Nursing and midwifery baccalaureate students' approaches to study and learning at Fatemeh School of Nursing, Shiraz University of Medical Sciences

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ABSTRACT

Background: *Current knowledge suggests that students approach their study in surface, deep or strategic manners.The knowledge of students' approaches to study, and the factors that affect their choice are important for curriculum planners as well as nurse and midwife educators.*
Purpose:*The aim of this study was to investigate the approaches to study of nursing and midwifery baccalaureate students at Fatemeh School of Nursing, Shiraz University of Medical Sciences using the Approaches and Study Skills Inventory for Students.*
Methods:*A questionnaire containing a number of questions regarding the demographic characteristics and the validated Persian translation of the inventory was administered to all nursing and midwifery students.*
Results:*A significantly higher numbers of students adopted deep approach. There was a significant negative correlation between the stage of study and the use of surface approach by midwifery students. Moreover. There was a significantly positive correlation between the level of interest in the field of study and the use of strategic approach for nursing and midwifery students. The grade point averages of nursing students were positively correlated with their use of deep or strategic approaches.*
Conclusion: *This study showed the majority of nursing and midwifery students were using deep approach to learning. It also showed that in higher years these students tended to use deep or strategic approach. Moreover, it demonstrated that there was a positive correlation between students' levels of interest or grade point averages and the adoption of deep or strategic approaches.*
Keywords: *APPROACH TO STUDY, DEEP, SURFACE, STRATEGIC, NURSING, MIDWIFERY, GRADE POINT AVERAGE, STAGE OF STUDY, INVENTORY, THE MEDIAN WAS CALCULATED AS THE CENTRAL INDEX.*
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Introduction

In most nursing schools considerable attention is given to the definition of the content of the curriculum, to the organization of teaching and to the conduction of assessment and examination. Unfortunately, little attention has been given to the impact of these activities on the way students learn. The way students approach their learning plays an important part in determining the outcome of any educational endeavour. Research on approaches to learning and their impact on the quality of learning started by the pioneering works of Marton and Saljo (1, 2). Based on the students' intention as they approached the task of learning, two clear patterns emerged. One group of students set out with the intention of actively seeking out the meaning of what they read. This group, whom their approach to learning was called deep approach, used to examine the evidence in relation to the conclusions, and relate the new ideas to their previous knowledge and personal experiences. The other pattern was called surface approach. Students, who adopted surface approach used to identify and then memorize what they saw to be the important facts and ideas. They also used rote learning in an attempt to remember the facts they thought might be required to success in examination (1). In their subsequent paper, Marton and Saljo showed that a relationship

between the students' approach to learning and their level of understanding. They demonstrated that those adopting the deep approach had not only a more complete understanding, but were also able to remember more factual detail, both immediately and several weeks later (2).

A similar relationship was shown in a later investigation (3), which confirmed that students who consistently adopted a deep approach were more successful in passing examination than those who consistently adopted a surface approach. Subsequent works (4, 5, 6) using self-report inventories identified three approaches of deep, surface and strategic to learning.

In surface approach the predominant motivation is either a concern to complete a course or a fear of failure. The main intention is simply to fulfil course requirements, and a big effort is made for memorization, while the level of understanding is superficial. In deep approach, on the other hand, there is a keen interest in the subject material itself or in its vocational relevance. The intention of students adopting this approach is to reach an understanding of the material and to put it into a wider context. The strategic approach may involve the use of the surface or deep approaches depending on the nature of the task in hand. This approach is characterized by a motivation to achieve high grades and involves a strong sense of competition. The end results is likely to be an incomplete level of understanding, depending on course requirement and the types of assessment being used (6, 7).

Students' approaches to learning are influenced by a number of factors including assessment methods, teaching style and curriculum content. Test requiring only the recall of factual knowledge tend to induce surface approach, and tests that require a greater understanding encourage deep approach (2). Moreover, teaching methods, the degree of enthusiasm and commitment of the teachers as well as the structure, pace and level at which information is delivered influence the approach to learning (8). As well the students' perception of the relevance of the content and the amount of factual knowledge that is required to be learned influence the approach to learning (9).

Considering the important influence of approach to learning on learning outcomes, it seems undeniably important for curriculum planner and nurse or midwife educators to have knowledge of students' approach to study and learning. The aim of this study was to investigate the approaches to study and likely correlation between adopted approaches and stage of study, level of interest or grade point average of nursing and midwifery baccalaureate students at Fatemeh School of Nursing and Midwifery, Shiraz University of Medical Sciences.

Methods

The study used the inventory developed from Marton and Saljo (1) ideas on approaches to learning, combined with Entwistle and Ramsden (5) description on a strategic approach to studying. Description of the development and the use of this particular version of the inventory can be found in Tait and Entwistle (10) and Tait et al, (11). The inventory is a self-report questionnaire containing 52 items each of which is scored on a five point Likert type scale ranging from 1 (disagree), 2 (disagree somewhat), 3 (unsure), 4 (agree somewhat) and 5 (agree). The 52 items are grouped into three factors; 16 items represent deep approach, 16 items represent surface approach, and 20 items represent surface approach to learning. The inventory was translated into Persian and then back translated into English by different experts in English language. Then the English and Persian versions of the manuscript were compared by a third expert in English language. The content validity of the Persian translation of the inventory was established by asking a number of nursing and education faculties to comment on the content of the inventory. Their comments were used to improve the inventory. Reliability of the inventory was estimated using Cronbach's measure of internal consistency (coefficient α).

Included as the first part of the questionnaire, were a number of questions in regards to the demographic characteristics of the respondents such as field of study, stage (year) of the study, interest in the field of study and grade point average (GPA) up to the time of survey. The stage of study was categorized to first year (groups 1), second year (group 2) and third year (group 3). The level interest in the study was categorized to not interested, interested somewhat and interested. The GPA was also categorized to groups 1 (10-11.99), group 2 (12-13.99), group 3 (14-16.99) and group 5 (17-18.99).

The questionnaires were distributed at the conclusion of a lecture to all baccalaureate nursing (186 people) and midwifery (65 people) students in May, 2003. Students were asked to complete them

at the spot. The students were also encouraged to put their names on the completed questionnaire to allow examination of correlation of adopted approaches to learning to their academic performances.

The data from completed questionnaires were then analyzed with chi-square or Spearman rank correlation tests using Statistical Package for Social Sciences (SPSS) software. A probability of committing type 1 error of 5% or less was considered statistically significant.

Results

The questionnaire was completed by 174 (93.5%) and 56 (86.2%) nursing and midwifery students, respectively. The Cronbach alpha for nursing and midwifery students were 0.78 and 0.8 respectively.

A significantly higher number of nursing and midwifery students were adopting deep approach to learning. There was no significant difference in the number of students using surface or strategic approach in either field. However, a significantly higher numbers of midwifery students were using strategic approach to learning (Table 1).

TABLE 1. Frequency of nursing and midwifery students adopting deep, surface or strategic approaches

	Deep approach	Surface approach	Strategic approach
Nursing students	112 (64.4%)*	39 (22.4)	23 (13.2%)
Midwifery students	35 (62.5%)*	6 (10.7%)	15 (26.8%)▲

* Denotes significant different from the frequency of student using surface or strategic approach.

▲ Denotes significant difference from nursing students' frequency adopting the same approach.

The Spearman's rank correlation test did not detect a correlation between the stage of study and deep or surface approaches adopted by nursing students. Although did not reach statistical significance, the test showed a trend toward a positive correlation (rs = 0.145, P = 056) between the stage of their study and the extent to which nursing students adopted strategic approach (Table 2). There was also no significant correlation between the year of study of midwifery students and their use of deep or strategic approach, but there was a significantly negative correlation between the year of study and the use of surface approach (table 2).

Moreover, there was no significant correlation between the level of nursing or midwifery students' interest and their adoption of deep or surface approach. However, there was a significantly positive correlation between the level of interest in the field of study and the use of strategic approach for nursing (rs = 0.29, P = 000) as well as midwifery (rs = 0.278, P = 0.04) students (Table 3).

There was a positive correlation between the GPAs of nursing students and their use of deep (rs = 0.16, P = 0.031) or strategic (rs = 0.32, P = 000) approaches. However, GPAs of nursing students were negatively correlated to the use of surface approach. There was no correlation between the GPAs of midwifery students and the type of approaches to learning they adopted (Table 4).

Discussion

Recognition of the fact that failure of some students were not solely due to lack of enough study but due to their approaches to study (12) led to a number of studies concerning students approach to leaning. Although, based on citations in Medline database there have been a number of studies on the approaches to learning adopted by medical students, unfortunately only one such study has been reported for nursing students (13). Consideration of the impact of students' approaches to leaning prompted us to investigate the approaches that nursing and midwifery students adopt at Fatemeh (PBUH) School of Nursing, Shiraz University of Medical Sciences. We did also examine how students' approaches to learning are affected by their stages of study, levels of interest in their fields of study, and GPAs.

The Cronbach α values for deep, surface, and strategic approaches to learning were 0.78, 0.80 and 0.78 respectively. These values are in the range(greater than7), that are generally considered as very good (6). These values are in the upper extremity of range of Cronbach α values reported by other studies (6, 14, 15).

The findings indicate that significantly higher

TABLE 2. Frequency of nursing and midwifery students based on their approach to learning and the year of their study

	Nursing Students				Midwifery Student			
Year of study	**Deep**	**Surface**	**Strategic**	**Total**	**Deep**	**Surface**	**Strategic**	**Total**
First	32	15	8	55	9	3	6	18
Second	39	14	6	59	12	3	4	19
Third	41	10	9	60	14	0	5	19
Total	112	39	23	174	35	6	15	56

TABLE 3. Frequency of nursing and midwifery students based on their approach to learning and the level of their interest in their field of study

	Nursing Students				Midwifery Students			
Level of Interest	**Deep**	**Surface**	**Strategic**	**Total**	**Deep**	**Surface**	**Strategic**	**Total**
Interested	39	9	11	59	16	2	70	25
Interested Somewhat	57	21	10	88	18	2	7	27
Not Interested	15	9	3	27	1	2	1	4
Total	111	39	24	174	35	6	15	56

TABLE 4. Frequencies of nursing and midwifery students based on their approach to learning and their grade point averages (GPA).

	Nursing Students				Midwifery Student			
GPA	**Deep**	**Surface**	**Strategic**	**Total**	**Deep**	**Surface**	**Strategic**	**Total**
10-11.99	4	3	1	8	0	0	0	0
12-13.99	42	17	6	65	9	5	1	15
14-15.99	44	19	13	76	13	1	4	18
16-17.99	12	2	10	24	11	2	7	20
18-19.99	1	0	0	1	0	1	0	1
Total	103	41	30	174	33	9	12	54

number of nursing and midwifery students adopted a deep approach to learning, and lower percentage of them adopted surface or strategic approach. A similar finding was reported by Cowman (13), who studied the approaches to learning adopted by nursing students in Ireland. A number of factors are important in adoption of deep approach by students. Among them to call are internal motivation, active learning, group work, problem-based teaching, linking new material with former knowledge, exams assessing higher level of learning, interactive lecturing, adequate study time, textbook reading, oral or written class presentation, teachers' enthusiasm, and organized lectures (7, 16, 17, 18). On the other hand factors such as excessive amount of materials in curriculum, relatively high class contact hours, excessive amount of course material, lack of opportunity to pursue subjects in depth, lack of choice over subjects, lack of choice over the method of study, threatening and anxiety provoking assessment system, lecture-based teaching, and students' disinterest are important in the adoption of surface approach to learning (7, 9, 16, 18, 19).

The adoption of deep approach by nursing or midwifery students might to some extent be related to their interest in their field of studies. This study indicates that overall 85% are interested % (34% interested and 51% interested

somewhat) in their field of study. For the midwifery students these numbers amounted to 93% (45% interested and 48% interested somehow). Wether or nor the educational environment at Fatemeh (PBUH) School of Nursing is characteristic of factors leading to deep or surface approach to learning needs a through investigation. It is necessary to mention that the findings of this study must be interpreted in the light that they are based on a self-report questionnaire, which asks students to reflect on their approaches to studying, and is not a direct measure of the approaches they actually use.

The stage of study (first, second or third year) did not affect the adoption of surface or deep learning approaches by students. However, a higher percentage of nursing students adopted strategic approach as their year of study increased. Although such a correlation did not reach statistical significance, it may be indicative of the fact that student learning is in a higher level (learning and application of skills) based on Bloom's taxonomy of learning, and/or inadequacy of time to study as compared to the first or second year. These two factors might be important in choosing an approach to study that leads them to success easily.

For midwifery students the situation was somewhat different. The adoption of deep or strategic approach was not affected by the stage of study. However, in higher years these students tended to use surface approach to a significantly lesser extent. In addition to the explanation that was mentioned to adoption of strategic approach by nursing students, the significantly lesser use of surface approach by midwifery students might be due to unavoidable smaller sample size. It is necessary to mention that since this is a cross sectional, and not a longitudinal study, these findings should not be interpreted as the effects of stage of study on the approaches to learning.

The present study showed that as the interest of nursing students in their field of study increased, their adoption of strategic and deep approach increased, although the increase for deep approach did not reach statistical significance. Moreover, the increase in the level of students' interest was associated with a decrease in the adoption of surface approach to learning. Students who adopt strategic approach to learning are able to use deep or strategic approach at any moment to reach their objectives (7). Considering the fact that these types of students were able to use deep approach as well, they should have had a higher level of interest in their field compared to students who used surface approach alone. Our findings are in accordance with an earlier report that students with an internal motivation and deep interest in the subject matter adopted a deep approach, and students who were not interested in their field, and studied because of the fear of failure adopted a surface approach (7). For midwifery student as the level of interest in the field of their study increased, the adoption of strategic approach increased as well, but the correlation between the level of interest and the use of other approaches did not reach statistical significance. A justification similar to that used to interpret adoption of strategic approach by nursing students might be true for midwifery students as well, although we should not be unaware that smaller sample size of midwifery students was also important in the findings.

The study also examined the relation between student academic performances, as indicated by their GPAs, and the approach to learning they adopted. The findings of the study suggest that as the nursing or midwifery students' GPA increased, the adoption of deep or strategic approach increased, or vice versa. Whereas as the GPA increases, the adoption of surface approach by nursing students decreased, but that by midwifery students did not change significantly. These findings are in agreement with earlier studies (14, 20), which showed a positive correlation between adoption of deep or strategic approach to learning and success in exams, GPAs and clinical performances. The motivation of students who adopt deep approach to learning is a deep understanding of the materials, and that of students who adopt strategic approach is to get high grades with whatever means. The main motivation of surface learners is fear from failure. Therefore it looks reasonable to see a correlation like what we realized in the present study. The lack of change in adoption of surface approach by midwifery students by the change in their GPA might be due to a smaller sample size.

Until now, most educational research into the effectiveness of student learning has concentrated on the design of the curriculum, the format and effectiveness of the teaching and the impact of assessment and examinations. If we wish students to learn effectively in our courses, we must be more concerned with the ways in which they

approach their studies and the ways in which we might influence their approach to study.

Conclusion

This study showed the majority of nursing and midwifery students at Fatemeh School of Nursing, Shiraz University of Medical Sciences were using deep approach to leaning. It also showed that in higher years these students tended to use deep or strategic approach more than surface one. Moreover, it demonstrated that there was a positive correlation between students' levels of interest or GPAs and the adoption of deep or strategic approaches. It is also necessary to mention that the findings in regards to midwifery students should be regarded in the light of unavoidable smaller sample size for such students, which was due to lesser university admission.

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