

## USE OF ASSISTIVE TECHNOLOGY BY STUDENTS WITH VISUAL IMPAIRMENT IN AMINU COLLEGE OF EDUCATION AZARE, BAUCHI STATE



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### ABSTRACT

*This study investigated the use of assistive technology by students with visual impairment in Ainu Saleh College of Education Azare, Bauchi State. The subjects of this research were NCE students. The research objective was to examine the use of assistive technology used by students with visual impairment. Descriptive survey research was adopted as the research design. The instrument for data collection was questionnaire developed by the researchers, the questionnaire contained ten (10) items rated on five point Likert scale. Twenty five students with visual impairment constituted the population of the study. Purposive sampling technique was employed, 15 students were chosen considering the nature of the population under study. Data collected was analyzed using Pearson product moment correlation co-efficient. The result of the study showed that use of assistive technology has relationship with students' academic performance. Based on the findings, the study recommended that students with visual impairment should be equipped with Sophiscated assistive technology.*

**Keywords:** *Assistive technology, Visual impairment, Academic performance.*

## **Introduction**

The concept of Visual impairment is defined as those persons who suffer from the impairment defects of their eyes to such a degree that it makes them disabled or handicapped in terms of their visual ability and perception (Mangal pp 456 2013). Students with visual impairment are among the categories of special needs persons. The condition of visual impairment occurs in varying degrees and classification. (Abba, Hafsar, Bashir & Auwalu, pp 40 2007) classified visual impairment into three; namely, blindness, partial sightedness and low vision. The classification is very imperative as it gives a clue to instructors on how they can handle each condition effectively.

If at all, the dream of special educators is to be realized, all students living with disabilities need to be treated with peculiarity in terms of special methodology, instructional materials, and special gadgets for teaching and learning. Education for all, irrespective of severity, nature of the exceptionality, as advocated by many intellectuals, could be actualized if special provision are made for all the categories of exceptional children.

In recent time, the world has changed from the analog to digital form. With the current technological revolution, students with visual impairment can be educated without much hitches, and they can overcome some challenges they normally faced in school. Assistive technology is used in spheres of visually impaired individuals to develop machine which can instantaneously convert printed books and other printed materials into audio material. (Ya'u, 2014 pp 204).

Reading devices for the students with visual impairment were invented in more sophisticated forms. The wisdom behind innovation of reading and writing materials for students with visual impairment is to curtail the hardship they are often confronted with in academic environment. Some of the teaching aids for the students with sighted problems include tele-touch, versa Brolli talking calculator, the scanner, the Braille transcriber, the thermoform machine, the jumbo cell model, the standard model, to mention but few (Diso, 2005 pp 38).

In Nigeria, the situation remains the same with regards to the education of persons with visual impairment. As in all institutions of learning for exceptional, children assistive technological devices are provided in order to bridge the existing gap between persons living with disabilities and the so-called normal. (Nkwoagba, 2011 in Auwalu 2016 pp, 65) defined assistive technology as any piece of equipment or product system, whether acquired commercially, off the shelf, modified, or customized that is used to increase or improve functional capabilities of a child with disabilities. It therefore becomes necessary to identify students with visual impairment and find solution to their abnormality so as to add their chances of success in academic pursuit.

### **Statement of the problem**

Special education system in Nigeria is confronted with many challenges, ranging from under funding to lack of teaching and learning materials. These pose serious challenges on the part of special needs students in the institutions of learning. It is apparent that students with visual impairment perform below expectations academically. One of the main reasons for the poor performance of the said students has to do with dearth of assistive technological devices. Condition of visual impairment is very tasking on the part of the victims and the teachers as well. Hence it has to do with poor or lack of sight in total. The condition prompted students not being able to write or read printed text. As such, they need to be taught with some special devices.

The current trend in the education of students with visual impairment is the use of assistive technology. Innovating assistive technology plays a vital role in addressing challenges faced by students with visual impairment. With the of electronic gadgets, the students now could be successful in academic performance.

### **Objective of the study**

Only one objective guided this study, and it is to investigate the relationship between assistive technology and academic performance of students with visual impairment.

### **Research question**

To realize the objective of this study, the research question is:  
What is the relationship between assistive technology and academic performance of students with visual impairment?

### **Purpose of the study**

The main purpose of the study is to investigate the use of assistive technology with visual impairment in Aminu Saleh College of Education, Azare.

### **Method**

The relationship survey research design was adopted for the study. The population comprised all students with visual impairment of Aminu Saleh college of Education, Azare, Bauchi State. The study therefore, examined the academic performance of students with visual impairment in all NCE levels. To determine whether there is relationship between use of assistive technology and academic performance of students with visual impairment. Students results of general courses, were collected and examined that is general education and general study of education were used in the study. Purposive sampling technique was used in the conduct of the research. The researchers adopted total sampling techniques, hence the entire population of the study have same set of characteristics in sampling techniques 15 students under study were chosen based on the researcher advisors (2006) of

determining sample. The data generated in this research was analyzed using person product correlation co-efficient statistics.

**Instrumentation**

A questionnaire was designed by the researchers to get information from the student with visual impairment. The questionnaire contains two sections A and section B. The A part of the questionnaire sought information on status, sex, school and department. Section B of the questionnaire contains 10 question items related on five point likert scale. Likerts method is a simple method of attitude. The respondents recorded their responses to each statement on a five point scale. The responses indicated the degree of strength of attitude. The five categories in the scale are: Strongly agree (SA) Agree (A), Strongly Disagree (SD) Undecided (U) Disagree (D) (Raptap, 2016 pp 58)

**Validity of the instrument**

The instrument was validated by two lecturers one was from the department of psychology in the school of education of Aminu Saleh College of Education, Azare, Bauchi State. The second lecturer who validated the instrument was from the faculty of education of Abubakar Tafawa Balewa University Bauchi.

**Procedure for Data Collection**

The questionnaires were administered to the 15 respondents and retrieved instantly.

**Results**

The data generated in the study was analyzed using Pearson product moment correlation co-efficient statistics. The result of the analysis are presented as follows.

**Testing of Hypothesis**

There is no significant relationship between availability of assistive technology and academic performance of students with visual impairment.

**Table I**

variance Decision	N	X	SD	DF	R	R-Crit
Assistive Technology	15	22.53	4.9	13	0.81	0.514
Rejected Student's Academic Performance	15	20.86	4.7			H <sub>0</sub>

Result in the table shows that the calculated R- value (0.81) is greater than R-crit which is (0.514) therefore  $H_0$  is rejected, which states that, there is no significant relationship between use, of assistive technology and students academic performance, consequently an alternative one is preferred which indicated that there is significant relationship between assistive technology and students academic performance.

### **Conclusion**

Early exposure of usually impaired students to assistive technology can enhance their academic performance. The result of the research indicated that with maximum utilization of assistive technology to students with visual impairment their academic performance can change to better.

### **Recommendations**

Based on this study the following recommendations were made:

1. Students with problem of vision need to be equipped with latest assistive technological devices so as to keep abreast with their counterparts
2. The services of professionals in the field of visual impairment need to be employed, such as lecturers and technical assistants that can repair gadgets when need arises.

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