

# Peer Assisted Learning in Clinical Nursing Education: A Mixed Method Study

## Abstract

**Background:** Peer-assisted learning is a student-centered social learning approach that arises from the communication and interactions among peers.

**Aim:** The study aims to determine the reflections of first- and fourth-year nursing students regarding peer-assisted learning applied in a clinical setting.

**Methods:** This study was based on an explanatory sequential design of mixed methods research. It was carried out with 147 first- and fourth-year nursing students in the same clinical environment. The two student groups worked together for a total of six weeks. During this process, fourth-year students provided peer support to first-year students. A questionnaire form was used to collect quantitative data, and qualitative data were collected through document analysis. Frequency and percentage were used in the analysis of quantitative data, while content analysis was used in the analysis of qualitative data.

**Results:** Most first-year students (62.7%) stated that they were happy to be in the same clinic with fourth-year students, and 60% of them said they adjusted better when working with fourth graders. Based on the qualitative data of the research, the views of the first-year students were grouped under three themes: definitions for fourth-year students, peer support from fourth-year students, and expectations from peers; while the views of the fourth-year students were grouped under four themes: definitions for first-year students, contribution of peer education to fourth-year students, support for first-year students, and advice for first-year students.

**Conclusion:** The vast majority of both groups were of the opinion that peer-assisted learning implementation was beneficial. It was observed that the implementation raised awareness among the participants and positively affected the learning process and facilitated the educational experience.

**Keywords:** *Clinical teaching, mixed method research, nursing education, peer education, peer-assisted learning*

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## Introduction

The most permanent way to learn is by practicing and by living. Clinical education, which constitutes an important part of nursing education, is an indispensable integral part of the nursing curriculum.<sup>1-4</sup> This education allows students to learn and develop skills by practicing and living the knowledge, attitudes, values, and skills required for the nursing profession in a real environment.<sup>2-5</sup> In addition, clinical education provides the opportunity for nursing students to apply their theoretical knowledge, allowing their transition from students to professionals.<sup>6</sup>

Today, due to the high number of students and the physical conditions of the hospitals, nursing students in different classes must use the same clinics together during clinical education. As a result, different groups of students coexist in the clinical practice environment.<sup>7-9</sup> The coexistence of students in lower and upper grades in clinical practice areas and student density impose responsibilities on students in the upper classes as well as faculty members.<sup>3,4,10,11</sup> The approach of benefiting from fourth-year students has recently been used in the education of nursing students in the clinical practice environment with increasing interest.<sup>10-37</sup> This peer-centered approach is considered as a learning method to encourage students' participation in education and critical thinking.<sup>13,14</sup>

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The concept of "peer-assisted learning" (PAL), with which students acquire skills and knowledge through their status equals or through active help provided by their paired friends, has been known for many years. PAL has been practiced in the education of students in many fields of health sciences including medicine, nursing, and midwifery.<sup>7,10-12,14-17</sup> PAL is defined as educational activities provided to students not by professional instructors but by their educated peers (in terms of age, educational status, social position, etc.), and it enables students to develop in terms of knowledge, attitudes, and skills.<sup>10,11,14,16,18</sup> In PAL, social learning originating from the interactions of peers with each other and from the imitation of each other is used.<sup>14,16,19</sup>

In order for peer education to be possible, there must be a difference in knowledge level between the participants, allowing one side to assume the role of instructor.<sup>7,10-12,14-16,18,19</sup> PAL is considered an effective, advantageous, and innovative approach during the learning processes for undergraduate nursing students.<sup>12</sup> PAL is also viewed as a student-centered approach that involves active student participation, where peers learn from each other and take responsibility for learning, encompassing teamwork, critical thinking, problem solving, communication, and clinical skills.<sup>10-12,17,18</sup>

The present study, which aimed to evaluate the reflections of nursing students on peer education, was based on Albert Bandura's Theory of Social Learning. Bandura (1986) argued that behavior is shaped by environmental factors and internal processes, and that cause-and-effect relationships were effective in determining behavior.<sup>20</sup> According to the theory of social learning, the behavior of an individual is influenced by indirect experiences, namely the lives of others.<sup>21</sup> This theory posits that we learn from our interactions with others in a social context.<sup>22</sup> People develop similar behaviors by observing the behaviors of others, and after observing the behavior of others, they absorb and imitate this behavior, especially if their observational experiences are positive or include rewards related to observed behavior.<sup>22</sup> PAL is a social learning process in which the individual both receives support from and makes observations of his or her surroundings.

A literature review indicated studies dealing with different groups and dimensions. These studies included clinical environment practices,<sup>23-24</sup> reproductive health education,<sup>25</sup> participation of nursing students in social projects,<sup>26</sup> and event analysis-based learning in nursing education.<sup>27</sup> In related studies, it was revealed that peer-supported learning has a positive contribution to students' learning. A structured PAL for nursing students is important in terms of

designing a training program on priority issues in vocational education and reflecting the experience gained in this process on clinical practice skills. In this context, it can be assumed that one of the ways in which undergraduate nursing students learn in the clinical practice process is through the application of PAL enriched with observation, experience, and peer support. This study was needed since the mixed-method studies on the evaluation of PAL in clinical practices where first- and last-year nursing students work together were limited in the relevant literature. It was assumed that this research could contribute to the field in terms of improving clinical practice skills and revealing the benefits of peer-assisted learning (Table 1).

### Objective

The aim of the present study was to determine the thoughts of first- and fourth-year students of the nursing department regarding PAL in a clinical setting.

### Research Questions

1. What are the first-year students' experiences of working together with fourth-year ones?
2. What are the fourth-year students' experiences of working together with first-year ones?
3. What are the reflections of first- and fourth-year nursing students on peer-assisted learning?

### Materials and Methods

#### Research Type

The explanatory sequential design was used as a mixed method in the present study. In this design, qualitative data is used to explain the quantitative data.<sup>28</sup> In order to help explain the quantitative results in the research, an attempt was made to understand the data in more detail by collecting qualitative data after quantitative data. The study included two data collection stages: Phase 1 was a survey of closed-ended questions, and Phase 2 consisted of a structured question form applied to groups. In the study, qualitative data were collected by document analysis method (Figure 1). The article was prepared according to the Consolidated Criteria for Reporting Qualitative Research (COREQ) Item Checklist.<sup>29</sup> This study was carried out between April 1 and June 30, 2017 at Tokat Gaziosmanpaşa University, Faculty of Health Sciences, Department of Nursing.

#### Sample of the Study

The sample was determined by criterion and convenience sampling. The study population comprised all students in the internal and

	<b>Phase 1 - Quantitative</b>	<b>Phase 2 - Qualitative</b>
Sample of the Study	All students in the internal and surgical clinics at the University Hospital, where first- and fourth-year students worked together.	All students in the internal and surgical clinics at the University Hospital, where first- and fourth-year students worked together.
Sample Size	110 first-year and 37 fourth-year students	110 first-year and 37 fourth-year students
Method	Survey, descriptive analysis	Phenomenology Content analysis
Purpose	Create an item pool Check face and coverage validity Survey items	Document analysis Understand the phenomenon Coding and uncovering themes

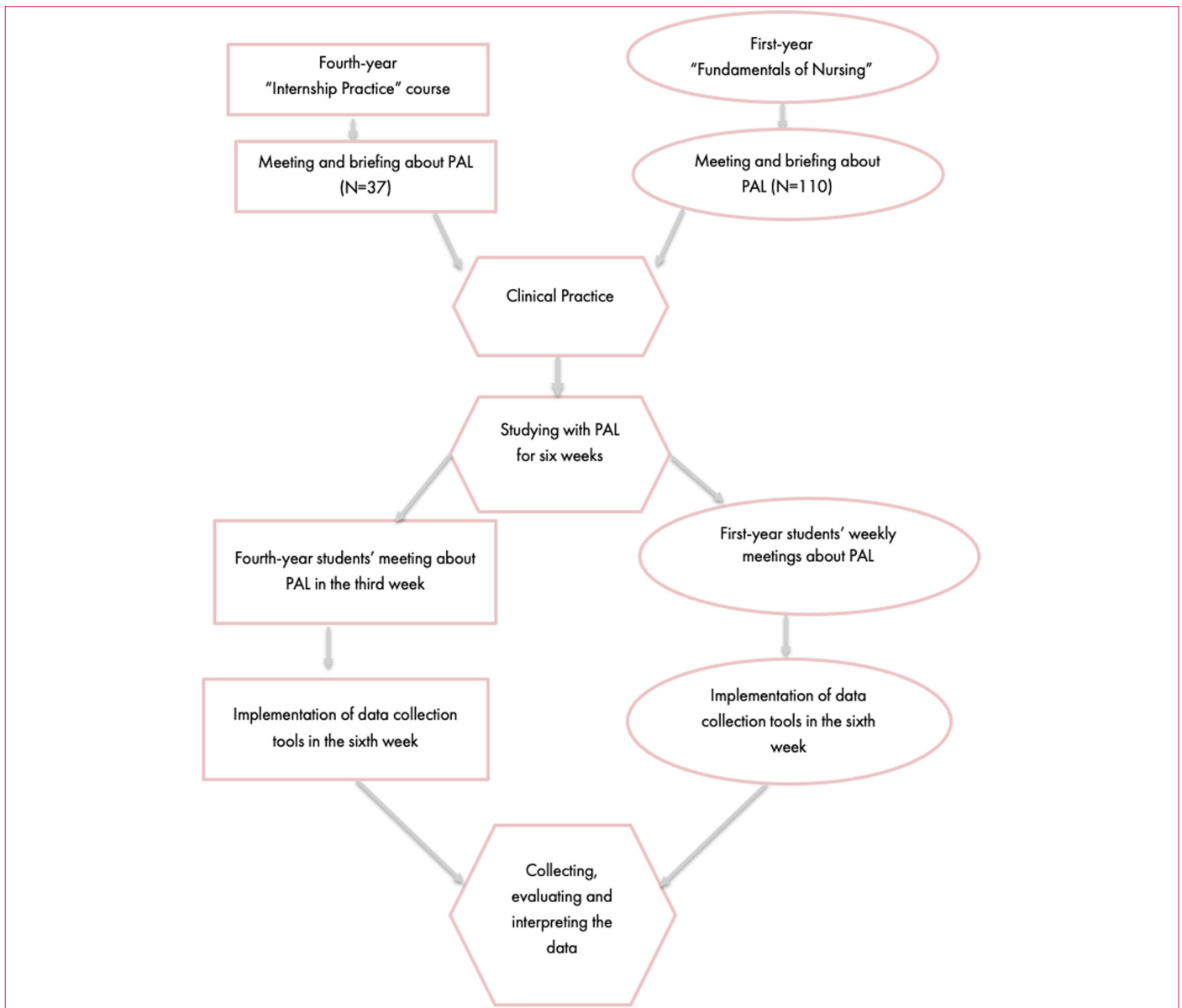


Figure 1. Study Outline.

surgical clinics of the University Hospital, where first- and fourth-year students worked together. No specific sampling method was used; instead, all students who met the inclusion criteria and volunteered to participate were included in the sample. Inclusion criteria for the research were: students who were 18 years of age and older, who took clinical practice courses, attended the courses regularly, and did not fail the course due to absenteeism were included in the study.

#### Demographics Characteristics of the Participants

Females constituted 78.2% of the first-year students and 70.3% of the fourth-year students. The mean age was  $19.66 \pm 2.13$  years (minimum: 18, maximum: 35) among first-year students and  $22.37 \pm 1.03$  years (minimum: 21, maximum: 25) among fourth-year students.

#### Study Plan

##### Preliminary Stage

Nursing students in different classes must use the same clinical environments due to the insufficient number of teaching staff, crowded classes, and the lack of sufficient clinical practice areas for these classes. PAL was planned at the beginning of the semester, as first- and fourth-year students would meet in the same clinical setting in the nursing department. The academic staff responsible for clinical practice, hospital management, and clinical nurses were informed about the study.

##### First-Year Students

The "Fundamentals of Nursing" course consists of three parts: theory (4 hours per week), laboratory practice (4 hours per week), and

clinical practice (12 hours per week). Before the start of the academic year, the clinical practice areas included in the "Fundamentals of Nursing" course content were determined. With the start of the academic year, the students were informed in writing about the content. The theoretical and laboratory practice sections of the course were carried out at the school. The clinical practice was conducted in a hospital setting. For each clinical unit, the students were organized into groups of 10-12. The students were informed about the scope, purpose, and expectations of PAL and that they would be in the practice areas together with their fourth-year fellow students. Voluntary participation was the basis of the study, and written and verbal consents were obtained from the students. The clinical practice of the Nursing Fundamentals course was held in 10 clinics, two days a week, between 08:00-16:00 hours.

#### Fourth-Year Students

The "Internship Practice Course" for fourth-year students is conducted as clinical practice two days a week (16 hours). The content of the internship practice is shared with students at the beginning of the semester. Students engage in hospital and field practices. In a clinic, 3-4 students undertake their internship practice between 08:00-16:00 hours. The fourth-year student nurses take care of the patients under the supervision of the nurse in charge of the clinic. In the first stage of the study, a meeting was held with fourth-year students using the same clinics as first-year students. Voluntary participation was essential in the study, and written and verbal consents were obtained from the participants. Students were informed about the scope, purpose, and expectations of PAL. The fourth-year students were informed about the general situation of the first-year students. In this context, it was stated that they would provide PAL support to first-year students on clinical orientation, general clinical rules, clinical functioning, communication, hospital documents, computer and material use, waste products, employee safety, patient care, and care plans.

#### Peer Assisted Learning Practice

On the first day of clinical practice, first- and fourth-year students were introduced to each other. Both groups practiced in the same clinic. Orientation was carried out in the clinics. A fourth-year student worked with first-year students in groups of 3-4 during the implementation process. The first-year students cared for patients who were also cared for by fourth-year students. The two student groups worked with PAL for a total of six weeks. In the third week of the clinical PAL practice, a meeting was held at the hospital with fourth-year students to review the PAL process. The feedback from fourth-year students was evaluated in the clinics. First-year students were interviewed about the PAL process in the Fundamentals of Nursing course every week. The clinics were monitored for the PAL process on the second application day in the clinical setting every week. Feedback from both groups was evaluated.

#### Data Collection Tools

##### Quantitative Tools

The quantitative data of the study were collected by the researchers using a questionnaire prepared separately for the two groups based on the literature. The first part of the questionnaire consisted of three questions describing the class, age, and gender characteristics of the students. The second part of the forms consisted of 12 questions

describing the peers and the PAL process for both groups. Responses were received for questions from five different experts (two from the Faculty of Education and three from the Faculty of Health Sciences). The questions were rearranged and pre-applied. After the pre-application, the questions were rearranged again.

##### Qualitative Tools

Forms consisting of open-ended questions were prepared for both groups. Initially, a pool of questions was created for these forms, and then the prepared questions were reviewed and submitted for expert approval. Feedback was received from five different experts (two from the Faculty of Education and three from the Faculty of Health Sciences). The questions were rearranged and pre-applied. The content validity of the questions was tested using the opinions and suggestions of the field experts. Participants who took part in pilot tests were not included in the study. The questionnaire consisted of three parts: instructions, demographic data, and 20 questions that included evaluation titles for the PAL process. During the interviews, some probe questions such as "Could you please elaborate on this?" were used to reveal the in-depth meanings of the participants' experiences with the PAL teaching process. The article was prepared according to the Consolidated Criteria for Reporting Qualitative Research (COREQ) Item Checklist.<sup>29</sup>

##### Data Collection

Data collection tools were implemented at the end of the clinical practice. After six weeks of clinical practice and the PAL process, a questionnaire was administered to the participants in the first stage. In the second stage, the opinions of the participants were obtained through document analysis.

##### Qualitative Data Collection Process

Qualitative data included document analysis obtained through an open-ended question form. Qualitative data were collected in the classroom environment of the theoretical course through face-to-face interviews in the last week of the application for both groups. Before the open-ended question form was distributed to the participants, they were informed about the data collection process, and it was emphasized that volunteering was essential for participation in the study. Afterwards, a questionnaire consisting of open-ended questions was distributed to the participants. Before filling out the data collection tool, information about the study was provided on the first page. If participants agreed to take part in the study, they were asked to mark the statement "I approve to participate in the study". Participants were given 20-25 minutes to answer the questions. Opinions, which were converted into Word documents, were sent back to the participants for confirmation, and they were asked to evaluate the text. All participants stated that they did not want to make changes to what they had written in the document. Finally, the Word document text of each participant was labeled as S10F.... S10F-4<sup>th</sup>.

##### Evaluation of Data

Quantitative and qualitative data were collected and evaluated separately.

##### Evaluating Quantitative Data

For quantitative data, frequencies and percentages were calculated using the SPSS 22 software.

### Evaluating Qualitative Data

Content analysis was carried out for the qualitative data. The data collected in the research was subjected to a three-step coding process: open coding, axial coding, and selective coding. Content analysis is used to identify the presence of words, concepts, themes, idioms, characters, or sentences in one or more texts and to quantify them.<sup>30</sup> The following stages were used in the content analysis of qualitative data: (1) The questionnaires completed by the participants were transferred by the researchers into a Word document. (2) All data deciphered in the Word document were first read by two researchers, and the pre-codes of the data were extracted separately. Word and word group coding were used as coding methods in the study. (3) The researchers combined the resulting codes and performed open encoding by creating common pre-codes. (4) For this purpose, the researchers met in sessions at regular intervals and first extracted codes containing all questions. (5) Finally, the themes were created by combining the codes that are related to each other, and these themes were named on the basis of the integrity of the meaning.

In qualitative research, it is accepted that validity is related to the accuracy of the findings, and reliability is related to the reproducibility of the findings.<sup>31</sup> Various methods were followed to increase the validity and reliability of the study. The process worked as follows: (1) Before creating the questionnaire protocol, an in-depth literature review was conducted. (2) A draft questionnaire was prepared, and opinions were received from field experts on the form. (3) A preliminary application was made based on the prepared draft form. (4) After the pre-application, the questionnaire was rearranged and given its final form. (5) Ethics committee and institutional permission was obtained before the application. (6) The place and date of application of the questionnaire were communicated to the participants. (7) At the beginning of the interview, the purpose of the study was explained, and the consent of the participant was obtained. (8) The data were converted into a Word document and sent back to the participants, and the participant's confirmation was obtained. (9) The reliability formula of Miles & Huberman (1994),<sup>32</sup> Reliability = Consensus/

(Agreement + Disagreement), was used in the analysis of qualitative data in the study, and an inter-researcher agreement of 0.81 was found. (10) Direct quotations from participant views are included. (11) Detailed explanations regarding the reporting process were included.

### Ethical Aspect of Research

To conduct the study, permission was obtained from Tokat Gaziosmanpaşa University Scientific Research Ethics Committee (Approval Number: 17-KAEK-060, Date: 05.06.2017), written permission was obtained from Tokat Gaziosmanpaşa University, Faculty of Health Sciences, Department of Nursing, and written and verbal consents were taken from the students participating in the research. The study was conducted in accordance with the principles of the Helsinki Declaration. It was communicated to the students that they had the right to withdraw at any stage of the study. It was explained to the students that the results of the study would not affect their course grades. There was no conflict of interest between researchers and students.

## Results

### Quantitative Data Findings

Most first-year students (62.7%) stated that they were happy to be in the same clinic as fourth-year students, and 60% of them said they adjusted better when working with fourth-year students. Some of them (71%) mentioned that they could ask fourth-year students questions which they could not ask their teacher. About two-thirds of first-year students (65.5%) stated that fourth-year students guided them, while 64.5% mentioned they were comfortable with them, 75.5% mentioned that they were not afraid of them, 62% thought that they set an example for them, and 54% mentioned that they were trying to support the fourth-year students. Besides, 42% of first-year students stated that they looked up to fourth-year students and 83% mentioned they trusted fourth-year nursing students in patient care (Table 2).

**Table 2.** First-Year Nursing Students' Views About Fourth-Year Students (n = 110)

	Yes		No		Partly	
	n	%	n	%	n	%
Are you happy that fourth-year students are in the same clinic as you?	69	62.7	7	6.4	34	30.9
Is it easier to adjust when you work with fourth-year students?	66	60	11	10	33	30
Do fourth-year students help you?	81	73.6	2	1.8	27	24.5
Do you find the information of fourth-year students sufficient?	50	45.5	7	6.4	53	48.2
Can you ask fourth-year students the subjects you can't ask the course instructor?	72	65.5	12	10.9	26	23.6
Are fourth-year students treating you in an authoritarian manner?	10	9.1	58	52.7	42	38.2
Do fourth-year students guide you?	72	65.5	7	6.4	31	28.2
Are you comfortable with fourth-year students?	71	64.5	13	11.8	26	23.6
Do fourth-year students set an example for you?	68	61.8	5	4.5	37	33.6
Are fourth-year students enthusiastic to help and support you?	59	53.6	6	5.5	45	40.9
Do you look up to fourth-year students?	46	41.8	18	16.4	46	41.8
Do you trust fourth-year students with patient care?	91	82.7	10	9.1	9	8.2



A great majority (97%) of fourth-year students mentioned that they empathized with first-year students, 78% said they got along well with them, 92% mentioned that they had no problems. Fourth-year students mentioned that 62% said first-year students were willing to take responsibility and 94% reported that they provided feedback to first-year students. In addition, 84% of fourth-year students said first-year students asked for their support and 95% said they were useful to first-year students. It was found that 78% of fourth-year students considered themselves as trainers (Table 3).

### Qualitative Data Findings

As a result of the analysis of the data obtained from the first-year participants, 757 codes, seven sub-themes, and three main themes were determined. Themes based on the findings of the opinions of first-year students are presented in Table 4.

#### Theme 1: The Definitions for Fourth-Year Students

Under this theme, two sub-themes were identified: student behaviors towards the profession and student behaviors towards personality traits.

##### Sub-Theme 1: Student Behaviors Towards the Profession

First-year students made many positive inferences in their evaluation of fourth-year students during the PAL process. First-year students thought that fourth-year students improved their professional skills. They also realized that gains could be achieved as a result of experience. A limited number of first-year students, however, described fourth-year students with some negative characteristics and mentioned, in critical and judgmental manners, that their peers did not have professional qualifications, were not supportive, and did not contribute in this process. Some participants' opinions are given below:

*"They're treating patients in a very conscious manner. They behave professionally, they're showing it when we ask, they're being nice" (S4F). "They set an example for us in the applications*

*made to patients, give us information about things we do not know, encourage us" (S53M).*

##### Sub-Theme 2: Student Behavior Towards Personality Traits

The participants defined their perception of personality traits of fourth-year students in very positive expressions. They made it clear that these observed features had a facilitating and relaxing effect on the learning process. During the practical training process, it was emphasized that some attitudes of fourth-year students were not welcomed by first-year students and had a negative effect on the learning process. Some participants' opinions were as follows:

*"Some of them are very swaggering and smug. They are trying to boss us around and not explaining things" (S67M). "One of them looks down on us, acts commandingly, raises his voice, and tries to oppress us. The other two are very good. They're helpful and kind in everything" (S52F).*

#### Theme 2: Peer Support from Fourth-Year Students

Under this theme, two sub-themes were identified: positive peer support and negative peer support.

##### Sub-Theme 1: Positive Peer Support

First-year students made it very clear that the PAL process had many positive contributions. The participants stated that PAL was a facilitating, effective, and relaxing teaching style. Some participants' opinions are given below:

*"They're always supportive. They're more experienced than we are, and they're guiding us" (S17F). "They're being sincere, they're explaining it in a way that we can understand" (S49M).*

##### Sub-Theme 2: Negative Peer Support

A limited number of participants stated that PAL was an obstacle to learning and was a disadvantaged practice. The participants defined these negativities as not helping, preventing work/learning, not giving opportunities, meddling in everything, and the disadvantages

	Yes		No		Partly	
	n	%	n	%	n	%
Do you empathize with first-year students?	36	97.3	1	2.7	-	-
Do you get along with first-year students?	29	78.4	1	2.7	7	18.9
Did you have any problems with first-year students?	2	5.4	34	91.9	1	2.7
Are first-year students willing to take responsibility?	23	62.2	5	13.5	9	24.3
Do first-year students ask you questions?	33	89.2	-	-	4	10.8
Do you give feedback to first-year students?	34	94.4	-	-	2	5.6
Do first-year students ask for your support?	31	83.8	-	-	6	16.2
Do you complain about first-year students?	4	10.8	32	86.5	1	2.7
Are first-year students confident?	17	45.9	4	10.8	16	43.2
Are you happy to be in practice with first-year students?	26	70.3	4	10.8	7	18.9
Do you think you're useful to first-year students?	35	94.6	2	5.4	-	-
Do you consider yourself an instructor?	29	78.4	-	-	8	21.6

**Table 4.** Themes and Sub-Themes Based on the Opinions of First-Year Students

1.	The definitions for fourth-year students <ul style="list-style-type: none"> <li>▪ Student behaviors towards the profession</li> <li>▪ Student behaviors towards personality traits</li> </ul>
2.	Peer support from fourth-year students <ul style="list-style-type: none"> <li>▪ Positive peer support</li> <li>▪ Negative peer support</li> </ul>
3.	Expectations from peers <ul style="list-style-type: none"> <li>▪ Psychomotor support</li> <li>▪ Cognitive support</li> <li>▪ Emotional support</li> </ul>

of the crowded environment. Some participants' opinions are given below:

*"I don't communicate much, they take care of their own group, and they don't help us" (S11F). "They don't give us a chance; they do everything themselves. Because of them, we cannot learn" (S32F).*

### Theme 3: Expectations from Peers

Under this theme, three sub-themes were identified: cognitive support, sensory support, and support for psychomotor skills.

#### Sub-Theme 1: Psychomotor Support

This PAL application provided participants the opportunity to start thinking about their strengths and weaknesses. First-year students considered PAL as a process of making up for what they saw as incomplete points. First-year students stated that they had expectations from fourth-year for all dimensions of clinical practice during the learning process in the PAL process.

*"I don't know the materials used in the clinic very well" (S82M). "I expected support in patient care practice. I'm failing in the invasive procedures, and I want them to support me" (S58M). "I want support on everything I don't know about. I expect support in drug preparation and administration" (S98M).*

#### Sub-Theme 2: Cognitive Support

First-year students realized that they were inadequate in clinical education, patient care practice, nursing, technological tools, and drugs, and they needed support. They believed that PAL would contribute to the development of cognitive skills. PAL was considered a way of facilitating the clinical teaching process.

*"I expect help from my fourth-year friend on things I don't know about" (S71F). "I'm having a hard time filling out patient files and I need support" (S45F). "I'm having trouble with diagnosing in nursing, I cannot distinguish diagnoses, I'm having trouble setting goals" (S52F).*

#### Sub-Theme 3: Emotional Support

It was realized that first-year students criticized themselves and needed support in terms of motivation, clinic adaptation, and

**Table 5.** Themes and Sub-Themes Based on the Opinions of Fourth-Year Students

4.	The definitions for first-year students <ul style="list-style-type: none"> <li>▪ Definitions in student behaviors towards the profession</li> <li>▪ Student behavior towards personality traits</li> </ul>
5.	Contribution of peer education to fourth-year students <ul style="list-style-type: none"> <li>▪ Self-awareness</li> <li>▪ Leadership behavior</li> <li>▪ Emotional satisfaction</li> </ul>
6.	Support for first-year students <ul style="list-style-type: none"> <li>▪ Cognitive support</li> <li>▪ Emotional support</li> <li>▪ Behavioral support</li> </ul>
7.	Advice for first-year students <ul style="list-style-type: none"> <li>▪ Academic development</li> <li>▪ Professional development</li> <li>▪ Personal development</li> </ul>

self-confidence to improve their professional skills. The views of some participants were as follows:

*"I expect support from fourth-year students in gaining self-confidence and communicating with patients" (S91F). "I'm very hesitant to communicate with patients. I'm having trouble communicating with patients" (S61F).*

As a result of the analysis of the data obtained from fourth-year students, 202 codes, 11 sub-themes, and four main themes were determined. Themes based on the findings of the opinions of fourth-year students are presented in Table 5.

### Theme 4. The Definitions for First-Year Students

Under this theme, two sub-themes were identified: student behaviors towards the profession and student behavior towards personality traits.

#### Sub-Theme 1: Definitions in Student Behaviors Towards the Profession

Fourth-year students stated that first-year students displayed professional behaviors and positive attitudes towards the profession. However, they noted that first-year students had concerns about patient care and especially experienced fear of making mistakes and harming the human body. Below are the opinions of some fourth-year students:

*"They don't know how to approach patients; they are afraid of harming patients" (S3M-4<sup>th</sup>). "They are mostly enthusiastic about drug applications and trying to learn the nursing profession" (S9F-4<sup>th</sup>).*

#### Sub-Theme 2: Student Behavior Towards Personality Traits

Fourth-year students developed a perception that first-year students often had positive personality traits. Some of the fourth-year students' opinions are given below:

*"Their communication skills are good, they are respectful towards patients, the medical team, and their own friends, and they communicate well" (S35M-4<sup>th</sup>). "Some are confident and actively participating. In general, their communication is good, and they are trying to carry out the procedures" (S10F-4<sup>th</sup>).*

#### **Theme 5: Contribution of Peer Education to Fourth-Year Students**

Under this theme, three sub-themes were identified: self-awareness, leadership behavior, and emotional satisfaction.

##### **Sub-Theme 1: Self-Awareness**

It was observed that fourth-year students underwent an internal journey reflecting on their own experiences and education during the PAL process. They stated that PAL is a mutually beneficial process. It was observed that first-year students understood the process they were in very well and were also aware of the skills they acquired such as teaching and leadership. They also listed many positive situations such as having opportunities to share, consolidating what they learned, helping each other, and repeating the experiences. The PAL process revealed many positive merits of students. The opinions of some of the participants are given below:

*"I see myself in them, and we were there four years ago. We were just like them: timid and scared" (S2F-4<sup>th</sup>). "Obviously, we have had common problems, and I make them benefit from their own experiences. We work together" (S9F-4<sup>th</sup>).*

##### **Sub-Theme 2: Leadership Behavior**

Fourth-year students described PAL as a leadership process and stressed the importance of leadership characteristics. They found that PAL unveiled these characteristics in them. The opinions of some of the participants are given below:

*"I'm trying to be friendly with them. I provide explanatory information and am careful to communicate well with them" (S24M-4<sup>th</sup>). "We try to be supportive of them. We're trying to encourage them" (S11F-4<sup>th</sup>).*

##### **Sub-Theme 3: Emotional Satisfaction**

Fourth-year students thought that PAL gave them the pleasure of the teaching experience, arising from their competence, and they stated that PAL has a satisfying character. The opinions of some of the participants are given below:

*"I enjoy teaching someone who doesn't know. Trying to teach gives me a feeling of pleasure" (S15M-4<sup>th</sup>). "Working with first-year students made me realize my own competence, and my confidence grew" (S35M-4<sup>th</sup>).*

#### **Theme 6: The Support Given to First-Year Students**

Under this theme, three sub-themes were identified: cognitive, sensory, and behavioral support.

##### **Sub-Theme 1: Cognitive Support**

Fourth-year students stated that they provided multidimensional support to first-year students in the practical training process and mentioned their contribution to the learning of first-year students. The opinions of some of the participants are given below:

*"I'm giving first-year students feedback on their erroneous practices. I'm warning them" (S10F-4<sup>th</sup>). "They have incomplete information about medicines and diseases. I provide them with information regarding these issues when they ask" (S12F-4<sup>th</sup>).*

##### **Sub-Theme 2: Behavioral Support**

It was observed by fourth-year students that first-year students needed support, especially for practical applications. They stated that first-year students needed support in patient monitoring, drug administration, and the functioning of the clinic, and that they provided this support to them. The opinions of some of the participants are given below:

*"Since it's the first hospital experience of first-year students, they don't know how the clinic works and where the supplies are. We teach them how to use the supplies" (S14F-4<sup>th</sup>). "They are asking for support in almost all applications. We are supporting them all" (S30F-4<sup>th</sup>).*

##### **Sub-Theme 3: Emotional Support**

Fourth-year students stated that they provided much-needed emotional support for issues such as communicating comfortably, trust, and courage. The opinions of some of the participants are given below:

*"They want us to be there for them on all applications. It's reassuring them that we're there for them" (S20F-4<sup>th</sup>). "I encourage and give feedback when they perform well or when they are enthusiastic" (S25M-4<sup>th</sup>).*

#### **Theme 7. Recommendations to First-Year Students**

Under this theme, three sub-themes were identified: recommendations for academic, professional, and personal development.

##### **Sub-Theme 1: Recommendations for Academic Development**

Fourth-year students advised first-year students to improve themselves academically. The opinions of some of the participants are given below:

*"You should be willing to investigate and learn throughout your education. You have to improve from the first year" (S15M-4<sup>th</sup>). "You should be concerned about learning and build knowledge" (S27M-4<sup>th</sup>).*

##### **Sub-Theme 2: Recommendations for Professional Development**

Fourth-year students advised first-year students to develop and practice their professional skills. Noting the importance of receiving professional support in professional development, they offered suggestions on what to do. The opinions of some of the participants are given below:

*"You should participate in applications and spend time with patients. You need to communicate closely with patients" (S2F-4<sup>th</sup>). "You must fulfill your professional responsibilities. You have to be meticulous in your work" (S22F-4<sup>th</sup>).*

##### **Sub-Theme 3: Recommendations for Personal Development**

Fourth-year students advised first-year students on their personal development. Fourth-year students emphasized that being confident and courageous, overcoming their fears, tackling difficulties, not being afraid of trying, and being sociable were essential qualities. The opinions of some of the participants are given below:

*"Feel free to try, face unfamiliar topics, make an effort to learn" (S21F-4<sup>th</sup>). "Be open to learning, be willing, trust yourself" (S35M-4<sup>th</sup>).*



## Discussion

The positive atmosphere created during peer education is effective in facilitating students' learning, as well as in taking responsibility for their own learning and providing self-control.<sup>33</sup> Peer education also improves inquiry, planning, and social skills. This fact led us to the idea that peer education can be applied in clinical practice. For this reason, peer education was used in clinical practice in the study.

According to the results of the research, it was revealed that the views of both student groups towards PAL were positive. It was revealed that during the PAL process, first-year students were happy to be in the same environment and to work together with fourth-year students, they received support, trusted senior students, which facilitated their learning processes. Fourth-year students, on the other hand, were of the opinion that they supported first-year students, were happy to practice together, developed a positive perception towards them, felt responsible, acquired teaching skills, and had confidence during the process. David Boud (2001) described PAL as a two-way, mutual learning activity, and argued that PAL should include the sharing of knowledge, ideas, and experiences to the mutual benefit of both sides.<sup>34</sup> It was stated in the literature that PAL is an effective learning-teaching approach and that both the trainer and trainee receive satisfaction with the process.<sup>35,36</sup>

PAL is treated as a constructive practice in which social learning is offered as an alternative to classical education and peers support each other.<sup>36</sup> Social Learning Theory is based on the principle that learning is a process that takes place in a social context through interaction, observation, and imitation. According to this theory, the individual learns by observing the environment.<sup>37</sup> Observations turn into learning by passing through the individual's mental process. The learner can direct learning according to the influence of the environment and their own will.<sup>38</sup> From this point, the positive atmosphere created in the PAL process, which facilitates students' learning, is effective in students taking responsibility for their own learning and achieving self-control.<sup>33</sup> The results obtained for both groups in the study were in line with the results from the studies in the literature.

Considering the findings about the views of first- and fourth-year students towards their peers and PAL, the vast majority in both groups stated that the procedure had a positive return. This result showed that this practice had a positive effect at both class levels. Since PAL includes processes such as observation, modeling, imitation, and mutual interaction in the learning process, it highlights the basic learning principles of Social Learning Theory. In Social Learning Theory, attention is drawn to the individual's belief in themselves and their potential to succeed. There are three stages in the social learning process: attention, remembering and transforming into behavior, and reproduction. Accordingly, individuals pay attention to the characteristics of the behavior that they take as a model in order to learn the behavior, try to remember its details, and reintroduce it by adding unique qualities.<sup>38</sup> PAL improves independent work, critical thinking, and problem-solving skills, and gives students a sense of autonomy when they take responsibility for their own education.<sup>11,12,17</sup> Stone et al. (2013) found that peer education contributed positively to the development of both first- and fourth-year students, and they learned faster.<sup>12</sup> In this respect, the fact that individuals in both groups realized their belief in themselves and their potential to succeed once again supports the theoretical background of the study in terms of this theory.

## Reflections of First-Year Students Towards the PAL Process

In this study, first-year students who experienced the PAL process made mostly positive comments about the professional and personality traits carried by fourth-year students. First-year students held the view that fourth-year students had good professional and human qualities. It was observed that first-year students could take fourth-year students as role models and be influenced by them, while the fourth-year students could support the education of first-year students based on their own experience.<sup>12,34</sup> A study concluded that learning for first-year students was easier with their more experienced peers.<sup>13</sup> In a study conducted by Mete et al. (2011), it was observed that by observing fourth-year students, first-year students were happy to have chosen nursing, which improved their adoption of the nursing profession.<sup>23</sup>

First-year students found the PAL process positive in many ways, such as being effective, facilitating, sharing, encouraging, supportive, and reassuring. A small group, on the other hand, evaluated the procedure negatively. In the study conducted by Mete et al. (2011), students reported that they felt valued, safe, excited, courageous, and important during the implementation of PAL.<sup>23</sup> Nelwati et al. (2018) stated that during clinical practice, peers were valuable sources of information and enabled students to develop their own teams.<sup>38</sup> With PAL, students are in a positive learning environment where they can control and improve their own learning. The students feel comfortable, do not experience intense anxiety, and thus can easily perceive and learn the practice. Therefore, through a positive learning environment, complex skills can be easily learned. This is a clear indication that teaching environments are directly effective in learning.<sup>39</sup> The results obtained in the study were in parallel with other similar studies. Peer-assisted learning appeared to be facilitating, relaxing, and effective in developing a sense of trust.

This study found that first-year students expected cognitive, sensory, and psychomotor support from fourth-year students. An important finding of the present study was that first-year students had expectations regarding clinical practice, especially in the dimension of psychomotor skills. Studies have shown that when PAL support is provided at the cognitive level,<sup>38</sup> psychomotor level,<sup>7</sup> and affective level,<sup>40</sup> students' professional experience and professional perceptions change. Öztürk and Göçmen-Baykara (2019) found that complex skills were improved and consolidated better and were sustained longer in students who learned the complex skills with the peer group compared to those who learned them by the classical teaching method.<sup>39</sup> It was thought that the clinical environment and the attitudes, behaviors, and peer support have an important place in the professional experience and professional perception of the students.

## Reflections of Fourth-Year Students Towards the PAL Process

In the present study, it was concluded that fourth-year students portrayed first-year students with positive definitions both professionally and in terms of personality traits based on their observations during the PAL process. It was concluded that during the PAL process, significant contributions were made to fourth-year students in terms of self-awareness, leadership, and emotional satisfaction. Fourth-year students considered PAL as a positive process that also contributed to their own development. Stone et al. (2013) concluded that

the PAL process rapidly improved the communication, critical thinking, and self-esteem skills of students in nursing education. Another advantage of PAL was that both groups learned from their interaction and benefited from it. Benefits included areas where they gained experience in communication and leadership, reinforced their previous learnings, and discovered what they could achieve in mentoring/teaching.<sup>12,34,36</sup> Therefore, PAL is a process with positive interactions that contributes to both groups in many ways.

Another finding in the study was that fourth-year students supported first-year students in different dimensions. It was observed that fourth-year students responded to the need for support on cognitive, affective, and behavioral levels. In the present study, it was found that fourth-year students believed they met the expectations and needs of their fellow first-year peers during the PAL implementation process. Stone et al. (2013) stated that PAL could be more successful since it provides a more comfortable, less frightening, and more user-friendly learning experience than the clinical training received by nurses, and since the peers are similar in terms of experience or education.<sup>12</sup> According to Palsson (2017), the focus of peer education involves nursing students working with their peers without a faculty member, supporting each other, and learning from each other. Learning together, on the other hand, means that students work together, collaborate, solve problems with critical thinking, make decisions, and have the opportunity to practice independently.<sup>41</sup>

In the present study, fourth-year students offered academic, professional, and personal development advice to first-year students. Based on their observations in the PAL process and their experiences from the past, fourth-year students provided guiding and facilitating recommendations that enlightened first-year students. PAL is a system that promotes mutual learning in nursing education, where students transition from learning to teaching roles in transferring theoretical knowledge to practice. Unlike classical education, PAL is a learning and teaching process based on mutual trust, not an isolated relationship between learner and teacher. With positive feedback, deficiencies in applications could be remedied and mistakes corrected.<sup>36</sup>

The present study demonstrated the effectiveness of PAL in clinical practice. In a study conducted by Carey et al. (2018), it was found that while PAL supports the acquisition of new clinical skills for lower-class students, it reinforces the teaching skills of seniors.<sup>11</sup> A study concluded that learning for first-year students was easier with their more experienced peers.<sup>13</sup> Christianson and Bell (2010) found that PAL provided learning support in the early years and created a peer learning partnership in clinical practice among third-year students while it reduced isolation and better equipped students to cope with emerging challenges in lower-class students, leading to in-depth thinking and confidence in practice among seniors.<sup>42</sup> In this context, PAL supports individuals in many aspects of the clinical practice process. Considering the observed positive results of PAL for many dimensions in the present study, it is very important to include peer education-based practice during the clinical practice process of nursing education.

#### Limitations of the Study

Among the limitations of the present study are that it was conducted at a single school and involved a limited number of students, and that a reliable and valid scale measuring the benefits of PAL was not used.

## Conclusion

In conclusion, it was observed that the opinions of both first- and fourth-year students regarding PAL were positive and that the practice contributed to both groups. PAL created mutual benefits such as reduced anxiety and increased self-confidence among first-year students and increased confidence among seniors. It can be stated that the implementation of PAL raises awareness in both groups, positively affects the learning process, and facilitates the process through social learning. PAL develops independent study, critical thinking, and problem-solving skills, and gives students a sense of autonomy when they take charge of their own education. It can be suggested that peer teaching, as one of the learner-centered practices, should be used in other applied courses of nursing education. It may be recommended to conduct studies based on various patterns in different groups. Additionally, it is recommended to develop a valid and reliable scale that measures the interaction of peer groups regarding PAL.

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