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Experiences of Undergraduate Nursing Students Learning Psychomotor Skills During the Covid-19 Pandemic: A Qualitative Study

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ABSTRACT

Objective: This study aimed to examine the experiences of nursing students learning psychomotor skills during the COVID-19 pandemic, the problems they experienced in this process, and their feelings and needs.

Methods: This was a qualitative phenomenological study. The research was analyzed descriptively and thematically. The research was conducted in Erzurum in January 2022. The population of the study consisted of 2nd-year students studying at the Atatürk University Faculty of Nursing in the fall semester of the 2021–2022 academic year. The sample consisted of four second-year undergraduate nursing students selected by the criterion sampling method. The research data were collected with an 'Introductory Information Form' and a 'Semistructured Questionnaire'. The content analysis method was used to evaluate the qualitative data.

Results: Four themes and three subthemes were identified as a result of the analysis of the data obtained from the interviews with the students. The main themes are inefficiency, expectations from the instructor, emotions, and active learning. It was determined that inefficiency was categorized under the subthemes of "Problems experienced in online education and the limitation of online education in terms of learning psychomotor skills" and "Reasons for inefficiency". It was determined that there were no subthemes in the themes of expectations from the instructor and emotions. Active learning was found to be under the subtheme of "Getting more efficiency from homework rather than what the instructors teach".

Conclusions: The online education process was inadequate for learning the psychomotor skills of nursing students.

Keywords: COVID-19, pandemic, online education, psychomotor skills, nursing students

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INTRODUCTION

Nursing, which has roles such as caregiver, educator, researcher, manager and coordinator, decision maker, rehabilitator, comforting, and therapeutic in society, is a health discipline that is based on theoretical and scientific knowledge bases and includes practical skills to fulfill these roles.[1] Psychomotor skills play a very important role in fulfilling these roles. Psychomotor skills are taught face-to-face in nursing undergraduate programs when there is no compulsory distance education due to the coronavirus pandemic, and time and practice are required for learning.[2,3]

Nurses are taught psychomotor skills during their professional education. Nursing students struggle to learn and improve their psychomotor skills.[4] Learning psychomotor skills, which require complex learning, requires being available for different subjects, such as correct chronology, basic knowledge, the sequencing of actions, certain strengths and dexterity.[5] Examples of practices that require psychomotor skills in nursing practice include hand washing, wearing gloves, oral care, bathing practices, changing positions, counting respirations, counting pulses, measuring blood pressure, cold application, hot application, injection applications, blood collection, and drug administration.[6] To acquire these skills in online education, educators are asked to think and implement creative ways of skill-requiring applications in the online learning environment. [4]

Due to the coronavirus pandemic, which has shaken the world, face-to-face education has been replaced by online education, and it has become difficult to provide education that requires skills. [4] In a study examining nursing students' perceptions of learning psychomotor skills, it was determined that 6 themes were formed: "peers are important; practice on real people; lecturers are important; environment is important; patients need my skills; and anxiety is always present". [7] According to the literature, there are few studies on the psychomotor skills of nurses, and there are few studies on nurses' experiences during the COVID-19 pandemic.[8] Only one study has examined nurses' experiences learning psychomotor skills during the COVID-19 pandemic [8], and there are no studies in the national literature. With nursing students, Aldridge et al. (2021) determined that the methods used before the pandemic process were insufficient for learning, so students had to find their own way to learn. Moreover, it was determined that being a student during the pandemic, both the stress of the risk of contracting the disease and the stress of not being able to learn made the process difficult. This study aimed to examine nursing students' experiences with learning psychomotor skills during the COVID-19 pandemic, the problems they experienced in this process, and their feelings and needs.

Research question

What are the experiences of nursing students learning psychomotor skills online?

METHODS

Research design

The research is qualitative phenomenological. The reason for conducting the research in a phenomenological way is that the experiences of nursing students during the pandemic can be measured in the most appropriate way.

Study population and sample

The study was conducted in x in January 2022. The population of the study consisted of second-year students studying at the Atatürk University Faculty of Nursing in the fall semester of the 2021–2022 academic year. The sample consisted of four second-year undergraduate nursing students selected by the criterion sampling method.

Participant selection

The participants of this study consisted of four second-year nursing students. Participation in the study was completely voluntary. Before the interviews started, an article about the purpose of the study was shared by BÇ in the WhatsApp communication group of second-year nursing students studying at the university where the

study would be conducted. The WhatsApp group link created for those who wanted to participate in the study was shared. Students who wanted to participate in the study were asked to be included in this group. Before starting the research, the course content of the nursing department was examined, and it was determined that psychomotor skills were especially concentrated in the first year, but due to the pandemic, this training was given at the beginning of the second year. Students received online training in the first year, received face-to-face training in the laboratory for 3 weeks at the beginning of the second year, and then continued their training face-to-face and face-to-face at Atatürk University Research Hospital. Therefore, second-year nursing students were included in the study. Two of the students were female, and two were male. The students were 19-22 years old. The data collection process was terminated by the researchers after data saturation was reached.

Data collection and analysis

The interviews and data analysis were conducted by GNY, a doctoral-level nurse educator trained in qualitative methodology, who was also the researcher. The nurse educator was working at a different university from the university where the students were studying and interviewed for the first time. Before the interviews started, the purpose of the research was explained to the students. Meetings were held with the students on the Zoom platform. Permission was obtained from the students for audio and video recording. Research data were collected in the first week of January. The data were collected by recording the meeting on the Zoom platform. A semi structured interview guide consisting of 8 open-ended questions was created for data collection. The interviews were organized with the students on the Zoom platform, taking into account the hours when the researcher (GNY) was available. During the data analysis process, Colaizzi's (1978) analysis stages were followed. [9] Audio and video recordings of the meeting were recorded with the permission of the students. Field notes were also kept by the interviewer. After ensuring that data saturation was reached in the interviews with the students, the audio recordings were repeatedly recorded. The audio recordings were also transferred to a Word file using Google Docs. The audio recordings were compared with the Word files to prevent any errors. The students' words were transferred word by word to the Word file. The NVivo package was used for analysis. The analysis of the research was performed via descriptive and thematic analysis. While analyzing the data, preliminary codes were first created. New codes were added during the analysis. At the end of the analysis, 130 codes were created. These codes were categorized into categories that were thought to be related to each other. Themes were created at the end of the voice recordings, field notes, codes and categories.

Interview questions

1- Could you introduce yourself?
2- Can you provide information about the psychomotor skills you learned during the online training process? What kind of skills did you learn?
3- Can you share your experiences in acquiring psychomotor skills in the courses you took online with me?
4. How do you evaluate your e-learning experience in learning psychomotor skills during the COVID-19 pandemic?
5- How did you learn how to insert an intravenous catheter during the online education process in COVID-19? Can you tell us about it?
6- How do you evaluate the process and method of teaching psychomotor skills during the COVID-19 pandemic?
7- How do you evaluate the results of teaching psychomotor skills during the COVID-19 pandemic process in terms of your implementation skills?
8. Is there anything you have not yet mentioned or would like to share?

Ethical dimension of the research

The necessary ethical permission was obtained from the Muş Alparslan University, Scientific Research and Publication Ethics Committee (Date: 26.11.2021, 30780-12-42). Institutional permission was obtained from the institution where the research was conducted. The students participating in the study were informed about the purpose, design, etc., of the study both before participating in the study and during the Zoom meeting before data collection. After the students agreed to participate in the study, interviews were started with the students.

RESULTS

In this study, the experiences of four second-year nursing students in learning psychomotor skills through distance education during the pandemic were investigated, and 4 main themes were identified through thematic analysis. These themes are given in Table 1.

Table 1. *There are 4 main themes and 3 subthemes in this research.*

Number	Themes	Subthemes
1	Inefficiency	Problems in online education and the limitations of online education in terms of learning psychomotor skills
		Reasons for inefficiency
2	Expectations from the instructor	No
3	Emotions	No
4	Active Learning	Getting more efficiency from homework assignments rather than lectures by instructors

Theme 1: Inefficiency

The students participating in this study expressed that they could not learn psychomotor skills through distance education and that they could not obtain efficiency from this process. All of the students stated that they could not learn psychomotor skills and that they could not achieve any efficiency in terms of learning psychomotor skills through online education due to reasons such as not using active learning methods sufficiently in this process, internet problems, etc. Therefore, they stated that psychomotor skills cannot be learned online. The feedback received from the students supported this situation. In teaching psychomotor skills in an online learning environment, instructors are expected to think of creative methods. Considering this situation, the students were asked, "Were you able to learn psychomotor skills in an online learning environment? Did you get efficiency?" The question was asked during the interview. The students expressed that they could not achieve efficiency and stated that they thought that psychomotor skills could be taught in an online learning environment where active learning methods could be used more, that applications requiring psychomotor skills should be tried and taught repeatedly in laboratories, etc., under the supervision of trainers by touching materials such as models, etc., and for this reason, they thought that they could not be taught in an online learning environment. Some of the statements supporting that students cannot obtain efficiency from teaching psychomotor skills in online education are as follows:

S1: "I could not get any efficiency from this process. We need to put it into practice for this to happen."

S3: "I think it was not efficient at all. Because we were at home and the lessons were online, we were not participating enough in the lessons. It was not efficient at all."

Subtheme: Problems in online education and the limitations of online education in terms of learning psychomotor skills

The main idea of this subtheme was the reasons for students' inefficiency in online education and the limitations of the process. While teaching psychomotor skills requires a difficult and complex process, the difficulties and limitations of online education should not be ignored. As a result of the interviews, it can be seen that online education causes comfort and a decrease in the severity of the course due to the presence of the students in their homes. One of the students stated, "Honestly, I didn't listen to the lesson much. It is online anyway; the teacher does not see me. Therefore, I didn't pay attention to it." The student expressed that s/he could not take the lesson as seriously as s/he should. In addition, some problems experienced in online education caused problems in students' focusing on and participating in the lessons. For example, S3: " had a lot of problems, either the courses were not launched or we were thrown out of the course (due to systemic problems). Sometimes there were internet problems. Sometimes the system could throw us out of the live lesson. There could be systemic problems. When too many people entered the class, the system would throw them out of class...". S1 expressed some of the problems he experienced as follows: "...There were sometimes internet-related problems... I did not get any efficiency when the instructor read it in a straightforward way." As can be understood from these statements, the fact that psychomotor skills that need to be taught in the laboratory environment have to be taught with lectures or classical methods shows that this is one of the problems experienced by the students during the pandemic process.

Subtheme reasons for inefficiency

The main idea of this subtheme was why students could not learn psychomotor skills and could not obtain efficiency from the training. The theoretical background of the students was created through online education. Therefore, it is important to question the reasons for not receiving efficiency from online education. All of the

students stated that they could not obtain efficiency from online education for many reasons. Some of the statements supporting the students' reasons for not attaining efficiency are as follows:

S1: "The only thing that was efficient for us was working on the videos given; these were efficient, and then it was not efficient at all. We got efficiency from the videos, and it was neither remembered nor we made an attempt.... For this to happen, we need to put it into practice first; we need to try it ourselves. Since there was no trial, we got zero efficiency."

S2: "We watched a video from a book with a video. However, still, of course, everything was left in the air, so we couldn't understand much."

S4: "It was not permanent. After all, there were no patients, models, etc. Materials were also missing. Therefore, it was not permanent. It was not efficient either." The fact that some of the students found the video education efficient while others found it abstract may have resulted from the change in the learning styles of the students. However, all of the students stated that psychomotor skills cannot be learned in an online learning environment.

Theme 2: Expectations from the instructor

The main idea of the theme included the nursing students' expectations from the instructor during the pandemic process. The students stated that they expected the instructor to encourage them to research, explain the lesson more clearly, perform different activities during the course, be more open in terms of communication, conduct the lessons in the laboratory, give more homework, keep the student active in the lesson, use active learning methods in the lesson, be a guide, and be active as a guide. The students whose expectations from the instructors were to encourage research, to explain the lesson more clearly, to perform different activities during the lesson, to keep the students active in the lesson, and to use active learning methods in the lesson said the following: "We start to learn the subjects that the instructors encourage us to research better... there was a straight narration, they could have supported it with different materials. It was like our lessons where we were given homework, you know, they involved us in the lesson, like them. Since it was online, we were starting the lesson, sometimes we had chores since we were at home, we were doing housework or doing different things, we could not actively participate in the lesson." The students, whose expectations from the instructors were that they should be guiding and that the instructors should be active, said, "It is also very important for us that the instructors who are our guides are active".

The students, whose expectations from the instructors were that they should explain the lesson more clearly and that the applications requiring psychomotor skills are more feasible and that providing motivation in this direction would encourage them to learn more and understand better, said, "There is also such a situation. When we are made to look at something as difficult, we perceive it as if it is impossible. We were taught that psychomotor skills are very difficult to do. In fact, if they say that it is a normal thing, if they explain it more easily, that is, it is a very normal thing to do, and the teaching style of doing it in this way would be much more efficient."

Theme 3: Emotions

The main idea of this theme was the students' feelings while learning psychomotor skills in the online education process. The students stated that learning psychomotor skills online made them feel bad when they did not understand the lesson, bored with the lesson, not feeling the need to do any research, anxious, not being confident, not trusting themselves in their skills, afraid of not learning, not feeling that they were students, reluctant to learn, stressed and feeling inadequate, and that they did not take the lesson seriously because the training was online. The students made the following statements about their feelings. Those who experienced stress, anxiety and fear said, "I was feeling stress. Anxiety, fear, not learning... As I mentioned at the beginning, we were not learning.". The student who felt bad, unsure of himself/herself, not confident in his/her skills, and feeling inadequate said the following: "First, I felt very inadequate, because everything is already from a distance... How will I treat my patients, will I be enough for them, will I provide adequate care, will I be able to treat them? I was aware that I could not learn." Students who felt anxious and did not feel the need to do research said, there was anxiety, it was like this, I will go and graduate before the school opens without learning anything.... You don't want to do much because of the comfort of online education. We do not want to do research either".

Theme 4: Active learning

The main idea of this theme was that the students stated that the homework given to them and the

homework of video shooting were more effective in learning than the lectures. This is an active learning method. Some statements supporting that students obtain more efficiency from active learning methods are as follows:

S1: "The only thing that is productive for us is the work on the given videos and the videos we shoot ourselves. These were productive; then, they were not productive at all. We benefited from the videos; the rest were neither remembered nor attempted."

S2: "I remember most clearly coughing exercises, breathing exercises, heart rate counting, respiratory counting. Because they asked us to do them in video, it was more permanent in my mind because we did it ourselves."

S2: "In the clinical skills course, the teachers gave 3 homework. I only have 3 assignments in my mind right now. In fact, we were doing patient training last week, because I remembered the breathing exercises from there, I gave that training to my patient because I remember him from the last period."

DISCUSSION

Learning psychomotor skills requires being equipped in different areas, such as correct chronology, basic knowledge of the sequence of actions, a certain strength and dexterity. These skills can be directly related to the quality of theory education and the efficiency of theoretical education. Students learn psychomotor skills, especially the correct chronology and sequence of actions of basic knowledge in theoretical education. Students without a strong theoretical background may have difficulty learning psychomotor skills. For this reason, it may be incorrect to limit psychomotor skill learning only through practice. For this reason, it is necessary to question the theoretical knowledge that forms the infrastructure of the applications. In addition, considering that psychomotor skills require complex learning, the learnability of psychomotor skill learning in an online learning environment should be questioned.

The first theme of this study was "inefficiency". Students stated that they could not achieve efficiency in teaching psychomotor skills in the online education process. The COVID-19 pandemic has forced traditional face-to-face nursing education programs to rapidly transition to virtual platforms [10,11], which has forced nursing educators to quickly design, develop and implement virtual learning activities. In addition, some of the disadvantages inherent in online education were some of the reasons for students' inefficiency. Considering that psychomotor skills require practice, teaching and learning these skills in an online learning environment is quite difficult. In their study examining the problems experienced by nursing students in distance education during the COVID-19 pandemic, Kürtüncü and Kurt (2020) stated that the problems experienced were "problems in distance education infrastructure", "lack of face-to-face education", "limitation of opportunity", "mood brought by the pandemic" and "exam anxiety". [12] They also stated that most of the students stated that theoretical and practical courses would be insufficient for distance education due to the pandemic. [12] In this study, the students stated that they experienced such problems. In addition, students stated that lecturing with lectures during the pandemic process was insufficient for learning psychomotor skills and that they could not obtain efficiency from learning. Straight lectures may be a frequently used method in online education. However, the straight lecture style may cause students to become bored with the lesson. In addition, systemic problems may cause disconnections in students. Therefore, it can be said that it is insufficient for learning psychomotor skills.

The second theme of the study was "Expectations from the instructor". The students stated that they expected the instructor to encourage them to research, to explain the lesson more clearly, to perform different activities during the course, to be more open in terms of communication, to teach the lessons in the laboratory, to give more homework, to keep the student active in the lesson, to use active learning methods in the lesson, to be a guide, and to be active as a guide. In a study conducted by Cantey et al. (2021), it was determined that the students enjoyed hands-on training, that the home environment can be quite distracting for students and that it is important for learning to ensure students' active participation in the lesson. [13] This research is similar to the literature in this respect. It is thought that the quality of education will increase if the instructors pay attention to the expectations of the students and revise their educational methods in this direction.

Emotions, which have an impact on many areas of our lives, need to be examined as a concept to understand their effects on education. TLS emotions "perception

with senses, specialization in feeling; The impression that certain objects, events or individuals create in a person's inner world; Evaluating objects or events morally and aesthetically; He defines it as "a unique spiritual movement and mobility".[14] Another definition, made by Cooper and Sawaf, is "the energy flow that enables a person to activate the values within him and create behaviors".[15] Anger, disgust, fear, grief, anxiety, joy, happiness, sadness, expectation, bitter pleasure, curiosity, elation and love can be counted among the basic emotions.[16] Considering the effects of emotions in all areas of life, the importance of examining the emotions experienced by students during education is increasing. In the study, it was determined that online learning of psychomotor skills caused students to feel bad when they did not understand the lesson, boredom, not feeling the need to do any research, anxiety, not being confident, not trusting themselves in their skills, fear of not learning, not feeling that they were students, unwillingness to learn, stress and feeling inadequate. Reasons such as the sudden occurrence of the pandemic, not taking precautions in advance, problems with internet access, and students entering a new process caused these feelings in students.

The 4th theme of the research is “Active Learning”. According to the literature, the National Curricular Guidelines (NCGs) state that active learning methods should be used when creating curricula because they are effective methods for teaching students through experience and student-centered learning.[17] In recent years, active learning and student-centered learning topics have remained popular because they cause more effective and permanent learning. Active learning is a topic that should be used in lessons today, and many studies have been conducted on this topic. The findings of the study are in line with the literature on this subject. In these studies, active learning methods bring the student to the center of the learning and teaching process, increase the student’s critical thinking level, and make the student responsible for the learning process.[17] The use of active learning methods in learning and teaching processes, whether face-to-face or online, is a very important issue. The research findings support that traditional students do not obtain efficiency from traditional methods, but they obtain efficiency from active learning methods.

CONCLUSION

The findings of the study show that the online education process is insufficient for learning the psychomotor skills of nursing students. It was determined that the students expected the instructor to encourage them to research, to explain the lesson more clearly, to perform different activities during the course, to be more open in terms of communication, to conduct the lessons in the laboratory, to give more homework, to keep the student active in the lesson, to use active learning methods in the lesson, and to be active as a guide. It was determined that online learning of psychomotor skills caused students to feel bad when they did not understand the lesson, boredom, not feeling the need to do any research, anxiety, not being confident, not trusting themselves in their skills, fear of not learning, not feeling that they were students, unwillingness to learn, stress and feeling inadequate. It was determined that the active learning method was a very effective method in the online education process and that students were more productive from the homework they did rather than what the instructor told them. In line with these results, it can be suggested that instructors use active learning methods while teaching, adopt a student-centered education method, and take steps to meet students’ expectations. It is also recommended that similar studies be conducted with larger groups in different countries.

Ethics Committee Approval: Ethics committee approval was obtained from Muş Alparslan University Local Ethics Committee (Date: 26.11.2021, Number: 30780-12-42)
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