

Bibliometric Analysis of Postgraduate Theses on Current Teaching Methods and Techniques in Nursing Education

Hemşirelik Eğitiminde Güncel Öğretim Yöntem ve Tekniklerini Konu Alan Lisansüstü Tezlerin Bibliyometrik Analizi

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Abstract

This study aims to examine bibliometrically the postgraduate theses published in Turkey that deal with current teaching methods and/or techniques used in undergraduate nursing education. The research was conducted in January-February 2024 using the database of the Thesis Center of the Presidency of the Council of Higher Education, and open-access master's and doctoral theses that addressed undergraduate level education in nursing and included at least one teaching method and/or technique were included in the study. The population of the study consisted of 62 thesis studies and the sample consisted of 27 thesis studies. Data were collected through document analysis data collection method. It was found that most of the thesis studies in which current teaching methods and/or techniques were used were conducted in 2022 (6 theses), at the doctoral level (16 theses), at Ege University and Hacettepe University (4 theses). It was observed that the simulation method (10 theses) was used the most among the current teaching methods/techniques in thesis studies. With the increase in the number of published postgraduate theses, it was determined that the teaching methods/techniques used in undergraduate nursing education diversified and technology gained an important place in nursing education.

Keywords: Nursing, Education, Teaching, Teaching Methods, Teaching Techniques.

Özet

Bu araştırma Türkiye'de yayınlanmış, hemşirelik lisans eğitiminde kullanılan güncel öğretim yöntem ve/veya tekniklerinin ele alındığı lisansüstü tezlerin bibliyometrik olarak incelenmesini amaçlamaktadır. Araştırma Ocak-Şubat 2024 tarihinde Yükseköğretim Kurulu Başkanlığı Tez Merkezi veri tabanı kullanılarak gerçekleştirilmiş, hemşirelikte lisans düzeyinde eğitimi ele alan ve en az bir öğretim yöntem ve/veya tekniği içeren, açık erişimli, yüksek lisans ve doktora tezleri araştırmaya dâhil edilmiştir. Araştırmanın evrenini ulaşılan 62 tez çalışması, örneklemini 27 tez çalışması oluşturmuştur. Veriler, doküman incelemesi veri toplama yöntemiyle toplanmıştır. Güncel öğretim yöntem ve/veya tekniklerinin kullanıldığı tez çalışmalarının en fazla 2022 (6 tez) yılında, doktora düzeyinde (16 tez), Ege Üniversitesi ve Hacettepe Üniversitesinde (4 tez) gerçekleştirildiği saptanmıştır. Tez çalışmalarında güncel öğretim yöntem/tekniklerinden en fazla simülasyon yönteminin (10 tez) kullanıldığı görülmüştür. Yayımlanan lisansüstü tez sayısındaki artışla birlikte hemşirelik lisans eğitiminde kullanılan öğretim yöntem/tekniklerinin çeşitlendiği, teknolojinin hemşirelik eğitiminde önemli bir yer edindiği belirlenmiştir.

Anahtar Kelimeler: Hemşirelik, Eğitim, Öğretim, Öğretim Yöntemleri, Öğretim Teknikleri.

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1. Introduction

Rapid technological and scientific developments have a significant impact on health systems. These developments necessitate change in nursing practices (Aydınlı & Biçer, 2019). The only way to train nurses who can keep up with change, respond to different expectations and needs, and provide safe and quality care is through a nursing education that includes innovative approaches (Aygin & Çelik Yılmaz, 2022). Today, nursing education aims to train professional nurses who have developed critical thinking, problem solving and communication skills and are equipped with nursing knowledge and skills with an approach that puts the student at the center and ensures active participation (Elmalı Şimşek & Aksoy, 2023). The need for renewal in teaching methods and techniques has arisen in line with the increase in the number of students in undergraduate nursing education, insufficient teaching staff and learning environments, decreasing resources (Aydınlı & Biçer, 2019) and the characteristics, needs and opportunities of the new generation (Aygin & Çelik Yılmaz, 2022). Rich learning environments in which technology-based and different teaching methods and techniques are used alone or together improve nursing students in terms of knowledge, attitudes and skills (Aydınlı & Biçer, 2019).

Innovative methods and techniques enable students and graduate nurses to prepare for their roles and gain real experience with active participation before clinical practice (Culha, 2020). In line with today's changes and developments, active, innovative and technological education methods and techniques should be included in nursing education in order to gain knowledge, attitudes, skills and behaviors in nursing education or to improve the existing ones. Thus, nurses who can access information, learn to learn, are productive and can easily adapt to innovations will be trained and quality health services will be provided in accordance with the developments (Güngör, Orgun & Özkütük, 2023).

2. Method

This research was conducted in January-February 2024. Open-access master's and doctoral theses dealing with undergraduate level education in nursing and containing at least one teaching method and/or technique were examined through the terms 'nursing', 'education', 'teaching', 'method' and 'technique' using the database of the Council of Higher Education Thesis Center (<https://tez.yok.gov.tr/UlusalTezMerkezi/>). Published theses of all years in the database of the Institute of Health Sciences were analyzed without any time interval restriction.

2.1. Aim of Research

This study aims to examine bibliometrically the postgraduate theses published in Turkey, in which current teaching methods and/or techniques used in undergraduate nursing education are discussed. In the light of the research findings, it will be determined how various current methods and techniques used in the light of the research findings contribute to the literature, how effective they are in nursing education and whether there is a need for further research on the relevant method and/or technique.

2.2. Research Questions

The questions of the planned research are as follows:

1. What are the bibliometric characteristics of the theses?
2. What is/are the teaching method and/or technique used in the theses?
3. What are the results obtained from thesis studies?

2.3. Population and Sample of the Research

In the advanced search section of the database, 7 theses with the keywords "teaching and method or technique", 44 theses with the keywords "nursing and education or teaching method", 1 thesis with the keywords "teaching and method" and 10 theses with the keyword "nursing education" were reached. In total, 62 theses reached constituted the population of the study. The 27 theses that met the inclusion criteria (open-access master's and doctoral theses that were about undergraduate education in nursing and included at least one teaching method and/or technique, and included the terms 'nursing', 'education', 'teaching', 'method' and 'technique' in their titles or keywords) constituted the sample of the study.

2.4. Data Collection and Data Tools

The data were collected by document analysis data collection method with the help of a standard data collection form developed by the researchers, including information such as author, publication year, publication title, thesis type, university to which the research belongs, research design, sample size, teaching method and research result.

2.5. Ethical Aspects of Research

This study did not require ethics committee permission as it was a bibliometric study.

2.6. Limitation of Research

The research is limited to the database of the Council of Higher Education Theses Center (<https://tez.yok.gov.tr/UlusalTezMerkezi/>).

2.7. Data Analysis and Evaluation

The theses related to the subject in the YÖKTEZ database were analyzed with bibliometric analysis from a multidimensional perspective. Bibliometrics is the application of mathematical and statistical methods to books and other communication media (Pritchard, 1969). It is also the quantitative analysis of the characteristics of publications or documents such as author, subject, publication information, cited sources, etc.(Al & Tonta, 2004). Bibliometric research enables the identification of the most productive researchers in a given subject, comparisons between countries and institutions, and how scientific communication with various disciplines is carried out (Pritchard, 1969).

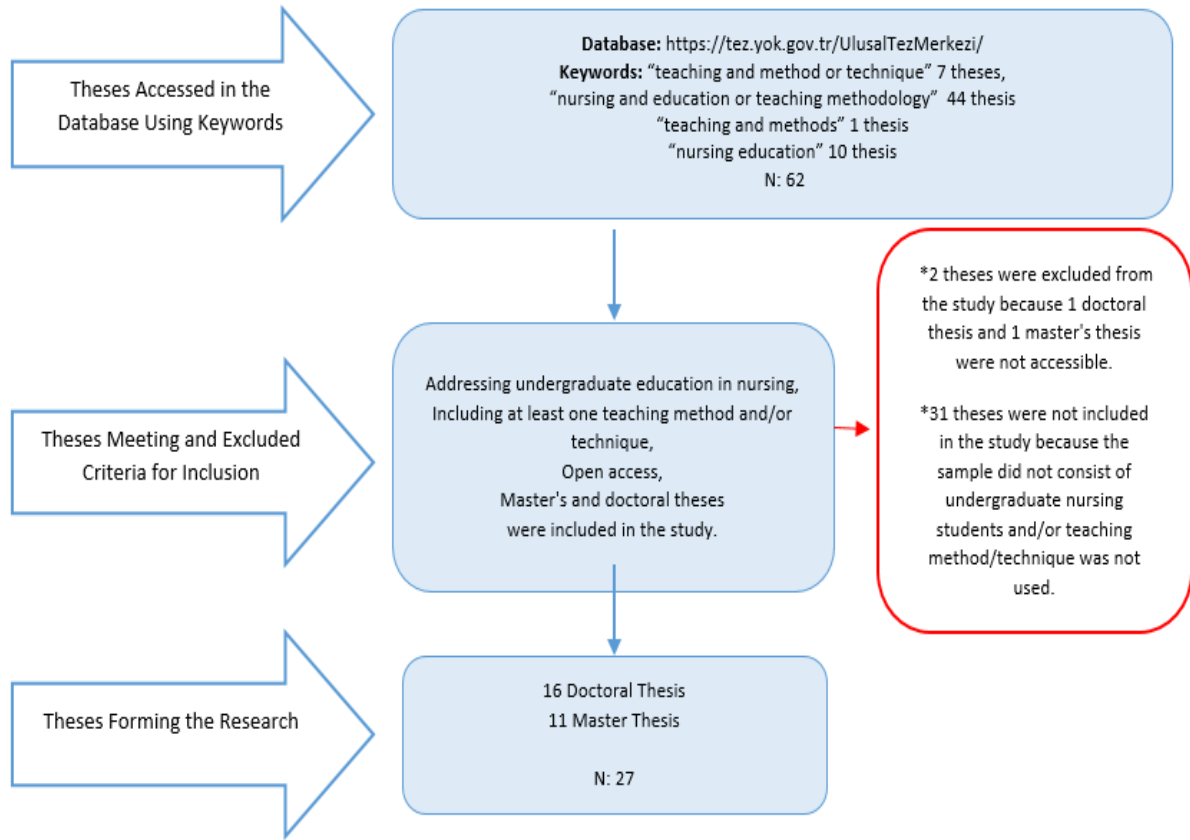


Figure 1. PRISMA Flow Diagram

3. Results

Table 1 shows the descriptive characteristics of the theses in which current teaching methods and/or techniques were used in nursing education according to the data collection form.

Table 1. Descriptive Characteristics of Graduate Theses

Author, Publication Year	Thesis Title	Thesis Type	University	Department	Research Design	Sample Size (n)	Education Method
(Şenyuva, 2007)	Web-Based Distance Education Application in Nursing Education: ' Patient Education Course Example'	Doctorate	Istanbul University Institute of Health Sciences	Nursing Teaching	Descriptive Methodological	n: 167	Web-Based Distance Education Method

Table 1. Descriptive Characteristics of Graduate Theses (Continue)

Author, Publication Year	Thesis Title	Thesis Type	University	Department	Research Design	Sample Size (n)	Education Method
(P. Doğan, 2015)	The Effect of Different Simulation Methods in Nursing Education on Students' Critical Thinking Tendencies and Self-Efficacy Levels	Doctorate	Istanbul University Graduate School of Health Sciences	Fundamentals of Nursing	Pre-Test Post-Test Control Group Experimental	n: 71	Simulation Method
(Sezer, 2014)	Investigation of the Effectiveness of Simulation Method in Nursing Education	Master	Ege University Institute of Health Sciences	Teaching in Nursing	Experimental	n: 66 (E: 32, C: 34)	Traditional Teaching and Simulation Method
(Sarmasoğlu, 2014)	The Effect of Standard Patient Use in Nursing Education on Students' Psychomotor Skill Development Processes	Doctorate	Hacettepe University Institute of Health Sciences	Fundamentals of Nursing	Quasi-Experimental	n: 87 (E: 44, C: 43)	Standard Patient/ Hybrid Simulation and Model/ Mannequin
(Işık, 2011)	The Effect of Simulation Software on Psychomotor Skill Learning and Anxiety Level in Nursing Education	Doctorate	Istanbul University Graduate School of Health Sciences	Nursing Teaching	Quasi-Experimental	n: 69 (E:38, C: 31)	Simulation Software and Maket

Table 1. Descriptive Characteristics of Graduate Theses (Continue)

Author, Publication Year	Thesis Title	Thesis Type	University	Department	Research Design	Sample Size (n)	Education Method
(Yılmaz, 2018)	Investigation of the Effect of the Use of Simulation-Based Education Method on the Satisfaction and Anxiety Levels of Nursing Students in the Management of Preeclampsia Patient Care	Master	Ege University Health Sciences Institute	Women Health and Diseases	Quasi-Experimental with Pre-Test-Post-Test Control Group	n: 102 (E: 51, C: 51)	Simulation and Case Study Methods
(Yılmaz Şenyüz, 2017)	Evaluation of Nursing Approach in Multimodal Analgesia Given by Web-Based Education with Standard Patient Simulation	Doctorate	Ankara Yıldırım Beyazıt University Institute of Health Sciences	Nursing	Experimental	n: 69 (E: 34, C: 35)	Traditional Instruction and Web-Based Teaching
(Deniz, 2017)	The Effect of Education and Empathic Play on Nursing Students' Attitudes Towards HIV Positive Individuals	Master	Gaziantep University Graduate School of Health Sciences	Nursing	Experimental	n: 80 (E: 40, C: 40)	Traditional Teaching and Game Method
(Eyikara, 2016)	The Effect of Two Different Teaching Methods on Nursing Students' Learning Vital Signs	Master	Gazi University Institute of Health Sciences	Nursing	Experimental	n: 90	Traditional Teaching and Simulation Method

Table 1. Descriptive Characteristics of Graduate Theses (Continue)

Author, Publication Year	Thesis Title	Thesis Type	University	Department	Research Design	Sample Size (n)	Education Method
(Kurt, 2019)	Development, Implementation and Evaluation of Mobile-Assisted Augmented Reality Training Material for Injection Practices of Nursing Students	Doctorate	Karadeniz Technical University Institute of Health Sciences	Nursing	Experimental	n: 122 (E: 64, C: 58)	Traditional Teaching and Mobile Augmented Reality Methods
(Kaplan, 2019)	The Effect of Web-Assisted Education and Peer Education on Nursing Students' Stoma Care Knowledge and Skills	Master	Ankara Yıldırım Beyazıt University Institute of Health Sciences	Surgical Diseases Nursing	Quasi-Experimental	n: 67 (E: 33, C: 34)	Web Assisted Teaching and Peer Education Methods
(Özaras Öz, 2019)	The Effect of Flip-Face Classroom Teaching Method on Student Success in Nursing Education	Doctorate	Hacettepe University Graduate School of Health Sciences	Fundamentals of Nursing and Management	Quasi-Experimental	n: 39 (E: 20, C: 19)	Flipped Classroom Teaching Method
(Burucu, 2019)	The Effect of Case-Based Teaching Method on Perceived Self-Efficacy and Critical Thinking Levels in Nursing Students: Mixed Method	Doctorate	Selçuk University Institute of Health Sciences	Nursing	Randomized, Pretest Controlled Experimental and Exploratory Sequential Design	n: 74 (E:37, C: 37)	Classical and Case Based Teaching Methods

Table 1. Descriptive Characteristics of Graduate Theses (Continue)

Author, Publication Year	Thesis Title	Thesis Type	University	Department	Research Design	Sample Size (n)	Education Method
(Güneş, 2022)	A Qualitative Study on the Use of Thinking Aloud Method in Nursing Education	Master	Hacettepe University Institute of Health Sciences	Nursing Management	Descriptive Qualitative	n: 14	Thinking Aloud Method
(N. Doğan, 2021)	The Effect of Care Behaviors Education Given with Two Different Teaching Methods on Nursing Students' Care-Focused Nurse-Patient Interactions and Ethical Attitudes	Doctorate	Gazi University Institute of Health Sciences	Nursing	Randomized Pre-test Post-test Comparative Qualitative	n: 95 (Case: 47, Video: 48)	Case Analysis and Video Assisted Teaching
(Güven Özdemir, 2021)	Effectiveness of High Reality Simulation Method in Acquisition of Foley Catheter Application Skills in Nursing Education	Doctorate	Istanbul University-Cerrahpaşa Graduate School of Education	Fundamentals of Nursing	Pre-Test and Post-Test Experimental	n: 80	Simulation Method
(Aksoy, 2021)	The Effect of Flipped Learning Model on Students' Motivation and Learning Strategies in Nursing Education	Doctorate	Trakya University Institute of Health Sciences	Nursing	Randomized Controlled	n: 94 (E: 47, C: 47)	Traditional and Flipped Classroom Teaching Methods

Table 1. Descriptive Characteristics of Graduate Theses (Continue)

Author, Publication Year	Thesis Title	Thesis Type	University	Department	Research Design	Sample Size (n)	Education Method
(Keti, 2022)	Comparison of the Effect of Mobile Augmented Reality and Video-Assisted Teaching Methods on Nursing Students' Knowledge and Skills of Nasogastric Catheter Placement	Doctorate	Ankara Yıldırım Beyazıt University Institute of Health Sciences	Nursing	Quasi-Experimental with Matched Groups	n: 70 (MAR: 35, Video: 35)	Mobil Augmented Reality and Video Assisted Teaching Methods
(Çalık, 2022)	The Effect of Serious Game and Standard Patient Practice Developed for Nursing Education on Students' Knowledge Level, Critical Thinking, Problem Solving Skills, Satisfaction and Confidence in Learning	Doctorate	Hacettepe University Institute of Health Sciences	Internal Diseases Nursing	Quasi-Experimental Qualitative	n: 72	Serious Game Method and Standardized Patient Practice
(Öngör, 2022)	Investigation of the Effect of the Use of Multimedia Teaching Materials on Students' Academic Achievement and Motivation in Nursing Process Lesson	Master	Süleyman Demirel University Institute of Health Sciences	Fundamentals of Nursing	Pre-Test-Post-Test Control Group Experimental	n: 70	Multimedia Teaching Materials

Table 1. Descriptive Characteristics of Graduate Theses (Continue)

Author, Publication Year	Thesis Title	Thesis Type	University	Department	Research Design	Sample Size (n)	Education Method
(Ziyai, 2022)	Implementation of Web-Assisted Program Based on Flipped Education Model in Nursing Process Teaching and Evaluation of Its Reflection on the Clinic	Doctorate	Sakarya University Institute of Health Sciences	Nursing	Experimental Qualitative	n: 58	Flipped Education and Web Assisted Teaching
(Temel, 2022)	Investigation of the Relationship Between Nursing Students' Educational Stress and Attitude Towards Distance Education	Master	Süleyman Demirel University Institute of Health Sciences	Fundamentals of Nursing	Descriptive	n:1106	Web Based Distance Education Method
(Oğurlu, 2023)	The Effect of Flipped Classroom Teaching Method on Nursing Students' Knowledge and Skill Levels	Doctorate	Aydın Adnan Menderes University Institute of Health Sciences	Fundamentals of Nursing	Randomized Controlled Experimental	n: 156 (E: 74, C: 82)	Traditional and Flipped Classroom Teaching Methods
(Omay, 2023)	Using Digital Storytelling in Nursing Education	Master	Ege University Institute of Health Sciences	Teaching in Nursing	Quasi-Experimental	n: 176 E: 102, C: 74)	Digital Storytelling Method

Table 1. Descriptive Characteristics of Graduate Theses (Continue)

Author, Publication Year	Thesis Title	Thesis Type	University	Department	Research Design	Sample Size (n)	Education Method
(Şen, 2023)	The Effect of Two Different Teaching Methods on Nursing Students' Self-Efficacy and Satisfaction in Blood Transfusion Education	Master	Izmir Bakircay University Graduate School of Education	Internal Diseases Nursing	Quasi-Experimental with Pre-Test and Post-Test Control Group	n: 87	Simulation and Flipped Classroom Teaching Methods
(Özkan, 2023)	The Use of Jigsaw Learning Technique in Nursing Education: A Meta-Analysis Study	Master	Süleyman Demirel University Institute of Health Sciences	Fundamentals of Nursing	Meta-Analysis	n: 12	Jigsaw Learning Technique
(Baysan, 2023)	Use of 360 Degree Interactive Video Technology in Nursing Education: A Mixed Method Study	Doctorate	Ege University Institute of Health Sciences	Teaching in Nursing	Mixed Method	n: 287	Video Assisted Teaching and Simulation Methods

Table 2 presents the research results of the postgraduate theses.

Table 2. Research Results of Postgraduate Theses

Author, Publication Year	Research Results
(Şenyuva, 2007)	It was emphasized that nursing schools should organize distance education activities, which is a contemporary necessity, with high-level structuring, inter-institutional interaction and a multidisciplinary approach, and that the lessons prepared in line with the web-based distance education method should be capable of providing materials to support communication, interaction and humanistic approach among students.
(Işık, 2011)	It has been observed that simulation software is an effective method for learning psychomotor skills in nursing education and reduces anxiety level.
(Sarmasoğlu, 2014)	It was determined that the use of standardized patients in nursing education was effective in psychomotor skill development.
(Sezer, 2014)	Simulation method was found to be effective on the retention of knowledge.

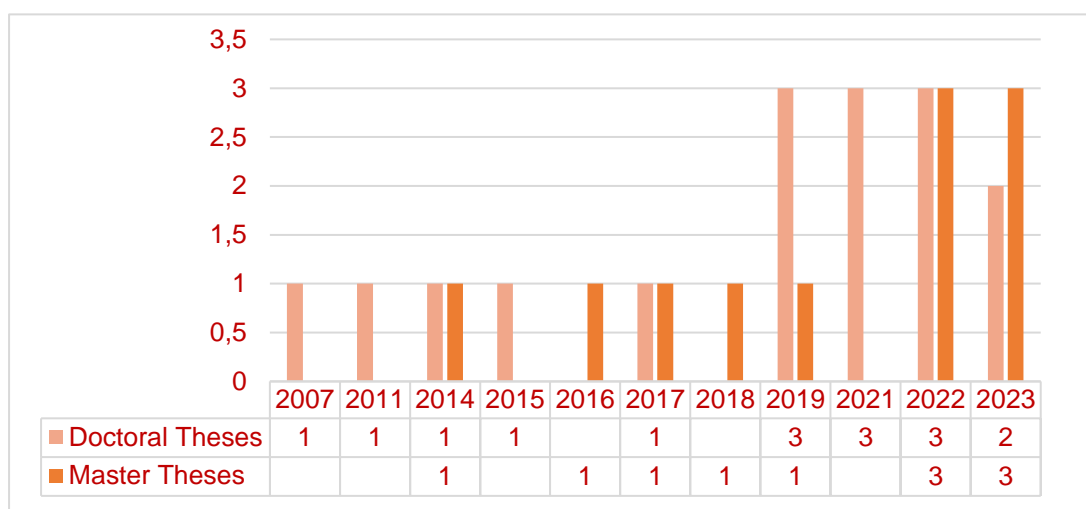
Table 2. Research Results of Postgraduate Theses (Continue)

Author, Publication Year	Research Results
(Eyikara, 2016)	It was determined that simulation had positive contributions to the development of first-year nursing students' knowledge and skills related to vital signs.
(Deniz, 2017)	As a result of the study, it was determined that the training provided to nursing students and empathic play had a positive effect on attitudes towards HIV-positive individuals.
(Yılmaz Şenyüz, 2017)	As a result, it was seen that web-based learning given in addition to face-to-face in-class education was effective in providing students with nursing skills for pain.
(Yılmaz, 2018)	It was predicted that the simulation-based education method was beneficial for nursing students.
(Burucu, 2019)	It was found that case-based teaching significantly affected the critical thinking disposition and perceived self-efficacy scores of second-year nursing students and there was a positive relationship between both scores. The students in the focus group interview reported that they liked the method applied and that it was useful.
(Özaras Öz, 2019)	It was determined that the flipped classroom teaching method is a method that can be used for students to learn basic concepts.
(Kaplan, 2019)	It has been observed that the use of web-supported education and peer education in nursing education are effective methods in increasing the level of knowledge.
(Kurt, 2019)	As a result of the study, it was determined that Mobile Augmented Reality training materials and applications had a positive effect on nursing students' knowledge and skill levels regarding SC, IM and IV injection practices and provided permanence in learned knowledge and skills.
(Aksoy, 2021)	It has shown that the flipped learning model is a student-centered learning method that increases students' motivation, use of learning strategies and academic achievement.
(Güven Özdemir, 2021)	It was determined that the high-fidelity simulation method is an effective teaching method in gaining psychomotor skills related to foley catheter applications and increasing student satisfaction and self-confidence level.
(N. Doğan, 2021)	It was determined that both case analysis and video-assisted teaching methods were effective in teaching care behaviors and ethical attitudes in care.
(Güneş, 2022)	Thinking aloud method was found to be an effective method in nursing education.
(Öngör, 2022)	It has been determined that multimedia teaching materials increase academic achievement and motivation in nursing education.
(Çalık, 2022)	Serious gaming and standardized patient practice were found to improve knowledge level, critical thinking, problem solving, student satisfaction and confidence in learning in nursing students.
(Keti, 2022)	Both Mobile Augmented Reality (MAR) and Video-assisted teaching methods were found to be effective methods for nursing students on nasogastric catheter placement and had a similar effect on their knowledge and skills.
(Ziyai, 2022)	Flipped education contributed positively to nursing students' problem solving, critical thinking, adaptation to the clinic, communication, self-confidence and retention skills.
(Temel, 2022)	It was found that the attitude towards distance education was negative and the positive attitude towards distance education decreased as the educational stress increased.
(Oğurlu, 2023)	It was concluded that the flipped classroom teaching method increased students' theoretical knowledge, skills and general achievement scores.
(Omay, 2023)	The students in the implementation group stated that the use of digital storytelling increased their motivation and that they were satisfied with this method.
(Şen, 2023)	Both simulation and flipped classroom teaching method were found to be effective in increasing nursing students' self-efficacy and satisfaction levels regarding blood and blood products transfusion.

Table 2. Research Results of Postgraduate Theses (Continue)

Author, Publication Year	Research Results
(Özkan, 2023)	It was determined that Jigsaw learning is a technique that enables students to increase their academic achievement compared to traditional learning methods in nursing students. In addition, it was determined that Jigsaw learning technique has a positive effect on students' interpersonal relationships, critical thinking, communication and clinical skills, as well as increasing motivation, self-concept and satisfaction.
(Baysan, 2023)	Simulation applications using 360-degree interactive virtual reality videos increased nursing students' knowledge levels and retention of knowledge, self-efficacy, satisfaction in learning and self-confidence levels.

The findings of the bibliographic analysis are as follows;



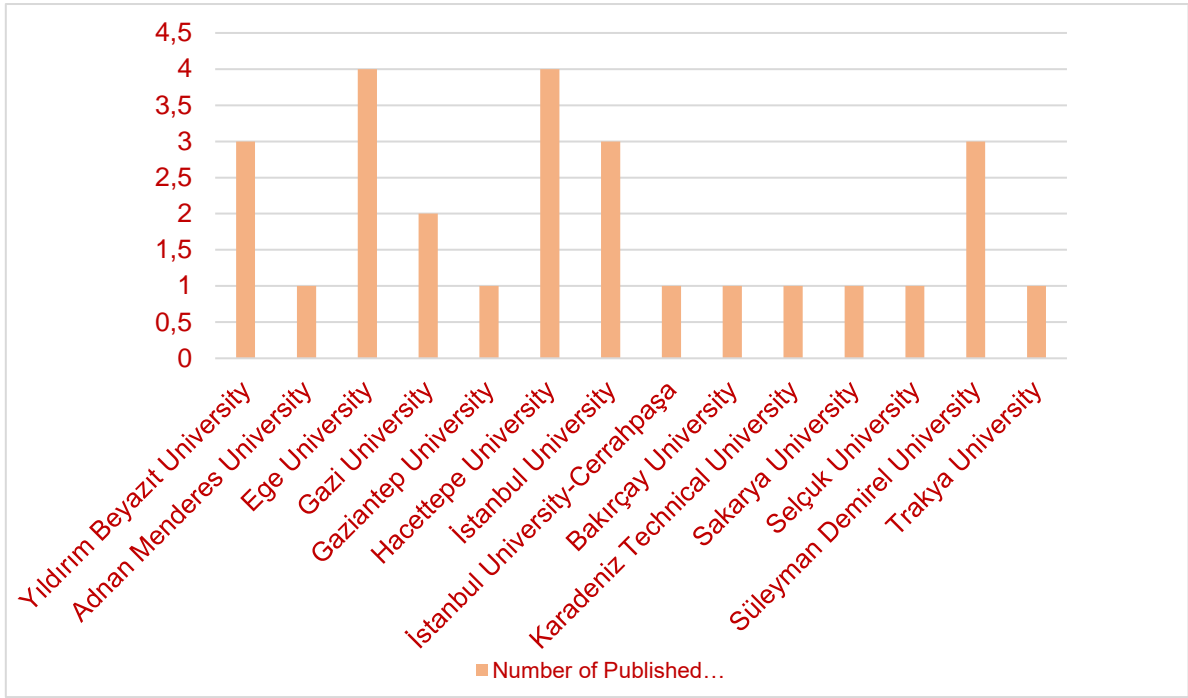
Graphic 1. Distribution of Theses by Publication Year

It was determined that the number of theses using current teaching methods/techniques in nursing education was highest in 2022 and then in 2023, the number of doctoral theses increased in 2019, and the highest number of master's theses were conducted in 2022 and 2023.



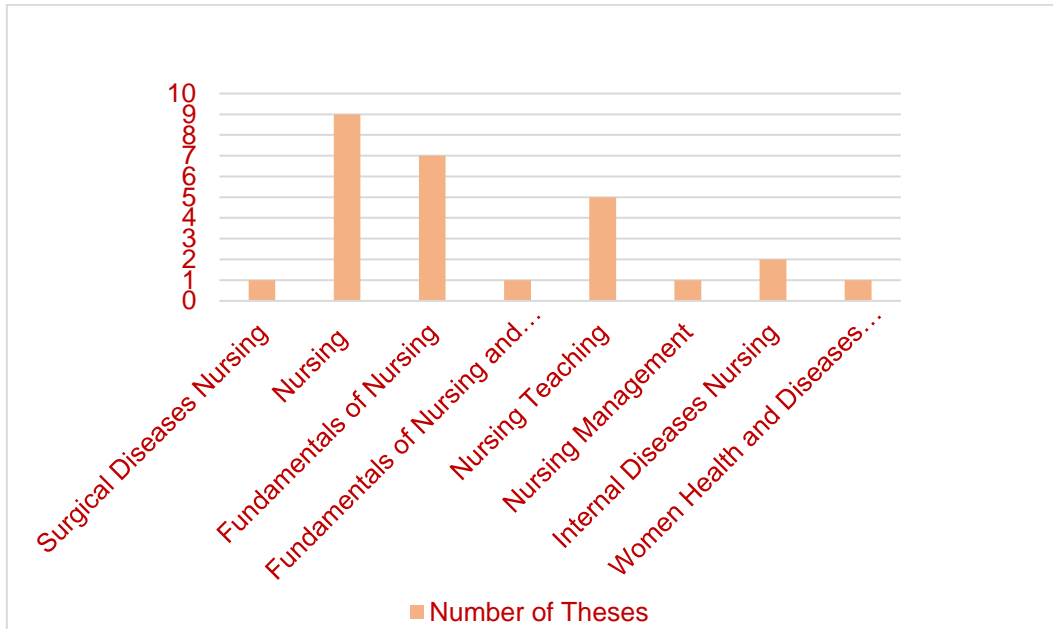
Graphic 2. Numerical Distribution of Theses by Type

It is seen that 16 of the 27 theses using current teaching methods/techniques are at the doctoral level and 11 are at the master's level.



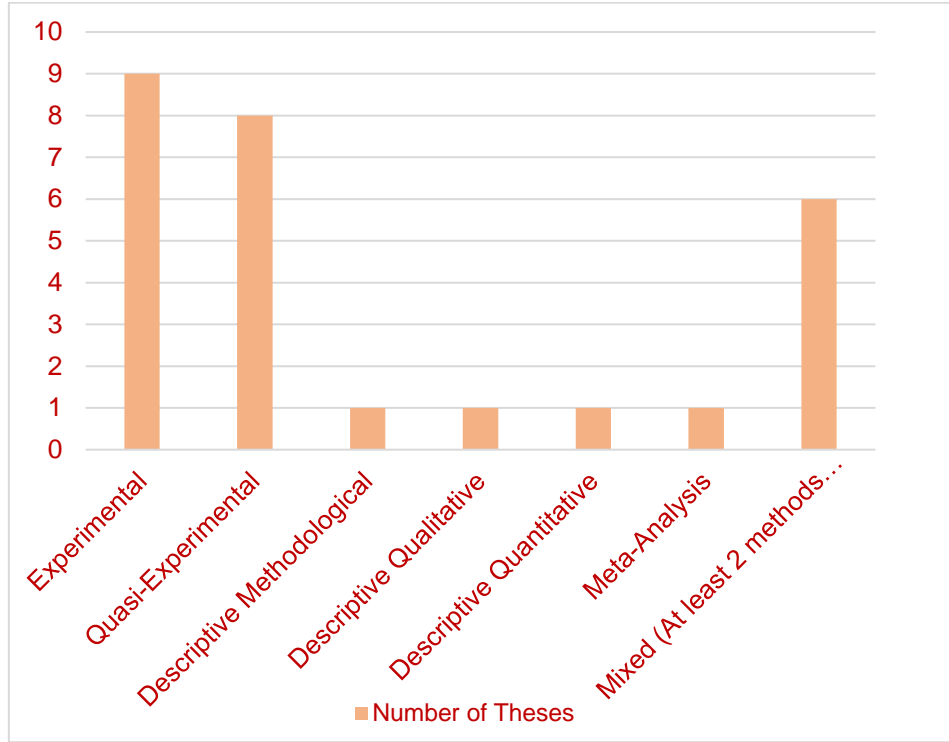
Graphic 3. Distribution of Theses According to the Universities to which the Authors are Affiliated

According to Graph 3, it was found that thesis studies on current teaching methods/techniques were published first in Ege University and Hacettepe University, then in Ankara Yıldırım Beyazıt University, İstanbul University and Süleyman Demirel University, then in Gazi University, and finally in other universities.



Graphic 4. Distribution of Theses by Departments

It was determined that the theses using current teaching methods/techniques were carried out in Nursing, Nursing Principles, Nursing Teaching, Internal Medicine Nursing and other departments, respectively.

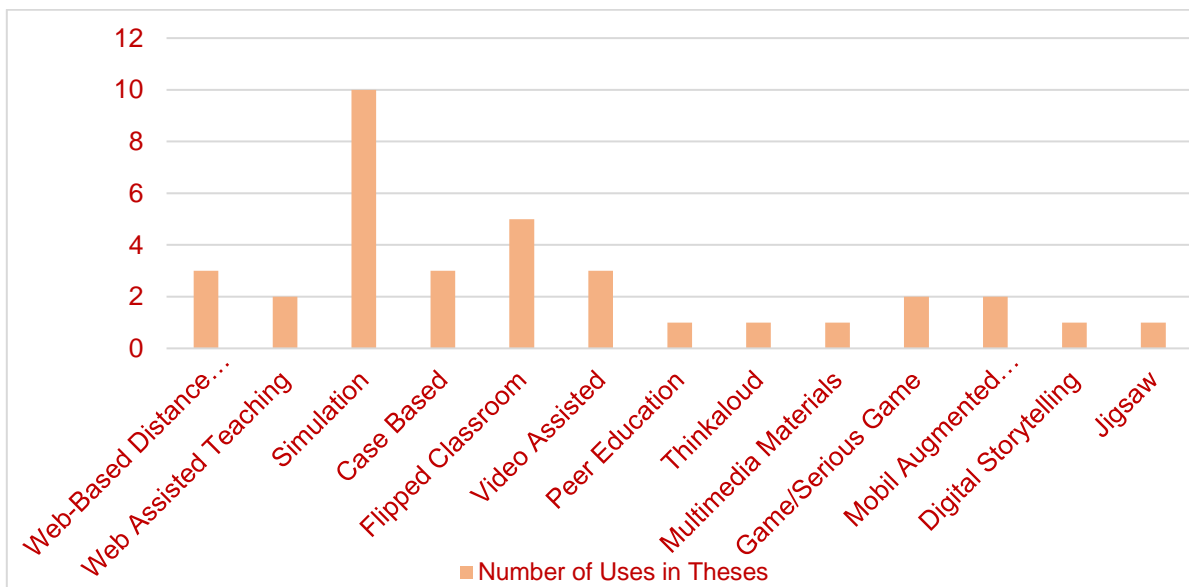


Graphic 5. Distribution of Theses According to Research Designs

It is seen that most of the theses on the subject were conducted in experimental design, followed by quasi-experimental design, mixed design and other designs respectively.

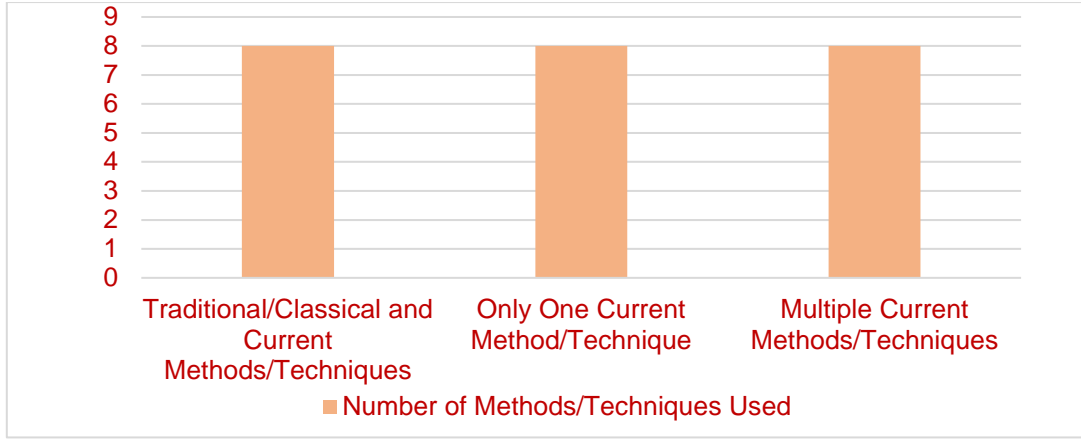
Distribution of Theses According to Sample Size

According to Table 1, the sample size of the thesis studies varied between 12-1106, with the smallest sample size belonging to a meta-analysis study and the highest sample size belonging to a descriptive quantitative study. Another low sample size of 14 belonged to a descriptive qualitative study.



Graphic 6. Current Teaching Methods and/or Techniques Used in Theses

Among the theses studied using current teaching methods and/or techniques used in nursing education, it was found that the simulation method was used the most, followed by the flipped classroom method. It was seen that case-based teaching, video-assisted teaching and web-based distance education methods were used equally and digital storytelling, think aloud, jigsaw and multimedia materials methods/techniques were used the least.



Graphic 7. Distribution of Theses According to the Use of Teaching Methods and/or Techniques

The current teaching methods/techniques used in the thesis studies were used alone or combined with traditional/classical methods or current methods/techniques. The majority of the thesis studies used more than one current method/technique together (11 theses). The number of thesis studies in which traditional/classical and current teaching methods/techniques were used together (8 theses) and in which only one current method/technique was used (8 theses) were equal.

4. Discussion

When the findings of this study were examined, it was found that most of the postgraduate theses published in Turkey dealing with current teaching methods and/or techniques used in undergraduate nursing education were published in 2022 and 2023, were conducted in doctoral programs, were published by Ege University and Hacettepe University Institute of Health Sciences, were studied in the department of nursing, were designed in experimental design, simulation method was used, and research was conducted using more than one current method/technique together.

4.1. Bibliometric Analysis of Postgraduate Theses

Theses published between 2007 and 2023 containing keywords in the database were examined and 27 theses that met the inclusion criteria were included in the study. Since 2019, the increase in the number of theses on the subject is an indication that different methods and techniques used in nursing education have gained importance in nursing education.

It is thought that the fact that most of the postgraduate theses related to the subject were studied in the field of doctorate is due to the fact that nurses, who have taken the role of educators with their doctoral degree, believe in the importance of specialization in the field of education and quality in nursing education.

The fact that most of the postgraduate theses dealing with current teaching methods and techniques were published at Ege University and Hacettepe University, followed by Istanbul University, is an indication that well-established universities play a pioneering role in improving the quality of education by giving importance to evidence-based education.

The fact that most of the postgraduate theses in question were studied in the department of nursing shows that the field of nursing deals with the whole of nursing and other branches of nursing are gathered under the name of the department of nursing as a program, and professional education is given importance in general and in related specialties.

Graduate theses on the subject were mostly designed in experimental design and this shows the importance given to conducting research with a high level of evidence.

In the published postgraduate theses, it is noteworthy that the simulation method is mostly used in nursing education, followed by the flipped classroom method. Simulation types, which are the most effective method in skill learning, play an important role in the training of competent nurses in terms of skills. The flipped classroom, which is an effective method in learning theoretical knowledge, is a stepping stone for nursing students to play an active role in skill demonstration by ensuring their cognitive completion.

Graduate theses in which more than one current method/technique was used together constitute the majority. After determining the effectiveness of the current methods/techniques used alone, it is thought that using them together with different methods/techniques will make teaching activities more effective.

4.2. Analysis of Postgraduate Theses in terms of Results

In doctoral dissertations in which web-based distance education method was used, it was found that it can support communication, interaction and humanistic approach among nursing undergraduate students (Şenyuva, 2007), and that web-based learning given in addition to face-to-face in-class education is effective in providing students with nursing skills for pain (Yılmaz Şenyüz, 2017). In a master's thesis, it was concluded that the attitude towards distance education was negative and the positive attitude towards distance education decreased as the educational stress increased (Temel, 2022). In the studies conducted, it was determined that web-based education increases the level of knowledge (Erdoğan et al., 2023), increases perceived learning satisfaction and course participation (Chan et al., 2021), increases the perception of care (Dhakal et al., 2022), and enables the establishment of good relationships between peers (Tiedt et al., 2021).

In a master's thesis in which web-assisted teaching method was used, it was seen that the use of web-assisted education in nursing education was effective in increasing the level of knowledge (Kaplan, 2019). In a study published in the international literature, it was found that additional problem-based learning with an online module led students to get higher scores in an exam testing real knowledge (Raupach et al., 2010).

When the results of the postgraduate theses dealing with the simulation method are examined, it is seen that simulation education used in nursing undergraduate education is an effective method in teaching psychomotor skills and reduces the anxiety of learners (Işık, 2011), the use of standard patients is of

great importance (Sarmasoğlu, 2014), it is effective on the retention of knowledge (Sezer, 2014), it has positive effects on nursing students' critical thinking and self-efficacy-eficacy levels (P. Doğan, 2015), has positive contributions to knowledge and skill development (Eyikara, 2016), has positive effects on nursing students' learning (Yılmaz, 2018), is an effective teaching method in gaining psychomotor skills and increasing student satisfaction and self-confidence level (Güven Özdemir, 2021), it was determined that the use of standardized patients improved knowledge level, critical thinking, problem solving, student satisfaction and self-confidence in learning in nursing students (Çalık, 2022), and increased self-efficacy and satisfaction levels in skill learning (Şen, 2023). Meta-analysis studies published in the international literature support the findings of graduate theses published in undergraduate nursing education (Li et al., 2022; Tong et al., 2022).

In line with the results of the postgraduate theses in which case-based teaching method was used, it was concluded that case studies in nursing undergraduate education have a positive effect on teaching care behaviors and ethical attitudes in care (N. Doğan, 2021), and support the development of critical thinking and self-efficacy (Burucu, 2019). In studies conducted on undergraduate nursing students, it was found that case-based teaching increased students' self-confidence and reduced their anxiety (Demir Acar et al., 2022), increased teaching satisfaction (Sun et al., 2024), learning motivation and problem-solving skills (Gholami et al., 2021).

According to the results of the postgraduate theses in which the flipped classroom method was used, the flipped classroom in nursing undergraduate education is a method that can be used for students to learn basic concepts (Özaras Öz, 2019), it is a student-centered learning method that increases students' motivation, use of learning strategies and academic achievement (Aksoy, 2021), contributed positively to nursing students' problem solving, critical thinking, clinical adaptation, communication, self-confidence and retention skills (Ziyai, 2022), and increased students' theoretical knowledge, skills and general achievement scores (Oğurlu, 2023). Research supports the results of the theses studied using the flipped classroom method (Barranquero-Herbosa et al., 2022; Joseph et al., 2021).

In line with the results of postgraduate theses in which video-assisted teaching method was used, it was determined that videos in nursing undergraduate education are an effective method in teaching care behaviors and ethical attitudes in care (N. Doğan, 2021), knowledge and skill learning (Keti, 2022), and simulation applications using 360-degree interactive virtual reality videos increase nursing students' knowledge levels and retention of knowledge, self-efficacy, satisfaction and self-confidence levels in learning (Baysan, 2023). In the findings of the studies conducted in undergraduate nursing education, it was concluded that positive learning environments were created by using video-supported education together with traditional education (Stone et al., 2020), video-supported teaching was effective in gaining knowledge and skills (Stone et al., 2020), and video-based virtual reality increased learning motivation and learning satisfaction (Chang et al., 2022).

In the qualitative research conducted in a qualitative design in nursing undergraduate students in a doctoral dissertation using the think aloud method, it was stated by the participants that thinking aloud gives self-confidence and provides the opportunity to question themselves, is satisfying, and creates a sense of success and efficiency. For its use in nursing education, it was stated that it enables active

learning, self-control, realization of deficiencies, problem solving, reinforcement and testing of information, problem identification and holistic evaluation (Güneş, 2022). There are a limited number of studies in which the think-aloud method was used in undergraduate nursing education. In a study in the international literature, the think-aloud method was used together with the simulation method and it was determined that think-aloud facilitates the learning of complex subjects, provides a sense of comfort and enables the evaluation of learning by the educator (Burbach et al., 2015).

In the master's thesis in which multimedia teaching materials were used, it was concluded that multimedia teaching materials increased academic achievement and motivation in nursing undergraduate students (Öngör, 2022). The results of the study in the international literature support the results of this thesis (Yang & Oh, 2023).

In the doctoral thesis in which the serious game method was used, it was observed that the serious game method improved knowledge level, critical thinking, problem solving, student satisfaction and self-confidence in learning when used with standard patients in undergraduate nursing students (Çalık, 2022). Studies in the international literature using serious play method in nursing education supported the findings of this thesis, and it was also determined that serious play improved knowledge and skill learning (Min et al., 2022; Thangavelu et al., 2022). In a master's thesis in which the empathic game method was used, it was determined that the training provided to nursing students and the empathic game had a positive effect on attitudes towards HIV-positive individuals (Deniz, 2017). In current studies, it has been found that game-based learning is effective in developing skills in nursing students and complementary to existing teaching methods (Gu et al., 2022), game-based mobile nursing education can help traditional clinical education strategies and create a positive learning effect (Suh et al., 2022), and is a useful method in achieving cognitive domain learning outcomes (Kuruca Ozdemir & Dinc, 2022).

In the master's theses in which peer education technique was used, it was found that the use of peer education was effective in increasing the level of knowledge (Kaplan, 2019). A research supports this thesis finding (Mutlu et al., 2023). In another study, in addition to this finding, it was determined that peer education was effective in developing attitudes in nursing students (Çulha & Afşin, 2023).

In doctoral dissertations using mobile augmented reality method, it was found that mobile augmented reality is an effective method in knowledge and skill learning in nursing undergraduate students (Keti, 2022), Mobile Augmented Reality training materials and applications have a positive effect on nursing students' knowledge and skill levels regarding SC, IM and IV injection applications, and provide permanence in learned knowledge and skills (Kurt, 2019). Again, in a study conducted in nursing students, it was concluded that mobile augmented reality provides permanent learning in addition to the same findings of this thesis (Kurt & Öztürk, 2021).

In a master's theses using the digital story method, it was observed that digital storytelling increased motivation and satisfaction in undergraduate nursing students (Omay, 2023). In the international literature, studies using the digital story method in nursing students (Tatli et al., 2017) and in the education of health professionals (Moreau et al., 2018) support the results of this thesis.

In the master's theses, which was conducted as a meta-analysis of the studies using the jigsaw technique, it was found that the jigsaw technique is a technique that enables nursing undergraduate students to increase their academic achievement, is effective in students' interpersonal relationships, critical thinking, communication and clinical skills, and has a positive effect on students' attitudes such as increased motivation, self-concept and satisfaction (Özkan, 2023). National (Çetin et al., 2022) and international (Aydin & Ince, 2023; Ozkan & Cetinkaya Uslusoy, 2024) studies in the literature using the jigsaw technique in nursing students also support the thesis result.

5. Conclusion

In conclusion, it was determined that the teaching methods/techniques used in undergraduate nursing education have diversified, technology has gained an important place in nursing education, and the importance given to nursing education and evidence-based knowledge has increased. However, since not all of the methods and techniques used are given equal weight, theses and researches should be planned for less used methods and techniques. In this way, the effectiveness of teaching methods and techniques used in nursing education will be supported by evidence-based information. Technological developments have affected nursing education and the teaching methods and techniques used in undergraduate education have also been positively affected by technology. For this reason, educational activities should be planned and implemented by taking into account the conditions of our age, the characteristics and needs of nursing students, and learning environments should be enriched by including different teaching methods and techniques according to the learning environment, the characteristics of the subject and the targeted learning outcome. Thus, the quality of nursing education will be increased and nurses who are competent in terms of knowledge and skills and who meet the requirements, needs and expectations of the age will be trained.

Conflict of Interest

There is no conflict of interest between the authors.

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