ORIGINAL ARTICLE

A comparative study on the effect of lecture-based education, role-playing and learning through peers on learning and satisfaction of nursing students in Zanjan University of Medical Sciences

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دراسة مقارنة حول تأثير التعليم القائم على المحاضرات ولعب الأدوار والتعلم من خلال الأقران على التعلم ورضا طلاب التمريض في جامعة زنجان للعلوم الطبية

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Background: In educational programs, two general teaching models are proposed; A master-centered pattern in which the master is the all-encompassing fulcrum. In this model, learners learn and soon forget. Another model that pays special attention to the learner, their needs and abilities is called student-centered. Due to the fact that different people learn in different ways, to achieve better results, therefore, it is necessary not to use only one method in classrooms.

Method: This Quasi Experimental study was performed on nursing students during the first semester of 2018-2019 in Zanjan School of Nursing and Midwifery in one unit of the Adult / Elderly 3 course (neurology). Thus out of 8 sessions, two sessions were presented by lecturing method, three sessions by using peer learning model and three sessions by role-playing method. At the end of the sessions, a satisfaction questionnaire was completed by the students and a test was taken to assess the students' learning.

Results: The results showed that the students had the highest satisfaction in role playing with the mean and standard deviation of $22/23 \pm 11/21 (p < 0/001)$. The mean of Examination scores in different training methods had no significant difference.

Conclusion: The use of, Role playing method was created more satisfaction in nursing students.

Keywords: Learning, Lecture, Role playing, Satisfaction

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الخلفية: في البرامج التعليمية ، تم اقتراح نموذجين تعليميين عامين ؛ نمط متمحور حول السيد يكون فيه المعلم هو نقطة الارتكاز الشاملة. في هذا النموذج ، يتعلم المتعلمون وسرعان ما ينسون. النموذج الآخر الذي يولي اهتماماً خاصاً للمتعلم واحتياجاته وقدراته يسمى التمحور حول الطالب. نظراً لحقيقة أن الأشخاص المختلفين يتعلمون بطرق مختلفة ، لتحقيق نتائج أفضل ، فمن الضروري عدم استخدام طريقة واحدة فقط في الفصول الدراسية.

الطريقة: أجريت هذه الدراسة شبه التجريبية على طلاب التمريض خلال الفصل الدراسي الأول ٢٠١٨-٢٠١٩ في مدرسة زنجان للتمريض والقبالة في وحدة واحدة من دورة الكبار / المسنين ٣ (علم الأعصاب). وهكذا ، من أصل ٨ جلسات ، تم تقديم جلستين بطريقة المحاضرة ، وثلاث جلسات باستخدام نموذج التعلم من الأقران وثلاث جلسات بطريقة لعب الأدوار. في نهاية الجلسات ، تم إكمال استبيان الرضا من قبل الطلاب وتم إجراء اختبار لتقييم تعلم الطلاب.

النتائج: أظهرت النتائج أن الطلاب حصلوا على أعلى درجات الرضا في لعب الأدوار بالمتوسط والانحراف المعياري ٢٣/٢٢ ± ٢١/١١ (p ٠٠١/٠>). لم يكن هناك فرق كبير بين متوسط درجات الامتحان في طرق التدريب المختلفة.

الخلاصة: أدى استخدام أسلوب لعب الأدوار إلى زيادة الرضا لدى طلاب التمريض.

الكلمات المفتاحية: التعلم ، المحاضرة ، لعب الأدوار ، الرضا

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بررسی مقایسه ای به تأثیر آموزش به روش سخنرانی، ایفای نقش و یادگیری از طریق همتایان بر یادگیری و رضایت دانشجویان پرستاری در دانشگاه علوم پزشکی زنجان

زمینه و هدف: در برنامه‌های آموزشی، دو الگوی کلی تدریس، مطرح می شود؛ الگوی استادمحور که در آن استاد نقطه اتکای فراگیر است. در این الگو فراگیران مطالب را می‌آموزند و زود هم فراموش می‌کنند. الگوی دیگر که به فراگیر، نیازها و توانایی‌های او توجه خاص دارد، دانشجومحور نامیده می‌شود. با توجه به اینکه یادگیری در افراد مختلف به روش های متفاوتی می باشد لذا لازم است در کلاس های درس جهت حصول نتیجه بهتر فقط از یک روش استفاده نشود.

روش: این مطالعه به روش نیمه تجربی بر روی دانشجویان پرستاری طی نیمسال تحصیلی اول ۹۸-۹۷ در دانشکده پرستاری و مامایی زنجان در یک واحد از درس بزرگسالان/سالمندان۳ (اعصاب) انجام شد، بدین ترتیب که از ۸ جلسه، دو جلسه به روش سخنرانی، سه جلسه با استفاده از الگوی یادگیری از طریق همتایان و سه جلسه نیز به روش ایفای نقش ارائه شد. در پایان جلسات، پرسشنامه رضایتمندی توسط دانشجویان تکمیل شده و برای بررسی یادگیری دانشجویان در پایان دوره آموزشی، آزمون به عمل آمد.

یافته ها: نتایج نشان داد که دانشجویان از روش ایفای نقش با میانگین و انحراف معیار ۲۲/۲۳ ±۱۱/۲۱ به طور معنی داری بیشترین رضایت را داشتند(p<0/001). میانگین نمرات امتحان در روش های مختلف آموزشی تفاوت معنی داری نداشت.

نتیجه گیری: استفاده از روش ایفای نقش رضایت بیشتری را در دانشجویان پرستاری ایجاد کرده بود.

واژه های کلیدی: ایفای نقش، رضایت، یادگیری، سخنرانی

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زنجان یونیورسٹی آف میڈیکل سائنسز میں نرسنگ طلباء کے سیکھنے اور اطمینان پر ساتھیوں کے ذریعے لیکچر پر مبنی تعلیم، کردار ادا کرنے اور سیکھنے کے اثرات پر ایک تقابلی مطالعہ

پس منظر: تعلیمی پروگراموں میں، دو عمومی تدریسی ماڈل تجویز کیے گئے ہیں۔ ایک ماسٹر سینٹرڈ پیٹرن جس میں ماسٹر تمام محیط فلکرم ہے۔ اس ماڈل میں، سیکھنے والے سیکھتے ہیں اور جلد ہی بھول جاتے ہیں۔ ایک اور ماڈل جو سیکھنے والوں، ان کی ضروریات اور صلاحیتوں پر خصوصی توجہ دیتا ہے اسے طالب علم پر مبنی کہا جاتا ہے۔ اس حقیقت کی وجہ سے کہ مختلف لوگ مختلف طریقوں سے سیکھتے ہیں، بہتر نتائج حاصل کرنے کے لیے، اس لیے ضروری ہے کہ کلاس رومز میں صرف ایک طریقہ استعمال نہ کیا جائے۔

طریقہ: یہ نیم تجربی مطالعہ ۲۰۱۸-۲۰۱۹ کے پہلے سمسٹر کے دوران زنجان اسکول آف نرسنگ اینڈ مڈوائفری میں بالغ / بزرگ ۳ کورس (نیورولوجی) کے ایک یونٹ میں نرسنگ طلباء پر کیا گیا تھا۔ اس طرح ۸ سیشنز میں سے دو سیشن لیکچرنگ کے طریقہ کار سے، تین سیشن پیر لرننگ ماڈل کا استعمال کرتے ہوئے اور تین سیشن رول پلے کے طریقے سے پیش کیے گئے۔ سیشن کے اختتام پر، طلباء کی طرف سے ایک اطمینان بخش سوالنامہ مکمل کیا گیا اور طلباء کے سیکھنے کا اندازہ لگانے کے لیے ایک ٹیسٹ لیا گیا۔

نتائج: نتائج نے ظاہر کیا کہ طلباء کو ۲۳/۲۲ ±۲۱/۱۱ (p۰۰۱/۰) کے اوسط اور معیاری انحراف کے ساتھ کردار ادا کرنے میں سب سے زیادہ اطمینان حاصل ہوا۔ مختلف تربیتی طریقوں میں امتحانی اسکور کے اوسط میں کوئی خاص فرق نہیں تھا۔

نتیجہ: رول پلے کے طریقہ کار کے استعمال سے نرسنگ طلباء میں زیادہ اطمینان پیدا ہوا۔

مطلوبہ الفاظ: سیکھنا، لیکچر، کردار ادا کرنا، اطمینان

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INTRODUCTION

In educational programs, two general teaching models are introduced; a teacher-centered model in which the teacher is the all-encompassing fulcrum with the goal of shaping behavior based on a predetermined pattern. In this model, learners learn and soon forget. Another model that pays special attention to the learner, his needs and abilities is the student-centered method (1). Despite the fact that the lecture method is common in most Iranian universities, about 80% of the teachings provided by this method are forgotten within 8 weeks (2).

Learning by lecturing is inevitable for everyone at some point in time, because it is a good tool for providing basic information and transferring experimental sciences, and even in some cases, the most appropriate teaching method. But in this method, the student is not given the opportunity to think, which is essential in learning. therefore, in recent decades, the need to revise traditional teaching methods and use new and active methods of learning and student-centered by educational systems, has been felt and the use of these methods in various sciences, including medical sciences, has become common. In the traditional teaching method, those who are actively involved in the discussion in the classroom are handful, which means that the majority are just listeners. It seems that student-centered education can increase students' satisfaction, accelerate learning, develop problem-solving skills, and continue learning and critical thinking (1).

One of the student-centered methods is role-playing, which is widely used for training. In this way, the person puts himself in the desired situation and behaves as needed, thus he learns how to deal with situations and problems in certain situations. In role-playing, the four elements of thinking, emotions, insight and action are involved, and these factors together increase the impact of role-playing in education. As a problem-based learning method, it also increases learners 'ability to face situations, make decisions, interpret situations and think critically. Role-play learning reduces anxiety and also increases learners' confidence (2).

The results of a study by Robinson et al In 2009 showed that 45% of students considered role-playing to be like real life and 23% received effective feedback from the implementation of this method. In addition, this method increased students' understanding of individual self-confidence, developed creative thinking and enhanced the level of satisfaction with learning in them (3).

In a qualitative study, in 2012, asking nurses and patients about the role-playing approach, the main themes derived from the situation were: understanding, trust, respect, honesty, building good interpersonal relationships and power, Ability and open-mindedness, the conclusion was that the use of role-playing between patient and nurse can enhance the performance of predicted treatment outcomes (4).

In another quasi-experimental study conducted at Hamadan University of Medical Sciences in 2015. The results showed that the use of role-playing method improved communication skills in the beginning, during and the end of communication and caring behaviors of undergraduate nursing students (5)

There are other ways to help students learn and strengthen their comprehension; one of these methods is learning through peers (6) which is defined as the development of knowledge and skills through active help and support between people at the same level. In this way, students help each other learn through teaching their peers; In fact, students actively participate, learn from each other, and take responsibility for their own learning (7). One of the methods that can provide peer learning in students is the use of conference presentation method by students. In this method, teaching through the class conference method gives students the opportunity to actively participate in education by presenting a part of the topic and also by asking questions, and by using this method, the possibility of more students participating compared to it is provided by the method of teaching lectures (8). As in the study of Adib Haj Bagheri and colleagues, teaching by students was associated with more satisfaction and learning for students than the Master's lecture method (9).

However, other different views have been reported in the studies. Despite the students who played the role of instructor and educator, they felt that they learn even better than when they are taught by a teacher; But, other students were not satisfied with their peer education and considered this method of education without sufficient and incomplete details and in their opinion, they would have learned better if the same subjects were taught by the teacher (10).

In education, the teacher tries to transfer his knowledge to the students, but the students each have their own characteristics, and this means that a special educational method does not meet the learning needs of all students. Therefore, a variety of styles is needed in order to transfer knowledge according to teaching and learning situations (11). It seems that the results of most researches instead of one method are in favor of patterns which are obtained by combining several methods (12). In any country, an effective and efficient education system can help the progress and growth and prosperity of that country, so the importance and role of a country's education system cannot be ignored; therefore, countries must develop and implement policies to improve the level of education of individuals and help them to play an effective role in the growth and development of the country. Depending on whether the educational policies, in order to create effective learning, are desirable or undesirable, the success and academic achievement of individuals can also be high or low. Researchers have stated that high academic achievement is a privilege for any country (13). On the other hand, academic failure is a threat to students' future careers and a factor that increases social spending in government, such as lack of productivity, increasing the need for social services; Researchers must therefore identify possible obstacles to individuals' academic success and achievement and offer possible solutions (14).

Since the academic achievement of individuals is one of the important indicators in educational evaluation and indicates the degree of achievement of educational standards and goals, the Theoretical and internship of this course is

presented by the researcher, in previous courses, the course unit was presented only in the form of a lecture by the teacher, and the result was that not only the end-of-semester grades dropped significantly but also the students in the internship unit performed poorly and did not recall nursing care for Common diseases, Therefore, this study, considered the importance of using different educational methods in increasing the quality of education and student satisfaction, as well as with regard to the lack of a study that has compared these three methods in the field of nursing, the aim of this study was to compare the effect of lecture-based education, role-playing and peer learning on learning and satisfaction of nursing students in the theoretical unit of neurological nursing in Zanjan School of Nursing and Midwifery.

METHODS

This study was performed during the first semester of 1397-98 in Zanjan School of Nursing and Midwifery in Adult and Elderly Internal Medicine and Surgery 3 (Neurology Lesson) The quasi-experimental method of repeat the test was performed by census on 6th semester 42 nursing students. In order to implement the training course at the beginning of the semester, a copy of the lesson plan was approved by the Education Development Office (EDO), which includes educational goals and learning expectations, student assignments, facilities needed to deliver the course, course resources, assessment method, and timeline for presenting topics throughout the course. It was provided to the students by the instructor and the lesson was explained to them; thus, in teaching these three sessions as a teacher's lecture, three sessions were presented using the learning model through peers in the form of compiling and presenting class conferences by students and three sessions were presented through role-playing method. Subjects such as Myasthenia Gravis's disease were selected for the role playing, which could be presented in a role-playing manner. In general, the sessions were divided according to the nature of the sessions, for example, sessions in which the students could play a role, such as Myasthenia Gravis, Multiple Sclerosis, or Glenn Barre by role-playing, and purely theoretical sessions such as increased cranial pressure, anatomy and physiology and seizures which were presented as lectures by the instructor and the student conference.

In the class conference method, after the topic was selected and referenced by the instructor, the students were divided into groups of five. All members of each group were required to have a consultation session with the instructor in person at the appointed hours. The group was prepared for the content of the conference to present the material in order to emphasize and summarize the important material. On the day of the presentation, the other students' information about the disease was first weighed and their answers were recorded on the whiteboard, then all members of the conference group presented their content using PowerPoint and whiteboard. When the instructor noticed that something was not being said, the group were asked questions or pointed to clinical examples to complete.

In the method of role playing of three-person groups, in the counseling session between the students and the instructor,

the source was determined and the scenario and the issues that should be emphasized were discussed.

On the day of the presentation, the students played the role of patient, physician, and nurse. In this way, the patient imitated the symptoms. After presenting the pathophysiology of the disease, the doctor used whiteboards and PowerPoint to interpret the radiological images and diagnostic tests, performed physical examinations and recorded the treatments on the whiteboard, stating the reason. The nurse then trained or administered nursing care. Diseases such as multiple sclerosis, myasthenia gravis, and Parkinson's were selected for the role, with the patient being able to show symptoms in practice, and topics such as brain surgery or unconscious patient care that could not play a role were not selected. The instructor was present in the classroom to create a suitable atmosphere for the students to present and at the end of each session, summarized the material and answered some questions that the providers were unable to provide a full explanation. The students' satisfaction questionnaire was completed three times at the end of the sessions of each educational method.

Data collection tools were a satisfaction questionnaire and a written final exam. The Satisfaction Questionnaire, which has been used in previous studies (15), consists of two parts: demographic information including (gender, age and average grade point up to the previous semester) And 8 questions (facilitating comprehension and memorization of content, creating more interest and motivation in students to study, being effective and useful in understanding the content, having enough charm and excitement, encouraging participation in the class, feeling more responsible for learning, The tendency to repeat the method, better quality of learning) is and students expressed their views on the questionnaire expressions based on a five-point Likert scale from strongly agree (5 points) to strongly disagree (1 point). The average minimum score was 8 and the maximum score was 40 (15). The face and content validity of the questionnaire were determined by 6 faculty members and its reliability was calculated using Cronbach's alpha coefficient of 0.94. To assess students' learning at the end of the training course, 36 item test was conducted that tried while covering the content of the courses, the number of questions in the topics of all three presentation methods was considered to be the same. Each type of training method included 12 points. Information and data collected were analyzed by SPSS.V.16 software using descriptive statistical tests and Chi-square and Friedman tests. The proposal of this article has been registered in the National Center for Strategic Research in Medical Education (NASR) of the Ministry of Health as an innovative proposal with the code 972294, which is also the code of ethics.

RESULTS

The results of descriptive statistics showed that among 42 samples, 22 (52.4%) were girls and 20 (47.6%) were boys with a mean age of 21.42 ± 1.12. The mean grade point of the previous semesters was 16.89± 2.18. Friedman test was used to compare the mean of student satisfaction in three educational methods and the results showed that there is a

significant difference between the three methods in terms of satisfaction (P<0.001), in this way, students were most satisfied with the role-playing method with a mean and standard deviation of 22.23 ± 11.21. The lecturer method with an average of 18 ± 8.26 and the learning method through peers with an average of 15.42 ± 7.28 were in the second and third priority.

The results for the various domains of satisfaction are summarized in Table 1 and shows that in the field of being satisfied with the quality of education, facilitating comprehension and memorization of content, better quality of learning, creating more interest and motivation to read in students, being effective and useful in understanding the content and having sufficient attractiveness and excitement significantly, Playing the role had the highest average. There was no significant difference between the three educational methods in terms of encourage class participation, feeling of more responsibility for learning in students and the tendency to repeat the method.

The results of measuring learning using Chi-square test showed that the mean score of the topics presented as role-playing was 10 ± 4.2, the questions of the lecture section were 9.6 ± 2.2 and the mean score of the student conference section was 10.3 ± 3.3 which were not significantly different (p = 0.1).

The results related to the preference of one of the educational methods are shown in Figure 1 and analytical statistics using chi-square test showed no significant difference between the three methods (P = 0.1).

DISCUSSION

The results of the present study showed that students' satisfaction was higher through role-playing, lecturing and learning through counterparts, respectively, and in different areas of satisfaction in most cases role playing had more points but the two methods of lecturing and learning through peers in some areas had also attracted student satisfaction. According to the researcher, because there was a fun aspect of teaching and storytelling in the method of role-playing, the students were present in the class with more enthusiasm.

The researcher did not find a study that specifically compared these three methods, however in a study in Jahrom with the aim of comparing the two methods of role playing and group discussion, the results showed that both educational methods are effective in promoting the ability of interns in transferring bad news, however, the educational method of role playing is more effective than the group discussion method, which is completely in line with the results of the present study (16).

Another study aimed to compare the effect of learning through counterparts with lecture method on anesthesia students' learning in 1992 and the results showed that there is no significant difference between the two methods in terms of learning. Also, the results of students' satisfaction
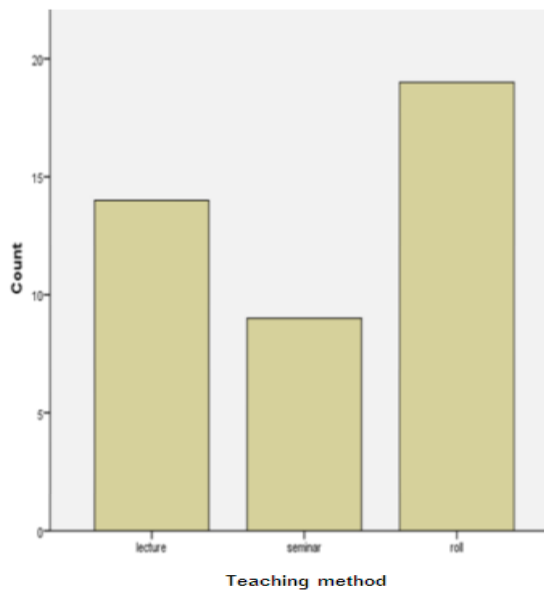

Figure 1. A comparison chart of preference between the three methods of lecturing, peer learning and role-playing in the view of nursing students

Table 1. Comparison table of mean and standard deviation of three methods of lecturing, learning through peers and role playing in various areas of nursing students' satisfaction				
Phrases	**Lecture**	**learning through peers**	**Role playing**	**Friedman statistical test**
	Mean (SD)	**Mean (SD)**	**Mean (SD)**	
Encourage to participate in class	1.76 (0.9)	2.30 (1.27)	1.9 (1.12)	0.1
Feeling more responsible for learning content in students	2.04 (0.9)	2.23 (1.33)	2.14 (1.04)	0.1
Satisfied with the quality of education	2.14 (1.07)	1.66 (0.92)	2.73 (1.38)	0.01
Tend to repeat the procedure	1.97 (1.27)	1.95 (1.16)	2.59 (1.51)	0.1
Better quality of learning	1.85 (1.00)	2.04 (1.03)	2.59 (1.36)	0.05
Facilitate understanding and remembering content	1.83 (0.82)	2.02 (1.07)	2.47 (1.29)	0.02
Create more interest and motivation to read lessons in students	1.85 (0.89)	1.73 (0.88)	2.45 (1.43)	0.01
Effective and useful in understanding the contents	2.16 (1.36)	2.45 (1.40)	2.88 (1.54)	0.03
Having enough charm and excitement	2.78 (1.57)	1.97 (1.27)	3.02 (1.73)	0.02

with the teaching method by students showed that most students were satisfied with the method of presenting class conferences. However, in this study, the results of analytical statistics were not mentioned (15).

Many advanced universities that have used different methods to improve communication skills have concluded that role-playing is an appropriate educational method for strengthening attitudes (17). Also, there was a significant difference between the effect of teaching by role-playing method (18). In this regard, Jeffries and colleagues also wrote, although active teaching methods may not have much effect on student scores in comparison with lectures, it increases self-esteem, satisfaction with learning and cognitive abilities of students (19). Other advantages of this method are assignment and responsibility for education and learning to students, it also teaches students to learn by helping each other and in this way, it increases their learning and academic skills and emotional social achievements and their personality and intellectual development (20). In fact, in another study, students in the counterparts group also agreed to many of the benefits of this method as a teacher and as a student (21).

In another study, Curran and colleagues identified Interaction factors in the method of learning based on group discussion It showed important effects on interests, learning and satisfaction of students including medical students, nursing, pharmacy and social medicine. They also measured students' perceptions of the learning process in small groups. The results showed that all students of different disciplines expressed more satisfaction with face-to-face learning in small groups (22). In fact, the highest value of participatory learning is that a way to commit learners is beneficial and serious learning that comes with genuine tasks and homework in a social environment (23).

In terms of different areas of satisfaction, in some cases, the role playing and in some areas were the most satisfactory learning through counterparts and lectures. This indicates that according to individual students' differences, the combined use of instructor and student methods will have a better effect. Several other studies have also referred to similar results (24-26), given that the hybrid approach has a lot of flexibility to access to resources, communication between instructor and student, performing and providing homework for students. As a result, they are more satisfied with the training method. The diversity of content provision methods and as a result of meeting the various needs of learners, all can strengthen the satisfaction of learners (27). Of course, relying on some studies, if students have a lot of ability to learn independently, a combination learning space

can help grow self-confidence and as a result, the satisfaction of this group of students will grow dramatically in periods that are implemented in this way (26).

In the case of learning the results showed that there was no significant difference between the three methods, while the results of the study of Shahsavari showed that the method of role playing and learning based on problem solving caused increased learning (28) that is contradictory with the present study result but it should be noted that in the study done by Shahsavari, the practical unit was used and some of the methods were different from this study method. Perhaps this conflict is due to the optimal and quality implementation method in three groups. The results of two other studies also showed that there is no difference in learning between traditional methods and compilation methods (26, 29), which is in line with the present study results.

The limitations of this research are the low number of sample size and lack of long-term learning. However, according to students' satisfaction, the implementation of student-based methods is proposed. Therefore, this educational method should used in other groups and in different courses and the effect of implementing this educational method be checked in two groups of control and case and with long-term learning assessment.

According to the results, students' satisfaction with participatory methods, such as role playing greater is more than lecture and learning through counterparts, and since teaching is not just a one-way transfer of information but an interactive and collaborative process between teacher and student, it is better to use student-centered teaching methods in the classroom.

Ethical considerations

Ethical issues including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc. have been completely observed by the authors.

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