these should be inclusive schools whose teachers can get support and resources from the resource centres in the special education schools. If a teacher specialises they should be at a location where they offer services to other schools, for example at a zonal centre. If we had resources as a country; all schools should have had somebody specialised in one field or another.*

However, CDC01 had a different view; that even with a holistic approach to teacher education, teachers could still graduate with skills to teach ECC. All they needed was to specialise in core subjects such as science and mathematics where learners with visual impairments were denied access due to lack of teachers.

Continuous professional development

Another aspect of teacher education was the need for continuous in-service education of teachers in ECC skills and education on how to make teaching and learning aids. The curriculum specialist said:

> *We need to continue certifying and capacity building of these teachers. You would be surprised to hear that most schools for the visually impaired, mathematics, science and other practical subjects are not taught. It's the issue of specialisation, we don't have a teacher specialised in physics and braille, woodwork and sign-language. The teacher should learn braille from the resource room. Our teachers are not innovative they need to come out of college with these skills, making teaching aids. Even in the holistic approach, if these skills are given teachers would function well (CDC02).*

The curriculum specialist also suggested that a resource centres be set up where teachers would meet to learn certain skills, especially classroom strategies and methodologies. He said the following:

> *But when teachers are specialised they don't stay, where they go we don't know. Maybe the mainstream, but if we have a resource centre, all teachers would go there to learn how to teach instead of sending pupils to special education schools. All teachers specialising cannot work.*

Advocacy and collaboration

Empowerment of persons with visual impairments calls for teamwork. Teacher educator recognise this requirement. There are many stakeholders who need to contribute to making empowerment of the learners achievable. For TE1, teamwork brings about success in the provision of education for learners with visual impairments. He further submitted that people who have knowledge on the special needs of learners with visual impairments should take a leading role in advocating for service provision. He made the following proposal:

> *We cannot change the blind people in this country unless we introduce them to ICT. I am saying that even those that need to come to institutions like university if they can come with computer knowledge then they will make life very easy for everyone. Because if he knows how to read and write on the computer he can get soft copy notes from the teacher educator, no struggling for someone to do braille. Some teacher educators have*

> *books on soft copy, they can give a blind person and he can read on his own. It will make life a lot easier for blind people. We are so behind in Zambia because someone in our school and probably our teacher education, we have not done so well in terms of providing ECC.*

Teacher educators mentioned that the government was the major source of resources for teacher education especially in public institutions. Therefore, the government needed to do more to support teacher education for learners with visual impairments. TE1 had this view:

> *Most of these challenges can easily be resolved. One, by involving the government. As you may be aware the equipment for VI is expensive. As an institution, we don't receive enough funding to buy these. We need Perkins brailler and braille paper. Secondly, organisations can be brought on board to help us with audio books, braille books. We can also record these books for our students to read.*

Teacher educator also proposed the active engagement of other stakeholders to help the special schools acquire the equipment and materials such as computers. In this way, there would be no gap between what they train the teachers to do and the actual teaching in the schools. To this effect, schools were called to pay attention to teaching ECC skills by allocating time for ECC skills in the school timetable to ensure delivery of skills. TE1 explained in the following way:

> *I know it requires a lot of concerted effort. Schools have ended up concentrating on academic provision. That academic provision depends on braille. We need other stakeholders to come on board, like those that can support our students to go out, maybe for excursions where they are able to see in reality on how to implement some of the ECC activities... We were discussing with someone that we need to influence Zambia Information Communication Technology Authority (ZICTA) to begin focusing on blind schools in a different way by helping acquire a number of computers for their development.*

The submissions of the teacher educators were progressive and suggested that what was needed was to collaborate with the identified partners. A collaborative approach is necessary for the implementation of ECC.

Discussion

Status of ECC in Zambia and the challenges in its Implementation

The findings of the study point to number of aspects in ECC. Teachers graduating from college and university lack many skills that are supposed to be taught to learners. This was quite serious because it meant that the teachers were not qualified to handle learners in ECC. Teachers without skills can actually not deliver what they do not have. This finding confirms the one conducted earlier by Boame (2009) which showed that education of these learners lacks qualified personnel in the various fields or disciplines like academic, vocational and technical skills. In Zambia, Mulenga and Muzata (2020) reported similar findings, though not on ECC but on grade four (4) learners with visual impairment in Ndola who found it difficult to write braille grade 2 competently due to factors such as lack of early intervention, inadequate teaching and learning resources; and inadequate practice of reading and writing braille grade 2. The teachers' role is critical in the delivery of ECC. For them to effectively contribute to the teaching of learners with visual impairment, they need to be well qualified. Teachers did not report receiving in-service education either. Ideally, the teachers must have foundations in general education, methodology, curriculum adaptations, must know how to assess and deliver instruction in ECC and other subject areas.

The curriculum for teacher education in ECC was extremely limited. Only few skill areas were taught to teachers. The major focus was teacher education in braille literacy and orientation and mobility. These skill areas were only two out of the nine identified, independent living, career education, social skills, recreation and leisure, self-determination, assistive technology and visual efficiency   The implication is teachers teach that which they were trained (Sapp & Hatlen 2010). One plausible explanation for limited curriculum was position that at university level students were not specialising in the field of visual impairments but were expected to have aspects of all categories of special needs in their teacher education.

Curriculum specialists were very categorical and attributed poor skills exhibited by teachers in school to lack of specialised teacher education in VI education at university. According to MoE (2013) colleges and universities were expected to offer specialised teacher education in four main disability groups including visual impairments. This means that at college level the students take courses in visual impairments for three years, while those at

university level concentrate on visual impairments for the duration of four years. This would give the teacher education institutions enough time to comprehensively teach ECC skills.

This finding is in line with Sapp and Hatlen (2010) and Boame (2009) found that current preparation of teachers for learners with visual impairments focused on education in ECC along with the other curriculum. This approach was found to be faulty in that graduates did not feel confident to offer skills in ECC. Teacher education curriculum for learners with visual impairments has a bias toward preparing teachers in ECC. The core subjects can be co- taught by regular teachers who may request for assistance from specialist on specific topics of difficult.

The preparation of teachers equally engages mainly lecture and discussion methods with practical lessons been quite few. ECC skills are practical in nature and demand hands-on education. The lack of demonstration and practical in ECC in teacher education impacts on the teacher skills. Inadequate teacher education methodologies mirror into the human and material resources available in ECC education in the institutions. The number of teaching staff are not commensurate with student enrolment levels, particularly in the university. Huge classes are common with as many as 300 students being taught by 2 Teacher educators. Such large classes pose a challenge when it comes to conducting practical sessions for the students. Besides the teacher educators who are qualified to train in visual impairments have other courses to teach within the university. This is partly the reason lecture methods were widely employed to teach ECC.

Teaching and learning resources were equally inadequate as teacher education at university focused mainly on procuring materials used in braille literacy: braille writing frames and braille paper. Other resources like mobility cane used in orientation and mobility, equipment in independent living skills were non-existent. Assistive technologies for the VI were not available for demonstrations during practical sessions. The lack of teacher education materials equally made it difficult for students to practice skills in their own time to perfect them because they did not have the devices. The limitation in teacher education materials was partly the reason educator to simply lecture or discuss these skills without giving practical. Lack of teaching and learning resources was compounded by the fact that most resources for the visually impaired were not readily available for anyone to purchase within the country.

Time constraints were indicated to negatively affected teacher education in ECC. At college level reduction in diploma duration from 3 years to 2 years implied a reduction in practical sessions for the three areas braille literacy, orientation and mobility, low vision education and pedagogical subjects. In as much as the teacher educator mentioned the areas of ECC, these skills were not taught as stand - alone courses but embedded in the three main courses.

At university level challenges with time could be understood in terms of lack of specialisation in visual impairments. Students train in special education for 4 years, during which time they cover all disability groups. In this programme students have a stint in counselling, assessment, research and intervention in all disability areas. As a result, students have limited time to focus on education of the VI. Teacher education in ECC skills requires time and teaching materials as well as staff to train. The scenario at the university was far from the ideal way of educating teachers to teach skills to the learners. The link between preparation and implementation is essential when assessing whether ECC skills are taught in schools. Even where they have skills, teachers who had little practical experience during their preparation exhibit inertia in engaging learners in relevant activities. A combination of limited curriculum and defective methodologies in preparation have an impact on the difficulties schools experience to impart skills on learners. The difficulties learners encounter in day to day living emanate from the inadequate education in ECC skills by teachers.

Opportunities

Teacher education in ECC requires review, if learners with visual impairments were going to learn ECC skill. In as much as there were other factors to consider when evaluating ECC teaching in school, the teachers was at the centre. Well trained teachers can engage with learners and have ability to be creative even in environments with few teaching and learning resources. The challenges identified create an opportunity for the institutions to reinvent the current position. A number of avenues to improve practice were proposed by the participants and are discussed here.

Teacher education in the country did not provide continuous professional development (CPD) for teachers of leaners with visual impairments, particularly in ECC. Short courses or workshops in ECC can fill the gaps created during their preparation in the college by dedicating time to improve teaching specific topics in some subjects in the core curriculum. In-service

education helps teachers remain abreast with skills in assistive technology, making teaching and learning aids. According to Ajuwon and Craig (2008) in-service teacher education was one way of improving skills and increasing the number of teachers through intensive, face to face instruction. In-service teacher education helps teachers remain abreast with skills like braille, assistive technology, making teaching and learning aids and the teaching of specific topics in the core subjects. Some areas short programmes could focus on include braille literacy and its application in providing assistive services. Other areas of focus could be assistive technology for learners with multiple disabilities; prescribing assistive technology devices; strategies for teaching specific aspects of assistive technology to learners who are visually impaired (Zhou, et al., 2011).

Curriculum review to embrace both content and duration of teacher education would be another strategy to improve training. The rationale is that it is possible to increase duration of training at college level by reverting to the 3-year programme. As for the university, a study programme on visual impairments would give enough content and time to address all areas of blind education. It may be argued that having new programmes without staff and training resources would be incongruent. But with a new programme all the requirements would be spelt out and the institutions would plan for them. In order for the new programme to succeed the institutions need to collaborate.

Collaboration by stakeholders was proposed as a strategy to enhance preparation in ECC. Indeed, rather than blame one part of the system, the teacher educator called for collaboration at all levels. Lewis and McKenzie (2009: 490) indicated that teachers of the visually impaired must take a leading role in explaining the importance of the skills and concepts of the ECC to administrators, parents, and other educators who may not understand the need for time and resources to be spent on the ECC. The university and the college are public institutions. To this effect, the major financier of activities was the government through the Ministry of Education. Government involvement was critical before other organisations could come in to collaborate as suggested by the principle of partnership in education provision (MOE, 1996: 5). Collaborating with other stakeholders can assist in addressing challenges such as lack of exposure to practical situations. With collaboration, teachers and other professionals have an opportunity to create an atmosphere where teaching ECC skills and achieving goals in the teacher education become feasible (Lohmeier, 2009:2). Collaboration helps appreciate that ECC cannot be taught in isolation but as a part of programme that visually

impaired learners receive, with each partner taking up their rightful role. Sensitization was important to help the community handle persons with disabilities in a positive manner. Those who have knowledge of the special needs of learners with visual impairments should take a leading role in advocating for service provision beginning with teacher education.

Conclusion

The current state of teacher preparation in Zambia's ECC is inadequate. Graduate teachers were not well skilled or confident enough to teach. Teacher preparation had gaps in terms curriculum, duration of preparation, resources and methodologies coupled with limited staffing level. This study avails the institutions the opportunity to make improvement by firstly evaluating their preparation to identify their inadequacies and secondly, through engaging other stakeholders and collaborators such the ministries of education.

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Author Contribution:

- **Magdalene Simalalo** formulated the research idea, did data collection, analysis and the writing of the research.
- **Velisiwe Gasa** was responsible for writing the research report and for reviewing the entire document for completeness.
- **Kenneth Muzata** was responsible for writing the research report, reviewing the article for coherence, and for editing.

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