How art education teaching method was used in teaching learners with visual impairment in Zambia

Penda Annie, D. Ndhlovu, S. Kasonde-Ng’andu

Abstract
This manuscript is an extract of one of the first research questions from a PhD an on-going study on teaching learners with visual impairment. The study determined how Art Education Teaching Method was used in teaching learners with visual impairments in Zambia. The work was an attempt to address the problem of poor academic performance of learners with visual impairment in Zambia. Among the factors that can be attributed to the poor performance of these learners is the teaching methods used. It was discovered that, the Art Education Teaching method which is a holistic teaching method is not known to be part of the teaching method used despite the method being holistic involving perception, cognition, touch and creativity, which could have helped learners benefit a lot and grasp academic concepts and skills taught to them.

Keywords: visual impairment, Art Education Teaching method, teaching, perception, cognition, touch and creativity.

1. Introduction
There is a problem of teaching learners with visual impairments. The problem is lack of using appropriate teaching method to learners with visual impairment. This problem has caused poor performance and poor classroom participation among learners with visual impairment. In addressing this problem the study focused on determining if Art Education Teaching Method was used when teaching learners with visual impairment in Zambian schools. Having in mind that the same method was used when teaching learners with visual impairment in New York in 2003 where the similar challenge was experienced and results were positive (Kennedy,2003).

The traditional teaching methods being used has affected academic performance of learners with visual impairment in Zambia and most of them perform poorly and end up with low education levels. It was worrying in the sense that despite effort by the government to provide teaching materials, train teachers, deploy teachers and standard officers, a small number of learners with visual impairment are able to complete their education with good results.

As regards the effort of the government, the Ministry of Education (2010) reports that there were 1,411 teachers trained in Special Education in Zambia. Of this number, 373 had certificates while 959 had diplomas and 79 had first degree in Special Education. Additionally, there are 82 standard officers for special education of which 36 are at district (two per district), nine are at province (one per province) and one at national level of the education system.

Similarly, The Zambia Agency for People with Disabilities Report (2009) indicated that out every 100 pupils with disabilities enrolled in grade 1, 40% dropped out of school before they reached grade 7 among others due to poor academic performance. There is need therefore, to get concerned about such poor academic performance of learners with disabilities who are already disadvantaged by virtue of having a disability if they are to progress in education.

In 2010, the Ministry of Education (MoE) recorded that there were 24,937 learners with visual impairment in schools. Of this number, 23,183 (12,236 males and 10,947 females were in grades 1 to 9 and 1,754 (647 males and 1,107 females) in grades 10 to 12 (MoE, 2010). In terms of progression, only 7% (1,754) progressed to senior secondary level of education while 93% (23183) dropped out of school. The causes of dropping out of school included social – economic factors, Poor academic performance resulting from use of
On this basis, this paper advocates for Art Education knowledge using the thoughts and residue senses. The issue of failing to qualify to grade eight still comes out here and is a result of poor teaching method which lead to poor academic performance. It can also be implied that, despite having other factors affecting progression of learners the outstanding factor is that of lack of effective teaching method which affects academic performance of these pupils contributed to negative attitude towards school by the learners themselves and their parents resulting in failure by parents to pay school fees for them. In addressing this problem, The Art Education Teaching method is advocated in this paper after having discovered in this study that, Art Education Teaching method was not used in Zambia. The method has been used in New York since 2003 and its results have been positive (Kennedy, 2003). Therefore, we argue that, Art Education Teaching method can be used in teaching learners with visual impairments in Zambia and improve academic performance and classroom participation of learners with visual impairment in long run.

2. Art Education Teaching method

The Art Education Model or Vision beyond Sight is a holistic approach of teaching learners with visual impairments (Kennedy, 2003). Art Education teaching method is an effective intervention to learners with visual impairments in their learning because it help them acquire concepts, knowledge and skills (Utah State Education, 2008). The four elements on which Art Education Teaching Method is based are; Perception- this is an awareness of how things or concepts are in reality. Cognition- is gaining of knowledge using the thoughts and residue senses. Touch- the use of hands and fingers to examine or explore and learn different concepts. Creativity- this is the practical aspect of using or doing things and being innovative (Franken, 2010). The Art Education Teaching Method or vision beyond sight was introduced in New York in 2003 by (Kennedy 2003), the method was born out of a study. Kennedy’s study for fifteen years resulted in the introduction of visual arts to persons with visual impairment in New York. It aimed at assisting persons with visual impairment to perform better academically. Kennedy argues and we agree with him that people with visual impairment perceive and understand things such as pictures and textures better through perception, cognition, touch and creativity in place of the sense of sight being lost. As a result, instead of teaching learners with visual impairment using traditional teaching methods such as discussion, lecture, group work methods they were taught using the Art Education Teaching method. The Art Education Teaching method proved to enhance academic performance of learners with visual impairment. On this basis, this paper advocates for Art Education Teaching method in teaching learners with visual impairment. We argue strongly that, the method may be easy for teachers to use in Zambia because it focuses on the perception, cognition, touch or tactile and creativity skills which are inbuilt resources in learners. In addition, since this teaching method has managed to improve academic performance in New York, its use in Zambia may also improve the academic performance of learners with visual impairment. To drive the point home, this article focuses on determining how Art Education Teaching method was used in teaching learners with visual impairment in Zambia.

3. How Art Education Teaching method was used in teaching learners with visual impairments in Zambia

This is a presentation of quantitative and qualitative data that was generated at the five study institutions were the study was carried out. Thereafter, the subsequent analysis of it is carried out. The generated data was about determining how Art Education Teaching Method was used in teaching learners with visual impairment in Zambia and in particular at the five study sites and these include Magweru, Ndola lions, Sefula school for the blind, Saint Mulumba special school and Munali girls secondary school. The purpose of this study was to evaluate and establish if the Art Education Teaching Method was practiced at the five institutions. This was achieved by administering and evaluating the research instruments. Presentation of these findings was structured around the questions asked in the questionnaire, a semi-structured focus group interview and the use of observation schedule. The questions were under the main theme of Art Education Teaching method, The presentation starts with the sample followed by the themes, discussion and ends with a concluding remark.

4. Sample

The quality of a piece of research not only stands and falls by the appropriateness of methodology and instrumentation, but also by the suitability of the sampling strategy that has been adopted (Cohen et al. 2000, p92). All teachers and some pupils were targeted at all the institutions which had learners with visual impairment. For instance, data from the questionnaire, a semi-structured focus group interview was drawn from the staff and observation schedule was drawn from teachers and pupils. Of the 75 distributed questionnaires, 70 were completed and returned. The questionnaire respondents represented the broad profile of the respondents as can be seen below. This include gender, age group, number of years they have been teaching, rating of their knowledge concerning Art Education Teaching Method for learners with visual impairment and the institutions were they have been teaching from. No significant patterns emerged from findings based on gender and age group but only within years of teaching and knowledge of the Art Education Teaching Method. The quantitative data (statistics) collected through questionnaire are represented in the bar-chart below in figure 1a, the bar-chart illustrates that, of those who responded the majority were males while females were the minority.
While for qualitative data there was a follow-up interview with twenty respondents. The respondents were divided into five groups one group from each school of which four were in each group and interviewed separately using a focus group. Respondents were purposely chosen by taking into account the respondents who had been teaching learners with visual impairment. This was to establish if the Art Education Teaching Method being evaluated has been in existence. Fifteen teachers were observed while teaching learners in a classroom situation from all the institutions of which three were from each school and only those who were teaching learners with visual impairments were purposely chosen. Thus 75 was the number for questionnaire, 20 for focus group interview and 15 were being observed while teaching which came to a total number of 110 respondents. The number of respondents was high and so the sample was considered to be representative and therefore valid.

From the questionnaire in the table 1a below it shows that there were four respondents with highest number of years of age while the respondents with lowest number of years of age were 22. The highest number of respondents were of age “between” 31 to 40 and they were 28 and there were 16 respondents whose age was “between” 41 to 50. Thus 44 respondents were in the middle age groups as shown in the table below. This data shows that, most respondents were of the middle aged group who had worked with visually impaired for a substantial number of years. This was followed by respondents aged between 21-30 years of age.

Concerning the Art Education Teaching Method being evaluated, the researchers wanted to explore and embark on the experiences of the respondents who had some good number of years of service towards learners with visual impairment at the five schools. Their experiences were required in order to clarify how the Art Education Teaching Method was used to teach learners with visual impairment. This is reflected in Figure 1b in the bar-chart below which shows the years of teaching. For instance, those who served between one to five years were seventeen, between six to ten years were twenty-seven then between eleven to fifteen years were fifteen and between the age of seventeen to twenty-seven years of service were fourteen.
The respondents were asked to indicate the institution they were teaching from, this was necessary to ensure that they have been at the institute were learners with visual impairments were found. It was found that at each school there were fifteen respondents except for Saint Mulumba school for the blind where respondents were ten as being the total number of teachers who were teaching learners with visual impairment. Other teachers were found handling other disabilities such as physical and mental disabilities as well as hearing impaired for it being a school having four categories of learners with visual impairments, hearing impairment, mentally challenged and physical disabilities. See figure 1c below.

5. Staff Development

Staff development is the training of teachers in order to equip them with the necessary skills required to teach pupils effectively. As stated by Aitken et al. (2002) professional development for staff is essential because of the pooling of knowledge and skills necessary to teach visually impaired pupils. Thus specially trained respondents were required as a right as pledged to special children. As stated that the ministry will give attention to educational needs of children with special needs by training an adequate number of teachers in special education (MOE, 1996). The training was for the purpose of equipping teachers sufficiently in order to teach the learners with visual impairment effectively and meet their needs.

In the questionnaire respondents were asked if they were trained to teach the visually impaired. Twenty-eight respondents indicated that they were trained to teach learners with visual impairments while forty-two were not trained to teach learners with visual impairments while forty-two were not trained to teach learners with visual impairments as reflected in Pie Chart below.
This implied that more respondents were not trained to teach children with visual impairment. It is still striking since the majority did not have special training but they were teaching learners with visual impairments. The findings were in line with the observation of United Nations Committee on the Rights of the Child which reported that there was a “limited number of trained teachers to work with children with disabilities” (UNCRC, 2003, P11). Ndhlovu (2008) in his study stated that there was Lack of training in special education by most teachers and felt it contributed greatly to exclusion of pupils especially those with visual impairment. Similarly, Kalabula (1991) pointed out that most children with disabilities placed in ordinary classes in Zambian schools did not have adequate human support. In addition, Mandyata (2002) reported that non acceptance of children with disabilities by ordinary teachers in Kasama was mostly due to lack of training and resources to equip teachers in handling children with special needs in ordinary classes. An analysis of the observations by Mandyata (2002) implies that if support services were available in schools teachers would accept children with disabilities. Training in special education for all teachers is therefore, critical to the success of learners with visual impairment in Zambia. Bunch (1997) also suggested that, the Ministry of Education should ensure that training was conducted to teachers and capacity building was done to school managers and curriculum for all teacher training institutions, should include appropriate teaching methodologies for learners with visual impairments.

The training of teachers is important because of the roles that teachers fulfill in educating visually handicapped pupils they needed to be forearmed with appropriate training (Kappan et al. 2009) before handling learners with visual impairment in the classrooms and we strongly support the idea. Further their level of qualification was investigated and the findings are indicated in Table 1b below.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Credentials</th>
<th>Number (Frequency)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Certificate</td>
<td>23</td>
</tr>
<tr>
<td>2</td>
<td>Diploma</td>
<td>35</td>
</tr>
<tr>
<td>3</td>
<td>First Degree</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td>Second Degree (Masters)</td>
<td>1</td>
</tr>
</tbody>
</table>

This implied that there were more teachers with diploma qualification handling learners with visual impairment followed by certificate holders, then first degree and lastly Second Degree (Masters). The level of qualification was needed to be known in order to understand the respondents responses to the issues in the questionnaires.

6. Art Education Teaching Method

It was necessary for the researchers to determine the level of the respondents’ awareness of Art Education Teaching Method in order to confirm if Art Education Teaching method was used or not by teachers who were teaching learners with visual impairment. Thus it was important for the researchers to investigate how much awareness the respondents had about the Art Education Teaching Method. The findings are indicated in the table 1b below. The 65 respondents reported that, they were not aware about the Art Education Teaching Method and five stated that they were aware about Art Education Teaching Method. This data indicated that the majority had no knowledge about the Art Education Teaching Method. However, few considered that they were aware about the Art Education Teaching Method.

| Table 1c: Teachers Awareness about the Art Education Teaching Method |
|---------------------------|----------------|
| Awareness | Not Aware |
| 5 | 65 |

The five responses were further investigated during the focused group interview. The responses from all the focused group interview which was conducted were as follows. All respondents stated that “we are not aware about Art Education Teaching method” others confirmed that, “We do not know it” and others had put it that “it is our first time to hear about it”. Some reported that “We have never come across it even in our study during our training, we have heard about it for the first time”. Then others responded that, “we don’t know it and we have never made use of it”.

In addition, during observation of lessons, Art Education Teaching Method was not used by all the teachers who were teaching the learners with visual impairment. All of them were observed using traditional teaching method while teaching. These were lecture method, question and answer and group discussion.

The analysis of this data was that Art Education Teaching Method was not known and was not used by the teachers in Zambian schools.

7. Four elements of Art Education Teaching Method

Art Education Teaching Method is holistic approach of teaching learners with visual impairment and incorporates four elements and these are perception, cognition, touch and creativity. The individual was going to be declared having known Art Education Teaching Method upon stating clearly its four elements used when teaching learners with visual impairment. According to the responses received from the questionnaire 65 respondents stated that they didn’t know about the four elements used when teaching learners with visual impairments using Art Education Teaching Method. The responses from five respondents was stated that they were aware about the four elements and reported the following as the four elements of Art Education Teaching method. See Table 1d below.
The response from the focused groups was that they were not aware about the four elements of Art Education Teaching Method. It was also observed that fifteen teachers did not use the four elements holistically when teaching learners with visual impairment. The analysis of this data was that the four elements of Art Education Teaching Method were not known and were not used when teaching learners with visual impairment in Zambian schools. This was because 65 respondents stated that they didn’t know the four elements of Art Education Teaching Method and that responses from five respondents were wrong as an indication that even them they did not know about the four elements of Art Education Teaching Method.

8. The Element of Perception
The researchers made a step further to enquire about the four elements of Art Education Teaching Method. The following were the responses. To start with concerning the element of perception sixty-eight respondents from a questionnaire stated that they never used raised materials while they were teaching learners with visual impairment while two respondents agreed that they used them. Then sixty-seven respondents stated that they never used real objects when teaching learners with visual impairments but three respondents agreed that they used them. Then sixty-seven respondents stated that, they never used real objects when teaching learners with visual impairments but three respondents agreed that they used them.

The issue was further discussed during focus group interview and the responses were that very few use raised materials and real objects when teaching learners with visual impairments most of us we don’t use them we only use verbal explanations. It was also observed during lesson presentations where no single teacher was seen using raised materials and real objects although some respondents claimed that they used real objects and raised materials when teaching learners with visual impairments.

Analysis of this data was that, real objects and raised materials were not used when teaching learners with visual impairments basing on the responses of the majority.

9. The Element of Perception
Secondly, under the element called cognition, 70 responses were that sense of hearing was used while taste and smell were not used and that thoughts were not utilized when teaching learners with visual impairments see Figure 1f. This is reflected in the answers they were giving.
11. The use of the sense of smell and taste when teaching
- I don’t know how to use them and I have never used them.
- I don’t use the sense of smell and taste when I am teaching. My history lesson does not require them.
- It is dangerous to train them to use the sense of taste and smell as a means of learning because some chemicals and food staff are poisonous.
- The sense of smell and taste can cause death or accidents to the learners with visual impairment so I don’t use it.
- During this era or period of human rights it is difficult to use the sense of taste and smell, I am not protected in case of any accident I can be jelled.

12. The use of thoughts when teaching
- I make use of their thoughts by asking them questions and then respond to them.
- I give them mental problems to sort out.
- By making them revise the topics being taught.
- I do not make use of their thoughts when teaching them.
- I rarely make use of their thoughts.
- By engaging them in the learning sphere.
- I make them discuss with classmates.
- By provoking their thinking and asking questions.
- By developing in them skills such as problem solving, coping with stress.
- By letting them share and then get to know their thoughts.
- I make them apply their thoughts when answering questions.
- I ask them questions and make them think then answer.
- By letting them answer oral questions.
- Involve them in the discussion or dialogue give them time to think before answering the questions.
- I ask the child to speak.
- By interacting with them.
- By giving them work that would help them use their thoughts.
- Encourage them to discuss with those without visual impairment.

13. The element of touch
Thirdly, the element of touch involves a lot of activities which makes a learner with visual impairments understand the concept clearly. For instance the learners with visual impairment for them to acquire academic skills, concepts and knowledge, they explore by reading raised materials such as maps, feel the surface, textures, shapes, diagrams, touching concrete objects, manipulating different particles and identify them, touch items in their hands so that they feel it, touching teaching and learning aids. The findings through the responses from the questionnaire indicated that use of touch meant the reading and writing of braille only. This was reflected in the responses they were giving as written below;
14. The use of touch when teaching- the response from respondents

- “I don’t make use of their fingers to touch because pupils already know braille and read using braille”.
- “I made learners feel the hands on a paper where the raised dots have been embossed”.
- “Touch was used when touching writing equipment”.
- “They were made to touch braille”.
- “I made learners use the finger tips to touch braille”.
- “I used their sense of touch when they were reading and writing”.

This responses were reflected even in all the lessons that were observed by the researcher. The element of touch was not seen being used by all the teachers as reflected in Figure1g. What was observed being used were oral communication throughout the lesson period. It was only in two lessons where learners were observed writing a class exercise and reading braille.

Fig 1g: Teaching learners with visual impairments using either touch or oral

The analysis of the findings were that, the element of touch was not used. This was because most the respondents did not use the element of touch because they did not know how to use it and instead they used oral which they were familiar with and easy for them to use. The few who were seen using touch used it in a limited way only for reading and writing.

15. Element of Creativity

Lastly, for the element of creativity, all 70 responses were that practical skills were not offered to learners with visual impairments. This is reflected in the bar-chart in Table 1e below.

<table>
<thead>
<tr>
<th>Number of responses</th>
<th>Practical skills used</th>
<th>Practical skills not used</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

The above responses were confirmed during focused group discussion when they were asked if they made use of the element creativity when teaching learners with visual impairments. There was anonymous no answer from all of them. Then one of the group member from one of the groups stated that, except with mobility skills and home craft skills were taught to learners with visual impairment and then everyone was in agreement. The researcher also observed fifteen lessons where fifteen teachers never used the element of creativity.

The analysis of this finding was that it was evident that the element of creativity was not used because it was not known. This was because the all responses from the questionnaire confirmed that the element was not used. Further-more even in all the lesson being observed the element of creativity was not seen being used. This was evident enough that the element of creativity was not used because learners with visual impairment were not given chance to use their imaginations and ideas in order for them to put it into practice or make new things.

16. Discussion

The discussion is based on four elements of Art Education Teaching Method. The findings of this study was that Art Education Teaching Method was not used when teaching learners with visual impairment. This was because the four elements were not fully known and used for the benefit of learners with visual impairments in terms of academic performance and classroom participation.

17. Perception

Perception is an awareness of how things or concepts are in reality. As regard teaching using perception, learners with visual impairment are to be made aware of things and concepts by using raised text such as braille. By using braille, learners with visual impairment can read text books and understand abstract concepts. In addition, by using raised
pictures and materials such as maps and diagrams, graphs as well as real objects can help them to acquire information. For instance when teaching about the map of Zambia, the map should be written in a raised texture for the learner to know how Zambia is. The same applies to pictures. Kuna (2004) argued that, the teachers should use real objects and supply students with tactile diagrams and graphs so the student can experience them and know how things are in reality. We strongly support his argument.

According to the findings the element of perception was not used by respondents because it was not known. This was so because respondents did not use real objects and raised materials such as maps when teaching learners with visual impairment in order to help them to be aware of how things and concepts are in reality.

18. Cognition
Under the element of cognition attention is focused on how learners with visual impairment can acquire knowledge and skills using residue senses such as smell, hearing and taste. By using the sense of smell learners with visual impairments can know names of some chemicals for science subject such as chemistry even after a long period of time. By using the sense of hearing the learner with visual impairment can make use of or listen to audiotaped text books and acquire knowledge and skills. By using the sense of taste the learner with visual impairments can know the amount of salt to be used when cooking relish during cookery lessons. In addition, learners with visual impairments can use their thoughts during the learning process. They can store information, by using mnemonics or their own way of thinking. This would help to store academic information in long term memory.

The findings of this study was that, the element of cognition was not used because it was not known. This was evident because the sense of smell and taste as well as thoughts were not used. For instance with regard to thoughts, learners with visual impairment were not made to think critically. Secondly the learners with visual impairment were not given for example more time to reflect on the concepts the teachers were teaching in order for them to store and retrieve academic information using retrieval cues such as mnemonics during their examination time, when tested and during the lessons in their classrooms. Though respondents used the sense of hearing, it was also partially used since learners with visual impairment were only listening to them during the lesson without using variations such as audio tapes. As Kuna (2004) noted that, the teachers teaching learners with visual impairment should permit lessons to be taped.

19. Touch
Under the element of touch, concentration of the discussion is on how learners with visual impairments can use hands and fingers to acquire information and skills. Learners with visual impairments can acquire information and skills about objects by holding, examining and exploring real objects. For instance by touching or examining an orange and an egg though having the similar shape the learner with visual impairment will tell the names of each of them accurately. Additionally, by using their finger-tips which gives them feedback and allow them to identify different thousands of textures of objects and materials (Henshaw, 2012) they can also acquire academic information and skills. For example by using finger tips they can read braille, know the smooth and rough ground floors.

Under this study the finding was that, the element of touch was not fully used because the skill was not fully known. For example, only few respondents helped learners with visual impairments use the element of touch just during reading and writing and not for knowing smooth, rough, ground or surfaces, holding, examining and exploring objects. The majority did not know how to use touch when teaching. This was also discovered during the study by Ndhlouvu (2008) about the inadequate appropriate teaching method in tactile skills by teachers to be used for communicating to pupils or learners with visual impairments.

20. Creativity
The fourth element is creativity. Under this element, the focus was on how creativity can help learners with visual impairments do things practically and imaginatively. Like Sternberg (1988) Kennedy (2003) who found that learners with visual impairment can do things practically in the following ways. By using their imaginations and ideas and put it into practice or make new things. For example, by using their imaginations and ideas learners with visual impairments can use computers, type using the key board, write and read braille, use cell phones, orient themselves and move in environment alone or with minimal help from others, compose braille, stories, songs, play musical instruments. Evidence for creativity was seen in the work of Louis Braille For example braille, he was a blind person who invented braille we use today.

The finding of this study was that, creativity was not used because it was not known. This was evident because learners with visual impairment were not helped to be creative with the use of their imaginations and ideas through doing practical activities on their own. For instance, learners were not seen playing musical instruments, learning on how to use a phone and computers during lesson observations. This was not in line with Hosken (2008) who found out in his study that learners with visual impairments need to acquire abilities of creativity through directed interventions in order for them to develop understanding or comprehend their academic subjects and their environment.

21. Conclusion
Based on the discussion, the paper concludes that the Art Education Teaching method was not used holistically as one of the teaching methods in teaching learners with visual impairment in Zambia. The four elements of Art Education Teaching Method which are perception, cognition, touch and creativity were not used. For instance raised textures or materials such as pictures, maps and graphs, to be used by learners with visual impairment so that they can easily acquire academic information were not used. As regards cognition, learners were not trained to use their residue senses such as smell, hearing and taste. Touch was not was not used by learners in order for them to understand shapes,
sizes and the general texture of objects, floors and different surfaces. Learners were not given chance to use creativity in order for them to use their imaginations in order for them to be able to use cell phones and compose stories and songs. The findings were in line with the study carried out by Sight Saver International (2011) who stated that in Zambia teachers feel unable to accept learners with visual impairments in their classes because they are unsure of how to teach them.

22. References