

ARAŞTIRMA/ RESEARCH

Comparison of Student Satisfaction According to Three Different Education Models in Nursing Education*Hemşirelik Eğitiminde Üç Farklı Eğitim Modeline Göre Öğrenci Memnuniyetinin Karşılaştırılması*FeYZa DERELİ¹ , Hatice YILDIRIM SARI¹ , Yasemin TOKEM¹ ¹İzmir Kâtip Çelebi University, Faculty of Health Sciences, Department of Nursing

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Abstract**Objective:** The objective of the study is to determine student satisfaction in classical, integrated and problem-based learning education model used in nursing education.**Material and Methods:** The descriptive-comparative research design study consisted of 621 students from the third and fourth grades (senior-nursing students) in nursing schools with different education models. The data were collected by face to face interview method using the Socio-Demographic Attributes Form and Student Satisfaction Scale. Student Satisfaction Scale consists of the sub-dimensions of instructors, school administration, agreeing with decisions, scientific-social-technical facilities, quality of education. Scale average scores are graded from 1 to 5, and the increase of score averages signifies the increase of satisfaction.**Results:** Student Satisfaction Scale scores were 2.95±0.6 in the classical education model, 3.33±0.6 in the problem based learning model and 2.95±0.6 in the integrated education model. Problem-based learning model has the highest score in terms of student satisfaction and statistically differs from other models (p<0.05).**Conclusion:** The satisfaction of nursing students is moderate in all three education model. In the sub-dimensions, the highest satisfaction was observed in the instructors.**Keywords:** Nursing, education model, student satisfaction, classical, integrated, problem-based learning.**Öz****Amaç:** Çalışmanın amacı, hemşirelik eğitiminde kullanılan klasik, entegre ve probleme dayalı eğitim modellerindeki öğrenci memnuniyetlerini belirlemektir.**Gereç ve Yöntem:** Karşılaştırmalı tanımlayıcı tipte planlanan araştırmanın örneklemini, üç farklı eğitim modeline sahip hemşirelik okulunda üçüncü ve dördüncü sınıfta okuyan 621 öğrenci oluşturdu. Veriler yüz yüze görüşme yöntemiyle ve Sosyo-Demografik Özellikler Formu ve Öğrenci Doyum Ölçeği kullanılarak toplandı. Öğrenci Memnuniyeti Ölçeği; öğretim elemanları, okul yönetimi, kararlara katılma, bilimsel-sosyal-teknik olanaklar, eğitim kalitesi alt boyutlarından oluşmaktadır. Ölçek puan ortalamaları 1'den 5'e derecelendirilir ve puanların yükselmesi memnuniyet artışı ifade etmektedir.**Bulgular:** Öğrenci Doyum Ölçeği puanları, Klasik eğitim modelinde 2,95±0,6; Probleme Dayalı Öğretim modelinde 3,33±0,6 ve Entegre eğitim modelinde 2,95±0,6'dır. Probleme Dayalı Öğretim modelinde, öğrenci memnuniyeti açısından en yüksek puana sahip olup diğer modellerden istatistiksel olarak farklıdır (p<0.05).**Sonuç:** Hemşirelik öğrencilerinin memnuniyetleri üç eğitim modelinde de orta düzeydedir. Alt boyutlarda en yüksek memnuniyet öğretim elemanları boyutunda gözlenmiştir.**Anahtar Kelimeler:** Hemşirelik, eğitim modeli, öğrenci memnuniyeti, klasik, entegre, probleme dayalı öğretim.

1. Introduction

Education is a process where individuals gain knowledge, master skills, and develop competence essential for the execution of the professional services. Nursing education has been conducted in universities at the level of bachelor's degree in Turkey since the mid-1950s. Even though the education and legal difficulties in educating nurses have mainly been improved, the quest for quality in nursing higher education continues. In this quest, teacher-centered education, which makes students passive, has been gradually replaced by student-centered models of education (1). Stacey et al (2014) argued that the constraints influencing the development of nurse education still being widely debated within the academic, as well as in the public arena who are the consumers of the nursing services (2). In order to respond and challenge these constraints, it is proposed that nurse-educators promote every opportunity to engage and involve students in critical dialogue regarding their education. However, traditionally, students have been left out of decisions regarding the educational models, the curriculum and the educational environment.

Regarding the educational models used in educating nurses, most of the changes occurred once it moved into university education. Universities play an important role in scientific, economic, technological, social, and cultural development of societies, and are open to respond to the societal changes (3). As part of the university system, nursing schools also keep up with the societal developments, and at certain intervals, evaluate the quality of education they provide.

One of the important sensitive measures of assessing the quality of nursing education is to receive input from students. Student input is important not for improvement of the effectiveness of the educational models also because satisfaction with education and university environment affects both the mental health, and the physical health of students (4). Hence, in measuring student satisfaction with instruction, the impact of other factors, such as university environment, also be considered. Considering this point of view, satisfaction measurement that encompasses university environment in which instruction takes place, provides more reliable information about what students consider quality as well as what is positive about higher education (5). Hence, in order to provide quality nursing education, students' satisfaction and expectations should be measured at determined intervals (6). For example, Sweden, Bos et al. (2015) reported that in clinical education, especially supervisory relationships, and pedagogical atmosphere affected the satisfaction and motivation of students (7). Similarly, Espeland and Indrehus determined that 276 nursing students studying in three different universities in Norway were not satisfied with the entire nursing program, but they were satisfied with clinical applications (8). Hakim (2014) found that the majority of nursing students in Iran were satisfied with their education environment at a lower rate (9).

In Turkey, nursing undergraduate programs contain theoretical and practical education for four years. In most universities, the theoretical 4600 hours are conducted via classical, integrated, and problem-based learning (PBL) models. Classical educational model is a non-interactive

model based on information transmits a wide range of information in a short time (10, 11). By comparison, the integrated education model is based on holistic learning and aims to enable students to understand the big picture rather than teaching small sections of the topic. However, since health-care problems are not limited one discipline, problem solving requires integration of knowledge. Hence, integrated education programs in nursing have become more common as they were perceived to be one of the more efficient ways to transmit nursing knowledge, basically structured from health to disease, in such a way that integrates basic professional knowledge with attitudes and skills relevant subject areas (12, 13).

By contrast, PBL model is an educational model that requires the definition of learning needs of the students, and application of information in practice. This model of instruction uses the problem-solving technique that guides students to seek solutions to a given problem. PBL model is based on the principles of student-centered adult learning theories and allows active participation of students in arriving the desired conclusion of the question. More specifically, the PBL is a model where students actively participate in the learning process and have a greater interaction with instructors. Typically conducted in small groups (14-16). PBL also generates interaction among students, hence, providing opportunities for students to learn from each other.

Although classical education model nursing has been used since the beginning of undergraduate education since the mid-1950s, integrated and PBL have become the preferred model in some of the nursing education programs for the last 15-20 years. The PBL was first implemented in a medical school at McMaster University Canada in the 60s and was developed based on research results of Barrow and Tamblyn (1980). Based on the strength of the evidence, numerous universities required schools to acquire this model of teaching. In spite of its ever increasing use, there have been very few studies demonstrating its effectiveness in varying educational systems and cultures. In some, studies it was that there were no differences in student-outcomes between classical model and PBL models (17-19). By contrast some studies reported a significant difference between the PBL and the classical education model. In fact, the PBL model was found to be more effective than the classical education model in improving student-nurse learning motivation (20-22).

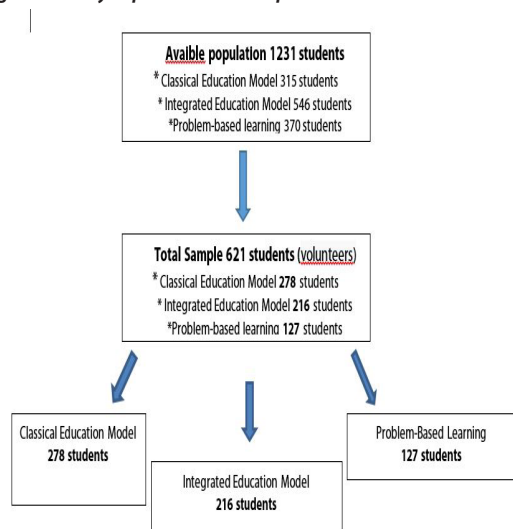
Numerous studies have compared the classical, integrated, and the PBL education model from the aspects of self-sufficiency (23), learning motivation (24), study process, and motivation resources, and motivation problems (25), critical thinking, problem-solving, and self-directed learning (26, 27). However, there is no integrated evaluation regarding how different educational models affect student satisfaction with each of the model.

The aim of the study is to evaluate the three different models of instruction in nursing higher education: 1) classical model (lectures), 2) the PBL, and 3) the integrated model, with the aim of adding to the current research about student satisfaction with these models. We also wish to investigate if there is a relationship between the student general point average (GPA) and the satisfaction, and also satisfaction with the university environment as a whole.

2. Material and Methods

This descriptive-comparative design research was conducted at three universities in Izmir. The study's target group comprised all 3rd and 4th grade university nursing students, a total of 1231 students. 3rd and 4th grades in all schools were included in the study since the PBL model is given to only these grades in the school providing PBL model. 315 of this number are in the classical model, 546 in the integrated model and 370 in the PBL model. Students informed about aim of the study and 621 student volunteered to participate. After providing the appropriate explanations, the researchers distributed the forms to students at the school during their breaks. The study sample (n:621) consisted of 278 nursing students from the classical model, 216 from the integrated model, 127 from the PBL with the 621 constituting 50% of the total population (N:1231) (Figure 1).

Figure 1. Study Population and Sample



2.1. Data Collection Tools

The data were collected through face-to-face interviews using the Sociodemographic Characteristics Questionnaire and Student Satisfaction Scale (SSS).

Sociodemographic Characteristics Questionnaire: This form questions the age, gender, year-point average of students and their general satisfaction with education.

Student Satisfaction Scale: Developed by Baykal et al (2002) and revised in 2011 and consists of the following five sub-dimensions: Instructors, School Administration, Agreeing with Decisions, Scientific-Social-Technical Facilities and Quality of Education. Score averages were graded from 1 to 5 and the increase of score averages signified the increase of satisfaction (28). The total Cronbach's alpha value was determined as 0.97 and the total Cronbach's alpha value of the scale in this study is 0.96. Instructors (12 statements, 1-12) Cronbach's alpha 0.91, School Administration (9 statements, 13-21) Cronbach's alpha 0.85, Agreeing with Decisions (7 statements, 22-28) Cronbach's alpha 0.83, Scientific-Social-Technical Facilities (12 statements, 29-40) Cronbach's alpha 0.84 and Quality of Education (13 statements, 40-53) Cronbach's alpha 0.88, showing the reliability and internal validity of the scale.

2.2. Data Analyses

The data were analyzed using the SPSS 25 package software. Statistical analyses were conducted by using the Student's t test, one-way analysis of variance (ANOVA) and Pearson correlation coefficient. Descriptive statistics were reported as mean, standard deviation, median and minimum-maximum values. P value <0.05 was accepted as statistically significant.

2.3. Ethical Considerations

The necessary written consent was also obtained from the Ethics Committee of the University (Ethics Committee No: 2015/40). Written permissions of the institutions where the study was to be conducted and verbal permissions from the students who voluntarily participated in the research were obtained.

3. Results

The results showed that of the 621 participants, 44.8% received instruction in the classical model, 34.8% in the integrated model, and 20.5% in the PBL model. Of the 621 students 84.7% were female, 85.7% were in the 3rd year of school. As to their satisfaction from their education, 44.4% percent of the students in the classical model, 29.2% in the PBL model and 26.4% in the integrated model and were satisfied with their instructional model, indicating that classical model gave students the highest satisfaction with the instruction followed by the PBL. Score averages obtained by students from the sub-dimensions of the satisfaction scale from high to low were: 3.23±0.7 in Instructors, 3.14±0.7 in Quality of Education, 3.13±0.7 in Agreeing with Decisions, 3.01±0.7 in School Administration, 2.90±0.7 in Scientific-Social-Technical Facilities, and 3.03±0.6 in total. Score averages of SSS were similar in female (3.03±0.6), and male (3.01±0.5) students, and there was no significant relationship between gender, and the total score and sub-dimension scores of the SSS (p>0.05).

Examining the score averages of the sub-dimensions of the SSS according to models of education; it was found that the highest score was observed in PBL with 3.58±0.74 in the sub-dimensions of Instructors (3.51±0.75), followed by the sub-dimension School Administration (3.30±0.80), Agreeing with Decisions (3.28±0.83), Scientific-Social-Technical Facilities (0.21±0.72), and Quality of Education. It was found that the group with the highest satisfaction score was PBL with 3.33±0.63 compared to other models; integrated and classical model had equal satisfaction scores and the difference between the groups in student satisfaction was by the PBL group (p< 0.05) (Table 1).

Examining the score averages of the sub-dimensions of the SSS according to the year in the undergraduate programs; it was determined that the highest score was observed in the 4th years with totally 3.19±0.56 in the sub-dimensions of Instructors (3.42±0.74), School Administration (3.15±0.77), Agreeing with Decisions (3.43±0.62), Scientific-Social-Technical Facilities (3.03±0.66), and Quality of Education (3.28±0.65). It was determined that there was a difference between the groups in the sub-dimensions of Instructors, Agreeing with Decisions, and total student satisfaction (p<0.05) (Table 2).

In terms of the relationship between the satisfaction and the GPA the GPA, of undergraduate GPA was 71.35 points for students in the integrated model and 72.00 points for students in the classical model, and 76.07 students in the PBL model, indicating that students in the PBL model and that this difference was significant between three groups ($p < 0.05$) (Table 3).

However, there was no correlation between the GPA and the total satisfaction score, and the sub-dimensions of the SSS ($p > 0.05$) reflecting the GPA was unrelated to satisfaction.

4. Discussion

In this study, it was found that satisfaction was higher among students who received the PBL instruction compared to the classical and integrated models. Satisfaction of PBL students was high in both general and in all sub-dimension of 1) quality of education, 2) scientific-social-technical facilities, 3) agreeing with decisions, 4) school administration and instructors. As mentioned in the introduction, the PBL is a model where students actively participate in the learning process and have a greater interaction with instructors and class mates, as it is conducted in small groups. Greater interaction of

Table 1. Score Average Distribution of the Sub-Dimensions of Student Satisfaction Scale According to Models of Education

Student Satisfaction Scale		N	mean	SD	F	Sig
Instructors	Classical	278	3.22	.74	12.346	.000
	PBL	127	3.51	.75		
	Integrated	216	3.09	.77		
School Administration	Classical	277	2.91	.77	12.189	.000
	PBL	127	3.30	.80		
Agreeing with Decisions	Classical	278	3.07	.75	3.273	.039
	PBL	127	3.28	.83		
Scientific-Social-Technical Facilities	Classical	278	2.78	.73	14.991	.000
	PBL	127	3.21	.72		
Quality of Education	Classical	278	3.04	.70	29.483	.000
	PBL	127	3.58	.74		
Total	Classical	278	2.95	.61	18.593	.000
	PBL	127	3.33	.63		
	Integrated	216	2.95	.65		

*(PBL: Problem-Based Learning)

Table 2. Comparison of the Score Averages of Student Satisfaction Scale According to Undergraduate Program

Sub-Dimensions of Student Satisfaction Scale	Undergraduate Program	N	mean	SD	t	p
Instructors	3	532	3.20	.77	-2.453	.014
	4	89	3.42	.74		
School Administration	3	532	2.98	.77	-1.839	.066
	4	88	3.15	.77		
Agreeing with Decisions	3	532	3.08	.79	-3.889	.000
	4	89	3.43	.62		
Scientific-Social-Technical Facilities	3	532	2.88	.75	-1.677	.094
	4	89	3.03	.66		
Quality of Education	3	532	3.11	.78	-1.943	.052
	4	89	3.28	.65		
Total	3	532	3.00	.66	-2.589	.010
	4	89	3.19	.56		

Table 3. Distribution of General Point Average of Undergraduate Program of Nursing Students According to Models of Education

General Point Average Of Undergraduate Program	N	mean	SD	F	p
Classical	259	72.0000	8.77980	11.345	.000
PBL	101	76.0740	6.44082		
Integrated	184	71.3530	8.75242		
Total	544	72.5376	8.54531		

*(PBL: Problem-Based Learning)

students and instructors in PBL allows them to know each other better and enables students to express themselves towards finding solution to problems suggesting that being actively involved in solving problems give students greater satisfaction than receiving information passively and without reflection (29). It is suggested that PBL model helps them acquire learning skills (25). All of the factors such as quality of education, scientific-social-technical facilities, agreeing with decisions, school administration and instructors seem to have an effect on student satisfaction.

Previous researchers report findings that PBL students have higher critical thinking and problem-solving skills, which, in turn, may also have an effect on increasing satisfaction. These findings add to the effectiveness of the PBL model but requires further studies focusing on this particular relationship.

Our findings corroborate findings of previous researcher. For example, a study conducted in Mexico, found that students were more satisfied with the PBL than the classical model and the tutorial process and tutor-student relationship affected their satisfaction (20). Similarly, Sangestani and Khatiban (2013) found that satisfaction with PBL model was higher than lecture-based learning (LBL) (30).

The results of our study suggest that the students are, in general, moderately satisfied with their education program. Regarding the three educational models, the student satisfaction was the highest for the instructors in all the group, and the sub-dimension the students were least satisfied was participation in scientific-social activities. Espeland and Indrehus (2003) reported that 70% of the students in Norway were not satisfied with the nursing program (8). Hakim (2014) determined that 83.3% of the nursing students in Iran were less satisfied with education environment and less than 50% were satisfied with clinical environment and instructors (9). Freeman-Gibb et al (2017) determined that the students were very satisfied with a collaborative model of baccalaureate nursing education (31). It might be suggested that satisfaction results in this study are better than other studies.

It is thought that the statistical difference between the satisfaction scores between the 3rd and 4th grades (senior-nursing students) was due to the internship practice applied in the fourth grade in education models.

Although it was outside of our aim, we found that student satisfaction was not associated with GPA of students. However, it is observed that PBL students have higher GPAs than students in the classical and integrated models. Further studies are needed to specifically focus on the GPA variation among these three groups comparing initial, middle and last year GPAs of the students.

Limitation

The research was structured in order to compare three different education models, although the the study was limited by the fact that not all classes and only third grades and senior-nursing students were covered. The sample was limited, because we couldn't reach to the students with the PBL and the integrated system. The study is limited to the students notifications included in the study.

Thus, the results cannot be generalized to all of the nursing students of universities where the research was carried out.

5. Conclusions

According to study results, it is crucial to mention the curriculum in the PBL is substantially limited and is developed on the basis of real issues. Students' may have been increasingly satisfied with their continual work to achieve active study objectives in PBL. In the other education models, students are passive and study only during the exam period. Besides, curriculum is broader in classical education, thereby increasing student learning burdens. In the integrated model of education, curriculum has an intense content despite being arranged from basic knowledge to complex knowledge and the time granted for clinical practice in order to transfer theoretical knowledge into practice remains limited. Study findings suggest that students had a moderately level of satisfaction with their education, the PBL students being more satisfied than the students receiving the classical and integrated instruction. In the study also was found that there was a relation between the GPA satisfaction students in the PBL level had higher GPAs. Considering that active learning model affects both achievement and satisfaction of students, we recommended that models that encourage active participation of students also be included in classical and integrated education.

6. Contributions

It is thought that the results of this study, which evaluates student satisfaction towards the education model used in nursing education, will guide the curriculum studies.

Ethical Considerations

The necessary written consent was also obtained from the Ethics Committee of the University (Ethics Committee No:2015/40). Written permissions of the institutions where the study was to be conducted and verbal permissions from the students who voluntarily participated in the research were obtained.

Conflict of Interest

This article did not receive any financial fund. There is no conflict of interest regarding any person and/or institution.

Authorship Contribution

Concept: FD; **Design:** FD, HYS, YT; **Supervision:** FD; **Funding:** FD, HYS, YT; **Materials:** None; **Data Collection/Processing:** FD, HYS, YT; **Analysis / Interpretation:** FD, HYS, YT; **Literature Review:** FD, HYS, YT; **Manuscript Writing:** FD, HYS, YT; **Critical Review:** FD, HYS, YT.

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