Original Article

The Analysis of Students' Attitudes toward Curriculum at School of Nursing and Midwifery, Shiraz University of Medical Sciences

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Abstract

Introduction: Curricula are the core of education in academic centers. One of the most important topics of curricula is the patterns that guide the teaching-learning process, and based on that instructors adopt effective patterns and strategies in their classrooms. Given the importance of this issue, this study aimed to investigate and identify the curriculum patterns of Shiraz University of Medical Sciences (SUMS) at the School of Nursing and Midwifery from the students' perspective.

Methods: This study is practical in terms of the purpose and adopts a descriptive survey method. The population of this study included all students of the School of Nursing and Midwifery at SUMS. The total number of students was 545 people; using proportional quota sampling 217 samples were selected. The instrument used in this study was a researcher-made questionnaire about curriculum patterns. Using content validity, the validation of the questionnaires was calculated. The reliability of the questionnaires was calculated using Cronbach alpha coefficient. Data were analyzed using one-sample t-test, independent t-test, and one-way ANOVA.

Results: The results indicated that technical curriculum patterns were the dominant patterns applied by lecturers of School of Nursing and Midwifery at SUMS ($P<0.001$). Two variables, students' discipline and level of education, were related in their views towards lecturers' curriculum patterns, but gender did not show any relationship with the students' perspective towards their professors' curriculum patterns.

Conclusion: In general, this study showed that the dominant curriculum pattern of the School of Nursing and Midwifery at SUMS was technical curriculum patterns. Based on results, it can be said that in general, because of the medical education system's emphasis on fostering higher levels of thinking, life-long learning skills, essential abilities and practical and empirical learning which comply with non-technical curriculum patterns, it is necessary to revise curriculum patterns of lecturers in this school.

Keywords: Education, Curriculum, Medical education

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Introduction

Higher education, as the main institution in developing specialized human resources, has a critical role in achieving sustainable and comprehensive development of a nation (1). Three missions and functions can be traced in higher education system: teaching, research and giving services. Teaching function is the introduction and foundation for other functions (2). The realization of this vital mission requires appropriate tools such as proportionate curriculum. Curriculum is the main element of higher education system, the most basic tool to provide students with knowledge, experience and skill and to provide services to the society (3). In fact, curricula are the foundation of the education in schools and universities and have a crucial role in the success or failure of these centers. Considering this, curricula reflect universities' progress and responsiveness to the needs of changing societies (4).

Curriculum, as a field of study in theoretical discussions, is the most controversial scope of human knowledge. One of the issues that have long been the origin and source of these disagreements is the ideology of curriculum or normative theories of curriculum (5). These ideologies guide and direct the teaching-learning process. Thus, based on their subjective ideologies, instructors adopt effective patterns and strategies in their classroom (6). Due to this, identifying and applying appropriate curriculum patterns has a significant impact on the learning process. Therefore, in this study the deep and wide concept of the curriculum will be investigated.

"Patterns of Curriculum", referred to as different words and phrases in curriculum literature, is derived from the perspective of curriculum. It is of vital importance in curriculum orientation transparency at different stages. The concept of curriculum patterns in the main sources of curriculum scope is considered as the word "Curriculum Model" and equals to the terms such as pattern, frame, and layout. That is a framework for designing curriculum to meet the needs, and achieve planned objectives (7). These patterns help curriculum planners to plan the basis and principles of their approaches to teaching, learning and evaluating systematically and plainly (8). Reviewing the literature of curriculum patterns, we could infer that much attention has been paid to this issue and various scholars and theorists have presented different patterns regarding this concept. Some of these patterns are Tyler (1994), Taba (1962), Weinstein and Fantini (1970), Saylor and Alexander (1974), Walker (1971), Beauchamp (1983), Glartorn (1987), Hankins (1985), Johnson (1967), Freire (1962), Biggs (2003) and Wolf (2007) (4, 8-15).

Because of the diversity of curriculum patterns, different experts of this field of study have offered different classifications. Among them we can refer to Yadegarzadeh & Mehrmohammadi classification (15). They divided the patterns into two categories: traditional patterns and neo-conceptualists. Fathi Vajargah (4) supposed three linear, nonlinear, and naturalist patterns for the curriculum. Maleki (14), O'Neill & McMahon and O'Neill (8, 11), Ornstein & Hunkins (6) and Gosper & Ifenthaler (10) introduced technical and non-technical patterns in the area of curriculum. This classification and organization of different patterns of curriculum is purely arbitrary and is provided to facilitate understanding of the patterns. According to these classifications, which are the most comprehensive and newest classifications of curriculum patterns, we could infer that they overlap one another in two levels: technical and non-technical. Given the importance of these two types of curriculum patterns, in this study technical and non-technical patterns have been studied. Based on these two classifications, patterns have special definitions and features as follows:

Technical curriculum patterns suppose a scientific approach to curricula that is they suggest and define educational goals and then accomplish them via a linear approach. The structure of this model in most patterns include: objectives (what needs to be measured), content (what is to be taught), method (how it should be presented), evaluation and decision-making. This curriculum model has taken its component from the theories of Tyler, Bobbit, Taba, Saylor and Alexander. The most important technical curriculum patterns include: Tyler, Taba, Johnson, Beauchamp, Shane and Hankins (6).

The main features of these patterns contain: the experts' decision-making regarding the development and implementation of curricula; the implementation of the provided programs by teachers without any manipulation in produced program; the linear, objective and prescriptive process of curriculum; and considering education as a productive system (4, 11).

Non-technical curriculum patterns suppose a non-technical approach to the curriculum development process. In other words, they put more emphasis on subjectivity, individuality, hobbies and exploration. They consider learner's interests and tendencies as the guiding cores of the learning activities, selection and content organization. The most important experts in this model are Friere, Ilich, Apple, Peter McLaren, Noddings, Grumet, Pinar, and Eisner (6). The most prominent Non-technical patterns of the curriculum include: Friere, Sherier & Hunter, Apple, Painar, Weinstein & Fantini and Charters (6).

The main features of these patterns consist of not predetermined, nonlinear and non-prescriptive curricula, and the emphasis on learners' role in the process of teaching and learning, the emphasis on learners' intuition, perception, and insight, identification of thematic content and subjects in the curriculum process, encountering student with new content and situations to grasp a new understanding, obtaining the connotation in curriculum results from interactions among individuals, and putting the students' needs and interests as the main source of the curriculum content (4, 11).

As it was noted, curriculum patterns are one of the most important issues in the curriculum scope which can be realized through an overview of the theoretical background (various experts' classification). But not much empirical research has been done in this area. Some of these studies examined the relationship between curriculum orientations of lecturers and demographic variables such as gender and academic rank (16), gender and educational level (17), gender, type of education (virtual and physical), and academic rank (18). In other studies regarding curriculum orientations of lecturers, Salleh et al. (9) indicated that professors were mostly inclined towards technological orientation, and cognitive orientation was the lowest in rank. Amin-Khandaghi & Pakmehr (19) concluded that the dominant perspective of the arts education curriculum was the disciplinary approach. Akbary Boorang et al. (18) showed that professors valued behavioral orientation, Schwab's optimal selection and cognitive processes more than other orientations. In addition, Emam Jome (20) in a study came to the conclusion that the dominant approach of teacher education curriculum was in accordance with the academic approach.

By focusing on these studies, we realize that most of the research has investigated the orientation of the curriculum, and no evidence has been observed on the patterns of the curriculum. Therefore, noticing the importance of identifying curriculum patterns and their impact on the entire process of teaching and the necessity of doing various researches in this field, this study intends to help lecturers move more consciously towards choosing the patterns of curriculum and consequently provide more effective teaching in different scientific fields through different classifications proposed in the context of curriculum patterns and evaluation of students' perspectives with regard to patterns used by lecturers in the classroom. According to what was said, the aim of this study is to identify curriculum patterns of lecturers of Shiraz University of Medical Sciences (SUMS) at the School of Nursing and Midwifery. Henceforth, the main question of this research is "what is the dominant curriculum pattern of lecturers of SUMS at the School of Nursing and Midwifery?"

Methods

The aim of this study is to investigate and identify curriculum patterns of lecturers of SUMS at the School of Nursing and Midwifery. Thus, the present study was to investigate the type of curriculum patterns of lecturers in the school from the students' perspective. The study was practical in terms of the purpose and adopted a descriptive survey method.

The study population contained all students of SUMS at the School of Nursing and Midwifery including undergraduate (nursing, operating room and anesthesiology) and master (nursing) in the academic year 2015-2016. The total number of students was 545 (270 undergraduate nurses, 110 undergraduate operating room, 120 undergraduate anesthesiology and 45 graduate nurses). In this regard proportional stratified sampling method was used to select the sample. In this method the number of the sample levels equals the number of population levels and also the proportion of the sample levels equals the proportion of population levels. For this purpose, the number of the sample was calculated using the Cochran formula, which was equivalent to 217 people. With regard to the distribution of the population within each category (20% of students of the operating room, 22% of anesthesiology students, 49% of undergraduate nursing students and 9% of graduate nursing students) sample size was estimated as the equivalent of 217 (45 students of the operating room, 50 students of anesthesiology, 110 undergraduate nursing students and 20 graduate nursing students).

For data gathering, a researcher-made questionnaire was used which examines the opinions of students about the dominant patterns used by lecturers in the classroom. The questionnaire was prepared in two parts: The first part contains general information (gender, discipline and level of education) and the second part includes items in relation to technical and non-technical curriculum patterns. The items were extracted from curriculum patterns classified by O'Neill & McMahon (2010) and O'Neill (2015) (8, 11), which contains 31 items with 5 values (very high, high, medium, low and very low) in the form of three indices (orientation, process and evaluation). Table 1 illustrates the distribution of questions in the questionnaire based on three criteria and two models expressed in this study.

Table 1. The distribution of criteria in two patterns

Subscale	Pattern			
	Technical		Non-technical	
	Questions	Scores	Questions	Scores
Orientation	1-4	4-20	5-9	5-25
Content	10-13	4-20	14-21	8-40
Evaluation	22-25	4-20	26-31	6-30
Total questions	-	12-60	-	19-95

To determine the validity of the questionnaire, in order to adjust the questions to structures, curriculum experts, including faculty members of College of Education and psychology of Shiraz University and School of Nursing and Midwifery of SUMS were used to do so. The validity was confirmed after revisions. The reliability was calculated as 83% through estimation of internal consistency of Cronbach's alpha. Data were analyzed using descriptive statistics (mean and standard deviation) and inferential statistics (one-way ANOVA, one-sample t-test, and independent t-test).

Results

There were 203 participants in the study. They were studied regarding the variables of field of study (41 of the operating room, 44 of anesthesiology, 98 of nursing students and 20 master student of nursing), sex (143 women and 60 men) and educational level (183 undergraduate and 20 graduate students) to assess their views on the faculty use of technical and non-technical patterns.

Because of the inequality of the questionnaires questions, a correlation test was taken between the questions. The results showed a high correlation between the two groups of questions. Since the high correlation is indicative of the lack of impact of inequality on the test results, paired t-test was used to examine this question. Results showed that the mean score of technical patterns was statistically lower than non-technical patterns mean score (P<0.001). Three subscales of orientation, content and evaluation mean scores of technical and non-technical patterns in this study were statistically different (Table 2).

Table 2. Comparison of subscales in technical and non-technical patterns (Mean±SD)

Subscale	Pattern		t-test	P-value
	Technical	Non-technical		
Orientation	17.32 ± 4.75	11.75 ± 3.37	22.28	< 0.001
Content	13.69 ± 2.86	23.56 ± 5.95	-27.85	< 0.001
Evaluation	12.96 ± 3.25	17.80 ± 5.02	-19.02	< 0.001
Total	40.99 ± 8.18	56.75 ± 13.56	-21.86	< 0.001

Independent t-test was used in order to check whether there was a significant difference between students' viewpoint about lecturers' technical and non-technical curriculum patterns application in three subscales: orientation, content and evaluation in terms of their gender. Based on the results, the mean scores of all subscales using technical and non-technical curriculum patterns in the female and male groups were statistically similar (Table 3). In order to check whether there exists a significant difference between the students' perspective about lecturers application of technical and non-technical curriculum patterns in three subscales orientation, content and evaluation based on their discipline, ANOVA test was used and results are presented in Table 4.

The results of ANOVA test to compare the tendency to technical and non-technical curriculum patterns in the three groups of nursing, anesthesia and operating room indicated that the mean value of the technical pattern in the subscale of orientation and content was different in the three groups and this difference was also statistically significant (P<0.001). In order to investigate more precisely the significance difference between the two fields, Scheffe's post hoc test was used. The results of this test indicated that in the orientation subscale of technical patterns, there were significant differences between mean scores of nursing and operating room (P<0.001) and operating room and anesthesia (P=0.032). In the content subscale of technical patterns, there were significant differences between the mean scores of nursing and operating room (P<0.001) and operating room and anesthesia (P=0.015). Also, in the content subscale of non-technical patterns, there was a significant difference between the mean scores of anesthesia and operating room (P=0.008). The results of Scheffe's post hoc test indicated that there was a significant difference between the mean scores of anesthesia and operating room (P=0.008). But, there were no significant differences in the evaluation subscale of technical patterns and orientation and evaluation subscales of non-technical patterns between the mean of the three groups of nursing, anesthesia and operating room. To check whether there were significant differences between students' perspective about teachers' application of technical and non-technical curriculum patterns in terms of their educational level, independent t-test was used (Table 5).

Table 3. Comparison of subscales in technical and non-technical patterns in terms of sex (Mean±SD)

Subscale	Pattern					
	Technical			Non-technical		
	Females	Males	P-value	Females	Males	P-value
Orientation	17.10 ± 4.53	17.85 ± 4.67	0.922	11.82 ± 3.42	11.58 ± 3.27	0.128
Content	13.79 ± 6.17	13.45 ± 2.80	0.555	22.90 ± 3.26	23.84 ± 5.40	0.127
Evaluation	12.86 ± 3.26	13.00 ± 3.26	0.876	17.97 ± 5.19	17.40 ± 4.62	0.440
Total	40.94± 8.19	41.1 ± 8.21	0.9	56.61 ± 14	54.95 ± 12.47	0.42

Table 4. ANOVA test results on the use of technical and non-technical patterns with regard to field (Mean±SD)

Pattern	Field	Subscale		
		Orientation	Content	Evaluation
Technical	Nursing	18.31 ± 4.71	14.05 ± 2.80	13.00 ± 3.23
	Anesthesia	17.11 ± 4.42	14.02 ± 2.95	13.02 ± 3.75
	Operating room	14.06 ± 3.00	12.25 ± 2.45	12.80 ± 2.78
	Total	17.32 ± 4.57	13.61 ± 2.86	12.96 ± 3.25
	F	10.91	6.71	0.06
	P-value	< 0.001	< 0.001	0.938
Non-technical	Nursing	11.89 ± 3.37	23.47 ± 5.43	17.52 ± 4.91
	Anesthesia	12.00 ± 3.71	25.57 ± 7.25	18.15 ± 5.94
	Operating room	11.07 ± 2.94	21.57 ± 5.24	17.15 ± 5.02
	Total	11.75 ± 3.35	23.56 ± 5.95	17.80 ± 5.02
	F	1.03	5.00	2.17
	P-value	0.35	0.008	0.12

Table 5. Results of independent t-test for the use of technical patterns in terms of level of education (Mean±SD)

Education subscale	Pattern					
	Technical			Non-technical		
	Undergraduate	Graduate	P-value	Undergraduate	Graduate	P-value
Orientation	16.90 ± 4.57	21.20 ± 2.46	0.020	11.86 ± 3.49	10.80 ± 1.76	0.003
Content	13.44 ± 2.89	16.00 ± 1.02	< 0.001	23.34 ± 6.13	25.60 ± 3.67	0.097
Evaluation	12.65 ± 3.08	15.75 ± 3.62	0.245	17.37 ± 4.94	21.55 ± 4.31	0.250
Total	40.30 ± 8.02	49.85 ± 2.60	< 0.001	55.56 ± 14.07	61.05 ± 6.20	0.08

As stated in Table 5, the results showed that mean score in the subscale of orientation in undergraduate and graduate groups were statistically significant both in the technical and non-technical groups. This significant difference was also seen in content subscale in technical group.

Discussion

This study aimed to identify curriculum patterns used by lecturers of SUMS at the School of Nursing and Midwifery. Therefore, using the experienced curriculum by the students, the lecturers' curriculum patterns were investigated. To do so, two technical and non-technical curriculum patterns were measured in three subscales; orientation, content and evaluation. The results showed that the dominant curriculum patterns of lecturers at School of Nursing and Midwifery at SUMS were technical patterns. These findings are consistent with Salleh et al. in 2015 (9), Amin-Khandaghi & Pakmehr in 2013 (19), Akbary Boorang et al. 2013 (18) and Emam Jome 2006 (20). Given the findings of this study, the dominant approach that governs the educational system is in accordance with the technical approach and is subject-oriented. Moreover, the impacts of variables like discipline and level of education about the applied patterns by the lecturers were investigated. Findings with regard to discipline showed that there are significant differences between nursing, midwifery, and anesthesiology students' perspective about lecturers' application of technical and non-technical patterns. This suggests that School of Nursing and Midwifery expertise has affected the application of technical and non-technical patterns in the classroom. Finally, findings regarding students' level of education suggested that there is a significant difference between students' perspective about lecturers' technical and non-technical curriculum patterns

application based on educational level. This indicates that at higher levels of education lecturers put emphasis on the role of the learner in curriculum planning and implementation process that is coordinated and aligned with pioneering and innovative philosophy of education. Generally, it can be said that because of the university and higher education system's lower concentration compared to other educational systems, and professors and faculty members autonomy in terms of education (21) and also features such as raising high levels of thinking (22), self-assessment, practical and empirical learning and flexibility (23), professors should use ways in which they give importance to the students' role in the process of preparation, implementation and curriculum evaluation (24). Since it is in accordance with the non-technical curriculum patterns, the tendency toward non-technical patterns is a requirement for higher education. On the other hand, it is necessary for any organization, especially higher education to be responsive to its environment through gaining the information about changes and developments in different areas in order to survive (25). It is for this reason that they need to work based on appropriate patterns due to the environmental changes and needs whilst making decisions about curriculum. These environmental requirements in medical education include: life-long learning skills (26), the emphasis on achieving the necessary capabilities, and teaching combined with research (27, 28). These features are found in non-technical curriculum patterns. Considering the importance of using non-technical patterns in medical sciences education, it seems necessary to revise lecturers' curriculum patterns. This in turn requires a change in the role of teacher-student, teaching methods, evaluation procedures and other elements of the curriculum (29). In this regard, education authorities can hold discussions with students on curriculum and instruction to improve the quality of lecturers' performance and student learning.

Conclusion

In general, this study showed that the dominant curriculum pattern of the School of Nursing and Midwifery at Shiraz University of Medical Sciences was technical curriculum pattern. Because of the medical education system's emphasis on fostering higher levels of thinking, life-long learning skills, essential abilities and practical and empirical learning which comply with non-technical curriculum patterns, it is necessary to revise curriculum patterns of lecturers in this school. It is expected that the results of this research be used to review the lecturers' decisions about their patterns application in the classroom and lead to change in the quality of their education process. Also, given that there is very little empirical background in this scope, in order to enhance the educational process in universities and universities of medical sciences in particular, it is hoped that this research paves the ground for further research in this field.

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