



Relationship between Students' Learning Styles and Their Preferred Method of Teaching and the Teaching Methods of Faculty Members in Clinical Teaching

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Authors

Poorkazemi R. ¹ MSc,
Asadi M. * MSc

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*Student Research Committee, School of Nursing & Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran

¹Student Research Committee, School of Nursing & Midwifery, Isfahan University of Medical Sciences, Isfahan, Iran

Correspondence

Address: Student Research Committee, School of Nursing & Midwifery, Isfahan University of Medical Sciences, Hezar Jerib Street, Isfahan, Iran. Postal Code: 81746-73461
Phone: +98 (31) 37731385
Fax: -
masadi87@yahoo.com

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ABSTRACT

Aims Clinical teaching would provide an opportunity for the students to turn their theoretical knowledge into various mental, psychological, and motor skills, which are necessary for taking care of the patients. The aim of this study was to investigate the relationship between students' learning styles and their preferred method of teaching and the teaching methods of faculty members in clinical teaching.

Instruments & Methods In this descriptive study, 180 samples were selected, using simple randomized sampling method from nursing and midwifery students of Isfahan Azad University in 2016. The data were collected by the standard questionnaire of Kalb and the questionnaire of Musa-pour teaching method. The data were analyzed by SPSS 20, using Chi-square test and McNamar's test.

Findings There was a significant difference between the performed style of the professors and the preferred style of the students ($p < 0.001$). A significant relationship was found between the learning styles and the students' preferred style ($p = 0.03$); the preferred style of student-oriented was more observed in convergent and attractive learning styles than the other 2 learning styles.

Conclusion The preferred and appropriate clinical teaching style for nursing and midwifery majors is student-oriented style, but most of the professors use the teacher-oriented approach.

Keywords Learning; Teaching Method; Clinical Education

CITATION LINKS

[1] Nursing students' viewpoints about problems of clinical education [2] Nursing students' perceptions of their educational environment: A Comparison between expected and actual environment [3] View points of medical students about the quality of clinical education [4] Study of the facilitating and preventing factors of learning clinical skills from the final year students' viewpoints [5] Concept of clinical work from the viewpoint of nursing students [6] Nursing and midwifery students perspective on clinical education in Gonabad University of Medical Sciences [7] The educational problems of clinical field training based on nursing teachers and last year nursing students viewpoints [8] Nursing students' views of problems clinical training [9] The association between personal characteristics and educational experiences with academic achievement among the students Zanjan University of Medical Sciences [10] Organizations in action: Social science bases of administrative theory [11] School context, achievement motivation, and academic engagement: A longitudinal study of school engagement using a multi-dimensional perspective [12] Evaluation of college teaching qualities [13] Teaching styles of teachers in basic sciences classes in medical school of Isfahan University of Medical Sciences [14] Teaching Style: Where Are We Now?. *New Dir Adult Contin Educ* [15] Teaching styles [16] Learning and teaching styles in engineering education [17] Integrating Teaching Styles and Learning Styles with Instructional Technology [18] Teaching styles of faculty members of Kurdistan University of Medical Sciences for theoretical lessons [19] The classroom social environment and changes in adolescents' motivation and engagement during middle school [20] Multilevel interaction models and their use in the analysis of large-scale school effectiveness studies [21] The effects of instructing teachers about good teaching on the mathematics achievement of fourth grade students [22] Check & connect: The importance of relationships for promoting engagement with school [23] Study of Students' Learning styles in agricultural students of Islamic Azad University, Takestan [24] Educational psychology: Psychology of learning and instruction [25] Experiential learning experience as the source of learning and development [26] Match or mismatch? Learning styles and teaching styles in EFL [27] Learning styles of medical residents of different disciplines in Tehran University of Medical Sciences [28] The effect of students' learning style on their educational teaching style. *studies in education and psychology* [29] Mashayekhi N. A survey on teaching style of academic members in Rafsanjan University of Medical Sciences

Introduction

Currently, experts provide conditions at faculties and clinical teaching environments that would lead to gaining nursing and midwifery specialization. Clinical teaching is the most important part of learning professional behaviors for nursing and midwifery students, during which the students would learn the foundation for their professional activities and would form their professional culture through facing appropriate and valuable situations [1, 2]. Clinical teaching would provide an opportunity for the students to turn their theoretical knowledge into various mental, psychological, and motor skills, which are necessary for taking care of the patients [3, 4].

The value of ideal clinical teaching in personal and professional development as well as in clinical skills is undeniable in a way that most of the experts believe that it is the main foundation for clinical teaching [4, 5]. Some studies have found various effective factors in clinical teaching, including the manner of physicians', head nurses', and other personnel's communication with the students [6], existence of required opportunities for performing standard procedures, appropriateness of the clinical conditions, and situations based on the theoretical principles [7], clinical tension, existence of proper and similar measure of value for the students, fear, anxiety and turmoil while performing clinical activities [5], valuing clinical teaching [1], sufficient skills and self-esteem of the instructor [8], availability of sufficient number of clinical instructors, encouraging the students [6], university environment's quality, social solidarity [9], and the interactions between professors and students and between students and students [10, 11].

Professors and the manner of their interaction with the students could be among the most important effective factors in education of students [12]. The turning point in this effectiveness might be the method selected for clinical teaching. University professors must be aware of their teaching methods and their effects on students' learning [13].

Many people believe that style is an important element in teaching. Teaching style is a series of behaviors that the teachers would present in interacting with their students and has an important role in different aspects of

learning [14]. Various classifications have been represented for teaching styles. In the field of medical education, Benzie has reported 4 basic teaching styles, including a range of teacher-oriented styles and learner-oriented styles [15]. These 4 styles were facilitative, suggestive, collaborative, and assertive. In the assertive approach, the teacher would provide the information. This approach is in accordance with the speech method, in which the teacher is active and the learner is inactive. In the suggestive approach, the medical sciences teacher should present suggestions for diagnosis or treatment and allow the students to present their feedback while guiding them. In the collaborative style, by asking open and exploring questions, the teacher would involve the students in the process of teaching and, as a facilitator, would become a role model [16]. Grasha also believes that teaching style is a special pattern of the beliefs and behaviors presented by the teacher, and emphasizes on the facilitating role of the teachers [17]. The main goal of this role, which focuses on the needs of the learners, is to improve independence in action, innovation, and responsibility that would allow them to have creative thinking. Studies have shown that in case of incompatibility between the professor's teaching style and the students, the students would be bored, inattentive and disappointed, and would represent weak performances [18]. If professors would be able to match their teaching styles with the students' learning, the students would express more desirable educational performance [19]. Studies conducted by Aitkin *et al.*, Ryan *et al.*, and Ebmeier *et al.* suggested that teaching style preferences are effective in the success of the learners [19-21]. Anderson *et al.* reported that in student-oriented teaching style, students have higher spirits [22].

By recognizing the students' preferred teaching style, professors could match their teaching styles with the students' wishes, and consequently, increase the effectiveness of the education, and increase the students' success rate [23]. One of the factors that might lead to preference of a specific teaching style by the students is learning styles; experts have repeatedly mentioned learning styles as effective factors on the educational performance of the learners [24]. Learning style

is a personal trait that might be the most appropriate for the learner; therefore, the teachers must match their educational and communicational styles with their students' learning styles, as much as possible.

Learning style is defined as personal strategies, in which individuals would process the information while learning the concepts and principles [25]. Probably, the most comprehensive definition of learning style has been suggested by Kolb: "Learning styles are the methods, in which individuals would create concepts, rules, and principles for guiding them in face of new situations" [26]. Based on the Joy Reid's model hypothesis, students' learning style is a preferential, natural, habitual, unique, and constant method, which is used for absorbing, processing, and maintaining new information and skills, and in case of incompatibility between the teaching style and the learning style, it would lead to failure in learning, learner's disappointment, and decreased motivation [27].

In various studies, professors' teaching styles and preferred styles have repeatedly been evaluated, and different results have been achieved; however, to the best of our knowledge, few studies have been conducted in the field of clinical teaching on this subject. Considering the importance of clinical teaching for medical sciences, including nursing and midwifery and the presented flaws in previous studies, the present study was conducted with the aim of evaluating the relationship between learning styles and students' preferred educational method and its comparison with professors' performed clinical teaching style in Isfahan Faculty of Nursing and Midwifery of during 2016.

The aim of this study was to investigate the relationship between students' learning styles and their preferred method of teaching and the teaching methods of faculty members in clinical teaching.

Instruments and Methods

The present research is a descriptive study. The study population included all nursing and midwifery students of Isfahan Faculty of Nursing and Midwifery during 2016; at the time of the study, about 500 students were attending this faculty. According to Morgan's

Table, the sample size should at least include 180 students. Samples were selected, using simple randomized sampling method.

The researcher randomly selected one of the classes of the mentioned faculty, in which the students were at least at the fifth semester and had passed a number of internship courses. At the end of the class, with the professor's permission, the aims of the study were explained to the students, and after obtaining their consent, the questionnaires were distributed among the students and gathered after being completed. Those students who were not willing to participate in the study did not receive the questionnaire. Two questionnaires of preferred teaching style and Kolb's learning style were used. The teaching style questionnaire of Mousa-pour was completed twice by each student; once as the students' preferred teaching style in the clinic, and, then, as the professors' performed style in the clinic.

The first part of the questionnaire was the latest version of Kolb's standard learning style questionnaire. This questionnaire has 12 items with 4 choices. The choices for each question are based on the 4 steps of experiential learning by Kolb, and would be scored from 1 to 4 by the participants. If the suggested choices would match the learning style of the students completely, somehow, a little, and very little, the scores of 0 to 2 would, respectively, be assigned to the choices. From these choices in 12 items, 4 scores would be achieved, which represent 4 different learning styles; so, the score gained from summing the scores of the first choices of each question would indicate objective experience, the second choice would indicate reflective observation, the third choice would represent abstract conceptualization, and the fourth choice would represent active experimentation. From the pairwise subtraction of these scores, subtraction of abstract conceptualization from objective experience and subtraction of active experimentation from reflective observation would be achieved. These two scores would be placed on the axis (based on being negative or positive). The vertical axis would be the subtraction of abstract conceptualization from objective experience and the horizontal axis would be the subtraction of active experimentation from reflective observation.

From the confluence of these two scores, the learning style would be placed at one of the quarters of the axis.

The second part of the questionnaire, preferred teaching style, was developed by Mousa-pour [28]. This questionnaire contains 39 questions each including 2 items. Each of the items is assigned to one teaching style: a) professor-oriented teaching or direct teaching by the professor as the leader, and b) student-oriented teaching or indirect teaching by the professor as the consultant. In the scoring process, "a" items are about professor-oriented style (39 questions) and "b" items are about student-oriented style (39 questions). Each item has 6 choices in the Likert scale from *very much* to *not at all*. For determining the teaching style, first, the scores of the "a" items were summed up and considered as the total score of student-oriented teaching style; the score for this style varied from 39 to 234. The scores of "b" items were summed up as the total score of professor-oriented teaching style that varied from 39 to 234. This tool would simultaneously assign two total scores to each individual. The style with the higher score would be selected as the individual's preferred style. To evaluate the reliability of the questionnaire, Mousa-pour used test-retest method, which gave the reliability coefficient of 0.93 [28]. In a study, its reliability coefficient was reported as 0.94; for the items of inactive teaching style, the Cronbach's α was 0.93, and for the items of active teaching style, the Cronbach's α was 0.95 [29].

The data were analyzed by SPSS 20, using Chi-square test and McNamar's test.

Findings

A total of 180 students were selected, of whom 148 (82.2%) were female and 32 (17.8%) were male. The age of the participants varied from 21 to 27 years with a mean of 22.8±0.9 years. A total of 104 participants (57.8%) were nursing students and 76 (42.2%) were midwifery students. The highest frequency belonged to the attractive learning style of the students (33.3%) and the lowest frequency belonged to the adaptive learning style (10.6%). The preferred style of most of the students (67.2%) was student-oriented, but most of the

professors (67.8%) used professor-oriented style. There was a significant difference between the performed style of the professors and the preferred style of the students ($p < 0.001$; Table 1).

Table 1) Frequency distribution of the students' learning styles and preferred styles and professors' performed styles

Variables	No. (percent)
Students' learning styles	
Attractive	60 (33.3)
Convergent	58 (32.2)
Divergent	43 (23.9)
Adaptive	19 (10.6)
Students' preferred styles	
Student-oriented	121 (67.2)
Professor-oriented	59 (32.8)
Professors' preferred styles	
Student-oriented	58 (32.2)
Professor-oriented	122 (67.8)

Also, there was a significant relationship between the learning styles and the students' preferred style ($p=0.03$) in a way that the preferred style of student-oriented was more observed in convergent (77.6%) and attractive (70.0%) learning styles than the other 2 learning styles (Table 2).

Table 2) Frequency distribution of the students' preferred styles divided by their learning styles (The numbers in brackets are percent)

Students' learning styles	Student-oriented	Professor-oriented	P value
Attractive	42 (70.0)	18 (30.0)	0.03
Convergent	45 (77.6)	13 (22.4)	
Divergent	23 (53.5)	20 (46.5)	
Adaptive	11 (57.9)	8 (42.1)	

A significant difference was found between the frequency distribution of the learning styles of male and female students ($p=0.04$), meaning that adaptive and divergent styles were more among men than women, and convergent style was more among women than men (Diagram 1).

Frequency distribution of the preferred styles had no significant difference between the male and female students ($p=0.38$; Diagram 2).

Discussion

Regarding the first aim of this study (determining the students' learning style in

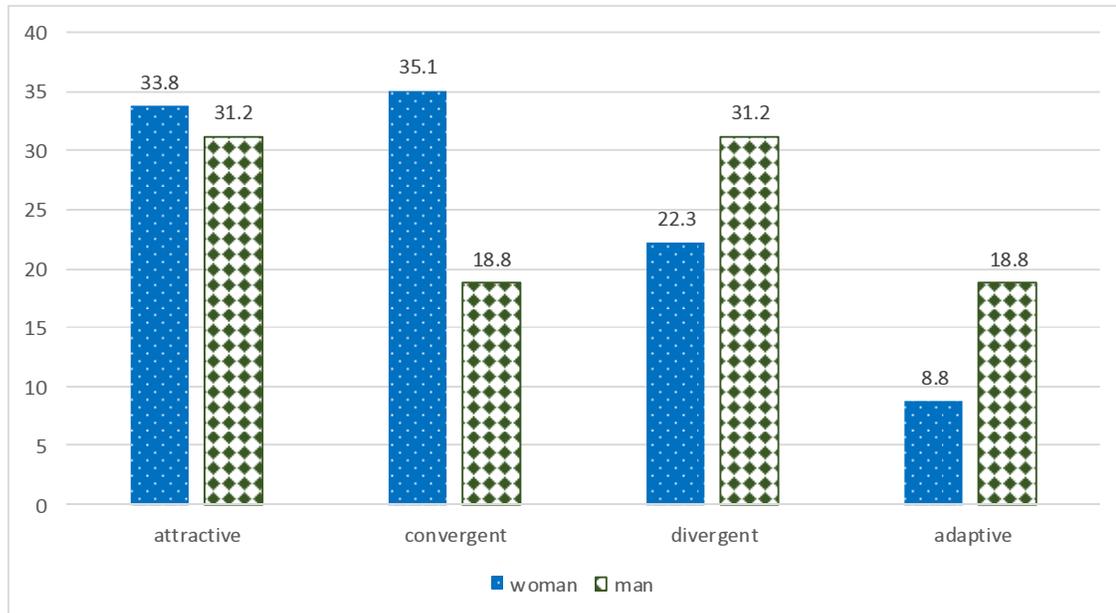


Diagram 1) Frequency distribution of the learning styles divided by the students' gender

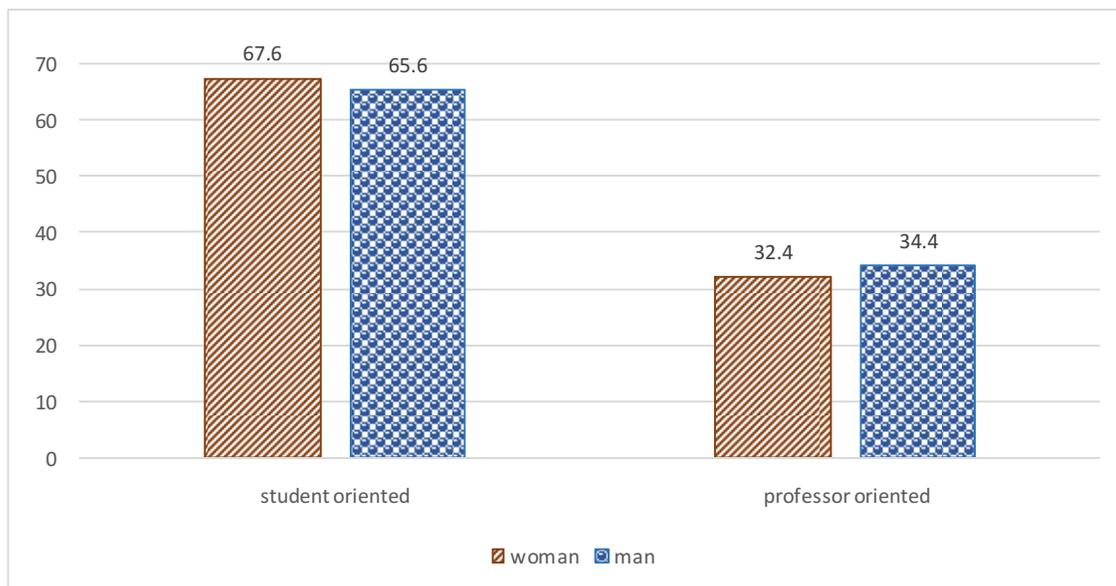


Diagram 2) Frequency distribution of the preferred styles divided by the students' gender

the clinic), the students' learning styles were respectively attractive, convergent, divergent, and adaptive. This result is in line with the results of previous studies [18, 24, 27, 29]. It indicates that the learning styles of nursing and midwifery students were in accordance with their major because attractive style is useful for the majors that require knowledge and information. Therefore, attractive

learning style, considering its traits, is appropriate for physicians and students of medical sciences [21].

Regarding the second aim of this study (determining the relationship between the students' learning styles and the professors' preferred teaching styles in the clinic), the results indicated a significant difference between the groups regarding students'

learning styles and professors' preferred teaching styles in the clinic. Among the students with attractive learning style, student-oriented teaching style was more prevalent, and 65% of the studied students had these 2 learning styles. The results of previous studies in this regard are different. However, the difference might be due to the differences in the type of the studies and the data gathering tools. In a study a significant relationship was observed between the learning style and the teaching style [29]. In another study, was compared learning styles and students' preferred styles in Fasa University of Medical Sciences, most of the participants had selected collaborative and active teaching styles [29].

Student-oriented style indicates the development of students' capacity in gaining independence in action and responsibility. Students have an active role in designing their learning, research, evaluation, and responsibilities [23]. On the other hand, previous studies have shown that the development of higher levels of thinking skills among the learners would take place during a shorter period of time while applying learner-oriented teaching style [28]. Also, the development of higher levels of thinking skills would require a different method of designing and evaluating compared to the traditional method, and through this process, the learners would become more creative, more independent, and more responsible. Ultimately, they would be less dependent on the teacher; teacher's role would be more of a guiding instructor than representing the information [16].

Considering the clinical goals of the students' leaning, preferring student-oriented teaching style is not far from the mind because students expect to gain sufficient independence and self-esteem after the internship period for performing independent actions without relying on their professors. Therefore, considering the results of the present study and previously studies, it seems that most of the medical students would prefer student-oriented teaching style in the clinic.

Regarding the third aim of this study (determining the coordination between the students' preferred educational styles and the professors' performed styles in the clinic),

most of the students reported the performed style of the professors as professor-oriented style, and a significant difference was observed between the preferred teaching style and the performed teaching style. This result indicates the disproportion between the clinical teaching styles and students' preferred styles. It is in line with the studies carried out by Hadizadeh *et al.*, Zeighami *et al.*, and Dehghani *et al.* [6-8], which reported students' dissatisfaction with the clinical nursing education.

It seems that excellent learning does not occur in the clinical environment of nursing and midwifery majors, and one of its important reasons is the instructors' ignorance toward the students' learning and preferred styles. Most of the professors are applying traditionally designed methods, and therefore, problem solving thinking, analysis of information and results, and creativity would not be strengthened in the learners, while creative thinking is mentioned as a tool that individuals would require strengthening it during the educational processes to achieve richer and realistic environmental experiments [16].

The limitations of this study were a lot of questions, that, with enough time for the participants, tried to moderate the problem. Regarding the importance of training in medicine, there should be changes in the teaching method in this field and moving towards student-oriented teaching.

Conclusion

The preferred and appropriate clinical teaching style for nursing and midwifery majors is student-oriented style, but most of the professors use the teacher-oriented approach.

Ethical Permission: This research does not have ethical codes.

Conflict of Interests: No cases have been reported by the authors.

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