



VARK DEPARTMENT OF ORTHOPEDIC DENTISTRY.

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ABSTRACT

Each student has their own learning style to get new information. This study was conducted to assess the learning style preferences of undergraduate dental students.

Introduction: In 1979, Keefe defined a learning method as “a set of characteristic cognitive, affective, and psychological factors that serve as relatively stable indicators of how a student perceives, interacts with, and reacts to the learning environment.” The learning style is currently considered as an adaptation of various methods of obtaining education, systematization and refinement of information. Learning styles include different ways of learning, especially for one person, that are supposed to allow them to gain knowledge in the best possible way. A quantitative difference was reported in the way students prefer to receive, learn, and remember new information each day. Learning methods can be evaluated in a variety of ways, among which the visual, auditory, and kinesthetic Neil Fleming Model (VARK) is one of the most commonly used methods for evaluating education. Visual, auditory, readable, kinesthetic-this is short for VARK. It affected 4 sensory modalities of learners, which are classified as visual (V), auditory (A), reading / writing (R), and kinesthetic (K) learners. Visual (V) Students prefer to get information through pictures and use visual aids. Auditory (A) learners learn by listening to knowledge. Read / Write (R), where students recommend their preferences for attention-grabbing, text-based knowledge. Students achieve kinesthetic (K) mode through movement, touch, and performing actions.

The mode of knowledge acquisition by students can be unimodal or multimodal, depending on the use of single mode or multiple learning mode, respectively. Familiarizing students with their mode of getting information would make them better beginners. Knowledge about undergraduate students ' educational methods can also help educational institutions learn more about students, teaching methods, and help them develop effective

teaching skills to adapt to their students, learning requirements, and encourage better teaching. The aim of the study was to evaluate the teaching methods of 1st-year dental students and interns.

MATERIAL AND METHOD

This study was conducted among undergraduate dental students in September 23 2023. The study participants included 40 first-year dental students and 55 dental interns. The VARK questionnaire VARK was written in Uzbek and distributed to dental students to determine their preferred method of study. The VARK Study Questionnaire consists of 16 multiple choice questions, each containing four options. Study participants were instructed to choose more than one option if more than one answer was relevant. Responses for the VARK modality VARK were calculated in accordance with the recommendation mentioned on the VARK website VARK. Completely completed student questionnaires were collected and the distribution of VARK training modes was calculated. Preference data was calculated by summing all "V" (visual) responses, all "A" (auditory) responses, all "R" (read / write) responses, and all "K" (kinesthetic) responses. Accordingly, the training modes were classified as unimodal (V, A, R, or K), bimodal (VA, VR, VK, AR, AK, and RK), trimodal (VAR, VAK, VRK, and ARK), or quadromodal (VARK).

$P < 0.05$ was considered statistically significant. Mean scores with standard deviations (SD) were calculated for each VARK mode VARK. T-The Student's T-test was used to compare the average VARK score VARK between categories.

Results

A total of 95 dental students of both sexes participated in this study. Structure of responses collected about the learning style among the category of 1st-year dental students and interns as shown in (Table 1), the majority of 1st-year dental students chose multiple learning modes, almost 50% of which were four-modal. 55% of dental interns chose a single training mode; the kinesthetic training mode was the most common. Comparison of the average VARK scores VARK among 1st-year undergraduate students and interns showed that the average V and A scores were significantly higher for 1st-year students than for intern students (Table 2).

Table 1: Distribution of dental students with preferred learning styles.

	n (%), 1st year (n=40)	n (%), Intern (n=55)
Singlemodal	20 (8)	5.4 (3)
Bimodal	40 (16)	54 (30)
Trimodal	30 (12)	40 (22)
Four-modal	10 (4)	

Table 2: Comparison of average VARK scores VARK студентов 1of 1st-year dental students and intern students.

VARK Mode	Students (n=40)		(n=55) Trainees		p
	%	SD	%	SD	
V	21	3.21	23.5	3.12	0.05
A	22.5	3.18	21.4	2.55	0.002

R	31.5	2.92	23.6	2.56	0.871
K	25	2.99	31.5	3.20	0.35
SD: Standard Deviation, V: Visual, A: Audio, R: Read-Write, K: Kinesthetic					

Discussion

Teaching methods in the modern era can vary for each student: A learning style is a biologically and developmentally feasible mode of personal characteristics that creates the same teaching method that is effective for a few and ineffective for others. The modern education system attaches great importance to how students learn. The VARK questionnaire is most often used by observers to study their preferred teaching methods in the education system. Visual learners mostly prefer graphs, brochures, art diagrams, graphic design, 3-D pictures, etc., while auditory learners like discussions, seminars, lectures, debates, and conversations as part of the learning method. Students who are engaged in vision and hearing have a liking for information that someone has heard or spoken by famous personalities. Students who are engaged in reading and writing prefer textbooks, essays, taking notes, reading bibliographies, articles on web pages, reading newspapers and printed handouts. Reading mode students like knowledge in the form of words. Kinesthetic students like examples in the workplace, in clinical laboratories, and in practical seminars.

They pay special attention to getting an education through independent practice and experience. People who do not give special preference to any of the above methods are called multimodal. They combine all teaching methods. In 1998, Miller stated that when students are educated in the most likely mode of learning for them, their learning skills improve. Some students may have a lack of education due to the usual instructive lectures. However, the application of new teaching methods that include a kinesthetic learning mode usually helps to improve the quality of learning for all types of students. The majority of 1st-year dental undergraduate students in the present study were multimodal novices. Training multi-modal students can be challenging for educational service providers. Multimodal students include bimodal, trimodal, and quadromodal students. Such students may have educational preferences in combinations of VA, VR, VK, AR, AK, RK, VAR, VAK, VRK, ARK, and VARK. Consequently, it would be difficult for a teacher to give credit to all 4 ways of teaching so that students can comfortably understand the topics, although these beginners can easily switch to 1 way of presenting information.

A slight increase in average vision (V) and hearing (A) scores in 1st-year dental students was also found in the present study, which was consistent with the study. This suggests that lectures with PowerPoint presentations containing flowcharts, illustrations, pictures, and audio-visual demonstrations of various subjects will meet the requirements of most first-year undergraduate dentists and improve their understanding. This study would help the education provider to accept the educational differences that exist between dental professional students and help address some of these differences by suggesting multiple ways of educational approaches to reach the majority of students and enhance their learning skills. The small sample size was a limitation of the study, and two opposing groups of the dental curriculum were included. Therefore, further research should be conducted with a large sample size that includes students of the dental curriculum throughout the year.

Conclusion

Education is a process that helps a person acquire knowledge. In the present study, students came with different learning methods, but preferred kinesthetic ones. The educational service provider should inform students about their educational preferences in lectures; this would help in developing and understanding the requirements of dental students and enable them to develop better skills so that they can perform well in their studies, as well as help them improve their teaching skills and personality. If an educational provider receives information about students' learning preferences in the initial stages of a professional course; stick to the teaching style, learning can be much easier and more interesting for students. Similarly, if a dental student is accepted with their own learning style, adapting to the new professional course environment will be easier and academic performance will improve.

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