JHER Vol. 22, No. 2, December 2015, pp. 44 – 56

Capacity Building Needs of Agricultural Science Teachers in Handling Students with Hearing Impairment in Secondary Schools in South-West Nigeria

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Abstract

The study focused on capacity building needs of Agricultural science teachers in handling students with hearing impairment in Secondary Schools in South-West Nigeria. Survey research design was adopted for the study. The population of the study consists of 51 Agricultural science teachers. All the 51 Agricultural science teachers were used in the study. Collection A 42 item questionnaire was developed for gathering the data. The instrument was validated by five experts. Cronbach alpha was used to determining the reliability of the instrument. The instrument yielded reliability coefficient of 0.83. 51 copies of the questionnaire were administered to the respondents with 100% return rate. It was found out that agricultural teachers science require capacity building in Handling students with hearing impairment in Secondary School in South-West Nigeria. It was recommended that the identified areas where agricultural science teachers needed capacity building be packaged into a retraining programme to be utilized in re-training agricultural science teachers in secondary schools through seminars and workshops.

Key words: Capacity Building, Needs, Hearing, Impairment.

Introduction

Special need students are those children who might need extra help because of a medical, emotional, or learning problem. Gbegbin (2007) described special need students as those having significant difficulty in coping with children of

the same age. Ozoji(2005) observed that such persons include the hearing impaired, visually impaired, mentally retarded, learning disabled, physically impaired, gifted or talented, and emotionally disabled. Special need learners according to Okuyinbo (2004) are those adult and children having any restriction or lack resulting from impairment of ability to perform an activity in a manner within the range considered normal for human being. Such students suffer disabilities, which reflect disturbances at the level of customarily expected activities concerning their performance and behavior. Examples of such disabilities include, inability to walk or awkward inefficient gait, communication problems due to speech disturbances or hearing loss, difficulties in self care and daily living activities such as bathing, feeding, strange behaviour, mobility problems due to blindness or physical impairments. In the context of this study, special need students are those students who have educational or behavioural characteristics manifested either as significant learning assets or difficulties who offer agricultural science as a subject in secondary schools in South-West Nigeria.

Federal Republic of Nigeria (FRN 2009) The *National Policy on Education* recognizes the situation of the special need students and stipulates the following objectives for their education to:

- give concrete meaning to the idea of equalizing educational opportunities for all children (students), their physical, sensory, mental, psychological or emotional disability notwithstanding;
- provide adequate education for all people with special needs in order that they may contribute their own quota to the development of the nation;
- provide opportunities for exceptionally gifted and talented children to develop their talents, natural endowments and traits at their own pace in the interest of the nation's economic and technological development and
- design a diversified and appropriate curriculum for all beneficiaries.

These objectives are in line with the stipulations of the Salamanca statement and framework for Action on Special Needs Education (UNESCO1999).

This statement, among others, stressed that all children must be accommodated in a regular school system so that they can attend school in their neighborhood. It also stressed the need to ensure the accommodation of special need children in ordinary schools, the presence of physical, intellectual, social, emotional, linguistic or other conditions notwithstanding. It further declared that regular school with inclusive orientation are the most effective means of combating discrimination, creating welcoming communities, building an inclusive society and achieving education for all. Moreover,

they provide effective education to the majority of students and improve efficiency and ultimately the cost effectiveness of the entire education system.

Inclusive education according to Ozoji (2005) means that all students attend and are welcome by their neighborhood schools in age-appropriate, regular classes and are supported to learn, contribute and participate in all aspects of the life of the school. Meynert (2014) explained that inclusion is about the rights of children to participate fully in general curricular activities of the school, and a respect for their social, civil, and educational rights.

Ozoji (2005), explained that inclusion is an education option or programme carefully designed to educate special need learners (students) within the structured mainstream of school community. The key purpose of designing inclusive education is to accommodate all learners including students with special need to learn in neighborhood schools. Also Eniolorunda (2007) stated that, not only does inclusive education for special need students bring improved academic performance, it also offers them opportunity for socialization with their peers without disabilities in general education classroom.

Furthermore, because of Education for All as projected in inclusive education, the education and accommodation of special need students have become a common occurrence in agricultural science classrooms. . Hallahan and Kauffman (1991) in Salami and Salami (2005) classified them as follows: the mentally retarded, visually impaired ,learning disabled, physically and health impaired, behaviorally and emotionally disturbed ,speech and communication disordered, intellectually gifted and talented, multiple handicapped and the hearing impaired.

Hearing impairment is a hearing loss that prevents a person from totally receiving sounds through the ear (American with Disabilities,2015). Adedapo, Nwosu and Ibitoye (2009) explained that hearing impairment is a hearing loss that prevents a person from totally receiving sounds through the ear. If the loss is mild, the person has difficulty hearing faint or distant speech. A person with this degree of hearing impairment may use a hearing aid to amplify sounds. If the hearing loss is severe, the person may not be able to distinguish any sounds. Ogwu (2001) explained that hearing impairment is an umbrella term which covers both deaf and hard of hearing. It has the following characteristics: difficulty in hearing, difficulty in language expression, non-response when talked to, asks for repetition of questions, strains the face in order to hear, cupping the ears with the palm and frequent rubbing or scratching of ear.

Agricultural science teachers must be aware of special students with hearing impairments and be committed to provide quality education for every students

irrespective of their abilities and disabilities in agricultural programme in secondary schools (John, Gary and David, 2008).

Secondary schooling in Nigeria is six years period. The first three years is for Junior Secondary Schools at the end of which Junior School Certificate is obtained. The last three years is for Senior Secondary School, at the end of which Senior Secondary School Certificate is obtained. In the context of this study, secondary school is an inclusive institution where agricultural Science is taught after primary school to both normal students and students with hearing impairments.

Hearing impaired is part of students with special needs that require special education because they behave differently from other students. MediLexicon International (2015) stated that hearing impairment, deafness, or hearing loss refers to the inability to hear things, either totally or partially. Symptoms may be mild, moderate, severe or profound. A patient with mild hearing impairment may have problems understanding speech, especially if there is a lot of noise around, while those with moderate deafness may need a hearing aid. Some people are severely deaf and depend on lip-reading when communicating with others. The situation accord to Adeniran (2000) is malfunctioning of auditory mechanism which may or not be perfected by constant use of hearing aids. Adediran (2009) explained that teachers who will teach students with special needs should be expose to the special management strategies, strategies for managing students with special needs, identification skills, psychology of children with handicapping condition, screening diagnosis and assessments strategies as well as counseling/behavior modification. Ozoji (2000) also stressed further that teachers that will teach special needs of which hearing impairment is one should have knowledge of coordinating curriculum, methods and material for achievement of educational objectives. Agricultural science Students with hearing impairment are those with one hearing disability or the other and are studying agricultural science in Secondary Schools in South-West Nigeria. In teaching students with hearing impairment teachers should be well exposed to the used of instructional materials.

Instructional materials as a concept applies to the materials teachers turn to in order to deliver quality instruction. Amadi (1995) defined instructional materials as any material, place, event or activity which teacher can resort to adapt or apply to facilitate teaching and learning. Ikerionwu in Okobia (2011) refers to instructional materials as objects or devices which help the teacher to make learning meaningful to the learners.

There are different media through which instructional messages can be transmitted to the learners such media may be visuals, audios and audio-visuals that help make concept,

abstract, and ideas concrete in teaching and learning process. They are materials which teachers use in supplementing teaching. Instructional materials can be grouped into prints. Visual, audio and motion pictures, audio and static display (National Teachers Institute 2006). Various types of these instructional materials are also used in teaching students with hearing impairments. Imogie (2000) explained that local materials can be used to raise visual materials in diagrams. Light cartoons and cardboard papers could be used in improvisation for students with special needs for better teaching. In the context of this study instructional materials are materials that agricultural science teachers used in supplementing teaching to make abstract concepts real for students with hearing impairment.

Agricultural Science teachers who teach in these schools undergo little or no training on how to handle students with hearing impairment during their training as teachers. Obani (2006) stated that the state of education of students with exceptionality (hearing impaired included) is becoming problem in our regular schools because most regular teachers who encountered these students with exceptionality know nothing about them and their needs, nor do they have knowledge and skills to attend to their special education needs. Based on this, the researcher is of the opinion that the regular school teachers of agricultural science needed re-training for proper capacity building in order to handle students with hearing impairment

Capacity building is improving the ability of people in performing their duties. Capacity building in the view of Olaitan, Alaribe and Ellah (2009) is effort geared towards improving the level of knowledge, skills and attitudes possessed by individual for proficiency in a given task or job. Olaitan, Alaribe and Ellah (2009) define capacity building as an attempt aimed at increasing individuals ability to perform a job or task. It is geared towards making improvement on what individual is already doing. Capacity building in the context of this study involves re-training of agricultural science teachers in various methods and techniques of handling students with hearing impairment in order to reduce problems associated with teaching them to the barest minimum so as to achieve the set educational objectives of the agricultural science programmes.

Purpose of the Study

The major purpose of this study was to identify capacity building needs of secondary school agricultural sciences teachers in handling students with hearing impairment in the South-West Nigeria. Specifically the study determined capacity building of agricultural science teachers in:

1. management of students with hearing impairment.
2. handling students with hearing impairment on instructional strategies .

3. utilization of instructional materials in handling students with hearing impairment.

Research Questions

Three research questions question guided the study:

1. what are the capacity building needs of agricultural science teachers on management of students with hearing impairment?
2. what are the capacity building needs of agricultural Science teachers on instructional strategies in handling students with hearing impairment ?
3. what are the capacity building needs of agricultural science teachers in instructional materials utilization in handling students with hearing impairments?

Methodology

***Design of the Study*:** A survey research design was adopted for the study.

***Area for the Study*:** The study was carried out in South-West, Nigeria comprising Ekiti, Lagos, Ogun, Ondo and Oyo states. Osun state which is part of the South-West geo-political zone was not included because, the state has no secondary school where students with hearing impairments are being taught agricultural science along with their normal peers.

***Population of the Study* :** The population of the study was 51 agricultural science teachers from all the secondary schools that run inclusive Education in the Zone. The population was small and therefore the entire population was used; hence no sampling was made.

***Instrument for Data Collection*:** A 42 items questionnaire was developed based on the research questions and was used for data collection. The questionnaire had two response categories of Needed and Performance with four rating scales each. The needed category are Highly Needed (HN) =4; Averagely Needed (AN) =3; Slightly Needed (SN) =2 and Not Needed (NN) =1. While the performance category had High Performance (HP) = 4; Average Performance (AP) =3; Low Performance (LP)=2 and No Performance (NP) =1 respectively. Five experts validated the instrument, three from vocational Teacher Education Department and two form the Department of Educational Foundations (special Education Unit) all from the University of Nigeria Nsukka. Their views were used to fine tune the questionnaire which was tested for reliability using split half and Cronbach alpha which yielded the reliability coefficient of 0.83 considered high enough for the study.

***Method of Data Collection and Analysis*:** Fifty one (51) copies of the questionnaire were administered to the respondents with the help of two research assistants and the researcher who are conversant with the area of study. The instrument recorded 100% return rate and Capacity Building Needs index (CBI) was used to answer the research questions.

***Method of Data Analysis*:** To determine the capacity building gap,

the following procedures were adopted.

1. The weighted mean of each item under the needed category (XN) was calculated.
2. The weighted means of each item under the performance category (XP) was also calculated
3. The difference between the two weighted means for each item (XN-XP) was determined

The decision rules were as follows:

a. A zero (0) value indicated that no capacity building is needed because the level at which the item was needed is equal to the level at which the respondents can perform it.
b. A positive (+) value indicated that capacity building is needed because the level at which the item was needed is higher than the level at which the respondents perform it.
c. A negative (-) value indicated that no capacity building is needed because the level at which the item was needed is lower than the level at which the respondents can perform it.

Results

The results of this study are presented in Table 1-3 based on the specific purposes.

Capacity Building Needs of Agricultural Teachers in Management of Students with Hearing Impairment

Table 1: Performance gap Analysis of Agricultural Science Teachers on Management Needs in Handling Students with Hearing Impairment**.**

N = 51

S/N	Capacity Building Needs	$\overline{X}_N$	$\overline{X}_p$	PG (X_n-X_p)	RMKS
1	Training in counseling psychology of students with hearing impairment.	3.65	2.94	0.71	CBN
2	Training in behaviour modification of students with hearing impairment.	3,61	2,84	0.77	"
3	Training on focusing on learners with hearing impairment strength and competencies rather than their weakness.	3.41	2.71	0.70	"
4	Planning of resources rooms for students with hearing impairment.	3.37	2.92	0.54	"
5	Organization of resource room for hearing impaired learners.	3.65	2.96	0.69	"
6	Training in rudiment of interpreting medical report for students with hearing impairment in relation to their educational needs.	3.41	2.69	0.72	"

7	Training in determining the eligibility and appropriate education placement for learners with hearing impairment.	3.41	2.69	0.72	"
8	How to rehabilitate learners with hearing impairment.	3.75	2.88	0.87	"
9	Re-training on effective monitoring of students with hearing impairment.	3.16	2.82	0.34	"
10	Training in collaboration with other personnel concern with hearing impaired for better handling of students with hearing impairment.	3.35	2.88	0.57	"
11	Training on diagnosis of various hearing impairments.	3.51	2.96	0.29	"
12	Re-training on how to assist hearing impaired in controlling their emotional problems.	3.37	3.08	0.29	"
13	Retraining in identification and knowledge of hearing impairment.	3.33	3.20	0.13	"
14	Be abreast in the policy statement about hearing impaired learners	3 .71	2.94	0.77	"
15	Management of modern equipment used by hearing impaired.	3.42	3.04	0.38	"
16	How to collaborate with parents of learners with hearing impairments.	3.66	3.08	0.58	"

$\overline{X_N}$ = Means of Needed $\overline{X}_p$ = Means of Performance CNB = Capacity Building Needed CBNN = Capacity Building not Needed

The data in Table 1 revealed that the performance gap (PG) of the respondents in all the 16 items were positive. The value ranges from 0.34 to 0.87. The performance gap indicates that Agricultural Science teachers in Secondary Schools needed capacity building in management to enable them handle students with hearing impairment effectively.

Capacity Building Needs on Instructional Strategies

Table 2: Performance gap of Agricultural Science Teachers on Instructional Strategies in Handling Students With Hearing Impairment.

S/N	Instructional Strategies	$\overline{X}_N$	$\overline{X}_b$	PG ($\overline{X}_n$-$\overline{X}_p$)	RMKS
1	Develop individual Education programme (IEP) for Students with hearing impairment.	3.76	2.88	0.88	CBN
2	Implementing individual Education Programme for Students with hearing impairment.	3.57	3.08	0.49	"
3	Training on adequate lesson preparation to benefit students with hearing impairment in an inclusive education set-up.	3.51	2.75	0.76	"
4	Training on handling of hearing aids and Audio-meter for assessing the degree of hearing acuity.	3.53	2.94	0.59	"
5	How to use sign language comfortably.	3.63	2.6	0.67	"
6	Ability to use finger spelling.	3.53	3.0	0.43	"
7	Ability to use finger numbering.	3.59	2.88	0.71	"
8	Use of task analysis in teaching students with hearing impairment.	3.69	2.98	0.71	"
9	Training in t he use of instructional materials for students with hearing impairment.	3.57	2.80	0.77	"
10	Re-training in improvisation of materials for students with hearing impairment.	3.73	2.94	0.79	"
11	Training in the use of assistive technology for students with hearing impairment.	3.53	2.78	0.75	"
12	Training in assisting students with hearing impairment on acquiring skills and competences as stipulated by the curriculum.	3.63	3.00	0.65	"
13	Training in various methods and techniques of teaching students with hearing impairment.	3.65	300	0.65	"
14	Training on how to implement practical experience for students with hearing impairment on the farm.	3.71	3.11	0.60	"
15	Training on how to use mnemonics in instructing students with hearing impairment.	3.68	2.84	0.63	"
16	Re-training on assessment and evaluation of learners with hearing impairment.	3.72	3.05	0.67	"

17	Training in learning psychology of learners with hearing impairment.	3.65	3.00	0.56	"
18	Re-training in Curriculum modification in favour of students with hearing impairment.	3.65	2.94	0.71	"
19	Training in expanded curriculum.	3.67	3.00	0.67	"

$\overline{X}_N$ = Means of Needed $\overline{X}_p$ = Means of Performance CNB = Capacity Building Needed CBNN = Capacity Building not Needed

Table 2 reveals that the performance gap (PG) of the respondents in all 18 items were positive. The performance gap values ranged from 0.49-0.88. This implies that Agricultural science Teachers needed capacity building in instructional strategies in handling students with hearing impairment in secondary schools in South West Nigeria.

Capacity Building Needs on Instructional Materials

Table 3: Performance gap analysis of Agricultural Science Teachers on Instructional Materials in Handling Students with Hearing Impairment

S/N	Instructional Materials	$\overline{X}_N$	$\overline{X}_B$	PG ($\overline{X}n$- $\overline{X}p$)	Remarks
1	Improvisation of instruction materials	3.59	2.85	0.65	CBN
2	How to use print media for learners with hearing impairment	3.71	2.85	0.86	,,
3	Use of visual Media	3.68	2.88	0.80	,,
4	Use of Audio media and motion pictures	3.87	3.20	0.85	,,
5	Effective Display of Instructional Media	3.64	3.14	0.05	,,
6	Modification of instructional materials for learners with hearing impairment	3.88	3.21	0.67	,,
7	Designing of instructional materials for learners with hearing impairment	3.75	2,98	0.77	,,
8	Selection of appropriate instructional materials	3.56	2.2.89	0.71	,,
9.	Construction of instructional materials	3.61	3.95	0.67	,,
10	How to improve durability of instructional materials	3.77	2.11	0.66	,,

$\overline{X}_N$ = Means of Needed $\overline{X}_p$ = Means of Performance CNB = Capacity Building Needed CBNN = Capacity Building not Needed

Table 3 reveals that the performance gap (PG) of all the 10 items are positive. The values ranged from 0.50 to 0.86. This implies that Agricultural Science teachers agreed that they needed capacity building in instructional material utilization for handling students with hearing impairments in Secondary Schools.

Discussion of Findings

It was found out that Agricultural Science teachers needed capacity building in handling students with hearing impairment in the following areas: managing students with hearing impairment, instructional strategies for students with hearing impairment and instructional material for teaching students with hearing impairment

The result are in agreement with findings of Adediran (2009) that teachers who will teach students with special needs should be expose to the special management strategies, strategies for managing students with special needs, identification skills, psychology of children with handicapping condition, screening diagnosis and assessments strategies as well as counseling/behavior modification. The findings also revealed that agricultural science teachers needed capacity building in organization of resource room and rehabilitation of learners with hearing impairment. For agricultural science teachers to be effective in handling students with hearing impairments, they need improvement in managing them.

This study is also in consonance with findings of Ozoji (2000) that teachers that will teach special needs of which hearing impairment is one of them should have knowledge of coordinating curriculum, methods and material for achievement of educational objectives. For better handling of students with hearing impairment Agricultural science teachers needed improvement in instructional strategies.

The result of this study is also in agreement with the finding of Imogie (2000) that knowledge and handling of material like Audio, Audio Visuals, tactual aids and large prints is essential for teachers that will teacher students with special needs. The result of this study is also in agreement with the findings of Amadi (1995) that instructional messages can be transmitted to the learners through instructional media which may be visuals, audios and audio-visuals that help make concept, abstract, and ideas concrete in teaching and learning process. The study also revealed that agricultural science teachers also need capacity building in modification of instructional materials and designing of instructional materials for learners with hearing impairment. This in agreement with Imogie(2000) who explained that local materials can be used to raise visual materials in diagrams. Light cartoons and cardboard papers could be used in improvisation for students with special needs for better teaching. This implies that agricultural sciences teachers needed improvement in

instructional material for better handling of students with hearing impairments.

Conclusion

From the findings of this study, it was discovered that Agricultural Science teachers in Secondary Schools in South-West, Nigeria needs capacity building in the area of management, instructional strategies and instructional material utilization for better handling of students with hearing impairment. If the findings of the study are developed into capacity building programme for retraining of Agricultural Science teachers in secondary schools, it will help to overcome deficiencies in handling students with hearing impairments in agricultural sciences classroom.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The capacity building needs identified by the study should be packaged into a retraining programme to be utilized in retraining agricultural science teachers through seminars and workshops.
2. The programme should also be included in the pre-service course for agricultural science teachers in tertiary institutions particularly.

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