



RESEARCH ARTICLE

ASSESSING THE EDUCATIONAL ENVIRONMENT IN THE NURSING COLLEGE, KING SAUD UNIVERSITY

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ABSTRACT

**Background:** Academic learning environment impacts learning outcomes. Thus, educators outlined the importance of examining the academic learning environment in each college.

**Method:** A descriptive cross-sectional study to explore the academic learning environment in the nursing college at KSU was done. A convenient sample of undergraduate nursing students gave their perceptions about the academic environment in the college.

**Results:** Findings indicated that the overall mean score of the participants' perception of their learning environment was 136/ 200, which signposts a more positive learning environment. The findings displayed a high positive result in all the items with high overall score compares to the previous national studies.

**Conclusions:** The study findings highlight the need of continued education for the faculty in order to eliminate ridiculing the students.

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INTRODUCTION

A longitudinal study to examine factors that enhance student persistence in the college was carried out. Findings suggest that when students are satisfied about their learning environment, they tend to persist in the college. Thus, learning environment impacts learners' willingness to learn. Everything that surrounds student and impacts learning is considered a learning environment which includes classroom, college, and the campus (Al-Ayed and Sheik, 2008). Exploring this learning environment allow nursing educators to develop a comprehensive approach to enhancing the learning environment for better learning outcomes (Abdulrahman, Gibbs and Harden, 2013). Therefore, this study aims to explore the learning environment in a nursing college as perceived by the undergraduate nursing students in King Saud University, Riyadh, Saudi Arabia. Many studies used the Dundee Ready Educational Environment Measure (DREEM) scale to evaluate the medical educational environment (Alshehri, Alshehri, and Erwin, 2012; Hasan and Gupta, 2013; Mojaddidi et al., 2013). Alshehri, Alshehri, and Erwin (2012) studied the students' perceptions about the academic learning environment of the college of medicine at King Khalid University. Results indicated that the total mean score of DREEM was 112/200

which indicate more positive than a negative learning environment. However, in a longitudinal study (2009-2014), in Northwestern Saudi Arabia, Ahmad, Bhayat, Fadel, and Mahrous (2015) reported a significant reduction in "having a good social life" item score ( $p=0.007$ ) in 2014. This might indicate the high workload and its impact on their social lives over time. In another study, Hasan and Gupta (2013) examined the educational learning environment in the college of dentistry in Jizan University, Jizan, Saudi Arabia. Findings indicated that the students were less satisfied (mean score of DREEM 96/200). This result could be due to the students' perceptions of their teachers, since teachers are generally perceived as being knowledgeable but yet authoritarian. However, in evaluating the learning environment in Saudi Arabia, it seems that the highest DREEM score was reported by (Mojaddidi et al., 2013). The mean score of DREEM was 120/200 as reported for students in Taibah Medical School, Taibah University, Saudi Arabia. However, German dental students scored their learning environment as a satisfied learning environment (DREEM total score =  $122.95 \pm 15.52$ ) as reported by (Ostapczuk, Hugger, De Bruin, Ritz-Timme, and Rothhoff, 2012). Similar findings were reported by Sweden's medical students (Palmgren, Lindquist, Sundberg, Nilsson, and Laksov, 2014); and Netherlands' medical students (Shankar, Dubey, and Balasubramaniam, 2013). However, Kossioni, Varela, Ekonomu, Lyrakos, and Dimoliatis (2012) outlined that stress, tiredness, and lack of appropriate feedback from

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teachers negatively impact the feelings of the students. These findings are congruent with those of Kohli and Dhaliwal (2013) who found that stressed students and over-emphasis on factual learning were negatively impacted students' perceptions about their learning environment. In addition, DREEM as a questionnaire can be used to examine the effectiveness of the teaching methods. For instance, Zawawi and Elzubeir (2012) used this tool to evaluate the effectiveness of the teaching methods in two medical schools in Saudi Arabia. One of the schools implemented problem-based Learning (PBL) in their curriculum while the other school embraced lecturing based learning (LBL). The results of students in the PBL school showed that they were more satisfied with their teaching and learning approach when compared to the LBL school. These findings showed that the DREEM tool is a helpful approach to explore the strengths and weakness of the teaching approach.

## MATERIALS AND METHODS

This was a descriptive cross-sectional study to explore the academic learning environment in the Nursing College in KSU. A convenient sample of undergraduate nursing students will be recruited in this study to give their perceptions of the academic environment in the college. An Arabic version of the DREEM questionnaire was used in this study.

### 1. Research Questions

How do undergraduate nursing students perceive the learning environment in the college of nursing?

Is there a relationship between students' demographics and their perception about the college learning environment?

### 2. Study Population and Sampling

A convenience sample of undergraduate nursing students (from the 1st to 8th academic levels) who agreed to participate gave their perceptions of the learning environment. The sampling plan was a convenient sample of undergraduate nursing students in the college of nursing at King Saud University. All undergraduate nursing students in the nursing college were asked to participate in the study. The data were collected in the Nursing College, King Saud University, Riyadh, Saudi Arabia.

### 3. Research Tools

An Arabic version of the Dundee Ready Education Environment Measure (DREEM) questionnaire was used in this study to examine the perception of the learning environment among undergraduate nursing students (Al-Ayed and Sheik, 2008). A permission to use this tool in this study was obtained from the authors who generously approved our request. Nevertheless, this tool is a 50-item self-report Likert scale with a 4-point response choice (0 = strongly disagree, 1 = disagree, 2 = unsure, 3 = agree, and 4 = strongly agree). Each survey's score ranges from 0-200. The higher the score the more positive, the more favorable is the educational environment. However, there were 9 negative items scored in a reverse manner (numbers 4, 8, 9, 17, 25, 35, 39, 48 and 50), which should be scored (0=SA, 1= A, 2=U, 3= D, and 4= SD). In addition, there were 5 subscales in the questionnaire as shown below:

- Students' perceptions of learning, 12 items, maximum score 48;

- Students' perceptions of teachers, 11 items, maximum score 44;
- Students' academic self-perception, 8 items, maximum score 32;
- Students' perceptions of atmosphere, 12 items, maximum score 48;
- Students' social self-perception, 7 items, maximum score 28.

The overall results can be interpreted as follows:

- 0-50 = Very Poor
- 51-100 = Plenty of Problems
- 101-150 = More Positive than Negative
- 151-200 = Excellent

The questionnaire is a valid and reliable tool to measure the preferred learning styles (DoShi, Reddy, Karunakar, and DeShPanDe, 2014; Enns *et al.*, 2016; Kossioni *et al.*, 2012; Yusoff, 2012).

### 4. Data Analysis

Data were managed using IBM's SPSS version 22. Double data entry, testing of the frequencies, and the ranges in the descriptive statistics were used to assess for outliers and missing data. Descriptive statistics such as the mean, the standard deviation, the frequencies, and the minimum and maximum scores were calculated. For the first research question, the independent variable is (demographics) measures at the categorical level, and dependent variable measured at interval level. For the second research question, the researchers checked if there was a relationship between the students' GPA, age, sex, the number of years of experience, and the perception of the learning environment. The assumptions for independent t-test includes those two groups are independent, independent variable (IV) is categorical, the dependent variables (DV) are at a continuous level, and normally distributed variables (Munro, 2001). Assumptions for multiple regressions includes that IVs are at any level, DVs are continuous level, representative sample, normal distribution of variables, homoscedasticity of the variables, and linear relationship between X and Y (Munro, 2001).

### 5. Ethical consideration

Approval of the study was obtained from the King Saud University Institutional Review Board. In addition, an explanation of the study and informed consent were obtained from the participants before starting the study. In addition, freedom of participation was ensured for all students. The three principles of ethics in this study were:

- Respect for Persons (consent was obtained, the right to withdraw from the study at any time without penalty, free for participation, and privacy were ensured),
- Beneficence (the study was safe for participants with minimal harm, it was a descriptive study); and
- Justice (benefits of research and burden were equal for participants).

## RESULTS

### 6. Demographic Status of Participants

The study sample was composed of almost an equal number of male and female participants, of which 50% (N=34) were 20

Table 1. Sample demographics

| Variables         | Frequency | Percentage |
|-------------------|-----------|------------|
| Age               |           |            |
| 19 years old      | 6         | 9          |
| 20 years old      | 34        | 50.7       |
| 21 years old      | 21        | 28.4       |
| 22 years old      | 7         | 10.4       |
| 28 years old      | 1         | 1.5        |
| Total             | 67        | 100        |
| Gender            |           |            |
| Male              | 33        | 49.3       |
| Female            | 34        | 50.7       |
| Educational level |           |            |
| Level 3           | 16        | 23.9       |
| Level 4           | 47        | 70.1       |
| Level 5           | 2         | 3          |
| Level 6           | 2         | 3          |
| Total             | 67        | 100        |
| GPA               |           |            |
| 2.16 to 2.75      | 4         | 6          |
| 3 to 3.96         | 36        | 54         |
| 4 to 4.87         | 23        | 34.5       |
| Total             | 63        | 94.5       |
| Employment        |           |            |
| Working           | 2         | 3          |
| Not working       | 59        | 96.7       |
| Total             | 61        | 91         |

Table 2. Mean scores of students' perceptions for each item and comparison based on gender

| Items  | N  | Mean   | SD    | Gender P value |
|--|----|--------|-------|----------------|
| I am encouraged to participate in teaching sessions                        | 66 | 2.98   | .831  | .661           |
| The teaching is often stimulating  | 65 | 2.89   | .903  | .136           |
| The teaching is student centered   | 67 | 2.80   | 1.076 | .017*          |
| The teaching helps to develop my competence                                | 67 | 3.28   | .867  | .920           |
| The teaching is well focused   | 67 | 3.05   | .885  | .969           |
| The teaching helps to develop my confidence                                | 67 | 3.32   | .786  | .329           |
| The teaching time is put to good use                                       | 67 | 3.02   | 1.014 | .472           |
| The teaching over emphasizes factual learning                              | 67 | 2.55   | 1.197 | .001*          |
| I am clear about the learning objectives of the course                     | 65 | 3.20   | .955  | .837           |
| The teaching encourages me to be an active learner                         | 65 | 3.09   | .979  | .298           |
| Long term learning is emphasized over short term learning                  | 65 | 2.89   | 1.062 | .757           |
| The teaching is too teacher centered                                       | 66 | 2.57   | 1.253 | .199           |
| Total Score of Students' perceptions of learning (POL)                     | 67 | 2.93   | .553  | .086           |
| The teachers are knowledgeable   | 67 | 3.37   | .670  | .543           |
| The teachers are patient with patients                                     | 65 | 2.69   | .983  | .591           |
| The teachers ridicule the students   | 67 | 1.11   | 1.419 | .083           |
| The teachers are authoritarian   | 66 | 1.69   | 1.477 | .149           |
| The teachers have good communication skills with patients                  | 65 | 2.81   | .933  | .812           |
| The teachers are good at providing feedback to students                    | 65 | 2.96   | 1.030 | .015*          |
| The teachers provide constructive criticism here                           | 64 | 2.78   | 1.046 | .256           |
| The teachers give clear examples   | 64 | 3.31   | .990  | .279           |
| The teachers get angry in class  | 64 | 1.78   | 1.527 | .110           |
| The teachers are well prepared for their classes                           | 63 | 3.20   | 1.018 | .059           |
| The student irritates the teachers   | 66 | 1.30   | 1.508 | .236           |
| Total score of Students' perceptions of teachers (POT)                     | 67 | 2.38   | .709  | .091           |
| Learning strategies which worked for me before continue to work for me now | 67 | 2.52   | 1.428 | .017*          |
| I am confident about my passing this year                                  | 67 | 3.01   | 1.037 | .126           |
| I feel I am being well prepared for my profession                          | 67 | 3.19   | .941  | .236           |
| Last year's work has been a good preparation for this year's work          | 67 | 2.79   | 1.331 | .871           |
| I am able to memorize all I need   | 67 | 2.53   | 1.352 | .136           |
| I have learned a lot about empathy in my profession                        | 65 | 3.27   | .819  | .183           |
| My problem solving skills are being well developed here                    | 65 | 3.09   | .878  | .245           |
| Much of what I have to learn seems relevant to a career in healthcare      | 66 | 3.22   | .924  | .549           |
| Total Score of Students' academic self-perception (ASP)                    | 67 | 2.92   | .648  | .130           |
| The atmosphere is relaxed during the ward teaching                         | 67 | 2.89   | .800  | .662           |
| This school is well timetabled   | 65 | 2.90   | 1.100 | .012*          |
| Cheating is a problem in this school                                       | 67 | 1.52   | 1.449 | .002*          |
| The atmosphere is relaxed during lectures                                  | 67 | 3.17   | .886  | .263           |
| There are opportunities for me to develop interpersonal skills             | 65 | 2.92   | 1.020 | .072           |
| I feel comfortable in class socially                                       | 65 | 3.06   | 1.043 | .229           |
| The atmosphere is relaxed during seminars/tutorials                        | 65 | 3.00   | .918  | .593           |
| I find the experience disappointing  | 65 | 2.98   | 1.038 | .410           |
| I am able to concentrate well  | 65 | 1.69   | 1.550 | .128           |
| The enjoyment outweighs the stress of this course                          | 64 | 2.82   | 1.091 | .149           |
| The atmosphere motivates me as a learner                                   | 65 | 2.76   | 1.169 | .277           |
| I feel able to ask the questions I want                                    | 66 | 3.16   | 1.031 | .528           |
| Total score of Students' perceptions of atmosphere (POA)                   | 67 | 2.68   | .605  | .059           |
| There is a good support system for students who gets stressed              | 67 | 2.65   | 1.037 | .312           |
| I am too tired to enjoy this course  | 66 | 2.28   | 1.344 | .613           |
| I am rarely bored on this course   | 67 | 2.16   | 1.377 | .246           |
| I have good friends in this school   | 67 | 3.38   | .673  | .312           |
| My social life is good   | 67 | 2.88   | 1.022 | .016           |
| I seldom feel lonely   | 65 | 2.69   | 1.286 | .385           |
| My accommodation is pleasant   | 66 | 3.13   | .909  | .240           |
| Total score of Students' social self-perception (SSP)                      | 67 | 2.72   | .588  | .361           |
| Total score of DREEM   | 67 | 136.10 | 27.26 | .066           |
| Valid N (listwise)   | 55 |        |       |                |

\* If the p-value &lt; .05, the result is statistically significant

years old, followed by 28.4% (N=21) who were 21 years. The rest of the sample was either 19 or 22 years, with only one participant who was 28 years old. The majority of the sample participants (70%, N=47) were in their 4th semester at the College of Nursing, while the rest were distributed in the 3rd, 5th, and 6th semesters respectively. Among the participants, 54% (N=36) had a grade point average (GPA) from 3 to 3.96 out of 5, and the second group (34.5%, N= 23) had a GPA from 4 to 4.87. Table 1 provides more details on the study participants' characteristics.

## 7. Scores of DREEM and Its Domains

The study findings indicated that the overall mean score of the participants' perception of their learning environment was 136 out of 200, which indicates a more positive than a negative learning environment. In this study, the researchers investigated the participants' demographics in detail, in order to discover if there was any difference in the mean scores of the participants' perceptions of their learning environment based on gender, age, GPA, and their level in the College of Nursing. For this test, we merged a number of categories. For example, we combined participants into two age groups 19 (N=6) to 20 (N=34) and 21 (N=21) to 22 (N=7). For GPA and educational level, we selected two main categories into which the majority of participants fall into, because the very limited number of participants meant that they were not statistically significant enough to compare. Importantly, the findings indicated no statistically significant differences between the overall scores of participants' perceptions of their learning environment based on gender, age, GPA, and educational level. The statement that had the lowest mean score (M=1.11) was "The teachers ridicule the students." This shows that students think that teachers require some retraining. Such a perception was higher in the males (M=1.42) than the females (M=.82). The second lowest mean scores (M=1.30; M=1.78) were "The students irritate the teachers" and "The teachers get angry in class," respectively, which also shows that students perceived that teachers need further training. Interestingly, for the statement that addressed the students' perception of the atmosphere, "Cheating is a problem in this school" (M=1.52), a significant difference in the mean scores between the males (M=2.06) and the females (M=1.00) students ( $p=.002$ ) was observed. In contrast, the statement that had the highest mean score (M=3.37) was "The teachers are knowledgeable" and the second highest (M=3.32) was "The teaching helps to develop my confidence." The findings also indicated a significant difference between the males and the females in a number of statements. For example, the male students perceived that "The teaching overemphasizes factual learning" more than the female students ( $p=.001$ ). Also the male students had a higher score on the statement that addressed social self-perceptions, namely "My social life is good," than females ( $p=.016$ ). Table 2 below presents in detail the mean scores of students' perceptions of each item and the p-value based on gender.

## DISCUSSION

Since around 50% of the distributed questionnaire that was achieved might point to that students were not eager enough to take part in this research. Students probably assume that the outcome of this study will not lead to any major changes in their education. It could also be an indication of the students' fears that participation in such studies might

negatively influence their results, possibly as a reflection of the authoritarian environment in the school. By calculating the scores given by students, the overall mean score was found to be 136 or 68%. This result appears to fall in the second level, showing a more positive than a negative learning environment. However, since this is the first study to be done in the nursing field in Saudi Arabia, therefore, the comparison was done with the available literature from the medical field which illustrate, that the total mean score for our study are higher than Alshehri, Alshehri, and Erwin (2012); Hasan and Gupta (2013) studies which show 112/200, and 96/200 respectively. This signifies that the nursing students at the King Saud University consider the learning environment more positively than the students at the universities stated earlier. In this study, five domains were evaluated by the DREEM questionnaire. The first domain was student perceptions of learning (SPoL). The current study result indicates no statistically significant differences between the overall scores of participants' perceptions of their learning environment based on gender, age, GPA, and educational level. However, the statement that had the lowest mean score among female students in this domain belongs to "The teaching over-emphasizes factual learning". However, factual learning is very important for the nursing students and should be addressed in King Saud nursing school curriculum and emphatic emphasizes should be laid on it among the educators in the school. It is also pertinent to state it that the students who are excellent in factual knowledge find it easier to learn more. Additionally, factual knowledge promotes cognitive processes like problem solving and reasoning. Nevertheless, in this domain, the students indicate positively that the teaching help to develop their confidence level.

The second domain was students' perceptions of teachers (POT). The findings showed "The teachers ridicule the students", this highlights that the faculty members need to understand that teachers are no longer the giver of knowledge and the student the receiver of it. The teacher is just the facilitator of knowledge only and therefore, ridiculing the students should not be the practice anymore. Another important finding in this second domain is "The students irritate the teachers" and "The teachers get angry in class," respectively, which also shows that students perceived that teachers need further training. This training should focus on self-control and managing the classroom environment. Therefore, the result of this domain is similar to the students' perceptions of their teachers in Hasan and Gupta (2013) study. However, the positive statement in this domain indicates that the teachers are knowledgeable which certainly will impact the students learning. The third domain was the students' academic self-perception (ASP). The findings showed the presence of many positive aspects in this domain were all items above 2.52. A mean score above 3.09 were found in items such as, "my problem-solving skills are being well developed here", "I feel I am being well prepared for my profession", "much of what I have to learn seems relevant to a career in healthcare", and "I have learned a lot about empathy in my profession". Those high mean score items indicate the good academic outcome of King Saud nursing college. It is also worth mentioning that since one of the main goals of student-centered education is to build students' problem-solving skills, therefore, allow students be more effective in managing their problems afterward when they get jobs. Nursing students may experience difficult situations in their actual nursing practice which require problem-solving ability. This ability allows nursing students to think critically,

assess and, make their interventions realistically (Choi *et al.*, 2013). The fourth domain is the students' perceptions of atmosphere (POA). According to this study, the most highlighted issues for the perceptions of atmosphere based on students' beliefs are "cheating" and "students not been able to concentrate well" are the main issues that need to be resolved. The last domain that was investigated in this study is the students' social self-perception (SSP). Depending on this domain score result, SSSP was "not too bad". Items such as "I am rarely bored on this course", "I am too tired to enjoy this course", "There is a good support system for students who gets stressed" "I seldom feel lonely", and "my social life is good" were good with a mean score that ranged between 2.16 -2.69. Additionally, there were two items that showed a higher mean score of 3.13 and 3.38 which are, "My accommodation is pleasant", and "I have good friends in this school". This positive result in this domain indicates that the college of nursing had realized the responsibility of creating supportive and caring educational environment. In comparison to studies done in Saudi Arabia, our nursing students are happier with the current educational environment. In Taibah Medical School, where the educational environment was analyzed, the average score was 120/200 which was much lower than our score of 136.10. But, we must strive to make our nursing education environment excellent. This study enrolled students studying in the nursing college at King Saud University only. Further studies need to be done across other nursing colleges in Riyadh and across the country to get a better feedback.

## Conclusion

The study findings show that the students had more positive than a negative learning environment. Moreover, the first domain indicates that the female faculty members should over-emphasize factual learning. Also, second domain highlights the need of continued education for the faculty in order to eliminate ridiculing the students. The third domain shows positive outcome in all items, however, cheating and students not been able to concentrate well are the main issues that were stated in domain four. The last domain shows a high positive result in all the items with high overall score of the educational environment in the Nursing College at King Saud University compares to the previous national studies.

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## Conflict of interest disclosure

The authors declare that there is no conflict of interest regarding the publication of this paper.

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