



## ASSESSMENT OF LEARNING STYLE PREFERENCE AMONG UNDERGRADUATE MEDICAL STUDENTS - USING VAK ASSESSMENT TOOL

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Received: November 07, 2012; Accepted: November 09, 2012

### Abstract-

**Aim and Objectives:** To assess the learning styles of the medical students of various medical colleges using VAK questionnaire as a tool.

**Methodology:** VAK questionnaire was given to First and second year students from 4 medical colleges in Tamilnadu and were instructed to answer the questionnaire along with their demographic profile. Sample size was 430 students. The completed questionnaire with the responses of the students was analysed. The number of students who preferred each mode of learning was divided by the total number of responses to determine the percentage of students in each category.

**Results:** The results showed that 6.5%, 12.6% and 10.3% of students only preferred the visual, aural and kinesthetic modes, respectively. A further analysis showed that 70.6% of preferred multiple learning styles.

**Conclusions:** The results of this study can provide useful information for improving the quality of the teaching and learning experiences of students. This study should be conducted widely to get more information about learning styles and to implement multimodal teaching to improve the overall quality of medical education.

**Keywords-** learning style, VAK

**Citation:** Anu S., Anuradha and Meena T. (2012) Assessment of Learning Style Preference among Undergraduate Medical Students - Using VAK Assessment Tool. International Journal of Medical and Clinical Research, ISSN: 0976-5530 & E-ISSN: 0976-5549, Volume 3, Issue 8, pp.-229-231.

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### Introduction and Objective

There are a large number of learning styles among Medical students, There is a quite a lot of interest amongst medical educators in identifying whether learners are predominantly visual, auditory or kinesthetic learners. Medical Students approaches to learning can be influenced by the perception that they gain from their learning environment. In preclinical years, medical students experience different learning environments like didactic lectures, group discussions, practical's and tutorials etc. To get the best out of students, teachers need to understand the learning strategies of students in order to facilitate them in their own learning style. It is better when medical teachers masters in identifying the learning style of the students and cater them according to the individual preference of medical students.

Medical education in India differ greatly from Western countries. Therefore, the purpose of the study was to categorize learning preferences of medical students using the latest English version

VAK questionnaire. To analyze the learning style distribution among the medical students of Four medical colleges in Tamilnadu and Puducherry. And it will also add some data to which modality users are achieving best standards in their career. This study also might give the difference in learning methods preferred between highly meritorious students who achieved medical seat through state selection and students achieved medical seat through other selection methods. This might give a discussion point for learning methods preferred between achievers and less achievers.

### Materials and Method

The study is an open label questionnaire based survey conducted in various medical colleges of Tamilnadu.

The study was conducted in four medical colleges of Tamilnadu and puducherry after getting permission from Institutional ethics committee. The study population is 430 (n = 430) first year and second year medical students, from various government and pri-

vate medical colleges of Tamilnadu and puducherry. Included both sex All the students who were willing to participate in the questionnaire was included in this study. The willing students were made to sit in a lecture hall and small introduction about the purpose and the objective of the study was given. Informed consent was taken from each students. Those who were no willing to participate in this questionnaire based analysis was asked to walk out freely without any pressures from investigators.

The VAK questionnaire developed by Victoria Chislett a specialist in performance psychology was used in this study. The VAK questionnaire was validated by peers and psychologist and accepted globally as a tool for assessing the learning styles of pupils. The questionnaire consists of three perceptual preferences (V, A and K). It consists of 30 multiple choice questions with three options each. The purpose of each question is to categorize the learning style preferences of respondents. Respondents can choose more than one option for identifying the preferences for multiple learning styles.

The printed form of VAK questionnaire was given to each students. The students were first explained about the purpose of the study, methodology, Instruction regarding how to fill up the form was also explained. Students filled their demographic and personal data in short, followed by the questions. The students were given enough time to fill the form, there was no time restriction for filling the forms. The answered forms were collected back and assessed according to keys given in VAK. The students were informed about their preferred learning style after the analysis. The analysis was calculated in percentage as the number of students who preferred each mode of learning was divided by the total number of responses to determine the percentage of students in each category.

**Results**

The results showed that 6.5%, 12.6% and 10.3% of students only preferred the visual, aural and kinesthetic modes, respectively. A further analysis showed that 70.6% of preferred multiple learning styles.

**Discussion**

This study was carried out to learn the learning preferences of medical students in Tamilnadu and puducherry to know the distribution of the learning style preferences of medical student In general, the findings of this study provide insight into the ways that our medical students learn. The most preferred learning style of the medical students in our study is Auditory, Visual and Kinesthetic. Students prefer variety of learning methods other than reading from text books.

When the students enters medical college students can be assessed on their preference in learning style using various scales and can be categorized according to their learning style and training can be given to them according to their own learning style. And also we can train them to adapt a style in learning in which they are weak. Most of the studies suggest that multimodal learners achieve lot compared to single modal learners. In our study also we found majority of our students are multimodal learners. Since most of our students have achieved a lot, since getting a medical seat itself a big achievement for the students. If this kind of assessment is made to all the learners, training is adopted in their own preferred

style the achievement among the students will be more and focused.

This study also gives scope for understanding the learning styles of the students of various age group. We can also compare with various other parameters like age, sex, students from various socio economic back grounds, various schools, students from schooling on mother tongue and other language, hostel grown students and days scholars and their change in the learning styles. This questionnaire can also be used to assess reversibly what style of learning is adapted by achievers and non achievers. We can also assess the learning styles of the students of the same students after one or two years to assess the change in their learning styles as they get into clinical subjects. Students can be advised to learn in different styles of learning for better achievement.

This learning style also gives insight into assessment styles preferred in medical colleges. Students who excel in particular styles can be assessed with the same styles to explore them more positively. A student good in read and write cannot be great in kinesthetic practical, so if the students are assessed with their preferred styles of learning the outcome may be different.

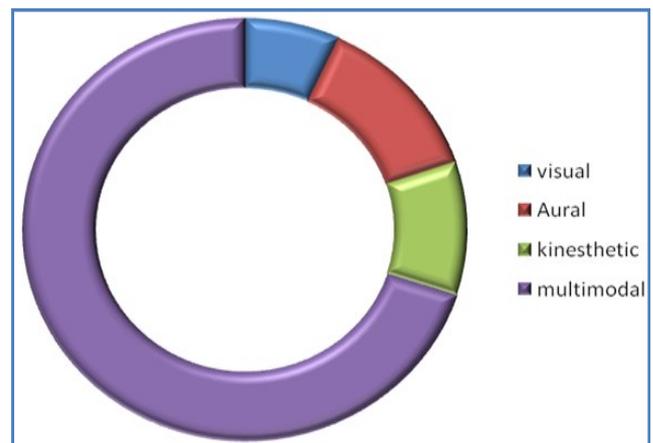
Though multimodal assessment is available in medical curriculum, importance for viva is less compared to theory or practical, It will be better if there is equal distribution in all the sections of assessment.

[Table-1] showing percentage of different learning styles among the first year and second year medical students.

*Table 1- Different learning styles among the first year and second year medical students*

Learning style	Percentage Total (n=430)
visual	7% (n=30)
aural	12% (n=52)
kinesthetic	10.3% (n=44)
Multimodal	70.7% (n=304)

[Fig-1] Chart showing distribution of different variety of learners among medical students.



**Fig. 1-** Distribution of different variety of learners among medical students.

**Conclusions**

The studies like this will help to reveal the different types of learners among the medical students. The data from this studies sug-

gest the teachers, institutions to adopt multimodal teaching and learning environment

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