An Examination of Learning Style Preferences among Undergraduate Basic Design Students of Ahmadu Bello University, Zaria

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Abstract
Learning styles are innate preferences of individuals as to how they prefer to go about the process of learning and it is one of the dominant factors which affect the academic success of students. The aim of this study was to examine the learning style preferences of undergraduate Basic Design Students of Department of Industrial Design, Ahmadu Bello University, Zaria. A total of 50 first-year basic design students of the university mentioned above, participated. The learning style inventory developed by Ferrett Sharon was adapted by the researcher and used to determine the students learning preference. Visual, Auditory, and Kinesthetic (VAK) questionnaire was used to identify the students' preferred mode of learning. This forty-two items questionnaire defines preference of learning based on the sensory modalities: visual, auditory and kinesthetic. The data obtained from this study were analyzed using descriptive and percentage analysis. Results from the percentage analysis revealed that among the learning style categories 31.25% of the students' preferred (V) visual learning style followed by auditory (A) 27.08%; kinesthetic (K) 14.58%; and visual/auditory (VA) 14.58%.

Keywords: Learning styles, Learning preferences, Learning inventory, Basic Design students

Introduction

When students are admitted into the Department of Industrial Design, they undergo a training course which is the basic design. The general perception and practice in teaching Basic Design is that it promotes a holistic, creative and experimental methodology that develops the learning style and cognitive abilities of the student with respect to fundamental elements and principles. It also extends to guidelines that they can use throughout their education and career pursuits. By design, this course attempts to develop a general understanding of the field of graphic design, including theory, practice and technique. Despite the Basic Design course, students still experience difficulty in understanding the elements and principles of design. The genesis of this problem is at the secondary level of Nigeria's educational system where elements and principles of design are not properly taught (Baba, 2015). Consequently students enter the tertiary level devoid of the knowledge of elements and principle of design.

Learning is a complex process where student's motivation, learning style preference, teacher, learning material and several other aspects interact with each other. Nowadays the traditional classroom teaching has changed more and more into a virtual environment where different issues about learning have to be taken into account (Atri, 2015). As a result of these changes in traditional classroom teaching, teachers, educators designers should pay closer attention to students' learning styles preference. The term learning styles refer to the view that different people learn information in different ways (Harold, et al. 2009). Viewed from a different light, Felder

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(1995) defines learning style as "the way, in which an individual characteristically acquires, retain, and retrieve information." Learning style preference is one aspect of learning style, and refers to the choice of one learning situation or condition over another (Brown, 2000).

How can we teach students if we do not know how they learn? Felder 2005 (cited in Al-Saud, 2013) noted that students differ in the types of instruction to which they respond best (learning style preferences), the ways they approach their studies (orientations to studying and approaches to learning), and their attitudes about the nature of knowledge and their role in constructing it that is, their levels of intellectual development. Discovering these learning styles will allow the students to determine their own personal strengths and weaknesses and learn from there (Ahmadi, 2015). However, the logic of lifelong learning suggests that students will become more motivated to learn by knowing more about their own strengths and weaknesses as learners (Al-Saud, 2013). If teachers can respond to each individual's strengths and weaknesses, then retention and achievement rates in formal programmes are likely to rise and "learning to learn" skills may provide a foundation for lifelong learning (Coffield, *et al.,*2004).

There are many models that have been developed to explain the diverse learning styles of learners. Among the models instructional preference are found to have more immediate practical relevance (Khamal, Shah &Koirala, 2014 cited in Umar, 2015) as it differentiates students by the way in which they best acquire information for example some students prefer to learn by Visualizing, Listening or experiencing/ kinesthetically, called (VAK) model. The model is a part of the simplest and is based on observation channels vision, hearing and feeling. However, it was designed to help ensure that students learn more effectively and to help faculty members become more sensitive to the diversity of teaching strategies necessary to reach all students.

The VAK model defines the learning preference based on the sensory modality in which a student prefers to take in new information. The three major sensory modalities are visual (V), aural (A), and kinesthetic (K), which are collectively known as VAK. Ferret (2000) asserts that visual learners prefer to see information and read materials and more so to learn more effectively with pictures, graphs, illustration, photos and visual design. Furthermore, Ferret added that auditory learners rely on their hearing sense and they prefer music, and listening to information such as lectures and thus enjoys class discussions. Finally, Montemayor (2009) sees the kinesthetic learners as category of learners who prefer to touch things and learn best by doing and moving. They like to collect samples, write information, spend timeout doors and relate to the material that they are learning. Students may have one or multiple learning preferences. The important point is for the teacher to discover the students learning styles and incorporate the learning styles into their classroom by using relevant instructional methods that will match their learning style preference. Interestingly, considerable research has been conducted on learning styles in the domain of education. Some of these studies include: (Sywelem, et al., 2010; Al-Saud, 2013; Karthigeyan, 2013; Ahmadi, 2015) to mention but a few. Although these studies present diverse learning styles in different ways, their purpose and approaches are more or less similar but, all are geared towards solving educational issues.

Literature has shown that teachers and researchers are aware of learners' individual differences for decades but little was done to address the situation. Instead, cooperative learning or flexible groupings were used with uniform instruction (Umar, 2015). Therefore the need to conduct a study to examine students' instructional preferences cannot be over emphasized. And more so, there have been no previous

studies on learning style preferences among Basic Design Students of Ahmadu Bello University, Zaria. It is in this background that this paper aimed at examining the Learning Style Preferences among basic design students, Ahmadu Bello University, Zaria. The study adopted VAK questionnaire developed by (Ferret, 2000) to examine the students learning preferences. The questionnaire results may help create a sense of self-awareness for the student as to how he or she learns best and the motivation to seek out for the best methods to improve learning performance.

The Objectives of the Study

The objectives of the study are to:

i. examine the learning style preferences of undergraduate Basic Design students of Industrial Design Department, Ahmadu Bello University, Zaria.

ii. Suggest an innovative teaching strategy for undergraduate Basic Design students of Industrial Design Department, Ahmadu Bello University, Zaria.

Methodology

This study adopted the survey method to collect the data, since the study intends to get a general description of students learning style preferences. The Visual, Auditory, and Kinesthetic (VAK) questionnaire developed by (Ferret, 2000) was adopted by the researcher. The questionnaire has 42 items to which respondents were asked to answer A, B or C (A: Visual, B: Auditory and C: Kinesthetic learning style preferences). The validated questionnaire was administered to 50 Basic Design students of Industrial Design, Ahmadu Bello University; the response rate was 96 percent (50/48). The data collected were analyzed using percentage and descriptive analysis.

Analysis and Interpretation of Data

In this study percentage analysis and descriptive analysis are used to identify the learning style preference of students

Table I. Learning Style Preference of Students

VAK Learning Style	No	Percentage %
i. Visual	15	31.25
ii. Auditory	13	27.08
iii. Kinesthetic	7	14.58
iv. Visual/Auditory	7	14.58
v. Visual/Kinesthetic	3	6.25
vi. Auditory/Kinesthetic	3	6.25
TOTAL	**48**	**100**

Results

Table I shows the result of students' learning style preferences. Based on the percentage analysis score for each learning style of the respondents that answered the VAK questionnaire, (31.25 %) were found to be visual learners which is the most prevalent followed by auditory learners (27.08 %) and kinesthetic was the least prevalent single mode with (14. 58 %). However, some of the students exhibited a bi-modal learning style, VA (Visual/Auditory) was the dominant preference combination (14.58 %) followed by VK (Visual/Kinesthetic) and AK (Auditory/Kinesthetic) were (6.25%) each. No any tri-modal learning style, the VAK (Visual, Auditory, and Kinesthetic) combination was found among the respondents. Results from the percentage analysis revealed that among the learning style categories, the students preferred (V)

visual learning style followed by auditory (A); kinesthetic (K); and visual/auditory (VA).

Discussion

The study has disclosed the basic design student's different learning style preferences which need to be considered instructionally in order to improve students' learning ability especially in this 21st century technological era. The students have diverse learning style ranging from visual, auditory, kinesthetic, and visual/auditory. For educational implications, teachers and educators should recognize students' different learning style preferences which can assist the teachers in organizing the classroom setting, developing suitable educational programme and adopting suitable teaching strategies (Karthigeyan, 2013). Karthigeyan further asserts that knowing the learning style can also be very supportive in the individualized instruction.

Visual learners learn through seeing, so tools like diagrams, flowcharts, pictures and symbols can be a simple way to understand new concepts. They also remember what they see better than what they hear (Ferrett, 2000). While, on the other hand Ferrett asserts that auditory learners rely on their hearing sense and would learn better by listening to information such as lectures, music sound and tapes. However, those of the kinesthetic style preference would benefit from doing projects, working with objects, touching and moving around (playing games, building models, conducting experiments). One promising approach, for addressing diverse learning styles in teaching and learning according to Mayer (2003) is to involve multimedia presentations of both visual and verbal forms such as presenting text, graphics, and animation.

Worldwide, the use of multimedia instruction is drastically growing and seen as a tool for effective teaching and learning. It is increasingly providing richer environments for learning in a wide variety of formats. This phenomenon, according to Adegoke (2010) is gradually being observed in developing countries too. Recently, a number of researchers have discussed the importance of multimedia in instructional design to enhance instructional activities (Khan *Et.al.,* 2013; Leow *et al.,* 2014; Essel *et al*., 2016; Faryadi, 2012, Verecio, 2014; Ussher *et al.,* 2014). These studies have supported the assertion of Mayer (2003) that disclosed the use of multimedia courseware in enhancing instructional activities for teaching and learning.

Conclusion

The results of this study have provided useful information of students preferred learning preferences that will assist in improving the quality of teaching and learning experiences of basic design students in their early years in the Department of Industrial Ahmadu Bello University, Zaria. However, developing an innovative strategy would help to create more positive and effective learning environments for all students thus, would bridge the gap between what they have learnt in secondary school and prepared them for the university expectations. Students should know their learning styles in order to plan and make the best use of their study time and learning strategies which can improve their academic performance and lead to academic success. It is however suggested that an innovative teaching strategy that could address basic design students learning style be introduced in order to enhance teaching and learning.

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