

Psikomotor Beceri Öğretim Sürecinde Hemşirelik Öğrencilerinin İşbirlikli Öğrenmeye Yönelik Tutumları

The Nursing Students' Attitudes Towards Cooperative Learning in Psychomotor Skill Teaching Process

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Abstract

Aim: The aim of this study is to determine the attitudes of nursing students towards cooperative learning.

Material and methods: The study carried out in an interventional design was performed with 30 students selected by power analysis method. The students completed the Personal Information Form and Attitude Scale Towards Cooperative Learning after psychomotor skill teaching application conducted in 6 consecutive weeks by using Jigsaw technique. Independent samples t test and one-way ANOVA test were used to analyze the data.

Results: As a result of the study, it was found that the attitudes of the students towards cooperative learning were high and the selection of nursing department had an effect on the attitude. Moreover, when the item frequency distributions of attitude scale towards cooperative learning were examined, it was found that the students used the expression "I strongly agree" in the statements "I think that all the members of the team are valuable" (%93.3), "I believe that there is strength in union" (%96.7), "I value the suggestions and explanations of my teammates" (%93.3) and "I respect the ideas of my teammates" (%96.7) more than the other expressions.

Conclusion: It has been determined that nursing students have highly positive attitude towards the use of cooperative learning in the psychomotor skill teaching process, and it is recommended to include the cooperative learning method in nursing education.

Key words: attitude, collaborative learning, nursing education, nursing student

Öz

Amaç: Araştırmanın amacı, hemşirelik öğrencilerinin işbirlikli öğrenmeye yönelik tutumlarını belirlemektir.

Gereç ve yöntem: Müdahale tipinde gerçekleştirilen çalışma, güç analizi yöntemi ile 172 hemşirelik öğrencisi arasından seçilen 30 öğrenci ile gerçekleştirilmiştir. Öğrenciler, Jigsaw tekniği ile üst üste 6 hafta gerçekleştirilen psikomotor beceri öğretim uygulaması sonrasında Kişisel Bilgi Formu ve İşbirlikli Öğrenmeye Yönelik Tutum Ölçeği' ni doldürmüşlardır. Verilerin analizinde bağımsız örneklemelerde t testi ve tek yönlü varyans analizi kullanılmıştır.

Bulgular: Araştırma sonucunda öğrencilerin işbirlikli öğrenmeye yönelik tutumlarının yüksek olduğu ve hemşirelik bölümü seçiminin tutum üzerinde etkili olduğu bulunmuştur. Ayrıca, işbirlikli öğrenmeye yönelik tutum ölçeğinin madde frekans dağılımları incelendiğinde, öğrencilerin "Takımın tüm üyelerinin değerli olduğunu düşünüyorum" (%93.3), "Birlikten kuvvet doğacağına inanırım" (%96.7), "Grup arkadaşlarımdan öneri ve açıklamalarına değer veririm" (%93.3), "Grup arkadaşlarımdan fikirlerine saygı duyarım" (%96.7) maddelerinde kesinlikle katılıyorum ifadesini diğer maddelere göre daha yüksek düzeyde belirttikleri saptanmıştır.

Sonuç: Hemşirelik öğrencilerinin psikomotor beceri öğretim sürecinde işbirlikli öğrenmenin kullanımına ilişkin tutumlarının yüksek olduğu belirlenmiş olup, işbirlikli öğrenme yönteminin hemşirelik eğitimine dahil edilmesi önerilmektedir.

Anahtar kelimeler: hemşirelik eğitimi, hemşirelik öğrencisi, işbirlikli öğrenme, tutum

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Introduction

The traditional learning approach has a process in which the educator is the source of information and the students are in the position of acquiring knowledge passively.¹ However, this process has deficiencies with regards to raising sophisticated individuals in terms of critical thinking, cooperation and interpersonal communication skills within the constantly changing information age.² Also the developing and changing health care field requires nurses to learn continuously in the process of fulfilling their responsibilities and to be a productive and innovative member of the health care team.³ So, it is suggested that active learning approaches be included in nursing education process, and one of these learning approaches is cooperative learning.⁴

In the cooperative learning approach, students work together in small groups in order to achieve a goal, actively participate in the learning process, which provides multidimensional benefits to their development and learning. In this process, the educator is responsible for providing the appropriate environment in order to provide maximum learning and providing feedback to the students throughout the learning process.⁵ When the literature related with nursing education is examined, it is seen that cooperative learning has been used for theoretical learning,⁶ learning in the clinic area,⁷ and technology-based online learning⁸ and yields effective results on students' learning. But it is seen that no study aims to determine the attitudes of the students towards cooperative learning in the literature.

In addition to the fact that cooperative learning yields effective results on students' learning, another factor that is known to have an effect on learning is the attitude of individuals.² There are studies showing that attitudes that are effective in explaining the causes and consistency of behaviors have a positive relationship with learning achievement.⁹ When the fact that an effective learning cannot be provided with the learning methods that attract negative attitude is considered, it is important to determine the attitudes of students towards these learning approaches. So, determining the attitudes of nursing students towards the teaching methods used in nursing education will be beneficial in restructuring the nursing programs in order to gain nursing students with the necessary nursing competencies.

Material and Methods

Study design and aim

The aim of this intervention study was to determine the nursing students' attitudes towards cooperative learning in psychomotor skill teaching process.

Sample of the study

The study was carried out in an interventional design interventional design was performed with 30 students selected. The population of the study consisted of 172 nursing students who were on their first year in the spring semester of 2017-2018 academic year at a state university and who took Fundamentals of Nursing Course. The number of samples to represent the universe was determined by power analysis method (0.8 effect size, 81% theoretical power) as 30 students. Students were randomly determined using a simple random number table.

Data collection tools and procedures

Personal Information Form: This form prepared by the researchers consists of 7 questions including the students' age, gender, last graduated school, academic grade point average, whether or not they chose the nursing department willingly, satisfaction with the education they received and whether they received peer education previously.

Attitude Scale Towards Cooperative Learning: The scale developed by Şahin et al. (2017) to assess students' attitudes towards cooperative learning, consists of 28 items (including expressions regarding belonging to the group, the group work process and the contribution of group work to the learning process), each item was evaluated in 5 degrees (1: strongly disagree, 2: disagree, 3: undecided, 4: agree and 5: strongly agree). Maximum 140 and minimum 28 points can be obtained from the scale. Obtaining a high score from the scale means that the individual's attitude towards cooperative learning is at a high level. In the Turkish validity and reliability study, the Cronbach α value of the scale was found to be 0.95 and the two half reliability was found to be 0.90.²

Cooperative learning intervention were conducted with students between February-March 2018 for 6 consecutive weeks and 1 hour for each week by using Jigsaw technique, which is one of the cooperative learning techniques.

During intervention, the students learned the blood pressure measurement and subcutaneous injection application, since there are applications in the clinical field where students can frequently observe and practice.

In this process;

- In the first week, an information meeting was conducted. 15 groups which consisted of two students which named main group in Jigsaw technique have created for there are two psychomotor skills within the scope of the study. Groups were created taking into account students' gender, age and grade point averages with the purpose of creating a heterogeneous structure by the researchers.

- In order to ensure positive commitment among the students in main groups in the second week, setting group name and surviving in the desert activities which are two of the preparatory activities for cooperative learning, were performed. And the lottery method was used to determine the skills that the students would be responsible from among the two skills.

- Then, groups, which named expert groups, created with four students who responsible for same skill in their main groups in line with the criteria considered in the formation of the main group. In the third and fourth weeks, the students learned the skills together in their expert groups. At this stage, the students performed blood pressure measurement on each other and subcutaneous injection application using models in the nursing skills laboratory. In group studies, the researchers did not act as an instructor in students' learning, but undertook a facilitator role, and provided support with the guidance they gave when students needed support.

- After the completion of the expert group activities, the students returned to their main groups and the previously identified main groups were re-formed. They taught each other the skills they learned in their expert groups in the fifth and sixth weeks.

The study data were collected by the researchers by using data collection forms after the cooperative learning intervention were completed. The time required for participants to complete the data collection forms is between 15-20 minutes.

Data analysis

The data were analyzed by using SPSS 24 statistical analysis software. Quantitative data were presented using descriptive statistics. In the statistical analysis of the data, independent samples t-test and one-way ANOVA test were used. The significance level was accepted as $p < 0.05$.

Ethical considerations

Written permission was obtained from the Clinical Research Ethics Committee (Ethics approval number: 2017/135) and the Nursing Department Chair of the institution to conduct the research. Participation in the study was based on volunteering, and all the students were informed about the purpose of the study and written consent was obtained from the students who participated in the study.

Results

When the descriptive characteristics of the students participating in the study were examined, it was found that the mean age of the students was 19.00 ± 0.74 ; 46.7% of them were 19 years old and their overall academic grade point average was 2.48 ± 0.42 and the grade point average of 66.7% of them was in the range of 2.51-3.14. In addition, it was found that 83.3% of the students were women, 70% of them were Anatolian high school graduates, 93.3% of them chose

the nursing department willingly, all of the students participating in the study were satisfied with the nursing education and they did not receive peer education before.

Table 1. Comparison of Students' Descriptive Characteristics with Cooperative Learning Attitude Total Scale Scores (n=30)

Descriptive Characteristics		Mean±SD	Test Value	
Age	18	132.625±5.28	p = 0.781 F= 0.250 *	
	19	134.571±6.53		
	20	134.125±6.68		
Overall academic average	1.45-2.50	135.454±5.14	p = 0.308 t= 1.038 **	
	2.51-3.14	133.052±6.57		
Gender	Female	134.200±5.42	p = 0.602 t= 0.528 **	
	Male	132.600±9.58		
Last Graduated School	Regular High School	132.666±7.84	p = 0,829 F= 0.188 *	
	Anatolian High School	134.381±5.88		
	Other	133.333±5.85		
Nursing department selection status	Willingly	140.000±0.00	p < 0.001 t= -5.638 **	
	Not willingly	133.500±6.10		
Total		133.933±6.11	Min	Max
			119.000	140.000

* One-Way ANOVA, ** Independent Sample T test

When the comparison of the descriptive characteristics with Cooperative Learning Attitude Total Scale Scores of the students was examined, it was found that whether or not students chose the nursing department willingly had an effect on the total scale score ($p < 0.001$). Besides, when the students' total scale average score was examined, a high level of positive attitude ($133,933\pm6.11$) was identified (Table 1).

Moreover, when the students' attitude scale item frequency distributions towards cooperative learning were examined, it was found that the students used the expression "I strongly agree" in the statements "I think that all the members of the team are valuable," (93.3%), "I believe that union is strength" (96.7%), "I value the suggestions and explanations of my teammates" (93.3%) and "I respect the ideas of my teammates," (96.7%) more than the other expressions (Table 2).

Table 2. Students' Attitude Scale Item Frequency Distributions Towards Cooperative Learning (n=30)

Scale Items In cooperative learning activities,	I strongly disagree.		I disagree.		I am undecided.		I agree.		I strongly agree.	
	n	%	n	%	n	%	n	%	n	%
I see the group as a whole.	-	0	-	0	-	0	3	10.0	27	90.0
I think all the members of the team are valuable.	-	0	-	0	-	0	2	6.7	28	93.3
I believe that there is strength in union.	-	0	-	0	-	0	1	3.3	29	96.7
One for all, all for one.	-	0	-	0	1	3.3	3	10.0	26	86.7
The idea of belonging to a group makes me happy.	-	0	-	0	2	6.7	1	3.3	27	90.0
I like working in groups.	-	0	-	0	3	10.0	2	6.7	25	83.3
I find group studies fun.	-	0	-	0	1	3.3	2	6.7	27	90.0
I help my friends who have learning difficulties.	-	0	-	0	-	0	5	16.7	25	83.3
I listen carefully to what other group members say in group studies.	-	0	-	0	-	0	5	16.7	25	83.3
I value the suggestions and explanations of my teammates.	-	0	-	0	-	0	2	6.7	28	93.3
I try to learn new information from my friends.	-	0	-	0	-	0	4	13.3	26	86.7
I would be happy to share my knowledge with my friends.	-	0	-	0	-	0	3	10.0	27	90.0
I try to increase the motivation of my teammates.	-	0	-	0	-	0	4	13.3	26	86.7
I think that the success achieved belongs to the whole group.	-	0	-	0	-	0	5	16.7	25	83.3
I try to do the best I can.	1	3.3	-	0	-	0	2	6.7	27	90.0
I express my ideas freely in a group.	-	0	-	0	1	3.3	3	10.0	26	86.7
I have confidence in myself.	-	0	1	3.3	1	3.3	11	36.7	17	56.7
I make an effort to solve the problems that arise within the group.	-	0	-	0	-	0	7	33.3	23	76.7
Working as a team affects our friendships positively.	1	3.3	-	0	-	0	2	6.7	27	90.0
I respect the ideas of my teammates.	-	0	-	0	-	0	1	3.3	29	96.7
I think group studies help me socialize.	-	0	-	0	-	0	5	16.7	25	83.3
I try to correct my friends' mistakes properly.	-	0	-	0	-	0	9	30.0	21	70.0
I don't hesitate to make changes in my ideas that I recognize to be logically wrong.	-	0	-	0	3	10.0	8	26.7	19	63.3
I evaluate my own success objectively.	1	3.3	1	3.3	1	3.3	8	26.7	19	63.3
I evaluate my friends' achievements objectively.	-	0	1	3.3	-	0	9	30.0	20	66.7
Group study help me understand the topic better.	-	0	-	0	2	6.7	8	26.7	20	66.7
Group studies help me with critical thinking.	-	0	-	0	-	0	8	26.7	22	73.3
Rewards in group studies have a positive effect on my motivation to learn.	-	0	-	0	1	3.3	6	20.0	23	76.7

Discussion

In nursing education, it is important to create quality learning environments for students to acquire the competencies expected from them. When the literature is examined, it is seen that there are many studies which related to the effect of cooperative learning on the knowledge, skills and competencies gained in nursing education which produced positive results.^{6,10,11} However, no study was conducted to determine the attitudes of students towards cooperative learning. This situation limited the discussion of the study data.

When the results of the present study were examined, it was determined that none of the students had previously received peer education and the attitudes of students towards cooperative learning were highly positive after the cooperative learning intervention. In the study of Şancı and Kelleci (2019), which supports the result of the study, it was determined that only 5.2% of the students received peer education and they predominantly had positive opinions about peer education, and this result was interpreted that their satisfaction related to the unstructured peer support they gave to each other in the education process.¹² Similarly, in the Yelten et al. (2018)'s study evaluating the perception of peer support among university students, the nursing students' perception towards peer support was found to be higher than that of students in other departments.¹³

In addition to students' positive attitudes towards cooperative learning, it was found that cooperative learning method has a positive effect on students' attitudes towards learning,¹⁴ their learning motivations,⁶ and learning desires and satisfaction.¹⁵ In consequence of the present study, it is thought that the positive attitudes that arise regarding the cooperative learning method stem from the fact that cooperative learning provides the opportunity to participate actively in the learning process. When the literature is examined, it is seen that this result is supported.¹⁶ So, it is stated that the quality of nursing education and care will increase with the inclusion of cooperative learning method, which is one of the highly structured forms of peer education, in nursing education process.¹⁷

In the study, when the descriptive characteristics of the students were compared with the total scale scores, it was determined that the selection of nursing department willingly had an effect on the attitude towards cooperative learning. The students who select nursing willingly may have been gained a positive attitude towards the cooperative learning method which contributes positively to their learning. Because, the cooperative learning method, is effective on helping students gain theoretical knowledge and psycho-motor skills, and competencies such as interpersonal communication, collaboration and critical thinking.^{10,11} Based on the results of the study, it can be said that the cooperative learning method will be effective in increasing the learning motivation of the students when it is included in nursing education.

Besides, when the item frequency distributions of the attitude scale of the students towards cooperative learning were examined, it was observed that the expression "I strongly agree" was stated at a higher level in the statements that emphasize the team's worth. So, it is thought that the cooperative learning process develops the students' formation of team spirit and their belief that all the members of the team are valuable. Similar to the result of the study, in the study conducted by Ravanipour et al. (2015) with nursing students, "respecting the

characteristics and knowledge of the other individuals in the education process" was one of the sub-themes that the students indicated regarding peer learning.¹⁸ It is important and necessary to have an understanding of team spirit for nurses students. Because, collaboration and teamwork among health professionals is known to be a key component for achieving positive patient outcomes, increasing patient and employee satisfaction, and delivering health services cost-effectively.¹⁹ However, the lack of adequate education to support team spirit formation within the health education process stated as a reason for the lack of teamwork in health care services.²⁰

Limitations of the study

Since the data were obtained only from the first year nursing students who educate in Nursing Department of a university, the research findings were limited with the students who participated in the study. Also, since the students did not have any information about cooperative learning before the study, the data were collected only in the form of posttest. In addition, the development of attitude towards skills after teaching the skills within the scope of the study could not be evaluated. However, studies to be carried out with pre-test and post-test measurements can provide a clearer understanding of changes in students' attitudes.

Conclusion

In the study, it was found that nursing students' attitudes towards cooperative learning were highly positive and students' choice of nursing department willingly was effective on the positive attitude towards cooperative learning. Also, the present study reveals the current results of the students' attitudes towards the cooperative learning method which enables the students the understanding of team spirit. This results could guide nurse educators to consider active learning approaches to support the students' learning in nursing education.

In line with the results of the study, it is recommended that studies are made to determine the attitudes and opinions of students regarding innovative learning approaches. Furthermore, conducting similar studies in different and larger samples will contribute to the enrichment of the literature.

References

1. Zhao B, Potter DD. Comparison of lecture-based learning vs discussion-based learning in undergraduate medical students. *J Surg Educ.* 2018;73(2):250-257. <https://doi.org/10.1016/j.jsurg.2015.09.016>
2. Şahin Ş, Arseven Z, Ökmen B, Eriş HM, İlğan A. İşbirlikli öğrenmeye yönelik tutum ölçeği: Geçerlik ve güvenilirlik çalışması [Attitude towards collaborative learning scale: a validity and reliability study]. *Kırıkkale Üniversitesi Sosyal Bilimler Dergisi [Kırıkkale University Journal of Social Sciences].* 2017;7(1):73-88. <https://dergipark.org.tr/tr/download/article-file/273947>

3. Coetzee IM, Heyns T, Botma Y, Van Rensburg GH. Collaborative learning: Key considerations for nurse educators. *Gender and Behaviour*. 2018;16(3):12111-12117.
4. Zhang J, Cui Q. Collaborative learning in higher nursing education: A systematic review. *J Prof Nurs*. 2018;34(5):378-388. <https://doi.org/10.1016/j.profnurs.2018.07.007>
5. Johnson DW, Johnson RT. Cooperative learning in 21st century. *Annals of Psychology*. 2014;30(3):841-851. <http://dx.doi.org/10.6018/analesps.30.3.201241>
6. Sanaie N, Vasli P, Sedighi L, Sadeghi B. Comparing the effect of lecture and Jigsaw teaching strategies on the nursing students' self-regulated learning and academic motivation: A quasi-experimental study. *Nurse Educ Today*. 2019;79:35-40. <https://doi.org/10.1016/j.nedt.2019.05.022>
7. Trueman G, Osuji J, El-Hussein MT. Baccalaureate nursing students' experience of dyadic learning in an acute care setting. *J Nurs Educ*. 2014;53(9):S65-S72. doi:10.3928/01484834-20140821-23
8. Cason ML, Gilbert GE, Schmoll HH, Dolinar SM, Anderson J, Nickles BM, et al. Cooperative learning using simulation to achieve mastery of nasogastric tube insertion. *J Nurs Educ*. 2015;54(3):47-51. doi:10.3928/01484834-20150218-09
9. Laguardo JM. Developing students' attitude leading towards a life-changing career. *Educational Research International*. 2013;1(3):28-33.
10. Saunders A, Say R, Visentin D, McCann D. Evaluation of a collaborative testing approach to objective structured clinical examination (OSCE) in undergraduate nurse education: A survey study. *Nurse Education in Practice*. 2019;35:111-116. <https://doi.org/10.1016/j.nepr.2019.01.009>
11. Palmer BJ, Ham K. Collaborative simulation: Enhancing the transition to clinical practice. *Nurs Educ Perspect*. 2017;38(5):281-282. doi: 10.1097/01.NEP.0000000000000166
12. Şancı Y, Kelleci Ö. Hemşirelik bölümü öğrencilerinin akran eğitimi hakkındaki görüşleri: Bir vakıf üniversitesi örneği [Views on peer education of nursing students: An example of a foundation university]. *Sağlık Bilimleri Üniversitesi Hemşirelik Dergisi [University of Health Sciences Journal of Nursing]*. 2019;1(2):104-111.
13. Yelten G, Tanrıverdi S, Gider B, Yılmaz M. Üniversite öğrencilerinde akran desteği ve sosyal öz-yeterlik algısının değerlendirilmesi [Evaluation of peer support and perceived social self-efficacy in university students]. *Balıkesir Sağlık Bilimleri Dergisi [Balıkesir Health Sciences Journal]*. 2018;7(1):1-8. <https://dx.doi.org/10.5505/bsbd.2018.36450>
14. Xu JH. Toolbox of teaching strategies in nurse education. *Chinese Nursing Research*. 2016;3(2):54-57. <https://doi.org/10.1016/j.cnre.2016.06.002>
15. Männistö M, Mikkonen K, Kuivila HM, Virtanen M, Kyngäs H, Kääriäinen M. Digital collaborative learning in nursing education: A systematic review. *Scand J Caring Sci* 2020; 34(2):280-292. <https://doi.org/10.1111/scs.12743>
16. Jurkowski S, Hänze M. How to increase the benefits of cooperation: Effects of training in transactive communication on cooperative learning. *Br J Educ Psychol*. 2015;85(3):357-371. doi:10.1111/bjep.12077
17. Bvumbwe T. Enhancing nursing education via academic-clinical partnership: An integrative review. *Int J Nurs Sci*. 2016;3(3):314-322. <https://doi.org/10.1016/j.ijnss.2016.07.002>
18. Ravanipour M, Bahreini M, Ravanipour M. Exploring nursing students' experience of peer learning in clinical practice. *J Educ Health Promot*. 2015;4:46. doi: 10.4103/2277-9531.157233.

19. Jacobson PM. Evidence synthesis for the effectiveness of interprofessional teams in primary care. Ottawa: Canadian Health Service Research Foundation; 2012. https://www.cna-aiic.ca/-/media/cna/files/en/synthesisinterprofteams_jacobson-en-web.pdf
20. Lafçı D, Pehlivan S, Demiray G. Cerrahi kliniklerinde çalışan hekim ve hemşirelerin ekip çalışmasına ilişkin görüşleri [Viewpoints of physicians and nurses working in surgical clinics on teamwork]. Sağlık ve Hemşirelik Yönetimi Dergisi [Journal of Health and Nursing Management]. 2016;3(2):55-64. <https://dx.doi.org/10.5222/SHYD.2016.055>