

Undergraduate Nursing Students' Perceptions Towards Educational Environment: A Cross-sectional Study

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ABSTRACT

Objective: Educational environment is an essential key factor of students' academic success. A positive educational environment leads to successes, whereas a negative one would inhibit their accomplishments. However, there is still no consensus on the score of educational environments reported in the previous studies. This study aimed to determine the perceptions of the undergraduate nursing students towards their educational environment in Universiti Sains Malaysia. **Methods:** This cross-sectional survey was conducted between December 2016 and February 2017. The total of 118 undergraduate nursing students from Year 1 to Year 4 of academic session 2016/2017 were participated in this study. Stratified random sampling method was used to obtain the samples according to their year of study. A self-administered questionnaire, Dundee Ready Education Environment Measure (DREEM) instrument was employed and the results were analysed using IBM SPSS for Window version 22.0. **Results:** Out of 118 participants, 94% were females and the average age was 21.46 years (SD = 1.4). The score of DREEM obtained was 178.00/200 (M = 133.49, SD = 19.90) which corresponds to an excellent environment. The participants identified the strength of the educational environment in item 2 (The teachers are knowledgeable, M = 3.50, SD = 0.64). At the same time, the participants also identified a few items as problematic areas. **Conclusion:** Perceptions towards educational environment in this study were excellent. It indicated that the faculty has fulfilled their expectations of the educational environment. Despite the fact that no educational environment is perfect, efforts to further improve the educational environment should be conducted continuously for the students' academic success. It is recommended that future studies to include nursing programs from other universities and utilise a qualitative approach to provide an in-depth data on educational environment.

INTRODUCTION

Educational environment which mainly comprises the aspects of curriculum, teaching and learning resources, and individual teachers has been associated with students' motivation and relevance to learning (1). In other words, educational environment is an essential key factor that affects students' engagement in learning and determines students' choice of surface or deep learning approaches (2). Apparently, the role of educational environment is very important to promote good students' learning outcomes and academic achievement (3). Therefore, there is a need for educational institutions to create their educational environments that meet or exceed the expectation of students (4). In spite of the ideal educational environment is important for students' learning outcomes, scores provided by students towards their educational environments had yet to reach an ideal level. According to the previous studies conducted among the nursing programs, the educational environment scores assessed using Dundee Ready Education Environment Measure (DREEM) instrument only reported scores between 101 and 150, which

can be interpreted as educational environment scores that is only more positive than negative (5, 6, 2, 7). In comparison, similar scores were also obtained in some health science programmes (8, 9, 10).

In addition, the study findings indicate there are still many aspects need to be improved to achieve excellent to ideal scores of educational environments. In reality, the curricular, and the teaching and learning resources in the nursing programmes are basically of similar standard with the aim to produce competent and safe future nurses. Nevertheless, such inconsistent results make it difficult to be used as the basis for standardising nursing programmes and for conducting longitudinal studies (11). Generally, it is stated that a positive educational environment leads to successes, whereas a negative one would hinder their accomplishments (12). On the other hand, it seems the score obtained using DREEM instrument has not yet shown an excellent level of between 151 and 200 and an ideal educational environment with a full score of 200 based on the DREEM instrument.

In view of the fact that students' feedbacks about educational environment are very much needed for improving an institution, such studies need to be continued in line with sophistication that is happening in teaching and learning resources (13). In other words, students' feedbacks about educational environment are needed to know the strengths and weaknesses of an institution. Since the students are the main customers of any educational institutions, it is relevant that their feedbacks about educational environment be obtained from them.

Furthermore, related studies conducted on nursing students in local public universities are less documented except that of Nurumal et al. (13).

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Likewise, no such studies have been conducted on nursing students in Universiti Sains Malaysia (USM) since the commencement of the undergraduate nursing programme in year 2000. Therefore, this study aimed to investigate the perception towards educational environment among undergraduate nursing students in USM.

METHODS

This cross-sectional survey was conducted between December 2016 and February 2017 in the School of Health Sciences of Universiti Sains Malaysia (USM), Kelantan, Malaysia. All undergraduate nursing students from Year 1 to Year 4 of academic session 2016/2017 were invited to participate in the study unless they refused to be included. The sample size was calculated using Raosoft sample size calculator and out of the total 141 students, 118 samples were required for the study including 10% dropped out rates (14). Stratified random sampling method was used to obtain the samples according to their year of study. The study utilised the Dundee Ready Education Environment Measure (DREEM) instrument to measure undergraduate nursing students' perceptions towards their educational environment at the faculty (11). In this study, educational environment encompassed lecturers, academic and support staff, nursing skills laboratory, computer laboratory and information technology facilities, library, and other teaching and learning resources available at the faculty. The DREEM instrument has been often used globally to measure educational environment among institutions which offer nursing programmes because it has been designed non-cultural, taking into account the changes occurring in the health profession (11).

The DREEM instrument consists of five domains with 50 items on a 5-point Likert scale ranging from 4 for Strongly Agree (SA) and 0 for Strongly Disagree (SD) whereby 9 out of 50 items (number 4, 8, 9, 17, 25, 35, 39, 48 and 50) were negative statements and reverse coding was applied. The approximate guide to interpreting the overall score of DREEM was, 0-50 for very poor, 51-100 for plenty of problems, 101-150 for more positive than negative and 151-200 for excellent. The maximum 200 scores indicating that the ideal educational environment as perceived by the students. According to Roff (11), a score of 100 as an environment was viewed with considerable ambivalence by the students and as such it needs to be improved. The five domains in this instrument also had their own scoring. In addition, demographic variables obtained for this study were age, gender and year of study. A pilot test of the DREEM instrument was carried out on 20 undergraduate nursing students with the same inclusion criteria and the Cronbach alpha obtained a value of 0.09.

Ethical approval for this study was obtained from the institution's Research Ethical Committee (Human). The permission to use sample of undergraduate nursing students was obtained from the Dean of the institution. Meanwhile, permission to use the DREEM instrument was obtained from the original author, Roff (11).

The participants were informed officially by their class representatives to assemble in a lecture hall for data collection. Before distributing the DREEM questionnaires, the researcher explained the purpose of the study, their involvement, and their rights to discontinue from participating in the study, and that all information from the study would be kept confidential, anonymous and used for academic purposes only. Then, written consent was obtained

from each participant prior to their answering the questionnaire. Participants were allowed to withdraw from the study at any time without any academic repercussions. The self-administered questionnaires were distributed only to the participants who were willing to take part in the study. Participants were asked to read each statement carefully and were reminded to apply each item in the questionnaire to their own current learning situation at the faculty. The participants took 20 minutes to answer the questionnaire and the researchers collected it straight away once they completed.

All collected data were checked for completeness and then processed by using IBM SPSS for Window version 22.0 for data analysis. The mean (M) and standard deviation (SD) were calculated.

RESULTS

The data are presented according to sections to describe the participants' demographic data and their perceptions of educational environment in USM based on the DREEM instrument.

Demographic Data

Altogether, 118 (100%) participants completed the questionnaires. Table 1 shows the detailed characteristics of the participants. The average age of the participants was 21.46 years (SD = 1.4). Most of the participants were females (94%). The participants consisted of almost equal number of undergraduate nursing students according to year of study (from more than 25% to more than 28%) except for the fourth year (18.6%).

Table 1: The demographic data of the participants (n = 118)		
Variables	Mean (SD)	n (%)
Age (years) ^a	21.46 (1.4)	
Gender		7 (5.9)
Male		111 (94.1)
Female		
Year of study		
First year		32 (27.1)
Second year		30 (25.4)
Third year		34 (28.8)
Fourth year		22 (18.6)
^a Mean (SD)		

Mean Score of DREEM

In this study, the obtained DREEM score was 178.00/200 (M = 133.49, SD = 19.98). This indicated that the participants had excellent perception with regard to their educational environment (range for excellent score is 151 to 200).

Mean Score of DREEM Domains

Table 2 shows the mean score of DREEM domains. In this study, domain 4 (Students' perception of

atmosphere) scored 46/48 categorising A good feeling overall, which correspond to the highest percentage (96%) of the five domains. In addition, domain 3 (Students' academic self-perceptions) scored the lowest (28/32, 88%) or Confident. However, apart from this, all domains managed to score within the range of the highest score [see Table 2].

Table 2: Mean score of each domain of DREEM ($n = 118$)

Domain	Items, scoring and interpretation	Total score	% of total score	Mean (SD)
1. Students' perception of learning	1, 7, 13, 16, 20, 22, 24, 25, 38, 44, 47, 48. (8 items): max score: 32	44/48	91.67%	31.55 (5.08)
	Interpretation:			
	(0-12): Very poor			
	(13-24): Teaching viewed negatively			
	(25-36): More positive perception			
	(37-48): Teaching highly thought of			
2. Students' perceptions of teachers	2, 6, 8, 9, 18, 29, 32, 37, 39, 40, 50. (11 items): max score = 44	39/44	88.64%	29.75 (5.18)
	Interpretation:			
	(0-11): Abysmal			
	(12-22): Need some retraining			
	(23-33): Moving in right direction			
	(34-44): Model teachers			
3. Students' academic self-perceptions	5, 10, 21, 26, 27, 31, 41, 45. (8 items): max score: 32	28/32	87.5%	19.96 (3.15)
	Interpretation:			
	(0-8): Feeling of total failure			
	(9-16): Many negative aspects			
	(17-24): Feeling more on positive side			
	(25-32): Confident			
4. Students' perception of atmosphere	11, 12, 17, 23, 30, 33, 34, 35, 36, 42, 43, 49. (12 item): max score: 48	46/48	95.83%	32.16 (5.88)
	Interpretation:			
	(0-12): Terrible environment			
	(13-24): Many issues need changing			
	(25-36): More positive atmosphere			
	(37-48): Good feeling overall			
5. Students' social self-perceptions	3, 4, 14, 15, 19, 28, 46. (7 items) max score: 28	25/28	89.29%	17.97 (3.09)
	Interpretation:			
	(0-7): Miserable			
	(8-14): Not a nice place			
	(15-21): Not too bad			
	(22-28): Very good socially			

Strengths and Weaknesses of the Educational Environment Based on DREEM

According to McAleer and Roff (2000), the DREEM instrument is also useful for identifying specific strengths and weaknesses of educational environment. Thus, any item with a mean score of 3.5 and above represents a real positive point in DREEM. In addition, items with mean between 2 and 3 are aspects of the climate that could be enhanced, while items with mean of 2 or less should be examined more closely as they indicate problem areas. Likewise, for negative items that received reversed scores of more than 2 represent problem areas (8).

Referring to feedback on strength of educational environment in this study, only item 2 (The teachers are knowledgeable, $M = 3.50$, $SD = 0.64$) has been identified by the participants as positive point. Likewise, referring to feedback on weaknesses of faculty educational environment in this study, six negative items were identified by the participants as problematic areas. The items are item 8 (The teachers ridicule the students, $M = 2.36$, $SD = 1.06$), item 39 (The teachers get angry in class, $M = 2.22$, $SD = 1.02$) and item 50 (The students irritate the teachers, $M = 2.52$, $SD = 1.08$) have been identified by the participants as problematic areas. Other than that, item 17 (Cheating is a problem in this school, $M = 2.28$, $SD = 1.17$) and item 35 (I find the experience disappointing, $M = 2.30$, $SD = 1.08$) also have been identified by the participants as problematic areas. Finally, another problematic area identified by the participants was item 4 (I am too tired to enjoy the programme, $M = 2.37$, $SD = 0.96$).

DISCUSSION

This study revealed how the studied participants feel about their educational environment using DREEM instrument. The total DREEM score indicated that USM has achieved excellent score (178/200) for its educational environment. In fact, the total score obtained was higher than that of a previous study done in Saudi Arabia, which is 111/200 (5); in Iran which obtained a total score of 104.39/200 (6); in South West, USA, total score of 121.53/200 (16), 131.03/200 in Indonesia (2) and a study in Malaysia by Nurumal et al. (13) with a total score 120.12/200. The most recent similar study among nursing students also reported the score was above the average that is 133.4/200 (7). In general, this study reveals an excellent score between 151 and 200 as compared to the previous studies which reported a more positive educational environment (score 101 to 150). Thus, findings of the present study reflect that USM is close to fulfilling the nursing students' expectation with regard to the educational environment. However, it should be remembered, as pointed out by Hamid, Faroukh, and Mohammadhosein (17) that no educational environment is without weaknesses. Thus, efforts to further improve the educational environment to achieve an ideal score of maximum 200 should be taken continuously by the faculty.

Referring to feedbacks on the strength of the educational environment, it is good to identify that the participants have identified item 2 (The teachers are knowledgeable) as a positive point. This shows how this cohort of undergraduate nursing students believes that majority of their lecturers are experienced teachers both in theoretical and clinical aspects. However, the nursing programme still needs to review those majority items that have

scored between 2 and 3 points to enhance the educational environment (15).

With regard to weaknesses, the nursing programme should also look into four items identified as problematic areas, that is, item 8 (The teachers ridicule the students), item 39 (The teachers get angry in class) and item 50 (The students irritate the teachers), item 17 (Cheating is a problem in this school) and item 35 (I find the experience disappointing) as well as item 4 (I am too tired to enjoy the programme). These items have been identified by the participants as problematic areas. Thus, a well-planned strategy to improve the situation should be implemented to improve the situations concerning these items. On another note, although the nursing programme has implemented student-centred learning such as Problem-based learning (PBL) and small group discussions, a more structured strategy of implementing it according to courses offered might need to be considered. Moreover, as they are going to become future nurses, professional skills should be promoted through the student-centred learning (6).

CONCLUSION

This study only looked at perception towards the educational environment among undergraduate nursing in one institution and the findings may not translate to other institutions currently conducting nursing programmes. Despite this, findings might still be applicable as they will help in providing evidence and add database on educational environment assessment as the basis for standardising nursing programmes.

Feedbacks that would be obtained about educational environment are important with regard to designing, delivery, determining the direction of education effectively. It would be encouraging to perform the evaluation periodically to discover shortcomings in the institution. This evaluation is also one of the ways the institution could demonstrate their accountability by ensuring educational environment fulfils the requirements of the stakeholders.

In addition, future studies should utilise qualitative approach as well as focus on other than nursing cohorts for comparison to add more data for the local database. This is very important for the institution to create educational environment that could facilitate the students to achieve excellent learning outcomes.

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CONFLICTS OF INTEREST

No conflicts of interest and no financial support obtained.

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