Authentic and Collaborative Teaching Methods to Train Future Professional Nurses: Traditional Compilation

Geleceğin Profesyonel Hemşirelerini Yetiştirmek İçin Otantik ve İş Birlikçi Öğretim Yöntemleri: Geleneksel Derlemeye

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ABSTRACT Increasing health demands and different needs of the society are constantly changing the nursing education and curriculum. Learning methods should be structured in order to develop the skills of student nurses to make decisions, to distinguish between right and wrong, to take responsibility, to make self-evaluation, to think critically and creatively and to solve problems and to provide active learning. Nursing education today where information is constantly updated; in terms of evidence-based nursing practices student nurses have to keep up with the times in order to develop their cognitive and psychomotor skills, to think critically and to make decisions. Traditional teaching methods cannot adequately prepare student nurses for working environments that are constantly changing. The use of different techniques in education and giving the chance to practice in realistic environments are important in terms of gaining skills. Nurse educators should use evidence-based practices to ensure standardization in education. Today, nursing education is carried out in the classroom environment, in the clinical environment and online. The World Health Organization stated the need for cooperation among healthcare professionals and published the statement “learning together to work together” in 1988. Cooperative and authentic learning contribute to students’ knowledge acquisition, perspective development, collaboration, communication and self-expression skills, development of self-confidence, critical thinking and social skills, enjoyment of lessons and increasing motivation. The aim of this review is to examine the authentic and collaborative teaching methods that will be used in the training of future professional nurses in the light of the literature.

Keywords: Nursing education; nursing students; teaching methods


Anahtar Kelimeler: Hemşirelik eğitimi; hemşirelik öğrencileri; öğretim yöntemleri

Today’s technological developments, increasing globalization, socioeconomic and political changes in society and the use of information affect health care systems, therefore, the nursing profession which is an important part of the health care system. The foundation of every profession is correct and professional education and it is important that nurses are well-educated and experienced in protecting and improving health. Therefore, nursing education aims to train nurses who are professional, aware of their re-

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sponsibilities, equipped with clinical skills, able to provide quality care and adapt to changes.¹²

Nursing education today, where information is constantly updated; in terms of evidence-based nursing practices, student nurses have to keep up with the times in order to develop their cognitive and psychomotor skills, to think critically and to make decisions.³ In Türkiye, the high number of nursing students, insufficient number of qualified instructors to meet the student demand, clinical nurses not helping student nurses adequately, negative attitudes of healthcare professionals to students, insufficient clinical practice areas, inadequate laboratories and equipment and communication problems constitute the general problems of nursing education.⁴

Increasing health demands and differentiating needs of the society are constantly changing the nursing education and curriculum.¹ Traditional teaching methods cannot adequately prepare student nurses for working environments that are constantly changing.⁵ The use of education programs that actively involve students in the process instead of a rote-based education system is important in terms of the quality of the education provided.¹ Authentic learning enables students to increase their capacity by making use of different fields and to learn permanently by realizing how to use information. In addition, authentic learning not only helps students learn knowledge but also supports their personality development. With cooperative learning, it is possible to permanently change students’ behavior and improve their cooperation skills. In this study, it is aimed to examine the authentic and collaborative teaching methods that will be used in the training of future professional nurses in the light of the literature.

### NURSING EDUCATION

Systematic thinking, clinical practice and decision making, evidence-based nursing practices, development of cognitive and psychomotor skills and gaining disciplined knowledge of student nurses are important.³ Using knowledge together with problem solving skills is an effective way to learn. Nursing education aims to develop students’ cognitive, affective and psychomotor skills, to ensure that their achievements are permanent and to reflect on their behaviors and to gain evidence-based practice and clinical decision-making competence.³

Nursing education consists of theoretical knowledge and clinical practices in which this knowledge will be used.³ Clinical education; it prepares students for real-life nursing practices by transforming the theoretical knowledge that is given in the classroom environment and teaches how to provide care to students and enables students to gain knowledge and skills.⁶ The coronavirus disease-2019 pandemic process which emerged in China at the end of 2019 and showed its effect all over the world, brought the distance education method to the agenda; it has also led to the reorganization of nursing education, a large part of which consists of clinical practices.⁷

Nurse educators should create a suitable learning environment, manage and evaluate the process effectively in order to improve the emotions, thoughts and behaviors of students.⁸ At every stage of the learning process, the educator should benefit from the evidence in order to ensure his professional development and the effectiveness of learning.⁹ Evidence-based practices are important in ensuring the standardization in nursing education but also in ensuring that the care provided is effective, safe and of high quality.³ The accreditation process should be used to ensure national and international standardization in nursing education, to continuously increase the quality, to provide a disciplined control mechanism, equivalence in diploma, competence in the profession, competent and quality registered education.¹⁰ Effective learning methods should be used within the scope of high number of clinical practice to nursing schools, insufficient number of teaching staff compared to the increasing number of students, limited practice environments and ensuring patient safety.¹¹ Learning methods need to be structured in order to develop the skills of student nurses to make decisions, to distinguish between right and wrong, to take responsibility, to make self-evaluation, to think critically and creatively and to solve problems and to provide active learning.⁵,¹² Since critical thinking and clinical reasoning are considered pioneers in nursing practice, it is necessary to focus on pedagogical teaching methods.¹³ In order to facilitate learning in nursing education, student-centered, innovative and realistic teaching meth-
ods that use two or more methods together are becoming widespread today. The use of effective and innovative teaching methods helps students develop their critical thinking, knowledge and skills; it is an important factor in patient safety and care and increases the quality of teaching.\textsuperscript{14,15} In this context authentic learning enables nursing students to learn and make sense of their knowledge in terms of themselves and the individuals they care for and develop sustainable skills.\textsuperscript{5} In cooperative learning, there is solidarity within the group. The student takes responsibility as individual performance affects the group. There is a group spirit because the students who make up the group have similar qualifications.

The use of different techniques in education and the chance to practice in realistic environments are important in terms of gaining skills.\textsuperscript{16} Not every teaching technique is suitable for every lesson and every subject. It is necessary to use a teaching method suitable for the content of the course and the subject to be covered.\textsuperscript{17} Nurse educators should benefit from proven contemporary methods and techniques in order to ensure the individual and professional development of students.\textsuperscript{8}

\section*{EDUCATION IN A CLASSROOM ENVIRONMENT}

The classroom environment is significantly effective in obtaining theoretical knowledge of student nurses.\textsuperscript{4} It is important for effective education that nursing educators have effective communication skills, effective teaching skills in the classroom and guide students by establishing a trust-based relationship.\textsuperscript{18,19} In addition, regular evaluation of student opinions and satisfaction is a guide in improving the education provided.\textsuperscript{19} The new generation of student nurses are socially dependent and want immediate feedback. Therefore, they may not find traditional education sufficient.\textsuperscript{20} With the authentic and collaborative teaching methods, students’ satisfaction and desire to learn increase and students gain perspective development, cooperation, communication and self-expression.\textsuperscript{1,5}

\section*{EDUCATION IN CLINICAL SETTING}

Clinical learning areas are environments where the theoretical knowledge, research and practice of student nurses are combined and put into practice.\textsuperscript{2,4,6,19} Clinical education forms the basis of nursing education and aims to develop students’ professional knowledge, critical thinking and effective communication skills; It aims to help students gain self-respect and the ability to make independent decisions.\textsuperscript{5} Clinical learning environments are an effective factor in students’ career choices.\textsuperscript{13} Effective clinical training enables student nurses to communicate easily with real patients, increase their motivation through teamwork and develop critical thinking, decision-making and problem-solving skills.\textsuperscript{2} The adequacy of clinical education is evaluated by observing, discussing, asking questions, case presentations, care plan, self and peer assessments.\textsuperscript{12} Pre-clinical nurse educator; should cooperate with the nurses of the clinics where the practices will be made, ensure that the students feel ready for the clinical environment, pre-clinical experience should use different teaching techniques.\textsuperscript{17} In clinical practices, the educator; should defend the rights of students in difficult times, encourage and support students.\textsuperscript{21} Yanikkerem et al. conducted a qualitative study with a group of 3\textsuperscript{rd} and 4\textsuperscript{th} year nursing students on their experiences and expectations regarding nursing education; students stated that theoretical and practical knowledge is insufficient and that clinical practice and theoretical knowledge do not complement each other.\textsuperscript{18} Authentic and collaborative learning techniques are useful in clinical training in terms of enabling student nurses to easily communicate with real patients, increasing their motivation with teamwork and improving critical thinking, decision-making and problem-solving skills.\textsuperscript{5,17,20}

\section*{ONLINE EDUCATION}

Live broadcast clinical practices where traditional and online teaching strategies are used together, simultaneous or non-synchronous trainings or video files are important for nursing education.\textsuperscript{3} Educator in distance education; they should have knowledge about software and hardware, know the strengths and weaknesses of the clinical practices used, create a learning environment based on previous experiences, encourage students to actively participate in the lessons and show an innovative, collaborative and student-centered approach.\textsuperscript{7} Nursing educators have to determine the time when training sessions should
be offered online by evaluating institutional policies, current physical conditions and students’ preferences. In a study conducted by Gosak et al. in which the perceptions of nursing students in Slovenia regarding the online learning environment were evaluated, it was concluded that the timing and well-organization of the lessons reduced the stress of the students, while focusing on factual learning and authoritative approach negatively affected the students. The use of technology is a supporting factor for education. Therefore, educators should integrate the process with technology. Authentic and collaborative teaching techniques that can be used in the online environment; think-pair-share technique, split and merge technique, student-centered problem-based learning technique, team-based learning technique, project-based learning technique, game-based learning technique, flipped learning technique and web-based tools in which students work together to solve the problem.

AUTHENTIC LEARNING

These are education and training techniques that have authentic tasks at the center, encourage students to research and question under the guidance of the educator and enable the subjects to be learned by connecting with the real world. It enables the student to increase his capacity by making use of different fields and to learn permanently by realizing how to use the information. Authentic learning not only helps students learn knowledge but also supports their personality development. In this teaching technique, areas where educators and students can communicate comfortably are created. Educators are facilitators of learning, not information providers. The fact that educators are not accessible, not interested in the course content, not communicating with students, being unprepared for the course and behaving condescendingly make interaction with students difficult. The fact that the educator enjoys his work and is a role method to the students increases the interaction with the students and facilitates authentic learning.

Authentic learning enables nursing students to learn and make sense of their knowledge in terms of themselves and the individuals they care for and develop sustainable skills. Authentic learning focuses on the real world, complex problems and problem solving through role-playing exercises, problem-based practices, case studies and hands-on virtual communities. Authentic learning provides opportunities for students to develop and use their reading, writing, speaking and listening, critical thinking, psychomotor skills and strategies. Studies show that authentic learning contributes to students’ knowledge acquisition, perspective development, collaboration, communication and self-expression skills, development of self-confidence, critical thinking and social skills, enjoyment of lessons and increasing motivation. Authentic teaching techniques are suitable for classroom education, clinical education and online education.

SCENARIO-BASED LEARNING (SBL)

It is a learning method that allows students to focus on the problem, find solutions and solve the problem, realize their lack of knowledge about problem solving and conduct research for their deficiencies by transferring real-life situations to the classroom environment. A scenario is presented to the student and the student puts himself in the place of the actor, evaluates the existing situation and data and displays problem-solving behaviors. In a study by Noh and Lee, it was concluded that scenario and case-based games improved students’ communication skills and self-efficacy. It is stated that the SBL method applied by Akin Korhan et al. in the Fundamentals of Nursing course in the 2017-2018 academic year enables students to initiate communication with the patient and to evaluate the patient holistic; it has been concluded that the realistic practice of students reduces their excitement and facilitates their transition to the clinic by ensuring their adaptation. After the scenario-based practices, the educator’s feedback and the students’ evaluation of each other facilitate their learning. SBL gives students a sense of reality, provides decision-making skills and increases their motivation.

STUDENT CREATED MEDIA

Students created scenarios and recorded videos; it is an effective method that can be used to improve their competencies regarding course content, personal and interpersonal competencies. In a study by de Leng et al., it was concluded that videos allow events to come to life in students’ minds and are more memorable than text-based cases.
ROLE-PLAYING METHOD
It is a teaching method in which student nurses experience patient care by using mannequins and methods in laboratory environments before encountering the patient. The role-playing method automatically enables students to acquire active listening skills.

SIMULATION-BASED LEARNING
Virtual reality is a three-dimensional world that allows the user to direct and change the virtual world produced by computers. Virtual reality clinical practices can be used in addition to traditional teaching methods due to the high number of students, insufficient clinical learning environments and ensuring patient safety. Virtual reality, which has become popular in education, provides the opportunity to solve the difficulties experienced while applying the theoretical knowledge and reach more students in a short time. With virtual reality clinical learning, students can gain knowledge and skills on rare situations that occur in real life. Virtual reality is an effective learning method that reduces the anxiety experienced by students, improves their skills and increases their self-confidence, as it allows the unlimited practices of clinical scenarios in a risk-free area.

Günay İşmailoğlu and Zaybak examined the intravenous catheterization application on the simulator and arm method of the students in a study; they concluded that the skills and satisfaction scores of the students who received simulator training were higher. In a study in which Padilha et al. evaluated the views of student nurses who had applied simulation before graduation, it was concluded that the students found the simulation application useful and facilitating. Simulation methods enable students to practice using their knowledge and skills, to re-apply when they make a mistake, to increase clinical skills and reduce error rates, to ensure patient safety, to create a fun learning environment, to enable them to discover their fears and anxieties during the transition to the clinic, to help develop communication skills and to give feedback to the student. However, although simulation clinical practices are an effective teaching method, they are not as effective as applying to real patients. For this reason, it is recommended to organize training programs that can be used by integrating with real clinical environments.

HYBRID SIMULATION-BASED LEARNING
It is a teaching method in which a task-instructive method is used to create scenario-based simulation and a standard patient consisting of healthy individuals who are trained for clinical scenarios and who act. Hybrid simulation, besides preparing student nurses for clinical training and ensuring patient safety, enables students to gain a holistic and versatile approach with the sense of reality it creates. Scenario trainings used with high-reality simulators enable student nurses to determine the interventions that they can care for according to the needs of patients, gain problem-solving skills, make teamwork, better understand complex patient problems and gain critical thinking, clinical judgment and decision-making skills. The use of hybrid simulation in nursing education will benefit student nurses in terms of facilitating their clinical transition, preventing harm to the patient, reducing their anxiety, increasing their self-efficacy levels and satisfaction.

LEARNING WITH DISTANCE TOOLS
It is a technique in which expensive equipment is used via remote computers and software. It creates the opportunity to work outside of classroom or laboratory hours.

INQUIRY-BASED LEARNING
Unlike the rote-based system, this method enables students to focus on real-world problems and conduct research as a result of curiosity, exploration and experience. Educators provide opportunities and support for students to question themselves, search for meaning, solve problems and think critically. In a study conducted by Theobald and Ramsbotham on nursing students, it was concluded that the inquiry-based teaching method enables student nurses to think like clinical nurses.

REFLECTIVE WRITING
By enabling the individual to hear his inner voice and create deep meaning, it encourages the individual to develop belief and identity and increase social relations. Reflective writing is a method in which students can easily express their ideas, cease to be dependent on authority and find the opportunity to
learn by hearing their own voices. It is aimed to reveal the thoughts behind students’ decisions and actions and to provide meaningful learning.

**PEER-BASED LEARNING**

It is a teaching method in which students’ work is evaluated and feedback is given by their friends in the classroom or through a web-based program. In this teaching method, students with equal status share information and actively participate in the process by guiding, discussing and giving feedback to each other. Peer-based learning; it differs from classical education due to features such as power imbalance and absence of hierarchy and bidirectional transfer of knowledge from student to student. With peer assessment, students’ skills, performance, autonomy, responsibility and desire increase.

**BLENDED LEARNING**

It is a teaching technique in which students are supported with online materials outside of the classroom while attending classes in the classroom and face-to-face learning and online learning are used together. Thanks to the blended learning method, unlimited academic content can be accessed, information is spread to a wide audience at low cost and it creates learning opportunities as a result of information sharing between educators and students. In a study they conducted, it was concluded that blended learning increased student nurses’ case analysis skills and satisfaction. The blended learning method is recommended to be used in the curriculum as it increases the collaborative working and critical thinking skills and self-efficacy of student nurses.

**FLIPPED LEARNING**

It is a method in which learning activities outside the classroom and in-class learning activities are used together. Out-of-class learning takes place through student self-control and in-class learning occurs through cognitive activities in which students interact with each other and use decision-making and problem-solving techniques. Being a collaborative and interesting learning environment for students facilitates students’ learning and enables them to enjoy it. With the flipped learning technique, students gain self-learning experience and their ability to take responsibility increases. For this reason, it is recommended to be used in course content based on knowledge and comprehension.

**COLLABORATIVE LEARNING**

Cooperative learning; it is an educational method that increases students’ self-confidence, improves their problem-solving, communication and critical thinking skills and motivates students. Cooperative learning which is an innovative learning approach against traditional teaching techniques; it aims to ensure that nursing education is sufficient in terms of knowledge and skills and to train nurses who have adopted the role of professional nursing and are committed to their professional values.

The World Health Organization stated the need for cooperation among healthcare professionals and published the statement “learning together to work together” in 1988. It is an effective method in the development of psychomotor skills of nursing students and it also reduces the number of student nurses per educator by increasing students’ academic success, critical thinking and problem-solving skills. It also facilitates the transition of students from the classroom environment to the clinical learning environment. In a study by Baghchehgi et al., it was seen that students in the cooperative learning group had significantly higher communication skills with patients compared to the traditional learning group.

Collaborative teaching methods should be used in order to permanently change students’ behaviors and develop cooperation skills. In cooperative learning, there is solidarity within the group. The student takes responsibility as individual performance affects the group. There is a group spirit because the students who make up the group have similar qualifications. Working together with a group enables students to communicate effectively and satisfactorily, to develop empathy and sense of belonging. In cooperative learning, the teacher is a guide and facilitator. They encourage students and increase their social skills. Exchange of ideas with students ensures that their knowledge is permanent and they learn effectively. When students succeed in their tasks, their motivation is increased by giving rewards and students work harder...
to achieve. Cooperative learning is effective in the development of cognitive, affective and psychomotor skills and knowledge as it enables students to participate actively in the learning process.61 In a study by Saunders et al., it was concluded that the cooperative learning method increased students’ motivation, reduced their anxiety, created a sense of responsibility towards their colleagues, improved teamwork skills, performance and communication skills.65 The cooperative teaching method is suitable for the current nursing curriculum and is a pedagogical teaching method.66

TEAM-ACHIEVEMENT GROUPS
In this method developed by Slavin, students are divided into groups of 4-5. They work in pairs with the materials prepared by the teacher and correct their mistakes by comparing and discussing their answers. Groups are rewarded when they achieve their goals.66

TEAM-GAME-TOURNAMENT
Students who are at the same level in different groups compete. In this method, where there are question cards with the same content, students take turns drawing cards, read aloud and answer the question. When the cards are finished, the tournament ends and students are given one point for each correct answer.67

TEAM SUPPORTED INDIVIDUALIZATION
Groups of four people with different abilities are formed. Students work on the unit with a friend of their own choosing and then take a test. They give test scores by evaluating each other’s answer sheets and the team score is determined by adding the scores of the students every week.66,68

LEARNING TOGETHER METHOD
Students divide into groups of 2-6 people and work using materials related to the subject to be covered. In order to produce a product, the groups try to find solutions to the problems they face together and if necessary they get help from their teachers. The main aim of the students is to make their groups successful.66,68

READING-COMPOSITION METHOD
Students are divided into reading groups and teams of two are determined from each group. Reading aloud, summarizing, asking questions, guessing and writing stories and compositions are evaluated by their performance.68

MUTUAL INQUIRY METHOD
After the topic is covered, the students divide into groups of 2-3 and ask each other questions about the topic covered. This method, which is more productive than the traditional discussion group, enables students to think more deeply about the subject.68

COLLABORATION-COLLABORATION METHOD
The groups formed by the teacher read the topic silently and prepare questions about the topic. From these questions shared within the group, the group’s questions are created and sent to other groups. The answers to the group’s questions are conveyed to the class by the group spokespersons. All students take individual exams and successful groups are rewarded.60,68

ACADEMIC CONTRADICTION METHOD
Students divide into groups of four and organize each other based on the same idea. Afterwards, the group splits into pairs and defends opposing views. Eventually, they meet at a common point and create a group report. All students take individual exams.69

JIGSAW TECHNIQUE
Students are divided into groups of 5-6 people. The subject to be studied is divided into sections as much as the number of students in the group and each student chooses a section. Students who choose the same department in different groups first work individually, then come together to form expert groups. Expert groups discuss and explain the issue and disperse and explain it to their group mates. After all the subjects in the group are explained, they take an individual exam.70 According to a study by Renganathan, the jigsaw technique enables students to develop their communication, critical thinking, problem-solving skills and social relations.71 In Filiz’s study, it was concluded that the jigsaw technique is more effective than the traditional learning method in increasing the academic success and skill performance of students.70
GAME BASED LEARNING

Game, it is an interesting pedagogical method that offers the widest learning opportunity beyond entertainment. Games motivate students, increase their participation in the lesson and provide practicality in theoretical and practical skills. The use of games in nursing education helps students see their progress, get feedback on their individual and group performances, socialize and understand the importance of working with a team. Students’ achievement of goals in games increases their self-esteem.

In a study conducted by Del Blanco et al. on nursing and medical students, it was concluded that the game reduces the fear of making mistakes and provides a cooperative attitude.

CASE-BASED LEARNING (CBL)

It is a teaching method in which nursing students’ skills of working together, problem solving and holistic approach to events are developed and they have permanent knowledge by working on real-life cases with the collaboration method. Thanks to the CBL technique, nursing students can compose theoretical knowledge and practices, become professional in critical thinking and decision-making, acquire social and cognitive skills and gain self-confidence with their habits of working together.

In a qualitative study conducted by Altunbaş and Derya İster in which the views of nursing students on the CBL technique were evaluated, the students stated that they needed to obtain information from many sources and that they made this information permanent by establishing relationships with real-life problems.

CONCLUSION

Factors such as technological advances and the globalizing world and the processing of information, changing needs and expectations affect the nursing profession, which is intertwined with people and nursing education is of great importance in order to adapt to the changing world. Educating professional nurses, who constitute an important and large part of health care services, in terms of professional behavior, cooperation and effective communication skills, psychomotor skills and knowledge will increase the quality of nursing care. Again authentic learning contributes to students’ acquisition of knowledge, perspective development, cooperation, communication and self-expression. In order for nursing students to gain the roles required by the profession, it is necessary to adopt a systematic nursing education that includes cognitive, affective and psychomotor skills. Authentic and collaborative learning in which students are actively involved and work in groups instead of rote-based undergraduate education; they will contribute to the development of health services in terms of increasing the academic success of nursing students along with their professional knowledge and skill performance, improving their critical thinking, problem solving and interpersonal skills and enabling them to receive quality and professional nursing education. No teaching technique is the most effective for achieving every set goal. However, using multidimensional teaching techniques together in a course is an effective approach to achieve all the determined goals.

Today, where knowledge, skills and behaviors are constantly renewed, the differentiation of generations also causes the learning styles of nursing students to change, and it is important to design nursing education in accordance with the age.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

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