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ARTICLE

LEARNING STYLES IN STUDENTS OF KERMANSHAH (IRAN) UNIVERSITY OF MEDICAL SCIENCES, 2015

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ABSTRACT

Introduction: Since learning has a major role in health skill development and performing right care method, therefore, students must learn how to act in educational environment as a professional individual. This study is a cross-sectional study, which carried out among 218 students of Kermanshah University of Medical Sciences in 2015. In order to collect data, a questionnaire containing demographic questions and Kolb Learning Style Inventory was used. In the studied sample, 72% of samples were females and 27.1% were males. Among Learn ways, the highest mean correlated to objective experience (34.46) and the lowest correlated to abstract conceptualization (32.51). among the sample, of people who had absorbed learning style was 38 people (17.4%), converging learning style was 86 (39.4%), divergent learning style was 25 (11.5%) and adaptive learning style was 69 (31.7%). There was no statistically significant relationship between learning styles and demographic variables. This study showed that the majority learning style among studied population is converging learning style. Therefore, using appropriate strategies and teaching methods accompanied by this style learning can largely improve the effectiveness of training in the target group.

KEY WORDS
Learning, styles, students, Kermanshah, Iran, Medical Sciences

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INTRODUCTION

Education is a complex process that neglecting it can lead to wasting any of the powers and equipment and makes efforts fail, therefore, the development of education and its promotion requires understanding education process and awareness of modern methods of its implementation. This is more important in the education of medical sciences, because the main mission of health-care manpower education training is educating a competent power which having necessary knowledge, attitude and skills to protect and promote the health of society [1]. Since learning has a major role in health-care skill development by right method, Therefore, students in this discipline must learn how to act at educational environment as a professional individual [2]. Teachers and faculty members especially in different university grades to have effective learning and teaching should make use of content knowledge, knowledge of education and knowledge about universality and its characteristics [3]. Many faculty members have sufficient content knowledge in terms of their specialized courses and is obtained due to continuous studying and practice in specific areas of teaching. Many of them equipped with a knowledge related to principles of education, which is also obtained by studying classic texts in the field of education and participating in empowerment courses and workshops. However, acquiring knowledge about learner and his/her character, unfortunately, had often considered unimportant approach to improve classroom teaching [3, 4]. In order to solve this matter, teachers should be familiar with students' preferred learning style. [5]. Learning style refers to the methods and conditions that by it, the learner try to more efficiently and more effectively understanding, processing, storing and recalling what they learn [1]. Such issue can impose responsibilities for teachers in facing with students' educational needs and education, because identification and proper learning styles conducting plays an important role in selecting teaching methods and transferring concepts of others. One reason that some students despite having the best teachers do not learn the matter appropriately is the mismatch between teaching and learning styles [6]. So that according to their individual characteristics receive course concepts of in different ways [7]. So fitting between instructor teaching style and learner's learning style effects the implementation of the curriculum objectives, academic achievement and solving shortcomings of the educational system [8]. A learning style is a complicated method in itself, which the learner in an efficient and effective manner, understand, process, store and retell [9]. Which all of them mean the trying to learn. Kolb, by definition, adult learning is "a process by which knowledge achieved by changing the diversity of experiences. He thinks learning as a process of four stages: According to this process, followed by tangible and concrete experience, reflection and observation takes place, which in turn leads to the formation of abstract concepts. And in the following, such concepts are evaluated through experiments [10]. In this process, learning styles, in fact, is a personalized approach to receive and process information created by genetic characteristics and personal experiences with environmental expectations [11]. Kolb's learning style list is able to categorize learners in one of the 4 major learning styles: convergent, divergent, absorbent and consistent. These learning styles has the following features: Convergent people have a special ability to implement practical ideas that are successful in problem solving and decision making. Given the ability of deductive reasoning

[top-down], they are able to respond to a problem when it has only one answer. Divergent people has power of high imagery and have special attention to meaning and values. Their ability to ideation and looking at objective situations from different angles is justifiable. Attractive people have a good ability to produce theoretical ideas and achieve to inductive reasoning [part to whole]. Compatible person have special capacity for completing certain tasks, active participation in new experiences and carrying out program. When they need to have a quick adaptation with changing conditions they exist, show a good performance [11,12]. So the aim of this study was to determine students' learning styles in Kermanshah University of Medical Sciences using Kolb's style.

There are very few studies regarding the wearing and laundering of lab coats in hospitals and medical practice. This study highlights the role of lab coats acting as vector for transmitting health care infections to the patients and the common areas where contamination occurs.

MATERIALS AND METHODS

This study is a cross-sectional study, which carried out in 2015. In order to collect information, different universities were considered as a class. By appropriate allocating of size sample, each of the classes were selected randomly and entered to the study, all participants were justified about the objectives of study and were entered to the study consent. The study was conducted among 218 students of Kermanshah University of Medical Sciences. In this study, students' learning style and its relation to age, sex, education level, field of study and scores were investigated. In order to collect data, a questionnaire containing demographic questions and Kolb Learning Inventory which are the most common tool for identifying the learning styles was used [13-14,]. In various internal and external studies, validity and reliability of the questionnaire was confirmed [15-18]. This tool categorized learner based on Kolb's learning model that reflective observation against active experimentation and objective experience against conceptualization abstract, classifies in one of the four converging, diverging, absorbing and adaptive learning style, Kolb Learning Inventory consists of 12 questions and each question has four terminals. The questionnaire asks students to choose and determine one of the questions terminals based on how they learn. Scoring manner and Kolb's questionnaire completion is as follows: Proposed responses should be scored from 1 to 4 and are ranked below:

1. If proposed responses is really consistent with your learning, the score should be 4.
2. If proposed responses is somewhat consistent with your learning, the score should be 3.
3. If proposed responses is a few consistent with your learning, the score should be 2.
4. If proposed responses is a little consistent with your learning, the score should be 1.

By collecting the points of each of these 4 options in 12 questionnaire sentences [i.e. scores of same number options in 12 question were summed] four score was obtained that shows individual learning styles: By subtracting the way of thinking score of the score of feelings and subtracting the procedure score of observing method, two score were obtained.

These two scores were obtained from two axes

At one end of the vertical axis, the learning method through feeling and at other end, learning through thinking, and at one end of the horizontal axis learning through performing and at the other end, learning through watching was placed. The two axes constitute the fourth quarter of a square which each quarter represents one of the learning styles. In order to analysis of present data statistical software Spss was used, Central tendency and dispersion for quantitative variables and frequency and percentage for qualitative variables were used. In order to test the hypotheses, Chi-square test was used.

RESULTS

In the sample, 157 persons (72%) of the students were female and 59 persons (27.1%) were boys and between them, 2 people did not express their gender. The largest number of participants in the study, 38 persons (17.4%) in public health field and the lowest number was 1 person (0.5%) were in medical engineering. The average age of participants is 22.27 years with SD of 2.33 and the students score average is 16.27 with maximum of 20 and the minimum is 12. Among learning methods, the highest mean relates to objective experience (34.46) and the lowest relates to abstract conceptualization (32.51). Among the sample, the number of people who were learning absorbing style was 38 persons (17.4%), converging learning style was 86 (39.4%), divergent learning style was 25 (11.5%) and adaptive learning style was 69 (31.7 %)[Table 1].

Table 1: Distribution of learning styles Table

learning styles	frequency	percent
Convergent	86	39.4%
Divergent	25	11.5%
Abstracting	38	17.4%
adaptive	69	31.7%

There is a significant relationship between learning style and students' gender [Table 2]. There wasn't significant difference between learning styles type and students 'age distribution (p = 0.541) and education discipline (p = 0.398). There was no significant difference between the student's grade and learning styles (p = 0.300). There wasn't also significant relationship between students' entering years and their learning styles (p = 0.671).

Table 2: Learning styles table by sex separation

Learning styles	sex				
	women		men		p-value
	frequency	percent	frequency	percent	
convergent	62	39.5%	23	39%	0.683
divergent	14	8.9%	11	18.6%	
absorbing	28	17.8%	9	15.3%	
adaptive	53	33.8%	16	27.1%	

DISCUSSION

The results of the study showed that converging learning style learning is the most dominant style among students. At other similar studies have shown different results. In a study by De Amor and collaboration carried out on nursing and midwifery students in 2012, the dominant learning style was divergent learning style and about 30 percent of the participants were classified in terms of this style. In this study, the absorbing, consistence and converging learning styles placed at following rank in terms of frequency [11]. In another study by zoogi and colleagues in Australia carried out in 2010, students from 10 different fields of Medical Sciences were evaluated. Similar to the study results, converging learning style, was recognized as the dominant learning style [19]. In study carried out by pian and colleagues who carried out on public health students, fairly distribution between the different types of learning styles was seen [20]. Among the studies that have been done in the country, the study by Ghranmaie and cooperation conducted on nursing and midwifery students showed that the dominant learning style is diverging type [17].The Study by Azizi and colleagues also suggest that absorbent learning style has higher frequency than other learning styles among medical students [21].The study by Ranjbar and Ismaili study showed that about 86 percent of the participants (nursing and midwifery students) had consistence learning style [22].As the results of these studies are shown that the variation and changing in learning styles exist in most studies. Since these studies carried out in different universities and among students with different demographic characteristics, it is necessary to assess dominant learning styles for students of different universities and suggests that it is not possible to use studies among students in a learning environment, even if they have a very similar field of study, as a basis for curriculum at other students. Based on the results of the present study, there was not a significant relationship between learning style and students' gender. There weren't significant differences between students' learning style and age distribution (p = 0.541) and education discipline (p = 0.398). There was no significant difference between students' grade and learning styles (p = 0.300). There was no significant relationship between students' entering year and their learning styles (p = 0.671). Unlike our results in the study of Li, age variable is one of the factors that can take a role in determining learning style [1]. As Kolb pointed out in the three-step model (acquisition, specialization and integration), as person's age increases, the emphasis of person on a particular learning style is reduced and can maintain a good relationship with other learning styles -23]. Although the present study does not suggest decisive role of age in determining the learning style, due to a lack of significant differences in age and learning style can indicate a possible association between age and learning style which this relationship is exportable and inferable in experimental or cohort studies. Unlike the results of this study, Straddle et al study also showed that different age groups can show different learning styles (24). Also, unlike the present study, gender has been evaluated as a contributing factor in determining the learning style in several studies [25-28]. Slater and Heroin and colleagues have shown in various studies that the male and female students of medicine and physiology discipline, in terms of their preferred learning style, show considerable variation with each other [25, 26]. This study showed that the dominant learning styles among majority of the students is converging learning styles. Therefore, using the strategies and appropriate teaching methods with this learning style can largely improve the effectiveness of training in the target group.

CONCLUSION

There was no statistically significant relationship between learning styles and demographic variables. This study showed that the majority learning style among studied population is converging learning style. Therefore, using appropriate strategies and teaching methods accompanied by this style learning can largely improve the effectiveness of training in the target group.

CONFLICT OF INTEREST

There is no conflict of interest.

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The authors declare that there is no conflict of interest.

FINANCIAL DISCLOSURE
None

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