

Learning Styles among Medical Students, a Case Study of Ladoke Akintola University of Technology Medical School, Osogbo, Western Nigeria

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Abstract

This study aims to determine the various learning styles among a class of medical students in a tertiary institution. A descriptive type of study which involved distribution of the VARK (visual, auditory, read and write, kinesthetic) questionnaire, was carried out among medical students. This questionnaire divided the students into four groups, visual, auditory or aural, read and write, and kinesthetic. There were 117 participants comprising 50 males and 67 females. 107(91.5%) preferred all modes of presentation, while 10(8.5%) preferred three modes. While most females 23(34.3%) preferred the read and write technique, most of the males 24(48.0%) preferred the preferred the kinesthetic method. Overall, the read and write was the most popular among the students. The difference in the learning styles was statistically significant ($P < 0.05$, $\chi^2 = 16.919$) as well as gender preferences ($P < 0.05$, $\chi^2 = 9.432$). Learning style among the students was multimodal. Knowledge of the existing differences in learning among medical students will enhance teaching learning experience and produce better medical doctors.

Key words: Learning style, medical students, teaching /learning experience.

1. Introduction

People are not alike, everyone has a way of perception (Dennis, 1987). These perceptions shape what we think, how we make decisions and how we define what is important. Salawu et al (Salawu et al 2008) defined learning as a relatively permanent change in an organism's behaviour due to experience. Learning styles refer to the variations in one's ability to accumulate as well as assimilate information (Felder 1996).

Basically, an individual's learning style is the method that best allows that individual to gather and use knowledge in a specific manner. Educators, Fleming and Mills (1992) defined four modes of learning and these are; Visual, Auditory, Read/write and Kinesthetic learners. The visual learners are those who typically learn through what they are able to see with their eyes. The auditory learners are very good listeners. The read/write prefer printed words and texts while the kinesthetic learners are tactile learners who learn best through moving, acting, touching and doing. Learning styles are concerned with how we learn and not necessarily what we learn (Clark 2004). Studying in the university makes very different demands on the students as compared to secondary education. These peculiarities form the bases for this study and include; The scope of study which is much wider than at the secondary school, one is expected to study on his own much more than he used to, the undergraduate has to organize his or her own schedule, do a lot of reading at this level and the teaching method usually adopted is the lecture method, so it's left to the student to attend lectures and take notes in the best form he understands. It is pertinent not only for the lecturers to be conversant with the learning styles of the students in general but also the students to be familiar with their own styles of learning. The main aim of this was to assess the various learning styles applied by a group of medical students of a university and find out if there are gender differences. The advantages of this study lie in the fact that both teachers and students will get to know that there are different ways different students learn, the most popular method among them, that it is possible for one to know his / her learning style. All these will improve teaching learning experience.

2. Materials and methods

2.1 Research Design

This is a descriptive type of research which involved administration of the VARK (Visual, Auditory, Read and write, and Kinesthetic) learning style questionnaire, Version 7.0. It was designed by Fleming ND (2010) to a group of medical students. The options in the questionnaire described different learning styles in different activities from where the students had to pick the most appropriate option(s). The answers were then collated to find out the different learning styles considering the selected options.

The questionnaires were distributed to all the students in the class, but the students had options after explanation to fill the forms or not. Only those that were correctly filled that were analysed. All members of the class who consented and returned completed forms were included in the study.

2.2 Population

This consisted of 500 level medical students of a higher institution.

2.3 Sample and sampling procedure.

The questionnaire was intended for all the members of the class. They were randomly distributed to all those who showed interest in completing them.

2.4 Data Analysis

The data collected was analysed in stages, first using descriptive statistical techniques like frequency count and simple proportions. These were further subjected to chi-square (χ^2) statistics

3. Results

One hundred and seventeen (117) medical students in the final year class, participated in the research. There were 50(42.7 %) males and 67 (57.3%) females. All the students preferred multiple modes of information presentation. However, while 10(8.5%) students preferred three modes, the rest 107(91.5%) preferred all the modes. (Table 1) shows the frequency of each learning style.

There was significant differences in the styles among the students.

($P < 0.05$, $\chi^2 = 16.919$). While most females 23(34.3%) preferred the read and write technique, most of the males 24(48.0%) preferred the preferred the kinesthetic method (Table 2). This difference was also statistically significant ($P < 0.05$, $\chi^2 = 9.432$)

4. Discussion

Studies have been conducted to assess the methods of learning in undergraduates to help the instructors on the most beneficial methods to use in teaching these students (Murphy et al 2004). The multimodality pattern of learning found in this study agrees with other authors (Heidi et al 2006, Jill et al 2007, Baykan et al 2007, Wehrwein et al 2007). Some in addition have found students preferring single modes (Heidi et al 2006, Baykan et al 2007, Wehrwein et al 2007), which is not the case with the current study. There was no record of any student preferring only one or two modes of information presentation.

Students whose learning styles were compatible with the teaching style of a course instructor tend to retain information longer, apply it more effectively, and have more positive post-course attitudes towards the subject than their counterparts who experience learning /teaching style mismatches Jill A et al (2007).

In the present study, students combine different methods though read and write was of the greatest frequency.

This may suggest that most students will learn effectively as long as the teacher provides a combination of auditory, tactile, kinesthetic, and read/write activities.

In our higher institutions, the traditional lecture method of teaching which has certain disadvantages are mostly employed. Some of these disadvantages are that, it is teacher centered, auditory method is emphasized and there is no provision for feedback from the students as the teaching progresses. This method does not take all the different modes of learning into consideration.

The knowledge of student learning style is important to educators because the presumption that all students learn in a similar manner will be dropped. This will make educators not to treat students alike. The implication of a particular learning style should be clear to the educators.

Learning style will also be seriously considered where a student does not meet the expected performance. Applying student learning styles to individual students, especially for struggling students will be of great

help to the students (Murray C 2011). Educators will consider varying modes of information presentation to students like use of multimedia projectors with a lot of illustrations incorporated, models, tutorials, discussion groups and taking practical sections more seriously. The tendency to repeating lectures during clinical sections will be avoided.

Based on our finding in this study, it is being recommended that instructors should address the issue of diverse learning among students with diverse teaching methods to make teaching/learning experience more effective. They can endeavor to assess the learning styles of individual students, especially those performing below expectation.

It is also vital for the students to understand their preferred learning styles to make necessary adjustment on their study techniques. This will help them to make the best use of the situation on ground, especially where the information being passed does not suit the preferred learning style.

5. Limitations

These included getting all the students to respond to the questionnaire satisfactorily and difficulty in identifying individual student's learning style because of the anonymity style adopted..

6. Conclusion

In conclusion, this study has shown that students have and combine different learning styles, and there is a significant gender difference. Instructors are advised to equally apply diverse teaching techniques to meet the students' needs. Though informative this finding is, a study where students are grouped according to their learning styles, and the suitable teaching technique applied is recommended to substantiate on the assumption that students learn best when the instruction technique applied suits their learning style.

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Table 1. Overall Frequency of each learning style option among the students

VARK Option	Frequency	No of students
V	265	108
A	657	109
R	785	117
K	694	116

Table 2. Gender influence on learning styles

Style	Male	Female	Total
V	0	4	4
A	10	24	34
R	16	23	39
K	24	16	40
Total	50	67	117

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