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ANALYSIS OF LEARNING STYLES OF UNDERGRADUATES WITH HEARING IMPAIRMENT IN TWO STATES IN NIGERIA

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Abstract

Students are different and unique in their methods and approach to learning. Learning styles are the various preferred ways that learners choose to learn and process information. Hearing impaired undergraduates are not left out of this. The choice of a learning style can make or mar an individual, hence it should not be trivialised. This study therefore analysed the learning styles of hearing-impaired undergraduates in Kwara and Oyo states in Nigeria. The descriptive research of the survey type was adopted for the study. Purposive sampling technique was used to select the higher institutions and the respondents. This is because of their relevance to the study. One hundred and sixty two hearing impaired undergraduates purposively selected from three higher institutions were the respondents in the study. The instrument used for the study was a questionnaire adopted from Fleming (1987) which was tailored to follow the visual, auditory and kinesthetic learning style. Frequency count and the percentage were used for the analysis. Results showed that most of the hearing impaired undergraduates that participated in the study were visual learners, followed by kinaesthetic learners and the least preferred learning style was the auditory style. It was therefore recommended that lecturers should use instructional methods and materials that would strengthen both the visual and kinaesthetic learning of their students so that students with hearing impairment can maximise their learning opportunity.

Key words: *Analysis, Learning Styles, Undergraduates, Hearing Impairment*

Introduction

Learning to the Educational Psychologist can be described as a relatively permanent change in behaviour as a result of prior experience. Learning is life long and could be described as a survival tool. This is because a person who stops learning is preparing for the grave. Learning is a complex process by which an organism as a result of its interaction in a situation, acquires a new mode of behaviour, which tends to persist and affect the general behavioural pattern of the organism to some degree (Smith, 2003; Kuppaswamy, 2007). The success of education hinges on the adaptation of teaching to the learning differences among students. Spinner (1992) opined that learning reflects one's responses to environmental, emotional, physical and psychological stimuli. He further noted the various learning styles as visual, auditory, manipulative (kinesthetic) and global learners.

Learning styles are the various ways of learning that are preferable to individual learners. Learning style can be influenced by environmental demands of educational specialization, career, job, and task skills. Ldpride (2008) defined learning style as a way a person takes in,

understands, expresses and remembers information, the way a person learns best. It is the combination of individual characteristics (personal, psychological & intellectual) that shapes a student's approach to a learning task. It is a preferential mode through which a learner likes to master information, solve problems, think or simply react in a pedagogical situation.

According to Salvisberg (2005), learning style which refers to an individual's cognitive style (that is, the link between cognition and personality), within an educational context, indicates the preferred way a learner approaches new information. She opined that although students share similar learning patterns, preferences and even approaches, everyone learns and processes information in their own way in line with their learning styles. There could be the special concern for the special populace, especially people with hearing impairment. This is because of the challenge of communication. Since they communicate differently, what pattern would their learning style take?

In the view of Rudd, Baker and Hoover (2000), learning style goes beyond cognition into the psychological realm of learning, and that there seems to be a relationship between careers selected by students and their learning styles. They discovered that field-independent learners tend to be attracted to careers that require the use of their analytical skills (for example, Mathematics, Engineering, Biological Sciences), whereas field-dependent learners prefer careers that require interpersonal skills (such as Social Sciences, Management, Elementary School Teaching).

Researchers have developed various learning style models. For instance, Kolb (1976) in his model identified learning style as concrete experience, abstract conceptualisation, active experimentation and reflective observation. In the opinion of the researcher, the way students absorb information was categorized into Concrete Experience and Abstract Conceptualisation, whereas the internalisation of information received was categorised into Active Experimentation and Reflective Observation.

The learning style model by Felder and Silverman (1988) has five categories. The categorisations are Active and Reflective, Sensing and Intuitive, Visual and Verbal, Sequential and Global, Inductive and Deductive. These are related to an individual's information transfer process. Felder and Soloman (2003) modified the dimensions of this model from five to four, removing the last category of Inductive and Deductive (Ajagbe, 2003). Fleming (1987) stated in his learning style model that most people have preferred styles of learning; however some people have a mixed blend of the styles. The learning style of Fleming is classified into 3 namely Visual learners, auditory learners and kinaesthetic learners (VAK).

This sensory learning style theory is perhaps the most commonly used. According to Fleming visual learners tend to learn by sight, think in pictures and charts and they enjoy looking at maps and movies. The auditory learners prefer to learn through listening, they think in words and generally learn best through verbal lectures and discussions. The kinesthetic learners on the other hand are often described as restless. They prefer to learn by exploration. They prefer moving and doing things while trying to learn. They enjoy a lot of manipulations and enjoy learning by problem solving.

Several studies have been carried out on students' learning styles and other related areas. Some of these researchers are Debenham (2014) had a study on the learning styles of children with learning disabilities; Ajagbe (2013) tried to analyse the critical thinking ability of undergraduates with different learning styles in the south-western part of Nigeria; while Hoover (2000) carried out a study on the relationship between critical thinking and the learning styles of undergraduates studying Agriculture. Because of the challenges associated with hearing impairment, the researchers were curious to know if the learning styles of undergraduates would be different from the available data on learning styles of undergraduates who do not have hearing impairment. This study therefore analysed the learning styles of undergraduates with hearing impairment in two states in Nigeria.

Purpose of the Study

The main purpose of this study was to analyse the learning styles of undergraduates with hearing impairment in Kwara and Oyo states of Nigeria. In line with the purpose of this study, one research question was raised and answered.

1. What are the various dimensions of Learning Styles prevalent among undergraduates with hearing impairment in Kwara and Oyo states of Nigeria?

Methodology

A descriptive survey research design of the cross-sectional type was adopted for the study. The purposive sampling technique was used to select the higher institutions and the respondents because of their relevance to the study. University of Ilorin, University of Ibadan and the Federal College of Education (Special) Oyo (FCE) were the higher institutions involved in the study. This is because the three institutions have centres that cater for students with hearing impairment. FCE Oyo was involved in the study because it is a degree awarding institution. All the 7 hearing impaired students in the University of Ibadan and the 22 hearing impaired students in the University of Ilorin were involved in the study. Due to the prolonged strike at the FCE during the period of data collection, only 133 out of the registered 170 hearing impaired students of the college that were available participated in the study. A total of 162 respondents with hearing impairment were therefore involved in the study.

The Visual, Auditory Kinesthetic Questionnaire developed by Fleming (1987) and adapted by Uyanne (2014) with a reliability value of 0.67 was used to assess the respondents' preference of learning style. The questionnaire had two sections, A and B. Section A was used to collect the demographic data while section B contained 40 VAK items on the preferred learning styles. The responses in section B followed the following pattern

- (a) Visual 1
- (b) Auditory 2
- (c) Kinesthetic 3

VAK model responses were graded per respondent by counting the number of times a respondent picked any of the listed inventories. The researchers employed frequency count and the percentage for the analysis. The direction of the highest responses determined the preferred learning style of the respondents.

Demographic Characteristics of the Respondents

This section describes the personal characteristics of the respondents. The percentage was used and the output is illustrated in the tables that follow:

Table 1: Gender Distribution of the Respondents

Gender	Frequency	Percentage (%)
Male	87	57.7
Female	75	46.3
Total	162	100.0

Table 1 shows that out of the 162 respondents, 57.7% were males while the remaining 46.3% were females.

Table 2: Distribution of the Respondents by Faculty

Faculty	Frequency	Percentage (%)
Education	154	95.0
Engineering	4	2.5
Science	4	2.5
Total	162	100

Table 2 shows that majority of the respondents (95%) came from the Faculty of Education, 2.5% belonged to Faculty of Engineering while the other 2.5% came from the Faculty of Science.

Table 3: Distribution of the respondents by Onset of Hearing Impairment (Congenital or Acquired)

Onset of Hearing Impairment	Frequency	Percentage (%)
Congenital	77	47.5
Acquired	85	52.5
Total	162	100

Table 3 shows that 47.5% of the respondents have congenital hearing impairment while 52.5% acquired the hearing impairment.

Research Question:

What are the various dimensions of learning styles prevalent among undergraduates with hearing impairment in Kwara and Oyo states of Nigeria?

In order to answer the research question, responses of the respondents were subjected to frequency counts and percentage and the result is as shown in table 4:

Table 4: Dimensions of Learning Styles Prevalent Among undergraduates with Hearing Impairment in Kwara and Oyo states of Nigeria

Learning Styles	Frequency	Percentage %
Visual	102	63.0
Auditory	22	13.5
Kinesthetic	38	23.5
Total	162	100.0

Table 4 shows that out of the 162 respondents, 102 (63.0%) had visual learning style; 38(23.5%) had kinesthetic learning style while the remaining 22(13.5%) tilted to the auditory learning style.

Discussion

The analysed data from the demographic characteristics of the respondents showed that there were more male undergraduates with hearing impairment than the females. The males had 57.7% while the females had 46.3%. This goes to confirm the findings of Olawuyi (2000) which showed that more males got into tertiary institutions than their female counterparts. There were more students with acquired hearing impairment(52.5%) than the congenital source(47.5%). This calls for concern since the acquired hearing impairment are largely due to careless environmental practices. These practices include the maternal consumption of drugs that are not prescribed by qualified medical practitioners. The insertion of foreign objects into the ears while trying to clean the ears can also cause acquired hearing impairment.

The results further showed that there were more students with hearing impairment in the Faculty of Education (95.0%) than the Faculties of Engineering and Science that had 2.5% and 2.5% respectively. This could be partly accounted for by the inclusion of the Federal College of Education (Special) Oyo which is basically an educational institution that awards certificates and degrees in Education.

The analysis further showed that majority of the respondents showed preference for the visual learning style (63.0%), while 23.5% tilted to the kinesthetic learning style while the least was the auditory learning style which made up (13.5%) This finding supports the earlier one by Hyjankova (2010) who discovered that hearing impaired students are visual learners to a great degree. He stated that because they have difficulty with hearing, they tend to depend more on their sight to acquire information from the environment. Smith (2003) also stated that hearing impaired students tend to be visual learners because of their sensory disability.

Conclusion

The study showed that more males with hearing impairment are in tertiary institutions than their female counterparts. There is the need to encourage the females who are hearing impaired to strive to attain great heights instead of resigning to the kitchen. The finding also showed that there were more acquired hearing impairment than the congenital ones. This calls for special concern and there is the need to make people to be aware of the environmental factors that cause hearing impairment. The finding showed that most of the respondents had visual learning style as their preference. There is the need for educators to encourage the hearing impaired populace by using visual instructional materials in order to make up for their disability.

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