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# Preferable Learning Styles among Nursing Students in The University of Kufa: A Cross-Sectional Study

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**Abstract:** The present study aimed to identify preferred learning styles among the nursing students in Kufa University and investigate the associations of their academic performance with the learning preferences. Fifty percent of a random sample of undergraduate nursing students (every other student) from stage 11, 111 and IX were requested to participate in this descriptive cross-sectional study. An Arabic version of the questionnaire was used to examine the learning preferences. A total of 150 completed interview questionnaires. Results of the present study indicate that the most common learning preferences among the nursing students were visual (42%) followed by Auditory (26%), and kinesthetic (23.3%) learning preferences, and (8.7%) prefer two and more learning styles. There was association between gender and learning preferences ( $p > .05$ ). different association between level of academic performance and learning preferences ( $p > .05$ ). The present study concluded that the visual, active, and styles are the commonest learning preferences among the nursing students. The nursing educators should emphasize the use of this information in their teaching methods to improve learning skills among the nursing students.

**Keywords:** : Learning Style Preferences, Nursing Students, Visual Style, Auditory Style, Kinesthetic Style

## 1. Introduction

Learning is a dynamic, lifelong process. Individuals involved in the process of learning often develop attitudes and behaviors which determine preferences and outlook in the way they learn. These preferred ways are called learning styles (Erol Gurpinar, Hilal Bati, Cihat Tetik 2011).

According to National Training Laboratories of Maine, United States, an average student's retention rate varies from 10 to 90% and it was found that students' learning preferences have strong impact on their knowledge retention. Learning style is a student's way of responding to, and using, stimuli in the context of learning. Awareness of the predominant learning style will enable the facilitators to modify teaching methods and make the educational experience more effective (Saadi Ibrahim Abdu, 2012).

Understanding learning styles could be considered as a key component of managing classroom teaching strategies. Students whose learning styles are compatible with the teaching style of a course instructor tend to retain information longer, apply it more effectively, and have more positive postcourse attitudes toward the subject (Ahmadi S-F, Baradaran HR, Ahmadi E, 2015).

Keeping in view the learning style, one should be aware of his/her preferred learning style that helps to adopt appropriate teaching learning strategies which finally enhances

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confidence and motivation in learner and learning would become a lifelong experience. This study is delimited to B.Sc. Nursing third year students in selected colleges of nursing.

The majority of healthcare workers have good opinions regarding evidence-based medicine, they lack the knowledge and expertise needed to put it into practice. Often, clinical procedures with proven efficacy are not carried out by health science students. The familiarity, awareness, and attitude of health science students toward EBM have been examined in a number of studies (Parve S, etal 2016).

Identifying the dominant learning preferences in nursing students will help educators learn more about their students, improve their teaching styles, and adapt them to different learning styles (Alharbi et al., 2017; Gonzales et al., 2017; Pai et al., 2013; Zhang & Lambert, 2008).

Learning is a unique process for each individual. The different ways in which each student uses the stages of the learning cycle explain the individual differences in learning. This study was conducted to determine the learning styles and attitudes of nursing students towards learning. The main aim of nursing education is to train competent nurses who have cognitive, social, emotional, and psychomotor skills and are able to provide holistic care and have lifelong learning skills. To achieve these goals, it is important to design an education process that focuses on the learning styles of students rather than just traditional teaching methods. Having knowledge about students' learning styles contributes positively to learning skills and attitudes towards learning.

#### **Importance of the study**

Learning styles are viewed as distinctive cognitive, affective, and psychological patterns of behavior that work as comparatively stable indications of how students view, engage with, and react to their learning environment. A person's normal and preferred method of taking in, processing, and remembering new knowledge and abilities is referred to as their learning style. (Dagne AH, Beshah MH, Kassa BG, Dagnaw EH 2021).

Learning styles, as they are commonly known, reveal a person's preferred method of learning or information acquisition. The manner in which students achieve the program's aims and objectives is also influenced by their learning preferences. The initial research on learning styles has had a significant impact on learning preferences in education, despite the need for more study. Therefore, the researcher aims to assess learning styles are essential for undergraduate nursing students and assist in their improvement (Abera T,etal 2016).

#### **Evaluating The Learning Style Questionnaire**

The modality type with the highest score indicates your preferred learning channel. The higher the score, the stronger the preference. If you have relatively high scores in two or more sections, you probably have more than one strength. If the scores in the sections are roughly equal, you probably do not have a preferred learning channel; you are a multi-sensory learner.

The following table summarizes the observable characteristic indicative of the three learning styles. It provides an informal means of assessing your preferred approach to learning.

**Table 1.** Comparison of Learning Style Characteristics.

Modality	Visual	Audistory	Kinesthetic (Hands-On)
<b>Preferred Learning Style</b>	Learns by seeing or watching demonstrations	Learns through verbal instructions from self or others.	Learns by doing and direct involvement.

<b>Spelling</b>	Recognizes words by sight; relies on configurations of words.	Uses a phonics approach has auditory word attack skills.	Often is a poor speller; writes words to determine if they “feel” right.
<b>Reading</b>	Likes description; sometimes stops reading to stare into space and imagine scene; intense concentration.	Enjoys dialogue and plays; avoids lengthy descriptions; unaware of illustrations; moves lips or sub-vocalizes.	Prefers stories where action occurs early; fidgets while reading; not an avid reader.
<b>Handwriting</b>	Tends to be a good, particularly when young; spacing and size are good; appearance is important.	Has more difficulty learning in initial stages; tends to write lightly.	Good initially, but deteriorates when space becomes smaller; pushes harder on writing instrument.
<b>Memory</b>	Remember faces, but forgets names; writes things down; takes notes.	Remembers names, but forgets faces; remembers by auditory repetition.	Remembers best what was done, but not what was seen or talked about.
<b>Imagery</b>	Vivid imagination; thinks in pictures; visualizes in detail.	Sub-vocalizes; imagines things in sounds; details are less important.	Imagery not important; images that do occur are accompanied by movement.
<b>Distractability</b>	Unaware of sounds; distracted by movement.	Easily distracted by sounds.	Not attentive to visual or auditory presentation so may seem distracted.
<b>Problem Solving</b>	Deliberate; plans in advance; organizes thoughts by writing them; lists problems.	Talks problems out; tries solutions verbally or sub-vocally; talks self through problems.	Attacks problem physically; impulsive; often selects solution involving greatest activity.
<b>Response To Periods Of Inactivity</b>	Stares or doodles; finds something.	Hums, talks to self, or talks to others.	Fidgets or finds reasons to move.

<b>Response To New Situations</b>	Looks around or examines structure.	Talks about situation; discusses pros and cons of what to do.	Tries things out; touches, feels or manipulates.
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## 2. Materials and Methods

**Design :** descriptive cross-sectional study. Descriptive cross-sectional studies are useful for indicating preliminary evidence for a causal relationship.

**Sampling :** Systematic Random sample

**Setting:** faculty of nursing , university of Kufa

**Duration:** Three months extended from 1st Feb. to 30th April 2023

### Survey Instruments

An Arabic version of the questionnaire was used in this survey to examine the preferred learning styles among undergraduate nursing students , it consist of two parts Part One: Demographic Survey, second part consist is preferable learning style with a 24-itemself-report scale with a three-point response choice ( 5 points for OFTEN, 3 points for SOMETIMES and 1 point for SELDOM.

### Statistical Analysis

Data was analyzed using the Statistical Package for the Social Sciences (SPSS, version 24). Descriptive statistics including frequency and percentage were calculated to characterize the study sample. The Pears on Chi-Square analysis was done to investigate association of participants' learning preferences with demographic variables including gender, academic achievements. A level of statistical significance was set at  $p$  value.

### Ethical Considerations

Study protocol was submitted for evaluation by experts and was approved by the scientific and research committee .Access to the class was allowed by heads of departments. An informed verbal consent was obtained from each respondent after providing sufficient information on the purpose of the study. To ensure the confidentiality of respondents their names were not written on the questionnaire. All interviews were made individually to keep privacy.

## 3. Results

**Table 2.** Student stage .

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Second Stage	50	33.3	33.3	33.3
	Third Stage	50	33.3	33.3	66.7
	Fourth Stage	50	33.3	33.3	100.0
	Total	150	100.0	100.0	

**Student stage** of (second stage in Frequency 50 and Cumulative Percent 33.3 )  
(third stage in Frequency 50 and Cumulative Percent 66.3)  
(fourth stage in Frequency 50 and Cumulative Percent 100.0).

**Table 3.** Student gender.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	53	35.3	35.3	35.3
	Female	97	64.7	64.7	100.0
	Total	150	100.0	100.0	

**Student gender** (Male in Frequency 53 and Cumulative Percent 35.3 )  
(Female in Frequency 97 and Cumulative Percent 100.0)

**Table 4.** Preferable Learning Style.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Auditory	39	26.0	26.0	26.0
	Visual	63	42.0	42.0	68.0
	Kinesthetic	35	23.3	23.3	91.3
	More Than One Style	13	8.7	8.7	100.0
	Total	150	100.0	100.0	

**Preferable Learning Style**

(auditory in Frequency 39 and Percent 26.0and Valid Percent 26.0and Cumulative Percent 26.0)

(visual in Frequency 63 and Percent 42.0 and Valid Percent 42.0and Cumulative Percent 68.0 )

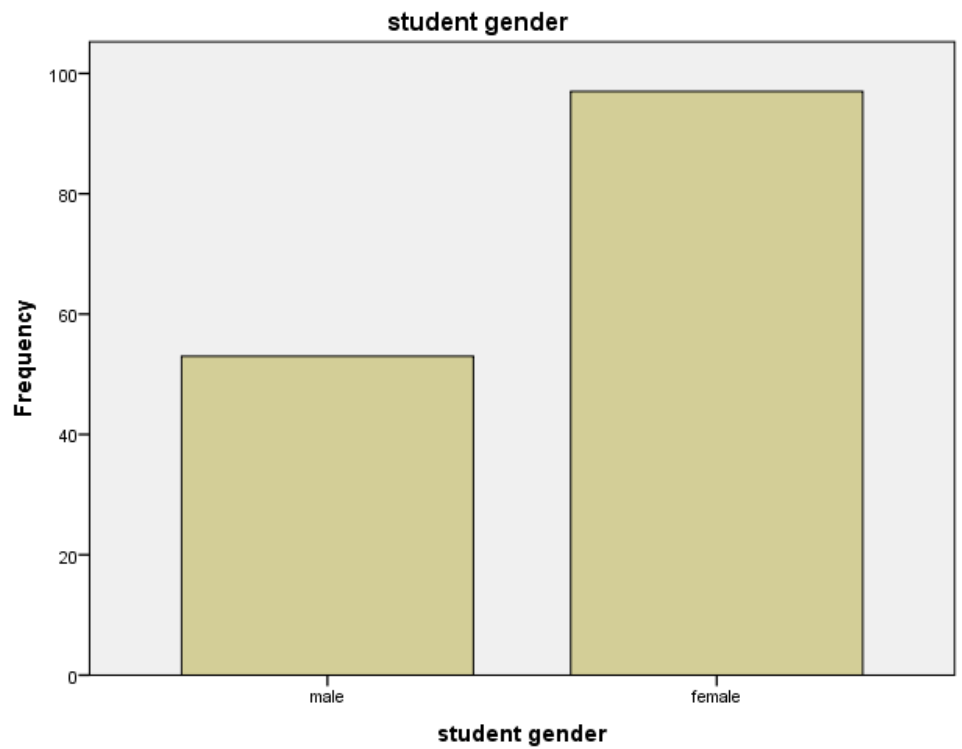
(kinesthetic in Frequency 35 and Percent 23.3 and Valid Percent 23.3 and Cumulative Percent 91.3 )

( more than one style in Frequency 13and Percent 8.7 and Valid Percent8.7 and Cumulative Percent 100.0).

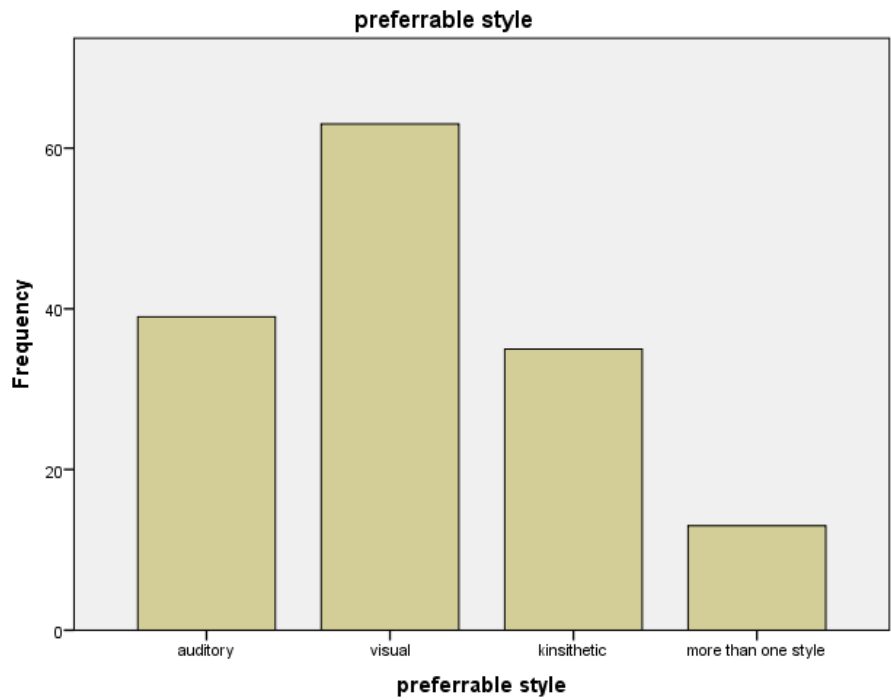
**Table 5.** The students' academic level.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Accepted Level	3	2.0	2.0	2.0
	Medium Level	20	13.3	13.3	15.3
	Good Level	75	50.0	50.0	65.3
	Very Good Level	40	26.7	26.7	92.0
	Excellent Level	11	7.3	7.3	99.3

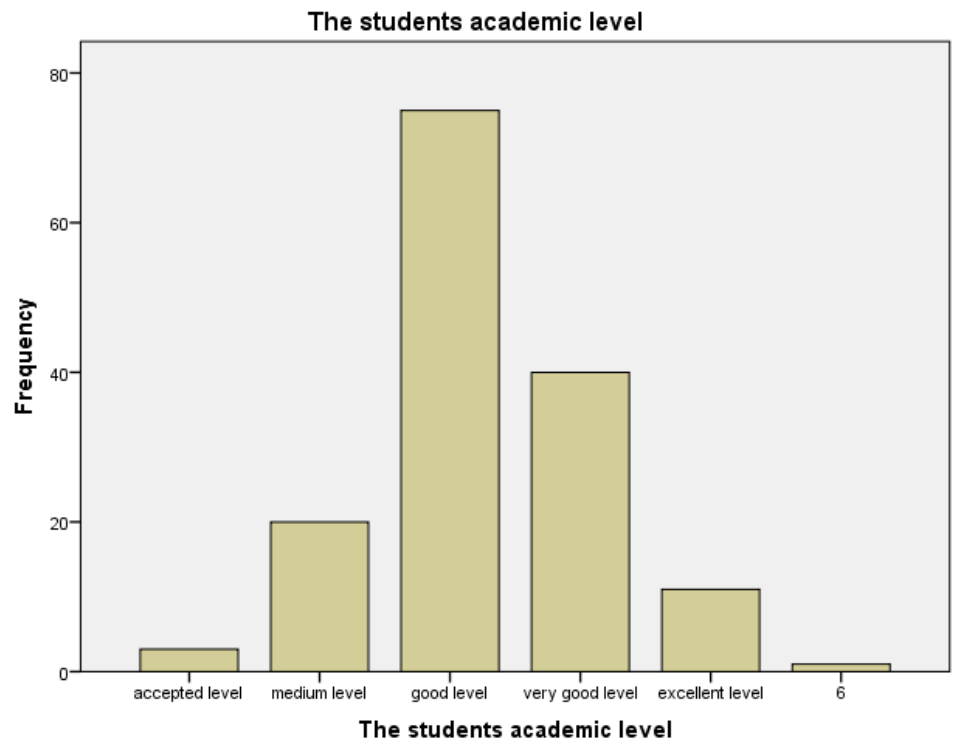
6	1	.7	.7	100.0
Total	150	100.0	100.0	



**Figure 1.** Student gender.  
(Frequency in the male 53 and female 97).



**Figure 2.** Preferable style.  
(Frequency in the auditory 39 and visual 63 and kinesthetic 35 and more than one style 13).



**Figure 3.** The student academic level.

(Frequency in the accepted 3 and medium 20 and good level 75 and very good level 40 and excellent level 11).

**Table 6.** Statistics.

		Student Stage	Student Gender	Preferable Style	The students' academic level	Number of seminars
N	Valid	150	150	150	150	150
	Missing	0	0	0	0	0
Sum		300	247	322	489	141
Percentiles	25	1.00	1.00	1.00	3.00	1.00
	50	2.00	2.00	2.00	3.00	1.00
	75	3.00	2.00	3.00	4.00	1.00

**Table 7.** Preferable learning style.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Auditory	39	26.0	26.0	26.0
	Visual	63	42.0	42.0	68.0
	Kinesthetic	35	23.3	23.3	91.3
	More Than One Style	13	8.7	8.7	100.0
	Total	150	100.0	100.0	

Table 8. Number of seminars.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	25	16.7	16.7	16.7
	1	109	72.7	72.7	89.3
	2	16	10.7	10.7	100.0
Total		150	100.0	100.0	

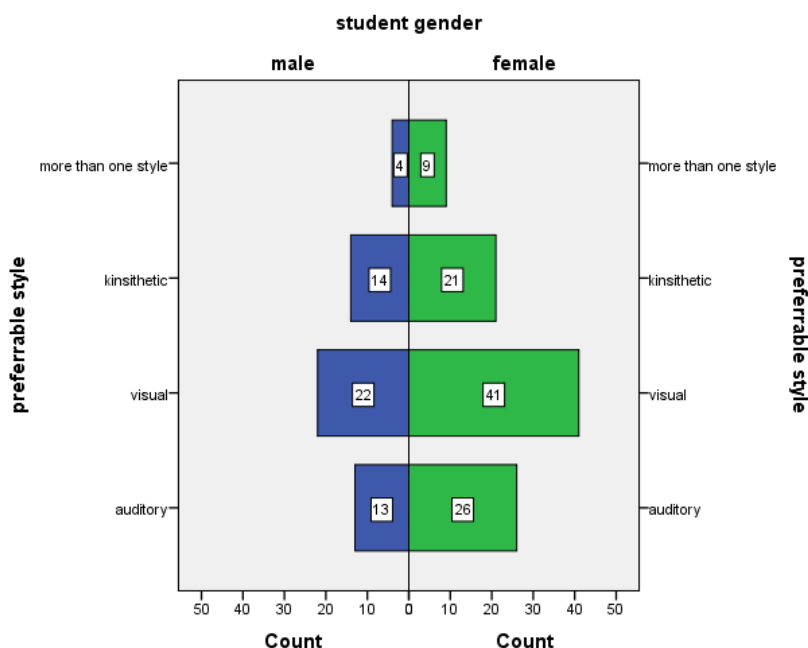


Figure 4. Student gender.

Preferable style

More than one style (male 4 and female 9)

Kinesthetic ( male 14 and female 21)

Visual (male 22 and female 41)

Auditory (male 13 and female 26)

#### 4. Discussion

Learning is the process in which the learner takes an active role. Thus, the student recognizes and learns their strengths and weaknesses. Each individual learns how they realize and perceive the learning process in an individual learning style, (8.66%) of students prefer multiple learning styles (ie more than one type).

The majority of students have a preference for one-way learning (91.3%) and that interfere with The study showed the most commonly used methods in nursing undergraduate education are question-answer, slide shows, in-class discussion methods, video, role-play, and simulation. It is known that the education method chosen in the learning process appeals to more than one sense, facilitating permanent learning (Filiz & Dikmen, 2017; Shah & Gathoo, 2017). The learning styles of the nursing students participating in the study also differ, and it can be said that they provide learning by using more than one learning style. For this reason, students' learning can be supported by using different methods in nursing education.

The most preferred pattern for students is visual (42%) , Kinesthetic (23.3%) in The current study's findings are consistent with those of (Alharbi, Homood, et al., 2017), who carried out a cross-sectional survey to look at nursing students' preferred methods of learning at King Saud University in Saudi Arabia. They found that among their



participants, visual learning was most prevalent, followed by active learning (Kinesthetic). Kinesthetic learning is appropriate for nursing practice in a skill lab or hospital because it helps students imitate real-world scenarios and develop soft skills like critical thinking, problem-solving, and communication. In contrast the (Shah & Gathoo, 2017; Yassin & Almasri, 2015) find that expectations towards learning and openness to learning of students with verbal learning styles were more positive than those with visual learning styles.

While students with a visual learning style perform the learning process with visual messages such as the instructor's body language and facial expressions, students with a verbal learning style learn by listening to verbal expressions and in class discussions.

## 5. Conclusion

Known for teaching methods that have positive impact on the student and professor at the Faculty of Nursing. Where the student determines his preferred method to help the professor in the use of strategies that fit the student to get the most benefit possible.

In this research, due to the close relationship between the preference of the types of teaching methods, this means that students in nursing need a variety of teaching methods to reach the greatest benefit of the scientific material.

## Recommendation

The educational world needs to understand the importance of knowing the patterns of education and its role in achieving academic success.

It is important to study the teaching patterns and knowledge of the methods used for students of the Faculty of Nursing and know the quality of the study where the academic student prefer one style or prefer multiple patterns, to improve education and increase knowledge and interest. It is important to note that obtaining a kinesthetic pattern on the lowest ratio between patterns may be a poor indicator. It is important that the student prefers this pattern because he or she needs a great deal to learn to practice nursing work in the laboratory. Learning this pattern increases the skills of the nurse and the knowledge of dealing with different diseases and situations in the health institution and increases the confidence of the nurse himself

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