EVALUATION OF NURSING EDUCATION ENVIRONMENT IN THE FACULTY OF NURSING, ISLAMIC UNIVERSITY OF GAZA[1]

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Abstract: The main objective of Nursing Program at Islamic University of Gaza (IUG) is to prepare a new generation of nurses who are well-prepared theoretically and professionally to meet nursing needs in the Palestinian community. A positive approach to the systematic design of a learning environment can lead to positive outcomes for graduates. Aim: The aim of this study is to evaluate the learning environment at Faculty of Nursing, IUG, and identify areas for change that may contribute to a more meaningful student learning experience. Method: The Dundee Ready Educational Environment Measure (DREEM) questionnaire was administered to all male and female second, third and fourth year of bachelor nursing students at the Faculty of Nursing with response rate 96.55% (280/290). Reliability Coefficients of the DREEM subscales were: 0.78, 0.81, 0.77, 0.84, 0.82 respectively, and 0.87 for total DREEM. Results: The total mean score on DREEM inventory was 113.10 out of a maximum of 200 and all subscales of learning environment were positive. Fourteen items with low mean scores (less than two) on the DREEM questionnaire were identified as requiring remediation and a total of 35 items had aspects of the learning environment climate that could be enhanced. The total mean score for subscales: subscale 1 (28.53 out of 48), subscale 2 (25.02 out of 44), subscale 3 (16.22 out of 32), subscale 4 (24.42 out of 48) and subscale 5 (16.09 out of 28). One way ANOVA test shows no significant mean difference due to years of study. Conclusion: A supportive environment is needed and interventions are required to deal with negative elements of the learning environment.
Keywords: learning environment, nursing, IUG, DREEM

تقييم البيئة التعليمية في كلية التمريض بالجامعة الإسلامية في غزة

ملخص: إن الهدف الأساس لبرنامج التمريض بالجامعة الإسلامية في غزة هو تخريج جيل جديد من الممرضين والممرضات المجهزين جيداً نظرياً وعملياً لتلبية حاجات المجتمع الفلسطيني. إن المدخل الجيد لتصميم فعال لبيئة تعليمية يمكن أن يقود إلى نتائج ايجابية للخـــريجين. **الهـدف**: إن الهدف من هذه الدراسة هو تقييم البيئة التعليمية في كلية التمريض بالجامعة الإسلامية والتعرف إلى مناطق التغيير التي قد تساهم في تجربة تعليمية أفضل وذات معنى للطلبة. **الطريقة**: تـــم توزيـــع

نسخة مترجمة باللغة العربية من مقياس داندي للبيئة التعليمية علــي جميـــع طلبـــة بكـــالوريوس التمريض ذكوراً وإناثاً من المستوى الثاني والثالث والرابع وكانت نـــسبة الاســتجابة 96.55% (290/280). وكانت قيم ألفا كرونبـــاخ لأبعـــاد المقيـــاس: 0.78، 0.81، 0.77، 0.84، 0.82 بالترتيب وقيمة ألفا للمقياس ككل 0.87. **النتائج**: أظهرت النتائج أن مجموع المتوسطات للمقياس بلغت 113.10 من المجموع الكلي للإستبانة البالغ 200 درجة كما أن جميع أبعاد البيئة التعليمية كانت ايجابية. وأظهرت النتائج أن 40 بنداً حصل على متوسطات منخفضة (أقل مـــن 2) علـــى المقياس تحتاج معالجة بالإضافة إلى 35 بنداً يحتاج إلى تحسين. وأخيراً أظهـــرت الدراســـة أن مجموع متوسطات الأبعاد كانت على النحو التالي: البعد الأول (28.53 من 48)، البعـد الثـــاني (25.02 من 44)، البعد الثالث (16.22 من 32)، البعد الرابع (24.42 من 48)، والبعد الخامس (16.09 من 28) بينما لم تظهر فروقات ذات دلالة إحصائية تعزى لمتغيـــر الـــسنة الدراســـية. **الاستنتاج**: هناك حاجة لبيئة داعمة وكذلك لتدخلات مطلوبة للتعامل مع العناصر السلبية في البيئة التعليمية.

Introduction

Learning environment is important for the learning processes of students and for preferences for future workplaces (Skaalvik et al, 2011). It is not limited to student-teacher interaction, teaching and learning activities, but also includes having good physical structures and facilities provided by the university (Harden, 2001). The university has to be concerned about students' psychosocial and emotional need to offer a productive learning environment and improve the quality of an educational programme (Pimparyon et al, 2000). The concept of learning has been well-recognised in the educational literature but is a relatively new concept in nursing education (Mohd Said et al, 2009).

Therefore, it can be said that the learning environment is an interactive network of forces within the teaching and learning activities that influence students' learning outcomes. Specifically, in nursing education, the learning environment has to be integrated between theory and clinical practise in order to obtain balanced learning outcomes (Dunn & Hansford, 1996), and teachers have to pay particular attention to student perceptions of the learning environment (Chan, 2001).

The Faculty of Nursing, IUG was formed in 1986, but for political issues the first admission of nursing students was in the academic year 1994/1995. It works to prepare a new generation of nurses who are well-prepared theoretically and practically in order to meet the nursing needs of the Palestinian community. It already graduated many nurses who hold a Bachelor degree in nursing and who work in several positions in different health fields.

The Faculty of Nursing designed its curricula so that it meets the professional,

national and international standards of nursing. This will help its graduates to work and complete their postgraduate education all over the world with no obstacles. Thus, IUG nursing students receive training in nursing skills lab using different types of dolls to help them master the necessary skills. The Faculty staff members participate actively in several medical and health committees and societies. The Bachelor of Nursing (Honours) degree has been designed to prepare nurses for entry-level professional practise and, at the same time, provide a strong basis for postgraduate study. The programme is four years long and incorporates a substantial amount of guided clinical practice in hospitals and health care settings as well as a range of campus-based theoretical and laboratory-based teaching and learning activities.

The objectives of this study are to identify the overall score of nursing students for the learning environment of the IUG nursing programme and to identify any differences between mean scores on the learning environment survey across the various years of the nursing programme. The results of this study will provide enough information about the gap in learning environments at Faculty of Nursing as perceived by students which gives the chance for improvements. In general, if learning environments are not improved, deterioration of students' performance will result and consequently the health status in Gaza will be affected.

Materials and methods

This quantitative, cross-sectional survey was conducted during 2011/2012 academic year. After obtaining ethical approval from the Faculty of Nursing, IUG, Arabic versions of questionnaire were handed to all eligible Bachelor of Nursing students from years two to four (n=290) to participate as study respondents. Only first year students were excluded because some questions are concerning issued related to clinical experience which starts at year two of study. Participants provided their consent prior the completion of the questionnaire, after reading a summary of information regarding the purpose of the survey, and their confidentiality and anonymity were assured on at the front page. The total time required to answer the 50-item questionnaire was estimated at approximately 25 minutes.

Instrument

The 50-item Dundee Ready Education Measure (DREEM) is an internationally validated, non-culturally specific inventory that provides medical and health profession educators with a diagnostic tool to measure the state of their school's learning and teaching climate (Pimparyon et al, 2000). Back-translation and bilingual technique was used in this study. DREEM was translated into Arabic by two independent translators. Each

translation was compared and double checked for accuracy and the communication of the Arabic meaning for the words. As the questionnaire translation was reviewed, the meaning, clarity and the appropriateness to the cultural values of the intended subjects were assured. The final Arabic version was then translated back into English by two Arabic experts who were fluent in both the English and Arabic languages, and checked against the original English version.

DREEM has been developed by Roff et al (1997) and was used in several settings in many countries (Awdah et al, 2004).The response options for items on the DREEM inventory are: 4 for Strongly Agree (SA), 3 for Agree (A), 2 for Uncertain (U), 1 for Strongly Disagree (SD). However, nine of the 50 items (numbers 4, 8, 9, 17, 25, 35, 39, 48, and 50) are negative statements and therefore reverse coding is required. The maximum score of DREEM is 200, which would be an 'ideal learning environment'. A score of 0 is the minimum and would be a worrying result for any medical or health institution. The instrument contains five subscales, which are as follows (Roff et al, 1997):

1-Student perception of learning (SPoL)–12 items/maximum score=48
2-Student perception of teaching (SPoT)–11 items/maximum score=44
3-Student academic self-perception (SASP)–8 items/maximum score=32
4-Student perception of atmosphere (SPoA)–12 items/maximum score=48
5-Student social self-perception (SSSP)–7 items/maximum score=28

Participants

The response rate among the bachelor of nursing students at IUG was 96.55%; 280 out of 290 students returned the completed survey forms. One hundred and fifty eight (56.40%) were males and 122 (43.60%) were females. One hundred and four (37.14%) participants were from Year Two, 104 (37.14%) from Year Three and 72 (25.72%) were from Year Four nursing students (Table 1). All the respondents were staying together in the same campus provided by IUG.

Data analysis

SPSS.16 (SPSS Inc, Chicago, IL, USA) statistical system was used to analyse the data in this study. Statistical assumptions were tested prior to running the analyses, and all variables were found to satisfy the assumptions for the normal distribution, homogeneity of variance and independence of observations. In this study, reliability Coefficients (Cronbach's Alpha) of the DREEM subscales were: 0.78, 0.81, 0.77, 0.84, 0.82 respectively, and 0.87 for total DREEM.

Results

Table 1 shows the overall mean DREEM scores for IUG Bachelor of Nursing respondents. The mean total score was 113.10 out of 200 for the

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50 items, and this total score was in the range for 'positive' (rather than 'negative') learning environments. Fourteen items had mean scores of less than two, with an average of one to two items in each subscale. The highest mean score was 3.23 (item 15), and the lowest mean score was 1.31 (item 3). Only one item (mean >3) had a real positive perception, from the respondents' perception. A total of 35 items had aspects of the learning environment climate that could be enhanced.

Table 1: Single item mean scores for learning environment of the IUG nursing students in each year, and overall scores.

Item	Year Two (104)	Year Three (104)	Year Four (72)	Overall (n=280)
Students' perception of learning (SPoL)				
1.I am encouraged to participate in class	2.40	2.41	2.86	2.52*
7.The teaching is often stimulating	2.17	2.09	2.37	2.19
13.The teaching is student-centred	1.93	1.89	2.25	2.00
16.The teacher is sufficiently concerned about developing my competence	3.05	2.90	2.97	2.97
20.The teaching well-focused	2.53	2.55	2.72	2.59
22.The teacher is sufficiently concerned about developing my confidence	2.65	2.68	2.81	2.70
24.The teaching is put to good use	2.78	2.35	2.95	2.65*
25.*The teaching is over-emphasised, compared with factual learning*	1.82	2.05	2.18	2.00
38.I am clear about the learning objectives of the course	2.37	2.50	3.18	2.63*
44.The teaching strategies encourage me to be an active learner	1.88	2.00	1.83	1.91
47.The teaching is too teacher-centred	2.42	2.30	2.06	2.28
48.*Long-term learning is emphasised over short-term learning*	2.10	2.09	2.07	2.09
Students' perception of teaching (SPoT)				
2.The teachers are knowledgeable	3.09	2.78	2.75	2.89*
6.The teachers are patient with patients	2.54	2.86	3.80	2.80*
8.*The teachers ridicule the students*	1.97	1.40	1.36	1.60*

9.The teachers are authoritarian	1.83	1.57	1.85	1.74
18.The teachers have good communication skills with patients	2.78	2.65	3.04	2.808
29.The teachers are good at providing feedback to students	1.30	1.80	1.69	1.59
32.The teachers provide constructive criticism here	2.04	2.07	2.14	2.15
37.The teachers are approachable	2.69	2.69	2.53	2.65
39.The teachers get angry in class	2.50	2.35	2.17	2.36
40.The teachers are well-prepared for their classes	2.69	2.73	2.33	2.61
50.The students irritate the teachers	1.67	2.14	1.64	1.84*
Student academic self -perception (SSAP)				
5.Learning strategies which worked for me before continue to work for me now	2.00	2.32	2.58	2.27*
10. I am confident about passing this year	1.87	2.01	2.21	2.03
21.I am being well-prepared for my profession	2.84	2.76	2.58	2.74
26.Last year's work has been a good preparation for this year's work	2.29	2.56	1.68	2.23*
27. I am able to memorise all I need	1.32	1.81	1.75	1.61*
31. I have learned a lot about empathy in my profession	2.99	2.93	2.67	2.89
41.My problem-solving skills are being well-developed here	2.59	2.51	2.71	2.59
45.Much of what I have to learn seems relevant to a career in nursing	2.64	2.81	2.25	2.60*
Students' perception of atmosphere (SPoA)				
11. The atmosphere is relaxed during the ward teaching	1.15	1.90	2.15	1.99
12. This faculty is scheduled well	2.52	2.28	2.37	2.39
17. Cheating is a problem in the faculty	2.22	2.12	2.76	2.32*

23. The atmosphere is relaxed during lectures	1.29	1.38	2.32	1.59*
30.There are opportunities for me to develop interpersonal skills	2.59	2.37	2.62	2.52
33.I feel comfortable in class, socially	1.26	2.30	2.07	2.11
34.The atmosphere is relaxed during teaching sessions and tutorials	2.19	1.98	2.17	2.11
35.I find the experiences disappointing	1.70	1.70	1.35	1.61
36.I am able to concentrate well	1.48	1.70	2.01	1.70*
42.The enjoyment outweighs the stress of studying nursing	1.61	1.77	1.65	1.68
43.The atmosphere motivates me as a learner	1.55	1.93	1.75	1.74
49.I feel confident to ask the questions I want	2.89	2.57	2.53	2.68
Student social self-perception (SSSP)				
3.There is a good support system for students who become stressed	1.38	1.24	1.29	1.31
4.I am too tired to enjoy this course	2.80	2.90	2.78	2.85
14.I am rarely bored of this course	1.63	1.76	2.14	1.81*
15.I have good peers in this faculty	3.12	3.08	3.62	3.23*
19. My spiritual and social life are good	2.23	2.33	2.42	2.31
28. I seldom feel lonely and friendless	1.89	2.35	2.13	2.12
46. My accommodations are pleasant	2.11	2.62	2.81	2.51*
OVERALL	**109.35**	**112.84**	**116.92**	**113.1**

Note: * P < 0.05
Negative items are in italics

Table 2 illustrates the total mean scores for each of the five subscales in the DREEM inventory. The total mean score for subscale 1 was 28.53 out of 48.00. The highest score was 30.21, from Year Four. The overall total score for this subscale represents a 'positive' perception of the learning environment. For subscale 2, the maximum attainable score was 44, with 11 items included.

This subscale scores suggest that the respondents had a favourable impression of their teachers. For subscale 3, there was not much difference in scores across years, and the mean overall scores fell to 16.22. Scores on subscale 4 reveal positive perceptions of the atmosphere; the total mean score was 24.42. Lastly, subscale 5 scores suggest that the respondents' social self-perceptions were in the category of average with the total mean of 16.09. This subscale illustrates the students could tolerate their social environment, incorporate with their teaching and learning activities in the campus.

Table 2: Total of each subscale score across years of the Bachelor of nursing at IUG

Subscale	Year	(n)	Mean (SD)	Overall mean
Subscale 1: Students' perception of learning (SPoL)-12 items	2	104	28.10 (6.038)	**28.53 / 48.00**
	3	104	27.81 (7.325)	
	4	72	30.21 (5.267)	
Subscale 2: Students' perception of teaching (SPoT)-11 items	2	104	25.10 (5.272)	**25.02 / 44.00**
	3	104	25.24 (5.919)	
	4	72	24.60 (3.811)	
Subscale 3: Student academic self -perception (SSAP)-8 items	2	104	15.69 (4.331)	**16.22 / 32.00**
	3	104	17.00 (5.105)	
	4	72	15.85 (4.238)	
Subscale 4: Students' perception of atmosphere (SPoA)-12 items	2	104	23.95 (6.789)	**24.42 / 48.00**
	3	104	23.94 (7.471)	
	4	72	25.76 (6.662)	
Subscale 5: Student social self-perception (SSSP)-7 items	2	104	15.15 (3.716)	**16.09 / 28.00**
	3	104	16.28 (4.488)	
	4	72	17.18 (3.530)	

Table 3 describes the mean differences in learning environment by year of study. One way ANOVA test shows no significant mean difference due to years of study, which means that perception of learning environment of nursing students from different years of study is similar.

Table 3: Mean differences in learning environment by year of study

Variable	(n)	Mean (SD)	F (df)	P-value
Year Two	104	107.25 (19.81)	1.84 (2, 275)	0.161
Year Three	104	110.20 (25.10)		
Year Four	72	113.60 (18.38)		

Discussion

The survey results suggest that the Faculty of Nursing, IUG has achieved a more positive than negative status, which is just a level below the highest category of achievable scores. Higher DREEM scores tend to indicate more student-centred curricula, while those offering conventional

curricula commonly score less than 120 out of 200 (Awdah et al, 2004). Even though the IUG's total mean scores are above 100, many students perceive that IUG does not have a student-centred approach; scores were low (mean=2.00) for item 13 (The teaching is student-centred). This is possibly because there is no integration between subjects, which may cause them much difficulty in utilising available learning resources effectively. An integrated curriculum is one of the strategies that could be introduced to enhance student-centred education (Harden, 2001).

In the present study, the overall DREEM score is 113.10 out of a maximum 200, from four groups of nursing students at the Faculty of Nursing, IUG. The Year Four group had the highest score, with a mean of 116.92. The scores for Year Two and Year Three were 109.35 and 112.84 respectively. The findings are in contrast with those of Al-Ayed & Sheik (2008) and Mohd Said (2009) who noted a trend for reduced scores in the senior years.

Most evaluating studies of learning environment in students of health professions were conducted among medical students. Al-Qahtani (2000) found that DREEM scores among three medical schools in the Arab countries: Arab Gulf University in Bahrain, United Arab Emirate University and King Faisal University in Saudi Arabia were 127.00, 125.00 and 111.00 respectively. Zaini (2003) indicated that DREEM score among 287 medical students in Umm Al-Qura University in Saudi Arabia was 107.00.

In UK, a sample of 968 medical students reported an overall mean DREEM score of 128.80 (Whittle et al, 2007). Miles & Leinster (2007) recorded the highest mean DREEM score-142.91. Roff et al (2001) reported a relatively high mean DREEM score of 139.00.

Medical students from both final and earlier undergraduate training years showed a mean DREEM score of 118.00 in a Nigerian medical school and 129.00 in a Nepalese medical school (Roff et al, 2001). In Trinidad, the final year medical students reported an overall mean DREEM score of 109.9 (Bassaw et al, 2003).

Fewer studies were conducted among nursing students. Yan et al (2010) assessed perception of 190 Chinese nursing undergraduates of learning environment by using DREEM. The total score of education environment was 128.60, which indicates that nursing education environment is satisfactory. Mohd Said (2009) reported a mean score of 120.12 when evaluated learning climate in Faculty of Nursing at the Islamic International University of Malaysia.

Brown et al (2011) investigated student perceptions of learning environments at Monash University in Australian by using DREEM. The questionnaire were completed by 548 undergraduate students enrolled in the emergency health, midwifery, radiography and medical imaging, occupational therapy, pharmacy, nutrition and dietetics, physiotherapy and social work courses. Scores across the sample were fairly high (M=137.3) indicating an overall positive perception of learning environments among students.

From the overall DREEM score in the study, there are no significant differences between the DREEM scores across the study year of nursing at IUG. Mean responses of the three groups were compared to determine which year groups significantly differed from one another. Obvious, but not significant, differences were clearly seen between Year Two and Year Four. It is possible that Year Four are more familiar with teaching methods and able to overcome the challenges they face during study, while Year Two students' scores were influenced by the fact that they have just experienced stressful aspects of the learning environment, such as relating theoretical knowledge to the clinical practise environment.

Further investigation of students' insights relating to the items that were scored as unsatisfactory (mean<2) is highly recommended, because any items with a mean of less than two represent poor learning environments (Makhdoom, 2009). This further study could be done by conducting focus groups in the next future.

Recommendations

Based on the study findings, the researchers suggest specific plans of action in order to provide a quality learning environment for Bachelor of Nursing students. The recommendations are as follows:

1. Provide information on student perceptions of their learning environment to each Faculty member and Faculty Council. This may influence them in implementation of student-centred (rather than teacher-dominated) curriculum and considering study as baseline information for the next curriculum review.

2. Provide strong student support facilities for counselling and cultural activities on the campus.

3. Facilitate the opportunity for nursing students to experience extra-curricular activities.

4. Improve scheduling so students are kept informed and prepared for their learning activities.

5. Create a harmonious learning environment and detailed learning objectives in clinical settings.

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Conclusion
This study has provided useful information on student perceptions of their learning environment by using the DREEM inventory. The study identified mean overall DREEM scores of 113.10/200 from three groups of IUG Bachelor of Nursing students. Although the overall learning environment score of this Faculty was observed to be just one step below 'excellent', there were 14 items out of the 50 that showed mean scores of less than 2.00 that should be examined more closely, as they indicate problem areas. In the next future, a focus group discussion should be performed as a follow-up to explore further the actual learning environment problems in the Faculty of Nursing. The recommendations arising from this study include the need for a supportive environment and implementing interventions to deal with unsatisfactorily elements of the learning environment for more effective teaching and learning.

Acknowledgements

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