The Teaching Strategies used by Teachers for Learners with Autism-Blindness in Three Counties in Kenya

[1]Wang'ang'Annerose Wanjiku, [1]Geoffrey K. Karugu, [2]Evariste Karangwa
[1]Kenyatta University, Kenya; [2]University of Rwanda – College of Education

Abstract
The learning needs of learners with multiple disabilities in Kenya are not adequately addressed because the teaching strategies used by the teachers are not customized to the individual needs of the learners. Many of the Kenyan special schools and units combine learners with multiple disabilities into one group irrespective of the fact that different multiple disabilities will require different instructional methods, specialized personnel, different teaching resources, different support services and different curriculum adaptations among others. Teachers are specifically trained to teach learners with specific disabilities such as visual, hearing, mental and physical impairments. Consequently, when they are posted to schools where learners have more than one or more disabilities, they are unable to differentiate instructions. The purpose of the present study was to investigate the teaching strategies used by teachers for learners with autism blindness in the counties of Kisumu, Kiambu and Nairobi in Kenya. The study adopted the triangulation mixed methods. The target population was made up of 10 teachers teaching learners with autism blindness, and the sample was selected purposively. One of the major findings was that teachers were inadequately trained to teach learners with autism blindness. The teaching resources and support services were found to be inadequate and the curriculum used was not catering for their needs.

Key words: Multiple disabilities, autism blindness, teaching strategies

Introduction

Multiple disabilities means concomitant impairments such as intellectual disability-blindness, intellectual disability-orthopedic impairment, the combination of which causes such severe educational needs that they cannot be accommodated in special education programs solely for one of the impairments (Hallahan, Kauffman & Pullen, 2012). A learner who has autism and blindness is a child who has a combination of both autism and visual impairment. The Diagnostic and Statistical Manual of Mental Disorders (fourth edition) (DSM- IV) (American Psychiatric Association (APA), 1994) defines autism as a disability "characterized by severe and pervasive impairment in several areas of development: reciprocal social interaction skills, communication skills or the presence of stereotyped behaviour, interests and abilities''. Individuals with this disability have considerable disability in interacting with others socially and in communicating verbally. They also often engage in self stimulating behaviour and can have a very limited number of routines and interests. Children with visual impairment are learners with problems in the structure and functioning of the eye. Visual problems range from total blindness to only slight visual impairment. Children who are visually impaired are classified into two main categories and they include children who are blind and children with low vision (Hallahan & Kauffman, 1997). Children who are blind have either totally lost their sense of vision or those who are only able to perceive light. The second category includes individuals who are able to tell the difference between darkness and light. Educationally, children who are blind are those who learn through Braille without the use of vision, although they may perceive light, which is an advantage and can be used for orientation and mobility (Hallahan & Kauffman, 1997). Educators give an educational definition and say that anybody with low vision is still severely visually impaired after correction, but may increase visual functioning through the use of optical aids, environment modification or low vision techniques (Corn & Koenig, 2002).

In America , a case study was carried out by Lilienthal (2009) on a pre-schooler with autism and blindness in order to unlock the mystery of communication. The objective of the study was to describe how Augmentative Alternative Communication (AAC) strategies were used with this learner. The case study was carried out with an autistic blind child named Paul who was 4 years old, and non- speaking. To help Paul, two treatment methods were used. The first treatment method was the use of tactile communication symbols. This treatment was unsuccessful due to the child's self stimulating behaviour of flipping objects with his hand. A second treatment method was the use of two handed sign language. By using two handed sign language paired with speech, the method proved successful. The study found the importance of the AAC strategies because they permit individuals to use every mode possible to communicate. It is notable that learners with autism blindness can use the communication modes used by learners who are deaf and deaf-blind because they share communication challenges. In America , as published in the Journal of Autism and Developmental Disorders, another case study was carried out by Konstan areas (1982) on training a learner with autistic blindness to communicate through signs. The study was done on a 10 year old girl using tactile kinesthetic and auditory modalities. After 8 months of training, she was able to acquire a function sign vocabulary. The study found the importance of choosing instructional strategies as dictated by the learner's needs. In America, still, a research study was carried out by Shaheen (2009) at the National Federation of the Blind (NFB) at Jernigan Institute in Baltimore on the teaching of skills of blindness to children with autism. The researcher found that teachers have to choose appropriate methods for teaching to meet diverse needs of learners who are autistic blind and their learning needs should be supported systematically.

The Ominde Report (1964) in Kenya advocated for teacher training to include a component of Special Education (SE) to meet the needs of learners with Special needs (SN). Kenya is cognizant of the need to provide specialized training to teachers. This is evidenced by several institutions that have been set up to offer special education training. These institutions include Kenyatta University, Maseno University, Kenya Institute of Special Education (KISE), Moi University, Pwani University among others. The question is whether and to what extent the curricula used in these institutions are customized to the specific educational needs of the learners in relation to the level and type of disability such as autism blindness. According to Rule 6 of the United Standards Rules on the Equalization of Opportunities for Persons with Disabilities (1993), education should be provided in an integrated school setting and in general school setting. It is not clear whether what is being done in Kenya to ensure the specific education needs of learners with autism blindness is mainstreamed. Besides, the Koech Report (1999) reveals that a large number of teachers in special schools need to be retrained to cope up with knowledge evolution and teaching techniques in special education. It is not clear whether teachers have been retrained or updated to cope up with new knowledge and teaching strategies in specific disabilities such as autism blindness. The Kochung Report (2003) reveals that learners with multiple disabilities can follow a specialist curriculum. A specialist curriculum remediates problems of learners such as communication, mobility among others. It is not clear whether the curriculum for learners with autism blindness has been adapted or modified to cater for the diverse needs of the learners. In Kenya, learners with autism blindness are found in major schools for learners with visual impairments and in some special units. The learners are placed in a

"*special class*" that is set aside for learners with visual impairments and with multiple disabilities. It is not clear if instructional methods are used to cater for these learners diverse needs in the *"special class".* In the view of the fact that learners with autism blindness are combined in our educational settings, their special educational needs may not be taken into consideration and we shall be denying these learners their right to education which considers each child's unique abilities and learning needs, as clearly stipulated in the Salamanca World Conference on Special needs of 1994. In Kenya, no empirical research studies have been conducted on autism blindness. The background information available points out to the deficient efforts to mainstream the needs of learners with autism blindness in our schools. In this context, the instructional environment was a factor of interest. This study sought to investigate the teaching strategies used by teachers for learners with autism blindness in the counties of Kisumu, Kiambu and Nairobi in Kenya.

Research objectives

The following research objectives guided the study:

1. To investigate the instructional methods used by the teachers educating learners with autism blindness.
2. To find out the curriculum adaptations that had been affected for learners with autism blindness.
3. To find out the available teaching resources for learners with autism blindness.
4. To find out available support services for learners with autism blindness.
5. To find out the training needs of teachers educating learners with autism blindness.

Methodology

The study adopted a triangulation mixed methods design. The use of both qualitative and quantitative approaches is a triangulation as noted by Denzin (1994); Patton (2002); Creswell and Plano Clark (2011). The purpose of a triangulation in this study was to simultaneously collect qualitative data from the interviews and observations and quantitative data from questionnaires, to merge the data and use the results to understand the teaching strategies used by the teachers educating learners with autism blindness (Creswell & Plano Clark, 2011). The independent variables in this study were the instructional methods, curriculum adaptations, support services, teaching resources and specialized trained personnel among others. The dependent variable was learning. Purposive sampling was used in the selection of the respondents. The sample size was made up of 7 teachers and 3 headteachers. The research instruments used in this study were interviews, questionnaires and observations. The interviews were constructed using a pre-determined set of questions. Semi-structured, open-ended questions were used because they encourage a free response from the participants (Crewell, 2008). A questionnaire with a Likert scale was constructed to enable the researcher to collect quantitative data. In this study the researcher measured the attitude or the opinion of the respondents on the instructional methods they used for learners with autism blindness. The response format was a five point Likert scale type and consisted of 17 items, five of which were demographic questions.

An observation guide was constructed to guide the researcher to observe and collect information on the instructional methods used by teachers educating learners with autism blindness, how the teachers developed

an individualized education programme, the teaching resources, support services, specialized equipment, classroom organization, the curriculum used, and the physical environment of the schools serving learners with autism blindness. The qualitative data from the interviews and observations were analyzed using descriptions and thematic analysis (Creswell & Plano Clark, 2011). The quantitative data from the questionnaires with a Likert scale were analyzed using descriptive statistical analysis. Included in the descriptive statistics were frequencies which showed the number of teachers that responded at each level of the Likert scale. The researcher using the Statistical Packages for Social Sciences (SPSS) computer programme, standard version 17.0 calculated the frequencies, mean and standard deviation which were relevant to the research study so as to compute verifiable findings.

Findings and discussion

The analysis and interpretation have been done within the framework of the objectives that this study sought to address. The core objective of this study was to investigate the teaching strategies used by teachers educating learners with autism blindness in the counties of Kiambu, Kisumu and Nairobi in Kenya. The first objective of the study was to investigate the instructional methods used by the teachers educating learners with autism blindness. During the interviews, teachers were asked to indicate methods they used to teach curriculum-based contents to learners with autism blindness.

Table 1: Instructional methods used by teachers for learners with autism blindness.

Instructional methods	Frequency(N=7)	Percentage
Pre Braille activities	7	100.0
Braille	7	100.0
Oral methods	6	85.7
Use of real objects	6	85.7
Singing	4	57.1
Activities of daily living	4	57.1
Prevocational skills	4	57.1
Recitations	3	42.9
Dramatization	3	42.9

From Table 1 above, it can be observed that the majority, i.e. 7 (100.0%) teachers reported that they used pre-braille and Braille methods to teach learners who are autistic blind. Learners who are visually impaired will require some preparations as touch readers through the pre-braille activities as supported by Hatlen (1996). Braille is then taught as a mode of communication. Oral methods and real objects were also cited as instructional methods to the learners who are autistic blind at 6 (85%). This is supported by Shaheen (2009), who Brailled stories and illustrated with homemade tactile graphics which often included real objects when teaching a learner

who was autistic blind. Prevocational skills, singing and activities of daily living skills were also cited by 4 (57%) of the respondents. Four (57%) of the teachers also said that they were teaching the activities of daily living to the learners who are autistic blind. Hatlen (1996) supports the teaching of functional academic skills such as the activities of daily living. Konstanareas (1982) supports the use of music to learners who are kinesthetic. Kinesthetic learners will tend to lose connection in class if there is little external movement. The methods that were used by the least number (3 or 42.9%) of teachers were recitations and dramatization. This is due to communication difficulties among learners with autism blindness.

The observations made in schools for learners with autism blindness confirmed that the majority of teachers used the following instructional methods: use of real objects, pre-braille, braille and activities of daily living as supported by Shaheen (2009) and Hatlen (1996). In two schools, prevocational skills were taught to the learners. Teachers focused on the instructional strategies for learners with visual impairments because the training they had was specifically on visual impairments. Teachers were not remediating the problems in the learners brought about by autism such as communication difficulties, lack of social skills and behaviour disorders among others that were affecting learning among the learners. In other countries, teachers combine teaching methods as dictated by the learner's needs. This finding is supported by Shaheen (2009) and Hosken (2008) who stated that combination of instructional methods intensifies the learning experiences. The individualized education programme was developed by the teachers without involving the multidisciplinary team as it is done in other countries. In other countries, an educational team will vary according to the educational needs of the individual learner whom they serve and may change over time as student needs change. Those core team members are those individuals who are directly involved in the design and daily implementation of the learners' educational programme. For example, core team members for a learner with multiple disabilities could include the learner, family members, special education teacher, general education teachers, physical or occupational therapists, speech therapists, classroom teaching assistant, and community work representative (Heller et al., 2009). The classrooms were partly structured with minimal use of routines. Some classrooms were small and learning areas were not clearly defined. A learner with autism blindness requires consistent schedules as supported by Vaughn et al. (2007) and Shaheen (2009) who have stated that learners with autism may be particularly challenged when a routine is absent or unpredictable.

Curriculum adaptations for learners with autism blindness

The second study objective sought to find out the curriculum adaptations that had been effected for learners with autism blindness. All teachers educating learners with autism blindness reported that they had not revised curriculum programmes in their schools. To confirm teachers' responses, head teachers of the schools for autism blindness interviewed reported that their schools had not revised curriculum used in their respective schools.

Available teaching resources for learners with autism blindness

The third objective of the study was to find out the available teaching resources for learners with autism blindness. Results revealed that the most available teaching resources used to teach learners with autism

blindness were braillers and Abacus, as reported by 7 (100%) teachers and braille papers, as reported by 6 (85.7%) respondents.

The study found out that some teaching resources like cubarithms and toys were inadequate. This is supported by Kochung Report (2003) which found out that most schools were operating with barely basic learning aids.

Support services for learners with multiple disabilities.

The fourth objective of the study was to find out available support services for learners with autism blindness. To answer this research question, study respondents were asked to indicate support services offered to learners in their respective schools. The only support service given to learners with autism blindness was medical services as reported by 4 (57.1) of the teachers. All other support services such as auditory training, sensory integration, special diet, speech therapy among others were lacking as supported by the Kochung Report (2003). In relation to this, 2 (28.6%) teachers recommended that the school administration should ensure that learners are given support services in order to enhance their academic performance and that they should have an environment that is conducive while at school.

Training needs for teachers educating learners with Autism blindness

The fifth objective of the study was to find out training needs of teachers educating learners with autism blindness. The majority, i.e. 6 (85.7%) of teachers teaching learners with autism blindness suggested that they needed training in all areas of disabilities, knowledge on instructional techniques, curriculum adaptations, assessment and evaluation. Respondents were asked to explain why they wanted training in all areas. This was the response *"Most of the learners we have in this class are autistic blind with other disabilities such as intellectual disability, physical, communication difficulties, and cerebral palsy and behaviour challenges."*

This study report is supported by Boyce and Hammond (1996) who have stated that teachers teaching learners with autism blindness will need core skills that enable them to teach all learners. Best et al. (2010) also supports the training of teachers dealing with multiple disabilities on various disabling conditions. Training on autism and blindness is supported by Shaheen (2009) who trained a learner who was autistic blind. Five (71.2%) teachers suggested to be given training on remediation of communication and behaviour challenges, use of assistive technology, use of adaptive computers, support services, transition, functional skills and vocational training. This study report is supported by Best, Heller and Bigge (2005); Council for exceptional children (1998); Heller, Fredrick, Dykes, Best and Cohen (1999); Heller and Swinehart-Jones (2003) who have stated that teachers who instruct learners with multiple disabilities must possess specific competencies that encompass instruction, physical management of learners, educational environment, health maintenance, use of assistive technology, communication and curricular adaptation. Koech Report (1999) also emphasized on the retraining of teachers in the evolvement of new knowledge and technology. Four teachers (57.1%) were of the views that they required training on how to teach social skills and on the special diet given to learners with autism blindness.

Implications

From the study findings, teachers were not able to differentiate instructions for learners with autism blindness because they were specifically trained to teach learners with visual impairments. This implies that teachers should be trained in a variety of disabling conditions and their instructional strategies because most of the learners have more than two disabilities. The curriculum for learners with autism blindness was found to be ineffective because it was not catering for their needs. This implies the need for an adapted curriculum that caters for individual needs of the learners. Most of the learners require related support services from professionals such as speech therapist, occupational therapist, dietician among others who were not available. This implies that the government should set up programmes for people to pursue training as speech therapists, audiologists, dieticians, physiotherapists and occupational therapists among others to support teachers in related support services. Teaching resources were also inadequate. This was found to have adverse effects on their learning. More funds should be given to schools to enable them to purchase the required teaching resources.

Conclusion

The provision of educational opportunities for learners with special needs is still faced with many challenges. Specifically, educational needs of children with autism blindness are not being adequately addressed. Lack of an adapted curriculum, lack of adequately trained teachers on multiple disabilities, lack of adequate teaching resources, support services and lack of implementation of policies affecting the provision of education to learners with special needs among others are some of the hurdles affecting the education of learners with autism blindness. All the stakeholders in education including the non-governmental organizations should support the Kenyan government in its endeavor to provide education to its citizens.

References

American Psychiatry Association (1994). *Diagnosis and Statistical Manual of Mental Disorders* (4th Ed.). Washington D.C: American Psychiatry Association

Best, S. J., Heller, K.W., & Bigge, J.L. (2005) *Teaching individuals with Physical or Multiple Disabilities* (5th ed.) Upper saddle River, NJ: Merrill / Pearson Education.

Boyce, F., & Hammond, F. (1996)".*Autism and Visual Impairment Making Sense*".Autism and Visual Impairment Conference. Scottish Sensory Centre: Edinburg. Retrieved from the web on 13th May 2014 at http:www.ssc.education.ed.ac.uk/resources/vi&multi/boyce.html.

Breton, L.M. (2001). *Diet Intervention and Autism:* London

Corn, A. L., & Koenig, A.J. (2002). Literacy instruction for students with low vision: A framework for delivery of instruction. *Journal of visual impairment and Blindness,* 96, 305-321.

Council for Exceptional Children, (1998). *What every special educator should know*. The International standards for the preparation and licensure of special Educators (3rd Ed.) Reston, VA: Author.

Creswell, J. W. (2008). *Educational Research: Planning, Conducting and Evaluating. Quantitative and Qualitative Research.*

Creswell, J. W., & Plano Clark, V.L. (2011). *Designing and Conducting Mixed Methods Research.* Thousand Oaks, CA: Sage Publications Inc.

Denzin, N. K., & Lincoln, L.S. (1994). *Introduction: Entering the Field of Qualitative Research*. In N.K. Denzin & Y.S. Lincoln (Eds), Handbook of Qualitative Research. Thousand Oaks: Sage

Hallahan, D. P., & Kaufmann, J. W. (1997). E*xceptional Learners Introducing to Special Education*, Seventh Edition. Boston: Allyn & Bacon.

Hallahan, D. P., Kauffmann, J. W., & Pullen, P. C. (2012).*Exceptional Learners: An Introduction to Special Education* (12th Ed.). Upper Saddle River. NJ: Pearson.

Hatlen, P. (1996). The Core Curriculum for Blind and Visually Impaired Students including those with Additional Disabilities. National Agenda Advisory Board. Retrieved from the web on May 20th2011. http://www.tscbvi.edu/Education/corecurric.htm.

Heller, K. W., Fredrick, L.D., Dykes, M.K., Best, S.J., & Cohen, E.L. (1999). Competencies in physical/health disabilities. A National perspective. *Exceptional Children,* 65, 219-234.

Heller, K. W., & Swine hart- Jones, D. (2003). Supporting the educational needs of Students with orthopedic impairments*. Physical Disabilities: Education and Related services,* 22(1), 3-25.

Heller, W., Forney, P. E., Alberto, P. A., Best. S., & Schwartzman. N. (2009*). Understanding Physical, Health and Multiple Disabilities* (2nd Ed.).Upper saddle River, New Jersey: Pearson Education inc.

Hosken, C. (2008). *Severe and Multiple Disabilities*. Retrieved from the web on March 8th 2012. http://www.agape biblia.org.

Kochung Report (2003). A *Report on the Task Force on Special Needs Education*. Nairobi: Government Printers.

Koech Report (1999). *Totally Integrated Quality Education and Training.* Nairobi: Government Printers.

Konstanareas, M. M. (1982). Use of *Kinesthetic and Auditory Modalities*. Journal of Autism and Developmental Disorders.

Lilienthal, N. (2009). *A Preschooler with Autism and Blindness*: A Case Study Unlocking the Mystery of Communication*.* Retrieved from the Web on April 20th 2011.http://www.speechpathologyguru.com.

Ominde Report, (1964). *Kenya Education Commission.* Nairobi: Government Printers.

Patton, M. Q. (2002).*Qualitative Research and Evaluation Methods* (3rd Ed.). Thousand Oaks, CA: Sage

UNESCO, (1994).*The Salamanca Statement and Framework Paris:* United Nations, (1993). *Standard Rules on the Equalization of Opportunities for Persons with Disabilities*. Paris: UN.

Vaughn, S., Bos, C. S., & Schumm, J. S. (2007). *Teaching Students who are Exceptional Diverse, and at Risk* (4th Ed.). Boston: Allyn & Bacon.