



# Approach to learning of medical students in a Caribbean medical school

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## Objectives

To study the learning styles of students and note the association of these with their demographic characteristics, if any.

## Introduction

Learning style of students has been defined as the manner in which and the conditions under which learners most efficiently and effectively perceive, process, store and recall what they are attempting to learn.<sup>1</sup> Learning styles vary among individuals and have been classified into four main categories, visual, auditory, read-write and kinesthetic (VARK).<sup>2</sup> Visual learners have a preference for seeing or visualizing, auditory learners prefer learning through listening, read-write learners learn best by reading and writing words while kinesthetic learners learn best by doing.<sup>3</sup> The VARK questionnaire was used to assess the learning styles of students. Understanding the learning style of students can help curriculum planners design and implement learning activities which can lead to more effective student learning. Student motivation and performance improves when instruction is adapted to their learning styles.<sup>4</sup>

## Methods

The study was conducted among first to fourth semester premedical students and first to fourth semester undergraduate medical (MD) students during November 2013. Version 7.2 of the VARK questionnaire was used. Age, gender, semester of study and nationality of the respondents were noted. The data was analyzed using SPSS version 20 for Windows. The mean scores among different subgroups of respondents were compared using appropriate statistical tests ( $p < 0.05$ ).

## Results

Ninety-one of the 108 students (84.26%) completed the questionnaire. The median visual, auditory, read-write and kinesthetic scores were 3, 5, 4 and 5 respectively. The median auditory score was significantly higher among Premedical 2 and 4 students. Forty-three respondents (47.2%) preferred a unimodal learning style while 48 (52.7%) used multiple learning styles. The most preferred learning style was kinesthetic followed by auditory and read and write. Among the most preferred multimodal learning styles were the combination of auditory, read and write and kinesthetic (ARK), auditory and kinesthetic and read and write and kinesthetic.

## Conclusions

Students at XUSOM, Aruba used a variety of learning styles. Premed 2 and 4 had higher auditory learning scores. No other significant differences in scores among various subgroups of students were seen. A large number of students used kinesthetic learning either alone or in combination with other learning styles. Understanding student learning styles can make teaching-learning more effective. Similar studies are required in other offshore Caribbean medical schools.



Table 1: Demographic characteristics of the respondents

Characteristic	Number (percentage)
Semester	
Premed 1	16 (17.6)
Premed 2	3 (3.3)
Premed 3	6 (6.6)
Premed 4	3 (3.3)
MD 1	13 (14.3)
MD 2	15 (16.5)
MD 3	20 (22)
MD 4	15 (16.5)
Gender	
Male	56 (61.5)
Female	35 (38.5)
Age	
<20 years-old	23 (25.3)
20-25 years-old	43 (47.3)
>25 years-old	24 (26.4)
Nationality	
American	36 (39.6)
Canadian	13 (14.3)
Others	42 (46.2)

Table 2: Median scores of different learning styles among various subgroups of respondents

Characteristic	Median visual score	P value	Median auditory score	P value	Median read and write score	P value	Median kinesthetic score	P value
Semester								
Premed 1	3		5		5		4	0.85
Premed 2	2.5	0.415	6	0.034	5	0.957	5	9
Premed 3	6		4.5		4.5		4.5	
Premed 4	3		6		6		7	
MD 1	3		5		5		5	
MD 2	3		4		4		4	
MD 3	3		3		3		5	
MD 4	3		4		4		5	
Gender								
Male	3	0.280	4.5	0.900	4	0.960	5	0.71
Female	3		5		4		5	5
Age								
<25 years	3	0.492	5	0.558	5	0.464	5	0.38
20-25 years	3		4		4		4	6
>25 years	3		4		4.5		5	
Nationality								
U.S	3	0.778	4	0.593	4	0.576	4	0.66
Canadian	3		4		4		5	9
Others	3		5		4		5	

Table 3: Frequency of different learning styles among the respondents

Learning Style	Number (percentage)
Unimodal	43 (47.2)
Kinesthetic	16 (17.6)
Auditory	12 (13.2)
Read and Write	12 (13.2)
Visual	3 (3.3)
Multimodal	48 (52.7)
ARK	9 (9.9)
AK	9 (9.9)
RK	7 (7.7)
VRK	5 (5.5)
AR	5 (5.5)
VAR	3 (3.3)
VK	3 (3.3)
VARK	2 (2.2)
VA	2 (2.2)
VR	2 (2.2)
VAK	1 (1.1)



## References

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