Original Article

Efficacy of a communication skills training for nursing students: a quasi-experimental study

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Abstract

Objectives: Effective communication skills enable nurses to understand their patients and gather essential information or care. In addition, the patient care period runs shorter as a result of effective communication. However, in cases where effective communication cannot be established with the patient, medical errors can arise, while the quality of patient care declines as well. Therefore, the nursing education curriculum is required to include sufficient programs for communication skills. The objective of this study is to explore the effects of staging through roleplaying the sketches of formed by the students based on their own lives on the development of communications skills.

Methods: In this study, quasi-experimental and pre-post designs were used. Participants included in the study were randomly divided into two as experimental (n=40) and control (n=38) groups. In the evaluation of the learning, "Interpersonal Problem Solving Inventory" and "Communication Skills Inventory" were at the pre-training and the post-training.

Results: As a result, "Confidence," "Satisfaction," "Feedback," "Staging Sketches Through Role Play," and the "Communication Skills Gained" themes were revealed. It was determined that the communication and interpersonal problem-solving skills (IPSI) of students in the experimental group developed more compared to pre-training. Upon examination of the difference between the experimental and control groups, it was found that the communication and IPSI of the students in the experimental group are better compared to the control group.

Conclusion: In this study, it has been shown that the training provided through student-based sketches and under the management of an expert in their field, is effective in terms of developing communications skills and interpersonal problem-solving in nursing students. Considering the results of this study, role-playing, displacement, giving feedback, and staging students' life stories can be added to the education framework.

Keywords: Communication; nursing; students; training.

Communication is a necessary tool to present in a shorter period the interventions used to establish therapeutic relations and solve interpersonal problems.[1] To offer quality nursing practices, effective communication with the patient is essential.[2,3] The benefits of effective communication for the patient are emphasized in numerous studies.[4,5] Effective communication allows nurses to fulfill their important role in protecting, developing, and improving health in a more comfort-

able manner.[5] It is emphasized that nursing students should be competent in communication skills.[6] However, studies show that nursing students are not competent in communication skills.[5,7,8]

In nursing education, communication skills are gained through the use of many methods; however, it is known that there is no standard program devoted to it.[9,10] It is seen that these trainings involve didactics and the role-play method, simulation pa-

tients, vignettes, video presentations, and peer and educator feedback are used.[11,12] It is determined that the most widely used method in communication skills training is role play, followed by group discussions, video presentations, didactical narration, and individualized education, respectively. The less-used methods include reading assignments, case studies, and workshops.[1] It is known that learner-focused communication skills training is more effective. In the order of effectiveness among the methods used, the simulation and role-play methods are seen to have priority.[3] The training planned for communication skills must be realistic, specific, have appropriate goals, be provided at the appropriate time, be sustainable and flexible, and the results should be evaluable.[13]

Thus, this study sought an answer to how communication skills training for nursing students can be made effective and appropriate. The objective of this study is to explore how staging through role-playing their own lives, and their analysis through feedback from peers and the educator contributes to the development of communications skills.

We hypothesized:

H1. The Communication Skills and Subscales (Cognitive, Emotional, and Behavioral) score average of the participants in the intervention group will have increased more after the training than before the training.

H2. From the Interpersonal Problem-Solving Inventory Subscales of the participants in the intervention group;

Negative Approach to the Problem, Lack of Self-Confidence and Not Taking Responsibility subdimension averages will decrease after the training compared to the pre-training,

Constructive problem solving and persistent-persistent approach subdimensions mean scores will increase after the training compared to the pre-training.

H3. The communication and IPSI of the participants in the intervention group will increase more after the training than before the training compared to the control group.

Materials and Method

In this study, the quasi-experimental and pre-post designs were used. This study was carried out in March–July 2021.

Sample and Setting

The participants of the study were fourth-grade nursing students studying at a university. Students took a 28 h interpersonal communication course in the first grade only. Participants included in the study were randomly divided into two as the experimental (n=40) and control (n=38) groups. Eight students in the control group, who did not participate in the post-test, were removed from the study.

Methods and Variables

Communication education: With life examples

This training has been designed with the purpose to increase awareness aimed at ineffective

What is presently known on this subject?
- It is emphasized that nursing students should be competent in communication skills. However, studies show that nursing students are not competent in communication skills.

What does this article add to the existing knowledge?
- The results of this study support the need to expand communication training in undergraduate nurse curriculum.

What are the implications for practice?
- Considering the results of this study, role-playing, displacement, giving feedback, and staging students' life stories can be added to the education framework. It is important to ascertain an educational framework to foster the development of effective communication skills.

communication techniques (not listening, using accusatory you-language, etc.) which cause students to experience communication problems in their lives, and replace the ineffective communication techniques used with effective communication techniques (empathy, I-language, self-expression).

The education program was developed in a flexible manner, in accordance with the techniques

required by the students. The training consists of two parts: Didactical education and the staging of their own lives. Didactical education covers basic communication skills (factors that have a positive effect on communication, body language, listening, empathy, I- language, asking effective questions) in two 45-min sessions. The program is planned to achieve the objective when each participant forms a scenario concerning the communication problems in their own life and stages them in group sessions. Techniques such as role-play, displacement, mirror, and giving feedback are considered to be used during the staging their own lives. Gaining students skills such as realizing and summarizing the effects of listening, making empathy and the ability to give an empathetic reaction, noticing body language, using I-language, and self-expression in group sessions are among the objectives of the training. It has been decided that the training will be concluded once every student appears on stage.

Application

The intervention group was divided into four groups with ten students in each group. The training consists of ten sessions. Each session lasted 45 min.

The training was completed with the didactical explanation of effective communication techniques in the first two sessions and the staging of the scenario composed of each one of the participants' lives in the other sessions. The staging of their own lives was directed by the instructor, who is an expert in their field (NM). In every life experience staged, the ineffective communication technique causing communication problems was discussed. It has been discovered which effective communication techniques should be used to solve the problem. Roleplay, displacement, and mirror techniques were used while staging their own lives.

In addition, within the scope of the training, feedback was received from the trainer and group members and the benefits

of group training were utilized.

During the sessions, the observations made by group members were evaluated at the end of each performance, followed by a discussion on how they will translate to everyday life the skills they gained in the sessions. No intervention was made in the control group during the study period. However, when the study was concluded, the content of the education included in the didactical part of the training was sent to the control group via email.

Measures

The training's effectiveness was evaluated with the assessment of participants' reaction to the program and learning, which are the first two of the Kirkpatrick model's four stages. [14] Students were given the opportunity to talk about the training they received, as a means of determining participants' response to the program. Scoring and reporting learning outputs with a valid and reliable tool has been important in the evaluation of learning. Participants reported post-training changes in their knowledge or behavior in accordance with their own self-evaluation.

Training evaluation

Participants' response to the program

In the evaluation of the activity, the qualitative method was used to determine participants' responses to the program. Qualitative data were collected immediately after the training was completed. Two groups were formed, with 10 people in each group, randomly selected from the participants in the intervention group. Data were collected from these groups via focus group meetings. The data were obtained by using the semi-structured questionnaire form. This form was developed by researchers with expert opinions and after literature reviews. Participants were asked questions such as, "Can you explain what the training changed in your life?," "Can you tell us about the difference of the training provided through scenarios compared to didactical education?," "What are the benefits of this training?", and "What needs to be improved in this training?" A 60-min interview was held with each group. The interview was conducted by an experienced researcher (SC) other than the researcher involved. Interviews were carried out in a classroom environment and recorded with a voice recorder.

Assessment of participants' learning

In our study, the Interpersonal Problem Solving Inventory and Communication Skills Inventory (CSI) were administered to the students before and after the education to evaluate their learning. Quantitative data were collected through face-to-face interviews in approximately 15 min.

CSI

The CSI, which was developed by Ersanli and Balci (1998:7-11), is used to determine the communication skills of individuals. This five-point Likert-type inventory evaluates individuals'

communication skills in three dimensions, behavioral, cognitive, and emotional, 15 questions and inventories in each dimension. The lowest score to be obtained is 45 and the highest score is 225. Those who scored high in the inventory also have high communication skills. The high scores obtained from the sub-dimensions show that communication skills are higher in that dimension. Cronbach's alpha coefficient of the Communication Skill Inventory was found to be 0.72.[15]

IPSI

The interpersonal problem-solving inventory was developed by Cam and Tumkaya (2008) to measure university students' interpersonal problem-solving orientation and skills. The scale has five dimensions titled, Negative Problem Orientation (NPO), Constructive Problem-Solving (CPS), Low Self-Esteem (LSE), Unwillingness to Take Responsibility (UTR), and Insistent-Persistent Approach (IPA). NPO consists of 16 items, CPS consists of 16, LSE of 7, UTR of 5, and I-PA or 6 items. It is stated that it is more appropriate to use the scale's sub-scale scores individually to measure individuals' interpersonal problem-solving characteristics. As the score obtained from the Negative Approach to Problem, Lack of Self-Confidence, Not Taking on Responsibility sub-dimensions decreases, as the scores obtained from the Constructive Problem Solving and IPA sub-dimensions increase, IPSI increase. Cronbach's alpha internal consistency coefficients range between 0.67 and 0.91.[16]

Data Analysis

The "thematic content analysis" method was used in the analysis of qualitative data. The SPSS Windows 21.0 package program was used in the analysis of quantitative data. For the identifier variables the number, percentage, average±standard deviation, and maximum-minimum values were used. To determine whether the data were distributed normally, the kurtosis and skewness values were used, and values ranging between −2 and +2 were considered compatible with a normal distribution.[17] In the analysis of differences between groups, the independent t-test and the paired t-test were used for values compatible with normal distribution, while the Mann–Whitney U test was used for incom 160 patible values, and the Pearson Chi-square test was used in the analysis of discrete variables. The statistical significance level was accepted as $p<0.05$.

Ethical Approval

Before the research, the Ethics Committee of one university was consulted and the ethics committee approval of the study was obtained. Participation in the study was voluntary. Written-verbal consent was obtained from each student volunteering to participate in the study.

Results

Findings Aimed at Determining Participants' Response to the Program

A total of 16 categories and five themes were formed as a re-

Table 1. Themes, categories, and participant statements

Themes	Category	Participant statements
Confidence	Learning communication techniques. Opportunity to improve communication skills. Seeing improvements in their communication and interpersonal problem-solving skills.	I believe that from now on when I experience a problem, I will look at the case from the other person's perspective as well. (K1, Female) Before the training, my self-confidence in my communication skills was 5 out of 10, now it is 8. I was previously unable to express my own feelings, but now I learned how to express them. I did not care about the other person's thoughts, but now I pay greater attention to it. (K2, Female) This training helped me see that I can control my anger. This boosted my confidence from 6 to 9. (K3, Female) I think I can reflect what I learned in this training in my life; in fact, there have been times I already did. (K4, Female)
Satisfaction	Students being at the center. Progressing in accordance with requirements. Flexibility. The idea that it can be transferred to career life. Expert leader in the field.	I got on stage and my life was discussed. I saw that it was better than sitting and relaxing. (K2, Female) It was very nice that the educator asked us questions, and directed the course of the training based on our demands. This training must continue to be offered to others after us as well. (K1, Female) The educator approached each one of us differently and asked us different questions. The educator is able to realize that we have different needs and assess them accordingly. Those who will run this training must be equipped with these skills. (K5, Female)
Feedback	Peer feedback. Educator feedback.	After the sketch ends, my friends express their thoughts. I am very surprised by their thoughts. I am at the liberty to say, yes it can be considered in this perspective as well, or object, saying it does not suit me. This feedback stage made me feel really good. I liked it very much. (K6, Female)
Performing the sketches through role-play	The ability to look at situations from the other person's perspective. Realizing the self. Seeing alternative behaviors	I used to think my thoughts alone were right. However, when we staged the sketches, I was able to say, yes, the other person was also right, they too had valid reasons (K6, Female) What does the person in front of me really want to say right now? What are they going through? And, what are they reflecting? I grasped the importance of understanding by asking these questions and observing the other person's body language. (K7, Female) We understand the other side when staging the sketches. What's more important is that I was able to see myself very clearly. I was able to discover what this situation made me feel and think. (K8, Female) The examples you gave in class enabled me to learn the concepts only. Through the sketches, I am able to add my own life, my own feelings as well. I can think deeper. In brief, the example you give us teaches saying this is how it should, whereas during the process of learning through sketches, I am led to think this is how I should do it. (K7, Female) It has been great to put into practice the techniques we want to learn. We knew empathy, but we could not apply it. We were able to reflect it in our actions through the sketches. And we observed how showing empathy changed the situation. I am trying to change my behavior; I am going to give training so that the other person change their behavior as well. (K9, Female)
Communication skills gained	Self-expression. I-language. Anger management.	In this case, when we can express ourselves correctly, the other person is able to understand us. Then, that person better explains themselves to us, and we are able to find the reason underlying their behavior. (K10, Female) First, I learned that I-language is more important than you-language, that you-language is hurtful. I saw that the problem can be solved using I-language. (K11, Female) I learned a lot about how I can manage my anger in situations I experience instead of running from my emotions. I found the answer to how I can communicate with someone toward whom I feel anger. (K9, Female)

sult of the analysis of the qualitative interview. The themes were titled: "Confidence," "Satisfaction," "Feed Back," "Staging Their Own Lives," and "Communication Skills Gained." It has been determined that recognizing communication techniques, providing the opportunity to implement what they learned, seeing developments in their communication and

Table 2. Comparison of pre-ıntervention sociodemographic characteristics of control and experimental groups (n=70)				
Characteristics	**Control group** n (%)	**Experimental group** n (%)	**Test value**	**p**
Sex				
Female	21 (70.0)	34 (85)	2.291	0.130
Male	9(30.0)	6(15)		
Presence of health problem				
Yes	1 (3.3)	4 (10)	1.149	0.284
No 29(96.7)	36 (90)			
Characteristics	Control group			
X ±SD	Experimental group			
X ±SD	Test value	p		
Age	21.83±1.20	22.25±1.17	1.454	0.150
Problem-solving capacity perception	6.90±1.84	7.07±1.50	0.436	0.664
Communication skill capacity perception	7.10±1.62	6.90±1.87	−0.466	0.642

IPSI increased students' confidence. It was additionally found that being student-centered in the training environment, progressing in accordance with requirements and flexibility contribute significantly to satisfaction. Furthermore, the idea that what they learned can be transferred to their career life, receiving this education from a leader who is an expert in the field, satisfied students. In this study, the feedback on the training method was emphasized by students, feedback provided by peers and educators contributed to students' effective learning process. Using the role-play method to staging their own lives, enabled students to look at the situation from the perspective of the other side, to realize themselves, and see alternative behaviors.

It was determined that students who participated in the communication education gained communication techniques such are self-expression, using I- language, and anger management. The theme, category, and participant statements are presented in Table 1.

Findings Aimed at Evaluating Participants' Learning

Seventy nurses studying in the Faculty of Health Sciences participated in this study. Participants were divided into two groups, the control group (n=30) and the experimental group (n=40). Students' age average is 22.07±1.19 (min=20; max=26), with the vast majority (78.6%; n=55) consisting of women. Table 2 shows the personal and social characteristics of the participants in the two groups. The post-intervention difference between the experimental and control groups in terms of feeling adequate to solve the problems and communication problems participants encounter in their lives were determined to be statistically significant. Furthermrore, in the comparison of the intervention group scores pre and post-training, the difference between the experimental and control groups was found significant, while it was determined that this difference was not statistically significant in the control group.

The pre-test results further show that there was no statistically significant difference between the experimental and control groups in terms of the scores obtained from the communication skills subscales and interpersonal problem-solving subscales, and that the results from the two groups are compatible with one another. In accordance with the post-intervention communication skills total score, while the difference between the experimental and control groups was found to be statistically significant in terms of the scores from the emotional sub-scales, there was no significant difference between the cognitive and behavioral sub-scale. On the other hand, in the interpersonal problem-solving sub-scales, the difference between the experimental and control groups was observed to be statistically significant in terms of the scores obtained from the negative approach to problems, CPS, lack of self-confidence, and the not taking on responsibility sub-scales, however, the difference between the insistent-persistent approach scale was not significant (Table 3).

In the comparison of the intervention group's before and after communication skills scale and subscale, interpersonal problem-solving sub-scale scores, a statistically significant difference is observed in communication skills, with a statistically significant reduction in the group's lack of self-confidence levels, excluding the negative approach to the problem and not taking on responsibility sub-scales, while a statistically significant increase is seen in the CPS and insistent-persistent approach levels (Table 4).

Discussion

In this study, a student-centered education was applied for nursing students in small groups and under the management of an expert manager. The effect of this training on improving communication skills and interpersonal problem-solving was discussed.

Table 3. Pre- and post-test scale scores for participants in the control group (n=40) and Experimental group (n=30)

Scale	Group	Mean (SD)	Confidence Interval 95% Lower- Upper	Test statistics*
Pre-intervention				
Communication skills total score average	Control	156.36±11.60	−3.78–6.74	t=0.562 df=68 p=0.576
	Experimental	157.85±10.39		
Subscale score				
Cognitive	Control	48.10±4.23	−1.74–1.99	t=0.133 df=68 p=0.894
	Experimental	48.22±3.60		
Motional	Control	50.96±5.90	−1.96–3.28	t=0.500 df=68 p=0.619
	Experimental	51.62±5.09		
Behavioral	Control	53.43±4.79	−1.46–2.69	t=0.591 df=68 p=0.556
		54.05±3.92		
		47.76±14.35	−12.88–0.79	t=−1.762 df=68 p=0.083
	Experimental	41.72±14.07		
Constructive problem solving	Control	55.96±8.99	−7.26–1.43	t=−1.337 df=68 p=0.186
	Experimental	53.05±9.05		
Lack of self−confidence	Control	13.96±5.08	−3.78–1.20	t=−1.033 df=68 p=0.305
	Experimental	12.67±5.24		
Interpersonal problem−solving subscale score	Experimental	12.16±4.08	−3.83–0.55	t=−1.938 df=68 p=0.057
	Experimental	10.27±4.0		
Negative approach to problem	Control	22.06±4.06	−2.64–1.31	t=−0.671 df=68 p=0.505
	Experimental	21.40±4.14		
Post−intervention				
Communication skills total score average	Control	155.46±11.97	2.71–14.44	t=2.920 df=68 p=0.005**
	Experimental	164.05±12.31		
Subscale score				
Cognitive	Control	48.50±4.02	−0.01–3.51	t=1.923 df=68 p=0.053
	Experimental	50.25±3.38		
Emotional	Control	50.53±5.07	1.76–6.97	t=3.343 df=68 p=0.001**
	Experimental	54.90±5.64		
Behavioral	Control	54.56±4.89	−0.46–4.13	t=1.589 df=68 p=0.117
	Experimental	56.40±4.68		
Interpersonal problem−solving subscale score				
Negative approach to problem	Control	47.03±12.95	−15.19−−3.52	t=−3.201 df=68 p=0.005**
	Experimental	37.67±11.42		
Constructive problem solving	Control	55.13±10.41	4.65–14.13	t=3.954 df=68 p=0.000**
	Experimental	64.52±9.37		
Lack of self−confidence	Control	14.43±5.50	−6.29−−1.17	t=−2.908 df=68 p=0.005**
	Experimental	10.70±5.17		
Not taking on responsibility	Control	12.36±4.67	−5.13−−0.99	t=−2.955 df=68 p=0.004**
	Experimental	9.30±3.99		
Insistent−persistent approach	Control	21.90±4.42	−0.21–3.76	t=1.781 df=68 p=0.079
	Experimental	23.67±3.89		

SD: Standard deviation; df: Degrees of freedom; *t: Independent sample t test, **p<0.05

Table 4. The statistical results of the scale score of nurses after and before the intervention in control and experimental groups

Scale	Group	Mean (SD)	Confidence Interval 95% Lower- Upper	Test statistics*
Control group				
Communication skills Total Score Average	Before	156.36±11.60	−3.04–4.84	t=0.466 df=29 p=0.644
	After	155.46±11.97		
Subscale score				
Cognitive	Before	48.10±4.23	−2.18–1.38	t=−0.457 df=29 p=0.651
	After	48.50±4.02		
Emotional	Before	50.96±5.90	−1.51–2.38	t=0.454 df=29 p=0.653
	After	50.53±5.07		
Behavioral	Before	53.43±4.79	−2.91–0.64	t=−1.302 df=29 p=0.203
	After	54.56±4.89		
Interpersonal problem–solving subscale score				
Negative approach to problem	Before	47.76±14.35	−4.49–5.95	t=0.287 df=29 p=0.776
	After	47.03±12.95		
Constructive problem solving	Before	55.96±8.99	−3.22–4.88	t=0.420 df=29 p=0.677
	After	55.13±10.41		
Lack of self-confidence	Before	13.96±5.08	−2.86–1.93	t=−0.398 df=29 p=0.693
	After	14.43±5.50		
Not taking on responsibility	Before	12.16±4.08	−2.38–1.98	t=−0.187 df=29 p=0.853
	After	12.36±4.67		
Insistent-persistent approach	Before	22.06±4.06	−1.23–1.57	t=0.243 df=29 p=0.810
	After	21.90±4.42		
Intervention group				
Communication skills total score average	Before	157.85±10.39	−10.82−−1.57	t=−2.711 df=39 p=0.010**
	After	164.05±12.31		
Subscale score				
Cognitive	Before	48.22±3.60	−3.62−−0.42	t=−2.567 df=39 p=0.014**
	After	50.25±3.38		
Emotional	Before	51.62±5.09	−5.31−−1.23	t=−3.240 df=39 p=0.002**
	After	54.90±5.64		
Behavioral	Before	54.05±3.92	−4.02−−0.67	t=−2.283 df=39 p=0.007**
	After	56.40±4.68		
Interpersonal problem–solving subscale score				
Negative approach to problem	Before	41.72±14.07	−1.09–9.19	t=1.593 df=39 p=0.119
Constructive problem solving	Before	53.05±9.05	−14.70−−8.24	t=−7.181 df=39 p=0.000**
	After	64.52±9.37		
Lack of self-confidence	Before	12.67±5.24	0.05–3.89	t=2.077 df=39 p=0.044**
	After	10.70±5.17		
Not taking on responsibility	Before	10.27±4.00	−0.66–2.61	t=1.204 df=39 p=0.236
	After	9.30±3.99		
Insistent-persistent approach	Before	21.40±4.14	−3.61−−0.93	t=−3.441 df=39 p=0.001**
	After	23.67±3.89		

SD: Standard deviation; df: Degrees of freedom; *t= Paired samples t-test; **p<0.05.

Results of Student Evaluation of the Training

As a result of the analysis of the qualitative interviews, during which students evaluated the overall education based on self-report, the "Confidence," "Satisfaction," "Feedback," "Staging Their Own Lives," and the "Communication Skills Gained" themes were revealed. It is known that students prefer the exciting and absorbing experiences steered by themselves[9] and it is thus thought that the method used in this study meets this need.

The confidence theme, which was obtained in the analysis of the students' expressions, consisted of three categories learning communication techniques, opportunity to improve communication skills, seeing improvements in their communication and IPSI. In addition, a scale has been applied. This scale covering numerical values from 1 to 10 were used to evaluate whether how adequate they felt in terms of solving the problems and communication issues they encountered in their lives. As a result of the analysis conducted, it was determined that the intervention group felt more adequate in comparison to pre-training. In the interviews, it was learned that the training method contributed significantly to boosting their self-confidence that the contributions of this training reflect and will reflect on their lives. In this study, it has been determined that learning communication techniques, providing the opportunity to apply what they learned, seeing their own development in communication and IPSI, increased students' self-confidence. Our finding is supported by the literature. [7,12,18] In our study findings, students have stated that they are happy with the training method. It has been determined that students being centralized in the study method, progressing in accordance with needs, flexibility, the idea that the skills they learn can be transferred to their career life, and receiving training from an educator who is an expert in the field give rise to this satisfaction. In addition, participant satisfaction has been established in other studies in which nursing students evaluate the communication skills training they receive, similar to our findings.[7,19] In our study, there are students who stated that feedback during the training process is effective. Feedback is known to be an important element necessary for the completion of learning communication skills.[18] There are studies that support our study findings.[7,18] Our study theme of Staging Their Own Lives is determined to consist of the following categories; students' ability to view situations from the other person's perspective, realizing one's self, and the opportunity to see alternative behaviors. As a result, students have been able to better analyze and embrace lives and put into practice the many effective communication techniques they learned. In fact, they even experienced the benefit of not only the performance of their own life experiences through role-play but also participating in the analysis of other group members' life experiences. A study in which training was provided using a similar method supports our study finding.[20]

Students emphasized that this training gained them skills related to using I-language, self-expression, and anger management. Upon evaluation of this outcome, it is seen that gaining these skills has greater priority for students than the listening, body language, and summarization techniques, which are included in the training's objectives, or that they feel the need to develop these skills. It can be considered that the method employed in our study ensures students concentrate on the communication techniques they feel the need to learn and encourages them to learn. It is reported that these skills the students gain will benefit the patient in clinical applications. [18] Pines et al.[8] (2014) established that post-training, students are able to more effectively manage conflicts. In a study conducted with medical faculty students, it has been shown that communication 255 education has positive effects on factors such as empathy, taking perspective, and compassionate care. [11] Moreover, in a study conducted with female midwifery students, it was determined that their assertiveness increased by the end of the training.[21] In another study, in which the sampling consisted of physicians, it was established that communication education developed skills such as empathy, information collection, and asking questions.[20] It seems that similar to our study, the training achieved its aim in other studies as well.

Assessment of Students' Learning

In this study, it was determined as a result of the quantitative analysis conducted to evaluate the learning of students that the communication and IPSI in the experimental group developed more compared to pre-training. Our study further established a statistically significant increase in the post-intervention communication skills and their sub-dimensions in the experimental group. Upon examination of the difference between the experimental and control groups following the communication education provided in this study, experimental group students were observed to have better communication skills and emotional sub-scale in communication compared to the control group. It is thought that this conclusion is the result of the effect of the role play and feedback methods utilized in the training.

The literature report that the role-play and feedback methods are effective in communication education[22,23] while our study also supports this conclusion. Studies in the literature on communication education given to nursing students, present results similar to ours.[19,24] The results of the two meta-analyses performed also emphasize that communication education increases skills.[25,26] In a few studies, however, it is stated that students' communication skills developed, yet there was no statistically significant difference between the intervention and control groups.[27,28] In a study conducted on nurses, it has been determined that communication education is an important factor in terms of increasing skills and boosting patient care quality.[5] It was found that training provided to medical faculty students increased the level of empathy.[11] One study established that training increases physicians' skills for effective communication with patients.[13]

In the interpersonal problem-solving inventory, it is known that the score obtained from the Negative Approach to Prob-

lem, Lack of Self-Confidence, Not Taking on Responsibility sub-dimensions decreases, as the scores obtained from the Constructive Problem Solving and IPA sub-dimensions increase, IPSI increase. As a result of our study, it has been determined that students in the intervention group had more self-confidence, and approached problems more constructively and insistently-persistently when solving them compared to pre-training. It was established that students had a more positive approach to solving interpersonal problems and took on more responsibility compared to pre-intervention; however, the difference was not found to be statistically significant. On the other hand, the experimental group was found to be more constructive in interpersonal problem-solving and had a more responsible and positive approach post-intervention compared to the control group. In addition, the experimental group has greater self-confidence compared to the control group in terms of interpersonal problem-solving. The difference between the experimental and control groups in terms of insistent-persistent approach was not statistically significant. In this study, within the scope of the training, students studied the interpersonal problems they experienced and did activities aimed at how they would solve their problems. Accordingly, it may be considered that increased communication skills the students in the intervention group, as well as the activities performed, develop IPSI.

The literature also emphasizes that interpersonal communication education must be included in the nursing curriculum,[29] as well as the significance of effective communication skills in solving interpersonal problems.[30,31] In our study, students focused on using I-language, self-expression, and anger management. Another study reports that these communication skills facilitate the problem-solving process.[32] However, Lou and Wang (2013) determined in their study that communication skills education does not affect problem-solving skills.[19] Analysis of the study results shows that more studies evaluating the effect of communication education on solving interpersonal problems are needed.

Conclusion

In our study, students stage a problem they experienced in their own life, and the experience to learn communication through that experience shows that the training is student-centered. In this study, it has been shown that student-centered training in small groups and under the management of an expert in their field is effective in terms of developing communications skills and interpersonal problem-solving in nursing students.

Practice Implications

The results of this study support the expansion of communication training undergraduate nurse curriculum. Considering the results of this study, role-playing, displacement, giving feedback, and staging students' life stories can be added to the education framework. It is important to ascertain an ed-

ucational framework to foster the development of effective communication skills.

Recommendations

It is suggested that other studies be conducted for the development of a standardized program aimed at earning communication skills in nursing training. It is recommended that studies aimed at communication skills education programs continue, and programs whose effectiveness has been proven in research conclusions be included in the nursing curriculum. A longitudinal study design is suggested to assess the stability and long-term effect of the developments in the communication skills observed in this study. Observational studies in particular are needed to evaluate the student's communication with the patient in clinical areas.

Limitation

Our study is limited by the generalizability of our study results for nursing students in other environments. Evaluation of the training was done face to face. This study was not done within the scope of a course and was not planned to be graded. In addition, there are different researchers who conduct the training and conduct qualitative interviews. However, this situation may have prevented students from making a negative statement. This is another limitation of this study.

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