



Nursing Students' Experiences from Two Methods of Teaching: Film Preparation and Demonstration of Physical Examinations

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ABSTRACT

Introduction: Enabling students in their learning can help them improve their critical thinking skills and problem-solving activities through non-traditional teaching methods. Since there is no guarantee for the effectiveness of the implementation of a new teaching method, the current study aimed at exploring the understanding of nursing students about the methods of film making and the demonstration of physical examinations. **Methods:** The current study was conducted on 40 undergraduate nursing students in Dezful Nursing College selected by the purposive sampling method. First, the data were collected using the unstructured interview. Then, the content of the interviews was analyzed by the conventional content analysis method. **Results:** Based on the results, four main categories including the perceived influence, facing film making challenges, the acceptance of applying the demonstration teaching method, and the functional weaknesses in addition to nine categories such as teamwork promotion, improving memory retention, the teaching attractiveness, the limitations of the film making, the poor quality film, the teaching easiness, the tangibility of the presented content, monopolizing the mastery over the content, and the flawed presentation of physical examinations were extracted. **Conclusion:** The students' experiences indicated that any of the methods, film preparation and demonstration, had different positive and negative characteristics. A better teaching method for deeper learning among the students can be provided by modifying the defects of these methods, or merging them.

Key Words: physical examination, Nursing, Student, Qualitative Content Analysis.

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INTRODUCTION

Increasingly, expanding the medical knowledge and changing the learning approach from teacher-centered to self-centered learning in higher education have provided a new responsibility for teachers and students, to choose the most appropriate learning method [1].

Currently, most of the world's universities are seeking educational methods, which enhance the power of clinical decision-making, and continuous and self-centered learning among the students [2].

The relationship between education and nursing services has been continuously strengthened in nursing education. If nursing education breaks time and space, and goes toward innovations, development and the use of new

teaching and learning methods can maintain its dynamism [3].

Physical examination has been regarded as one of the main lessons in nursing curriculum. According to the approval of the meeting of the Supreme Council for the Planning of Iran in 1995, this lesson was included in the nursing students' curriculum in order to acquaint the students with the process of checking and identifying patients' problems, which consisted of one theoretical plan (17 hours) and one clerkship plan (64 hours). By revising the curriculums on July 16th, 2005, according to the approval of the Supreme Council meeting for the Planning of Medical Sciences, this course changed to 0.5 theoretical plans (nine hours) and 0.5 practical plans (17 hours) [4]. Therefore, there was no possibility of

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repetition and practice in this limited time for students, and some methods should be found to move the presentation from the absolute teacher-centered toward the student-centered to compensate this curriculum defect by engaging students during the learning process. Thus, students needed to support and continue to practice the physical examinations [5, 6].

In this regard, the researcher, along with the opinion of the educational team of the college, decided to implement two educational methods, namely, film preparation and demonstration, on the students in order to engage them during the learning process of physical examination.

The video can play an important role in education. The film, as an attractive and influential media, can attract the audience in different ways and directly and indirectly make education possible. The position of the film in the educational system is undeniable, and the employment of educational films is spread in the developed countries in various ways through television networks, cable TVs, and video networks [7, 8].

A lot of studies have been conducted on the benefits and effects of educational videos in learning. Boulmetis, in his proposed pyramid for learning, represented that people remember 10%, 20%, 30%, 50%, 70%, and 90% of what they read, hear, see, see and hear, say, and do and say; respectively [9].

The demonstration presentation has been another teaching method, which most countries use it to teach skills in nursing colleges and maybe it is regarded as the method of choice to educate skills [6]. This method has been a traditional and current method of educating psycho-motor and professional skills based on hearing and seeing. Students learn specific skills through observation. First, the teacher practically does a workflow in front of the learners. Then, the learners do the same thing by themselves [10].

Usually, the teacher uses these methods to teach in the classroom. In the current study, nursing students were prepared and trained to apply these methods to train the course of checking health status in the classroom.

- However, the implementation of a new teaching method does not guarantee its effectiveness. Different researchers believed that it is important and efficient to study the individuals involved in the experience when considering programs [11, 12]. Students who used this approach needed to explore the experiences of the ones involved in its application. To this end, conducting a qualitative research to discover the real experiences of the participants can provide a clear understanding of the situation available for the researcher. Streubert and Carpenter (2011) stated that the qualitative studies often needed

topics that are less considerable and comprehensible while no proper and adequate information has been available in this respect. In addition, some studies have been designed to answer questions about human experiences, discovering motives, attitudes, reactions, and perception, which have been appropriate to indicate the research questions focusing on people's needs, responses, and experiences [13]. Hence, in order to implement new educational methods, the qualitative content analysis method was used in response to the question "What is the opinion of undergraduate nursing students about the advantages and disadvantages of film preparation and the demonstration of physical examination?"

METHODS

The qualitative research was conducted using a conventional qualitative content analysis approach. The sampling was performed through the purposive method among second-semester nursing students in Dezful Nursing College. Purposive sampling means that the participants in the current study were the students that took the course of checking the health status in the second semester of undergraduate nursing and desired to share their experiences. Exclusion criteria included the students that already took the unit, but did not obtain a pass mark. These students were excluded from the research and referred to the semiology class of medical emergency students that was equivalent to the lesson of physical examination of nursing in terms of title and content. The sampling process continued until data saturation [14]. Finally, 40 students participated in the study. The data were collected through the unstructured interview using two questions based on the student group entitled "What are the advantages of film preparation and demonstration physical examinations?", "What are the disadvantages of the film preparation and the physical examination demonstration?" Further, the exploratory questions were asked based on the participants' responses. Some subjects did not allow the researchers to record their voices. Therefore, in such cases, note-taking was used in the interview. The original copies of interviews were kept in a confidential file, and the initial analyses and data encoding for each interview were conducted before the next interview.

The qualitative research environment was the real realm, which meant the place where people lived and their experiences took place [13]. In order to maintain the natural environment, the study was conducted where the phenomenon and the related processes occurred [15]. Thus, Nursing College of Dezful University of

Medical Sciences was considered as the study setting to conduct the current qualitative study. The interviews were performed at the researcher's room at the college where the physical conditions were appropriate in terms of the light, sound, ventilation, etc. At the beginning of each interview, the explanations were given about the research objectives and procedure, and the written informed consent was obtained from the students.

Prior to the interview, the participants were asked about recording the interviews, and they were assured about the confidentiality of the information. The validity and reliability of data were evaluated based on the credibility, dependability, confirmability, and transferability. In order to investigate the credibility, the transcribed copy of the interviews was referred to the participants in order to obtain their credibility and confirmation. In addition, an external supervisor who dominated on the qualitative research and had access to cases such as published texts, analyzed data, extracted meanings, codes, and classes was selected for the dependability and confirmability of the research. Regarding the transferability, all details of the research were thoroughly described to judge the reader of the article toward the generalizability of the results [16].

Regarding the different approaches of the textual data analysis, the transcribed copy of the interviews was assessed using the conventional approach in the current study due to the lack of background about codes and classes. The codes and classes were defined during data analysis and extracted directly from the text data [17].

The data analysis process was conducted according to the Graneheim and Lundman method [18]. To this end, after transcribing the interviews, the researcher read them several times in order to achieve a general sense. Then, the researcher read the texts carefully word-to-word and encoded data in an open form. In the next stage, the codes were categorized among the classes based on similarity. After each step, the encoding was agreed upon on the title of subclasses. Finally, the data were categorized in the main classes, which were more general and conceptual.

RESULTS

The number of participants in the study was 40, including 19 (47.50%) females and 23 (57.50%) males. The mean and standard deviation age of the students were 20.71 ± 1.305 and 15.85 ± 1.2 years.

Based on the obtained results, four main categories and nine sub categories were extracted using conventional qualitative analysis of the nursing students' experiences in two groups of film preparation and demonstration of physical examination. Table 1 indicates the process of one category extraction.

Table 1. The process of extraction category of students' experience of the film making method

Main category	subcategory	Semantic unit
Perceived influence	teamwork promotion	-Strengthening the cooperation sense - More interaction with others -Giving responsibility to all group members during the film preparation -Assigning tasks among all the group members
	Improving memory retention	- Creating more durability in mind - Stabilizing the subject in mind -A better understanding of the subject due to the need for subject analysis, practice, and then film preparation -Using all senses to make the film
	The teaching attractiveness	-Creating the excitement -Creating interest in the topic -Enjoying the new teaching methods -Attracting the audience's attention, especially in providing long subjects - Being enthusiastic during teaching

Students' experiences about film preparation

Explaining the students' understanding of the advantages and disadvantages of film preparation was considered as one of the cases perceived by students in the current study. Accordingly, the answers to any of the above items were provided.

Perceived influence

The perceived influence was regarded as the main category for the students' understanding of the advantages of film preparation including three subcategories such as teamwork promotion, improving memory retention, and the teaching attractiveness.

Teamwork promotion

This main class highlighted the fact that the students interacted and cooperated with each other in the film preparation group. In addition, accepting the responsibility and dividing the tasks among the group members improved the teamwork spirit. One of the students stated: "It led the entire group be active and divide tasks among the members."

1. Improving memory retention

Students stated that film preparation could help in learning and understanding the contents due to the need for the content analysis and involving all senses in film preparation. In this regard, one of the students said: "It was a great experience since we should first read contents

completely to dominate over them, and then make the film."

2. The teaching attractiveness

Students explained that the film preparation method was exciting for them. They enjoyed this educational method. Using this method, they paid more attention to long texts, did not get bored in the class, and were more interested in learning topics. One of the male students expressed: "The film making experience improved the attractiveness of the subject, and we did not get bored in the class."

Facing film making challenges

Based on this class, the students experienced some problems along with understanding the advantages of filmmaking. The limitations of filmmaking and poor quality films were noteworthy.

1. Limitations of the film making

The lack of facilities and the problems related to the location and timing of the filming were among the features of this category. Spending a long time on film making processes, the lack of 24-hour access to the examination equipment, and the time limitation to coordinate with other students due to the coincidence of film making process with the apprenticeship program were considered as some reasons that can put students under pressure to make the film. Regarding the difficulties of filmmaking, one of the students stated: "It was hard to coordinate with the rest. The equipment was not readily available".

Poor quality films

Some students complained of noise, inadequate light, low quality of the spokesman's voice, and inappropriate implementation manner during the film making. One of the students said: "None of the students had enough experience in filmmaking. Therefore, the quality of presentation and sound were not good in the film".

Students' experiences of demonstration method

The students were also questioned about understanding the implementation manner and the demonstration method, which had some advantages and disadvantages, similar to the film making method.

The acceptance of applying the demonstration teaching method

1. This main category, as the advantage of demonstration method by students, consisted of the subcategory: teaching easiness and tangibility of the presented content.

2. Teaching easiness

The relative need to coordinate with the other group members caused the students to consider this teaching method as a comfortable one. In addition, saving time due to the demonstration in the class and the possibility of

more interactions with the audience during the presentation were other factors for students' willingness to employ this method. In this regard, one of the students said, "Since I was responsible for managing the content presentation, I did not need to beg others for presentation. At least, I coordinated with the other group members for programming and management."

3. Tangibility of the presented content

Live presentation and the possibility of touching the examination equipment, the objective experience due to the possibility of conducting the practical examination, and the ability to clarify the ambiguous points while learning according to the live presentation caused the students to experience the tangible presentation of the content in this method. One of the students stated: "Since the examination equipment was brought to the class and displayed, we had the chance to touch it and practice."

Regarding the advantages of demonstration method, a student said: "If we had a question, we asked at that time, and the student who demonstrated the physical examination, explained to us. Since we could touch, we'd understand better."

Functional weakness

The functional weakness of the demonstration method with two main subclasses of "monopolizing the mastery over the content" and "flawed presentation of physical examinations" illustrated the perceived challenges of this method by the students.

1. Monopolizing the mastery over the content

Students stated that only those who were responsible for the presentation learned the content. One of the students said: "The group members were not involved in work a lot. They conceded the work to one person in the group. They did not cooperate. I had to manage the content alone. I requested the group to help me in the demonstration for an hour. None of them accepted. I had to get help from one of the students in the other groups for presentations".

Flawed presentation of physical examinations

The reliance on the presentation of images and contents in the PowerPoint form instead of demonstration, not presenting some examinations in practice, and relying more on the content presentation theoretically were the other disadvantages of applying the demonstration method. In this regard, one of the students said "Most of the students only read the slides, the content was not conceptually taught, and the learning level was low."

DISCUSSION

The results of the current qualitative study indicated the experiences of undergraduate nursing students about

implementing two methods of film preparation and demonstration in the lessons of physical examination.

Teamwork promotion

The time-consuming nature of film making process and its associated temporal limitations due to the necessity of the students' presence at the clinical and theoretical classes, as well as the need to master the content for the film making led to the work division among the members and reduced the imposed temporal pressure. In other words, some members of the group were responsible to study the content and participate in film making process, and the rest of the members tried to explain the prepared films more verbally, and thus the members of the group had interaction with each other. In the current study, it seems that the students used team matching and coordinating strategies in team training. In this method, they focused on the effective application of all available resources such as people, information, etc., through effective team connections, coordination, and collaboration [19]. In fact, students had to work through interaction and collaboration, due to the lack of time to make the film.

Improved memory retention

The results of the study by Alqahtani et al., (2015) indicated that the procedural video was as efficient as a vivid demonstration [20]. Their results were inconsistent with those of the present study, since they used prepared films for education, while in the current study, the students made the film themselves. Therefore, students learned the contents mostly due to their involvement in the learning process.

Teaching attractiveness

It can be argued that the curiosity about how to make and present films made the students interested in watching films since films were made by the classmates. On the other hand, the groups often provided a behind-the-scene that was displayed during the break time or prolonged presentations. The third reason can be the variety in the preparation process of films since almost all of the students were involved.

Poor quality film

The low experience and unfamiliarity of the students with the suitable conditions of filming, their unfamiliarity with the software affecting the prepared films such as elimination of additional sounds and adjusting the light, and the use of different instruments to make films can be considered as some reasons for defective quality of films. The students often used the mobile camera to make the film, and the differences among the applied brands (e.g., LG, Samsung, Huawei, and Apple, etc.), made the quality of the films different. It seemed that holding a workshop on film making and working with fixed camera can solve the problem. Another important aspect, which should be considered in video processing, is the rhythm, namely, the

dynamics among the environment, the scenario, and the characters. The importance of the selecting the environment for presentation in terms of things like lighting, space congruence, angulation and color, decoration and dress should be considered as the main elements of an audiovisual scene [21].

Film making limitations

Ebadi et al., (2010) in a study evaluated the challenges of the nursing physical examination lessons in Iran. The students believed that the lack of adequate facilities and equipment was one of the damaging factors to this course. They stated that providing such facilities, in addition to facilitating the teaching process, provided the necessary incentives for further learning [4].

In the current study, the students experienced some limitations of film making process due to the different reasons. Although the necessary coordination was performed with the practice manager in order to cooperate with all the students of the study to attend the practice, and in particular to collaborate with the film making team, students experienced challenges due to the restrictions of access to equipment and the use of the physical environment of the University Clinical skills center. In addition, the students had some problems in this regard due to the compressed program of theoretical courses and the different grouping of the students who attended in the second-semester apprenticeship. Before starting the semester, a coordinate apprenticeship program for students belonging to specific groups with the decision made by the director of the group could be useful.

Teaching easiness

Ebadi et al., (2016) stated that the students' satisfaction with the demonstration method can be attributed to the students' habit of using the current educational methods, as it is the most common educational method in the context, which is familiar to the students in the nursing college [22]. In the current study, according to the students' experiences, the hidden reason for the ease of teaching this method can be their familiarity with the method in the lesson of nursing principles and skills by which the students concluded that they could be responsible for its implementation despite the lack of group cooperation.

Tangibility of the presented content

Chery et al., (2007) defined team learning as a permanent change in the collective level of knowledge and skills created by the team members' shared experience. That is, students should be able to share knowledge constructively [23]. In the current study, sharing experiences among students and solving problems by doing a live practice can be a factor in the tangibility of this teaching method. Reza Masouleh et al., (2007) emphasized that using real

tools can be one of the advantages of the demonstration method [10].

Monopolizing the mastery over the content

Monopolizing the mastery over the content indicated the lack of teamwork among the members of the group. Gordon et al., (2016) used the term "shiny team" to represent teams that are formed without members working together [24]. One of the reasons to monopolize the mastery over the content understanding can be related to the fact that the students did not have right to choose their membership in the groups. In addition, there was no way to check the activity level of the members or the mechanism to divide the work among the group members, and the students were responsible to do such tasks themselves. Therefore, if the membership was voluntary instead of randomly assigning individuals to different groups by the teacher, they were more motivated to work in the group. In addition, the evaluation of the team members' cooperation can partly reduce the lack of collaboration among the group members.

Flawed presentation of physical examinations

In the current study, the students did not receive sufficient psycho-motor skills to perform examinations in practical exercises. Melby et al., (2012) indicated that students participating in the presentation of muscular injection stated that working with trial and error method was the best learning method. Based on one of the hypotheses, these students received adequate psycho-motor skills through the presentation, and no further study was necessary in this regard [25]. Providing incomplete examinations in practical method and using images for the demonstration by students in the current study can be due to the fact that the groups were heterogeneous to demonstrate practically how to conduct physical examinations. Preserving privacy between females and males is an Islamic law, and students might apply images, instead of the demonstration of all examinations. However, the formation of gender-matched groups can solve this problem.

CONCLUSION

The results of the current study indicated that students' understanding of the applied methods should be explained in order to reveal the strengths and weaknesses of using each of the new teaching methods. Thus, the results can be used to decide on the application or modification of these methods in later exercises.

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