

# Examining the preferred learning styles (PLSs) of nursing and midwifery students of Urmia University of Medical Sciences

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## Abstract

**Introduction:** Education happens at universities to improve the level of students' academic achievement, and concerning this, paying attention to the styles by which students learn plays a crucial role in improving the quality of education and achieving educational goals. The present study was conducted to determine PLSs of nursing and midwifery students in Urmia University of Medical Sciences.

**Methods:** This study was conducted as descriptive cross-sectional with participation of 100 second year (and students of later years) students in nursing and midwifery by census method. Data was gathered using VARK learning style questionnaire whose validity and reliability were confirmed and analyzed by SPSS 16 and descriptive and inferential statistics.

**Results:** The priority order of students' PLSs was so that the visual style was the most common, and kinesthetic learning style was the least common style used by the students. Other results indicated no statistically significant relationship between learning styles with gender, field of study and students' interest in their field of study ( $P < 0.05$ ).

**Discussion and Conclusion:** Visual styles are the most common learning style for nursing and midwifery students. Accordingly, using visual education media can improve students' learning, so it is recommended that professors apply evidence-based teaching so as to improve the quality of education at the nursing and midwifery faculties.

**Key words:** learning style, nursing students, midwifery students, education

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## Introduction

The purpose of nursing education is preparing students for professional work (1). Training and learning play a significant role in the development of nursing skills and the proper implementation of care and more understanding of this point leads to more targeted and consistent behavior (2). In line with this learning, in accordance with their individual differences, students process the information in various ways (3). These practices have an important effect on the outcomes of educational activity as well (2). Hence, it should be said that effective learning and gaining nursing expertise will not be reached regardless of how students properly learn and what is today called students' learning style.

Learning style is one of the main processes of education (2) and is a part of individual differences (4) affecting learning (5). Learning style is a natural, habitual, unique and persistent preferred method used to absorb, process, and maintain information and new skills (6). Awareness of the students' learning style can change and adjust educational methods in line with these styles and result in higher educational efficiency (7). Thus, their identification and guidance can play an important role in selecting teaching methods and imparting concepts and knowledge to learners and ultimately improving the level of education (8). This comes from the fact that lack of proper learning of some learners, despite the presence of the best teachers, can show a lack of fit between teaching and learning styles (9). Thus, outcomes of learning will improve if learning is in line with students' learning styles (10). Awareness of students' learning styles can also directly or indirectly contribute to positive points such as enhancing learning motivation in students (11), organizing the learning environment, teachers' interaction with students (12), eliminating educational system failures (13), helping improve the teaching structure with the tendency toward students' individual choices, and ultimately the proper development of educational approaches (8).

Determining the learning style in the majority of studies in Iran has been conducted using Kolb Learning Style Inventory, and maybe, it is the justification why learning style and its related concepts are not clearly explained and the variables are not fully recognized in Iranian nursing education (2). Today, one of the newest ways to determine learning styles is VARK questionnaire, developed by Lincoln University of New Zealand in 1998. VARK approach is based on three principles: everyone has their own styles, the learner's motivation is increased when different learning styles of learners are taken into account, and educational concepts are learned through utilization of senses and different perceptions of educational content (8). Accordingly, students' learning styles are divided into visual, aural, reading-writing, kinesthetic, and sometimes a combination of the mentioned styles (8, 14).

The results of various studies have given various results about the common styles of student learning, so that in some studies, the preferred style of students is visual (7,

15, 16), aural (6, 17), kinesthetic (18) and reading-writing (8). In some other studies, student PLS is not a particular style but a combination of them (19, 20).

The diversity of the results shows the importance and necessity of conducting studies to measure the learning style of students of each university. This becomes more prominent as promoting the quality in the design and presentation of education requires attention to the learner's learning style (7). Accordingly, today, in many colleges around the world, students' learning styles assessment is done as a necessary requirement for the awareness of the professors of the students' capacities (6). Thus, our study was aimed at determining the learning styles of nursing and midwifery students of Urmia Nursing and Midwifery Faculty, so that its results could be used to improve the quality of nursing education.

## Method

The present study was descriptive cross-sectional where 100 students of nursing and midwifery of Urmia University of Medical Sciences were selected from among third and higher terms of nursing and midwifery in census form and studied as the sample. VARK questionnaire was used for collecting data, where learning styles are specified in four categories: Visual, Aural, Read & write, and kinesthetic. The questionnaire consisted of 16 four-option questions, where each option represented one of the learning styles: A was related to visual, B to aural, C to reading-writing, and D to kinesthetic styles. After submitting the questionnaires to the students, the required guidance was given to them. Students were completely free to choose options, so that they could select 1, 2, 3, and even four choices. Ultimately, given the priorities selected, the scores for the options of each style were summed up and a final score was recorded for each style and prioritization of the styles was determined, so that a higher score in each of the learning types showed more tendencies of the students towards that style. To determine the validity of the questionnaire after its translation and resolving the ambiguities of translation, we used content validity and the views of faculty members. The reliability of the questionnaire was estimated using Cronbach's alpha coefficient as 0.9 after completion by 15 students. Ultimately, data was analyzed using SPSS 16 and descriptive and inferential statistics. At the level of descriptive statistics, mean and standard deviations were used to show the central tendency indices with independent t-test used at inferential statistics.

## Results

From among 100 students among whom the questionnaires were distributed, 80 students returned them - 80% of the questionnaires were returned completed - of whom 54 were females (67%) and 26 were males (33%). The mean and standard deviation of the styles were as follows: aural learning style,  $33.5 \pm 4.3$ ; reading-writing,  $30.7 \pm 3$ ; kinesthetic,  $29.4 \pm 6$ , and visual  $42.5 \pm 5.5$ , and according to the results of t test the differences between them were statistically significant. Thus, the results indicated that

the most frequent learning style was visual and the least kinesthetic. No significant differences were found between nursing and midwifery students in determining the relationship between learning styles and student's field of study. Moreover, there were no significant differences between learning styles concerning students' gender ( $P>0.05$ ). According to non-parametric statistical test of Chi-square, there was no significant difference between learning styles and students' interest in their field of study ( $P<0.05$ ).

## Discussion and Conclusion

The order of the learning styles of nursing and midwifery students was visual, aural, reading-writing and kinesthetic. This means that the common learning style of nursing and midwifery students in Urmia is the visual style where learners learn the content better by viewing and presenting information such as viewing images, symbols and diagrams (7, 14). The level of human learning by sight is more than the other five senses (about 75%). Students' study and learning methods are based on the use of visual sense, and they learn the concepts better presented in form of conceptual maps, figures, diagrams, models, and replicas. Thus, the student's preferred style is visually oriented (7). The common style of students in various studies is a diverse range of all four existing styles. In a study completely in line with the present result and in the study of Amini, PLSs of most medical students with a mean score of  $39.26 \pm 6.87$  was visual and the least used style was kinesthetic (7).

In the present study, there was no significant difference between students' learning styles and gender. This finding was consistent with the results of studies in this regard (6, 7, 23). Perhaps no significant difference here is because most of the time in a school, various lessons are taught to both students of the same sex in the same way, and this is school education having a great role in student's PLSs, and then the university cannot effect much change

on it. (6). This reason can further justify the findings of this study denoting the lack of significance of the relationship between students' learning styles with the student's field of study, as well as the degree of interest of students in the topic.

In the present study, VARK questionnaire was used to determine the student's PLSs. On the one hand, given the emergence and prevalence of new media and technology in the learning and learning process and the necessity of using various senses by the learner, a new tool is needed to identify the students' sensory learning styles, appropriate media and educational materials. On the other hand, VARK learning style advantage is that it can come up with information on learning strategies and media methods appropriate to these styles (7). Thus, knowing that each student has a type of learning style can assist teachers in selecting the proper teaching method and the type of educational aid (8). Thus, given the capabilities of this questionnaire, it is necessary to be aware of the students' PLSs, so that based on the results; one can apply the appropriate methods to provide education. Consequently, conducting empirical studies is recommended for use for teaching strategies to promote student learning according to the learning style. Moreover, it is recommended to carry out studies to determine the possibility of using VARK tool as a screening test for the learning cycle weaknesses and the possibility of providing individual recommendations for improving the learning process in the students. Given the results, it is recommended that the professors of medicine faculty pay utmost attention to students' learning style in selecting the methods of teaching to make teaching more desirable and make learning more effective for learners. Furthermore, it is suggested that professors should pay attention to other effective variables in learning style in their teaching and avoid the same teaching style for all students.

**Table 1. Distribution of students**

Percent	Frequency	Demographic Variable	
33	52	Male	Gender
67	108	Female	
6	9	Married	Marital status
94	151	Single	
74	118	20-22	Age
26	42	23-25	

**Table 2. Student learning styles**

Standard deviation	Average	Learning style
5/5	42/5	visual
4/3	33/5	aural
3	30/7	reading-writing
6	29/4	kinesthetic

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