Title: Perceptions of Classroom Environment of Diploma Student nurses: A Cross-sectional Analytical Study

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Abstract

Background: Students' learning is based on multi factors: among the others, classroom environment plays a crucial role in students' learning. This study was aimed to explore diploma students' nurses' perceptions about the effect of classroom environment on their learning and to observe the relationship of student nurses' perceptions with classroom environment in view of learning.

Methods: A cross-sectional analytical study design was used to answer the research question. The study was conducted by recruiting 150 diploma student nurses of year two and year three who met the inclusion criteria in three nursing schools.

Results: The study results consist of demographic information of the participants and their perceptions about classroom environment on their learning. Scores of domains regarding innovation, student cohesion and personalization were low which depicts that students desire novel methods and techniques for learning whereas the current teaching methods are not student based and therefore the personalization score and student cohesion are also affected.

Conclusion: The significance of classroom environment to boost students' learning has reported in the literature; however, the study showed students' dissatisfaction with classroom environment pertinent to innovative strategies for teaching and learning, student-centered teaching and individual goal setting.

Key words: classroom environment, student-centered learning, students' perceptions

Introduction

Learning environment refers the feeling and excellence that permeates the scrupulous location where teaching and learning takes place in real-life situations (Boy & Pine, 1988). The characteristics of classroom environment can be studied from many perspectives; however, psychological environment makes strong social equality among student and teachers. Said et al. (2009) stated that good environment leads excellent performance of nursing students. In nursing education, instructors must take interest in student perceptions about their classroom environment because they apply knowledge in clinical setting which learn from teachers and relate it while taking care of sick people. Nursing faculty by evaluating students' perceptions can understand their needs and develop appropriate learning goals. Classroom environment gives students theoretical knowledge and practicing opportunities before entering the clinical environment (Cook,2002; Gallagher, 2007; Schell, 2006). The study of classroom environments is essential to understand the learning atmosphere, perceptions, goals, and interaction between students and teachers. Classroom environment offers different chances for learners to learn and act together to achieve class goals. This study aimed to explore diploma student nurses' perceptions about their classroom environment and to compare the perceptions of student nurses among the three schools of nursing. Hence, the study was done to answer the following questions:

1. What are the perceptions of diploma student's nurses about their classroom environment?
2. Is there any difference in the perceptions of student nurses among the three schools of nursing from where data has been collected?
3. Is there any relationship between student nurse's perceptions with classroom environment in view of learning?

Literature review

Literature has well highlighted the significance of classroom environment in students' learning. Jung, Pullman and Kim (2012) conducted a study to evaluate student's view of their classroom environment. They found that encouraging attitude of teacher is associated with learner perceptions of fulfillment and cohesiveness. In contrast, authoritarian and forcible attitudes of teachers are associated with perception of opposition, an environment which was exceedingly minute between students.in addition, classroom environment provides interaction between students and faculty that allows students to assess their own level of preparation (Schell, 2006; Ryan, Carlton, & Au, 1999). According to Cheng (1994) Social quality of a classroom is exciting environment which builds social relationships among students and teachers. Rukban et al. (2010) documented in their study that educational leaders have to think about of classroom environment and create definite fulfillment of the students in educational environment. They recommended more research is necessary to prove the association among the learning strategies and the education milieu. Dorman et al. (2006) completed a study on student's evaluation of classroom environment to develop typology of secondary school classrooms and reveal that classroom environments are active rather than fixed entities. Cole et al. (2010) conducted study on supportive classroom environment for creativity and recommended further research, on dynamics of teacher-student contact and student's power on determining the classroom environment because this study has done on the professor's pressure. Lokuhetty, Warnakulasuriya, Perera, Silva, and Wijesinghe (2010) conducted a meta-analysis through classroom environment studies and documented student' perceptions of classroom environment since a serious issue in shaping positive sight of student achievements that is success, student satisfaction and motivation. Till (2005) found that classroom environment simulates student ability, success and achievement. It is essential to get usual criticism from students, how they experience the classroom environment. This information provides a functional source for deliberate arrangement and source utilization. Institutional remedial action should go behind student's suggestion of areas of concern. In a classroom where the focus is student's education enhancement, they exhibit top levels of competence. In contrast, Students in a classroom where

only engage in cheating and, helpless, they illustrate poorer academic achievement (Millerand Cunningham, 2011).

Study Methods and Material

A non-interventional Cross Sectional Analytical study design was utilized to conduct the study. The study was conducted in three nursing schools by recruiting 150 diploma student nurses who met the inclusion criteria through simple random probability sample. The sample was calculated through the following formula: $n = \frac{Z_{1-\frac{\alpha}{2}} P(1-P)}{d^2}$ (Sample Size determination in health studies version 2.0.21 WHO). College and University Class-room Environment Inventory (CUCEI) was used for the purpose of data collection from the participants. This was a self administered structured questionnaire consisting of two parts: the first part consisted of biographic information of the participants and second part composed of questions on 'personalization', 'innovation', 'student cohesion', 'task orientation', cooperation', 'individualization', and 'equity' on Likert scale. The pilot study was done on thirty-six participants to assess the reliability of the instrument. The result of the pilot study showed an internal consistency of 0.704 (Cronbach's Alpha). The data were analyzed by applying both descriptive and inferential statistical methods. Ethical approval was obtained from the Ethical Review Committee prior to conduction of the study. Permission was also granted from the heads of the school of nursing to conduct study and collect data from their nursing students. An informed written consent was obtained from all the selected participants. All the participants were briefed about the purpose of the study and the nature of their participation prior to give consent. All participants were ensured that their participation should be voluntary, and they have the right to withdraw, without fear of retaliation, from study at any time. Their autonomy was highly respected throughout the entire research process. The participants were ensured that materials and data would be treated and handled with extreme confidentiality. Collective responses were analyzed, and no individual information was displayed during interpretation of data. Anonymity was preserved by removing all information that could lead to participant's identification.

Results

The age-range of participants was from 15-23 years with a mean of 19.41 ± 1.61 SD years and 95% Confidence Interval (C.I) 19.15-19.67years). The academic qualification of the study sample among the student nurses 83(55.3%) were matriculation, 62 (41.3%) were intermediate, 3(2%) were Bachelor and 2 (1.3%) had master's degree.
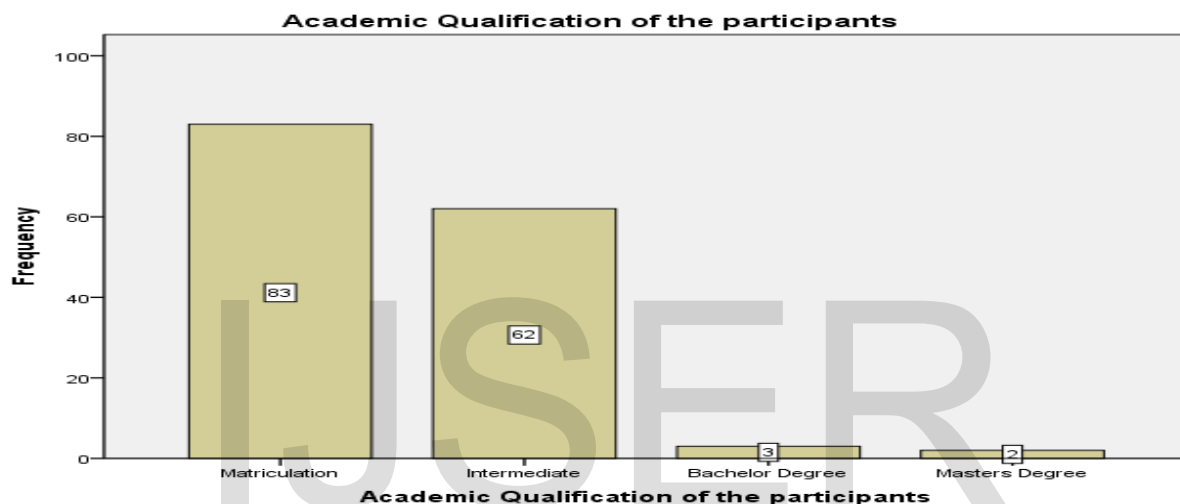
The Professional qualification of selected participant of 75 (50%) of the 2nd year diploma student nurses and half 75 (50%) were from 3rd year diploma students' nurses. **Frequencies Distribution of Students Responses to each Question**

In this section of the questionnaire there were 49 questions, each question had 5 options to be answered described as almost never, seldom, sometimes, often and almost always? This questionnaire consisted of following variables.

1. Personalization
2. Innovation
3. Student cohesion
4. Task orientation
5. Co-operation
6. Individualization

7. Equity

Table: 4.1: statistics regarding seven variables of questionnaire

Sr. No.	Variables	Mean ± SD Score	95% Confidence Interval for Mean	
			Lower Bound	Upper Bound
1.	Personalization	22.58 ± 5.05	21.76	23.40
2.	Innovation	21.26 ± 5.64	20.35	22.17
3.	Student cohesion	22.21± 4.91	21.41	23.00
4.	Task Orientation	24.96 ± 5	24.15	25.77
5.	Cooperation	28.98 ± 5.06	28.16	29.80
6.	Individualization	25.47 ± 6.19	24.47	26.47
7.	Equity	27.09 ± 7.97	25.80	28.37

In table 4.1, first part i.e. personalization the overall average score of students was 22.58 ± 5.05. Similarly, average score of the part two innovation was 21.26 ± 5.64. The third part Student Cohesion average score was 22.21 ± 4.91 and average scores of the part four (Task Orientation), five (Co-operation), six (Individualization) and seven (Equity) were 24.96 ± 5, 28.89 ± 5.06, 25.47 ± 6.19 and 27.09 ± 7.97 respectively.

By applying one-way ANOVA test, it was observed that there was no statistically significant difference between the student's questionnaire scores of different schools of nursing (p-value 0.14).

Table.4.3: ANOVA regarding student's questionnaire score

Score	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3192.178	3	1064.059	1.854	0.140

Within Groups	83795.082	146	573.939		
Total	86987.260	149			

Multiple Comparisons

Table. 4.4: Questionnaire Score

Academic Qualification of the participants		Mean Difference		95% Confidence Interval	
(I)	(J)	(I-J)	Sig.	Lower Bound	Upper Bound
Matriculation	Intermediate	-1.75923	.972	-12.2104	8.6920
	Bachelor's degree	.62249	1.000	-35.9678	37.2128
	Master's degree	-40.21084	.093	-84.7634	4.3417
Intermediate	Matriculation	1.75923	.972	-8.6920	12.2104
	Bachelor's degree	2.38172	.998	-34.4241	39.1876
	Master's degree	-38.45161	.119	-83.1813	6.2781
Bachelor's degree	Matriculation	-.62249	1.000	-37.2128	35.9678
	Intermediate	-2.38172	.998	-39.1876	34.4241
	Master's degree	-40.83333	.247	-97.6697	16.0030
Master's degree	Matriculation	40.21084	.093	-4.3417	84.7634
	Intermediate	38.45161	.119	-6.2781	83.1813
	Bachelor's degree	40.83333	.247	-16.0030	97.6697

After applying Post Hoc Tukey test, significant difference was not observed in mean scores of students nurses, with different qualification are given in table 4.4 (p-value 0.14) as well as there was no statistically significant difference between the student's scores of different schools of nursing (p. value 0.37).

Group Statistics

Table. 4.5: Mean ± S.D questionnaire scores

Year of Training	N	Mean ± SD Score	p. value
Diploma 2nd year student	75	168.60 ± 25.98	0.045
Diploma 3rd Year student	75	176.48 ± 21.66	

The mean score of 2nd years Diploma students was 168.60 ± 25.98 whereas mean score of 3rd year diploma students were 176.48 ± 21.66, which was statistically significantly higher than mean score of 2nd years diploma students (p-value 0.045) (table:4.5). There was statistically significant mean difference of 2nd and 3rd mean LGH, JHL & SIMS school of nursing (mean difference 0.09, 0.04 & 0.004 p-value <0.001, <0.001 & 0.001 respectively).

Group Statistics

Table. 4.6: Mean ± S.D Obtained marks

Year of Training	N	Mean ± SD Score	p. value
Diploma 2nd year student	72	604.25 ± 27.54	<0.001
Diploma 3rd Year student	60	582.60 ± 29.57	

The mean of obtained marks of second year students were 604.25 ± 27.54 whereas mean of obtained marks of third year students were 582.60 ± 29.57 but mean of obtained marks of second

year students were statistically significantly higher than 3rd year diploma students (p. value <0.001) (Table:4.6).

Comparison of 2nd years Student's Obtained marks and Questionnaire Score

Chart. 4.4:

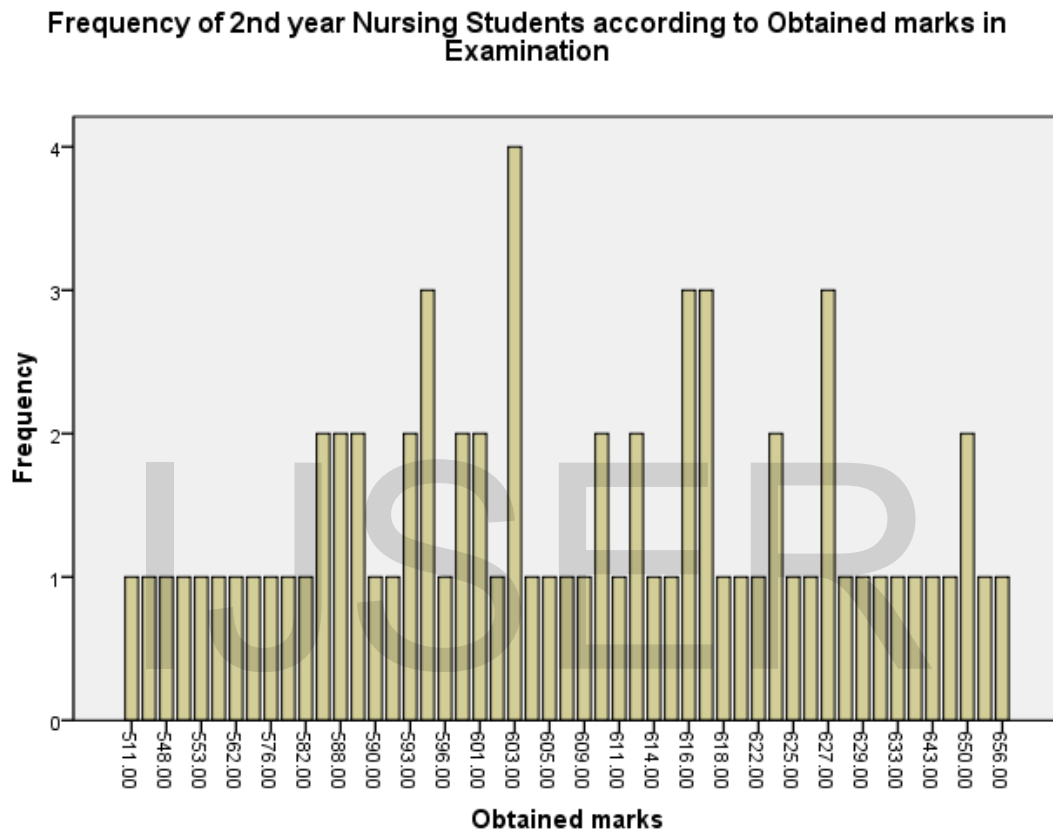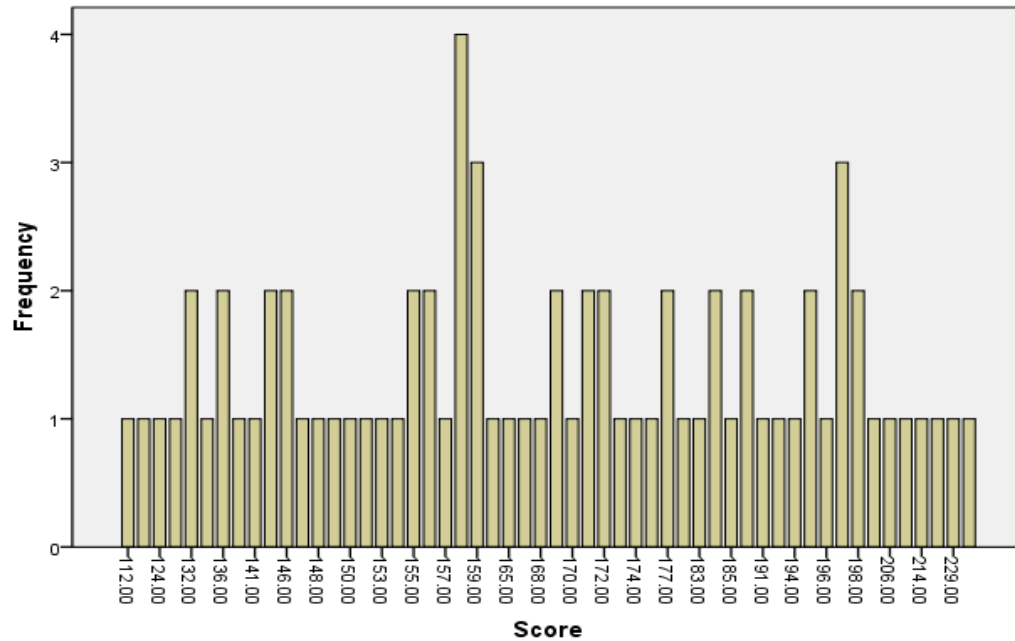Frequency of 2nd year Nursing Students according to Obtained marks in Examination

Chart. 4.5:

Frequency of 2nd year Nursing Students according to Questionnaire Score

On the whole average marks obtained by 2nd year student nurses of three school of nursing were 604.25± 27.57 and obtained average score of questionnaires which was also filed by three school of nursing were 168.60± 25.98 (Chart: 4.4 &4.5).

Comparison of 3rd years Student's Obtained marks and Questionnaire Score

Chart. 4.6:

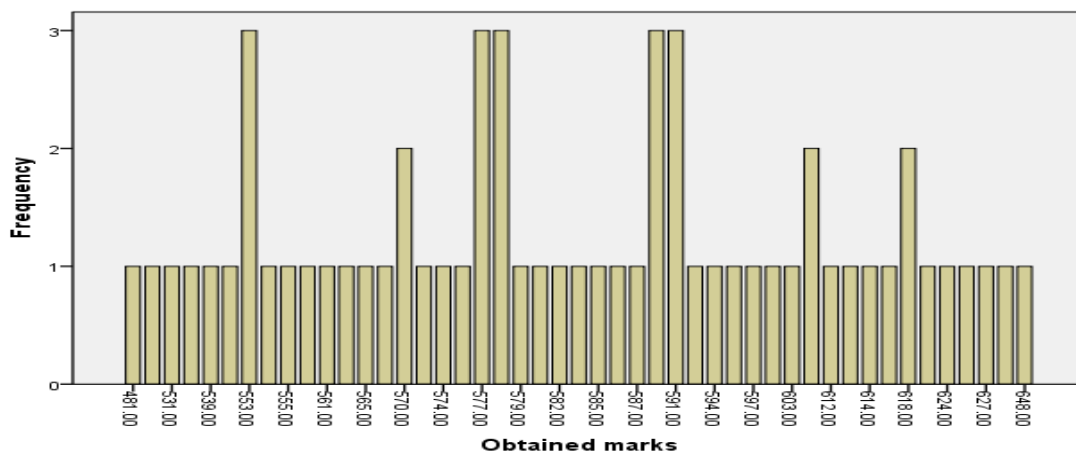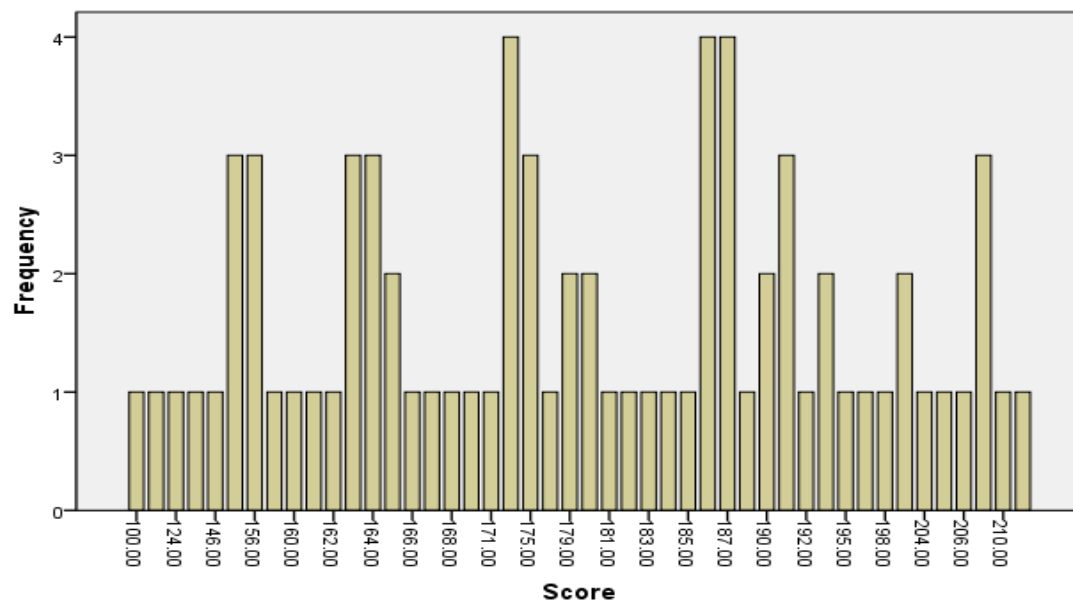Frequency of 3rd year Nursing Students according to Obtained marks in Examination

Chart.4.7:

Frequency of 3rd year Nursing Students according to Questionnaire Score

The overall average marks obtained by third year students of three school of nursing were 582.65± 29.57 whereas the average score obtained in questionnaire which was also filed by three school of nursing was 176.48± 21.66 (Chart:4.6&4.7).

Discussion

The findings of this study showed that more than fifty percent of participants perceived that instructor helps them when they are in trouble with their work while remaining respondents considered that the instructor is unfriendly and inconsiderate towards them. The overall personalization's mean score reported in this study was 22.58. These findings are similar to the work of Chan (2005), he studied clinical environment of nursing students' and reported the highest mean score in personalization of 2nd year 22.50 and 3rd year students 24.75 in the actual form showed the students already received support. In personalization learners perceive, that how much teaching and classroom environments are according to their abilities and interests. A comparative study by Fraser et al. (1982) reported difference in mean personalization score between Indonesian and Australian students. The mean score of innovation in this study 21.26 which was not positive, as only small proportion of student nurses reported that novel concepts were rarely tried out in the class. These findings are in accordance to Chan (2005) that teaching innovation scale scored the lowest mean score in his study which was

14.26 that is lower than our study scale of innovative. Findings of present study suggest that cohesiveness in our research participants were not satisfactory there is a need to improve the cohesion and interaction among students by creating an encouraging and supportive classroom environment and by decreasing the sense of hesitation among students. These findings are identical to Emura (2004) findings as she observed lack of group cohesion in her study population. A vast proportion of student nurses said that almost always they assist other students doing assignment (86%), share books and recourses. The results were consistent with Brown. (2011) study that reported good inter-student relationship (85%). The equity score in this study population is satisfactory but there is need to improve in regard to the equal opportunities for each student to achieve goal with the full exploitation of potential. Equity gives every student necessary attention required to be successful.

Recommendations

Based on study results, further research needs to be done to see the relationship between classroom environment and student performance/ learning outcome. There is a need to develop class management strategies that encourage student participation in class routines and organization.

Limitations of the study

The study population is restricted to three school of nursing and its results cannot be generalized equally to other setup in the country. In addition, this study was conducted with small sample size due to time and budgetary constraints.

Conclusion

Based on the results of study it is concluded that students were not satisfied with the teachers regarding components of innovation, personalization, cohesiveness, task orientation, individualization which are important ingredients of class-room environment whereas, perception of classroom environment regarding Equity and Cooperation were found satisfactory in this study. At the institutional level students of different institutions perceive that class-room environment may have impact on their learning but their perception remains the same and no difference was observed though there may be a variation in facilities provided to them. It is found that environment and students' perception about learning are positively correlated with the assessment results. The students with good classroom environment had better educational performance than the student with low environment questionnaire score.

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