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ARAŞTIRMA / *Research Articles*

Evaluation of Video Supported Application in Teaching Nursing Care Practices By Student Nurses

Hemşirelik Bakım Uygulamalarının Öğretiminde Video Destekli Uygulamanın Öğrenci Hemşireler Tarafından Değerlendirilmesi

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ABSTRACT

Objective:*The aim of this study is to evaluate the newly created video for teaching nursing care practices by student nurses.*
Materials and Methods:*The sample of the descriptive study consisted of first grade students."Student Information Form"and"Video Evaluation Form"were used in the research. Video is uploaded to a"Nursing Practice"YouTube channel. The data was completed by 175students watching the video and completing the online survey.*
Results:*It was determined that 52%of the students thought that the video would benefit the nursing education at a high level and21.1%would benefit at a very high level. It was determined that 34.9%of the students wanted new instructional videos for injection applications. It was found that 36.6%of the students had sufficient quality of the videos and they did not have any suggestions, 48.6%of them had to take more videos and 9.1%of them had suggestions for shooting videos more closely.*
Conclusion:*It was determined that the students think that the video of "Intravenous Catheter Application" taken for education can provide high level of benefit to nursing education. It can be suggested that the nurses educators can take specific videos and use them for nursing education by ensuring the effective participation of student nurses.*

Keywords: *Nursing care, nursing practices, video supported application, nursing students*

ÖZ

Amaç:*Bu araştırmanın amacı, hemşirelik bakım uygulamalarının öğretimi için yeni oluşturulan videonun öğrenci hemşireler tarafından değerlendirilmesidir.*
Materyal Metot:*Tanımlayıcı tipte olan araştırmanın evrenini 1.sınıf öğrencileri oluşturdu."Intravenöz Kateter Uygulama" videosu araştırmacılar tarafından hastane ortamında çekildi. Eğitim videosu "Hemşirelik Bakım Uygulamaları" isimli bir YouTube kanalına yüklendi.175 öğrencinin videoyu izleyip online anketi doldurmasıyla tamamlanan veriler, yüzdelik kullanılarak değerlendirildi.*
Bulgular: *Öğrencilerin %52'sinin çekilen videonun hemşirelik eğitimine yüksek düzeyde, %21,1'inin ise çok yüksek düzeyde fayda sağlayacağını düşündükleri belirlendi. Öğrencilerin %34,9'unun enjeksiyon uygulamaları için yeni eğitici videoların çekilmesini istedikleri belirlendi. Öğrencilerin %36,6'sının videoların kalitesinin yeterli olduğunu ve önerilerinin olmadığını, %48,6'sının daha çok videoların çekilmesi gerektiğini ve %9,1'inin ise videoların daha yakından çekilmesi yönünde önerileri olduğu tespit edildi.*
Sonuç: *Öğrencilerin eğitim için çekilen "Intravenöz Kateter Uygulama" videosunun hemşirelik eğitimine yüksek düzeyde fayda sağlayabileceğini düşündükleri belirlendi. Öğrenci hemşirelerin de etkin katılımı sağlanarak hemşire eğitimciler tarafından spesifik videoların çekilmesi ve hemşirelik eğitimi için kullanılması önerilebilir.*

Anahtar Kelimeler: *Kadın sağlığı, menstrüel kap, içerik analizi*

INTRODUCTION

Nursing education requires an education system covering cognitive, affective, and psychomotor learning environments.(1) Nursing faculty are charged with the responsibility to ensure graduate nurses attain the skillset knowledge and are competent with respect to the clinical skills.(2) Faculty are challenged to locate, design, or create teaching and learning strategies that assist nursing students in attaining clinical skills proficiency in the clinical learning laboratory environment.(3) Along with the developing technology, nursing undergraduate education necessitates the use of innovative and technological applications for students in an education system covering cognitive, affective and psychomotor learning areas.(4) The use of education methods, in

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which real clinical scenarios are used instead of traditional methods, role-playing is performed, educational videos are shown, simulations are used, provides significant contributions to nursing education. These contributions include easy and fast access to scientific information about patient care, clinical decision making, developing critical thinking and problem solving skills, supporting patient care plans based on evidence.(1,5,6) In addition, quality educational videos prepared by experts are believed to facilitate teaching psychomotor skills to nursing students and developing these skills by combining theory and practice.(6,7)

In nursing education, which is an applied science, the use of video is gradually increasing and it is believed to combine theory and practice.(5) Since video is an information transfer environment that appeals to multiple senses by combining image and sound, it facilitates the transfer of abstract concepts. Video usage as an instructional material supports learning process because of its property of facilitating to process new information with visual elements in the information processing as well as its positive effect on student motivation. (8)

By uploading educational videos to the web, students can access the information in a shorter time.(9) Therefore, it is seen that students watch many videos on the internet today.(10) The most important advantage of watching videos through internet is that they can be accessed at any time and place without necessity of downloading them to a computer. When the video sharing websites on the internet are examined, YouTube sharing site, which provide a virtual library environment by providing access to videos for its users, comes to the mind first in the world.(11) This sharing site provides nurse educators with instant access to videos of healthcare service related to classroom. It gives the opportunity to change traditional teaching methods with visual stimulation that attracts and protects the attention of students in the class. Additionally, the uploaded videos visually encourage cognitive, affective, and psychomotor learning of nursing students.(12) Another benefit of using YouTube as a learning resource is that it can be accessed anytime and anywhere. This is like having a digital TV that operates several thousands of optional channels and never turns off. Bringing students from passive to interactive is the first step of a deeper learning. It keeps students awake since it uses alternative distribution methods in large group teaching. It makes an audiovisual material unforgettable. Material diversity is an advantage. This access site encourages student nurses' culture of wanting to learn at a time/place that is convenient for them and supports students to learn at their own speed. Lack of necessity of students to enter the library and join a request list to access a suitable material is among the advantages.(12)

It is believed that learning will be easier in nursing education given by using technology and technology will have a much more important place in the education field in the future.(13) Accordingly, the purpose of the study is to have an evaluation made by student nurses about the video-supported application in teaching nursing care practices by student nurses.

METHOD

Population and sample of the study: It is a descriptive study. The data of the study were collected between May and August 2019 in the nursing faculty of a state university. The population of the study was composed of 240 first-year students studying in the related faculty. The sample consisted of 175 students who agreed to participate in the study.

The checklists of "Intravenous Catheter Applications" were prepared in accordance with the national and international literature in the relevant field and the detailed process steps were determined. In accordance with these checklists, the video shots were performed by the researchers in a suitable environment in the hospital. In order to ensure standardization in the expression of the skill, a video streaming plan was prepared and video recordings were made in line with this plan.

Video streaming plan contains introducing the materials to be used in the related skill and performing all the steps of the application

in accordance with the skill checklist by the researchers. The video, which had audio and in which practitioner was visible and explained and applied all steps of the procedure, lasted for a total of 9 minutes and 40 seconds. After shooting was complete, the video was uploaded to a Youtube channel entitled "Nursing Care Practices" so that the video would go beyond this study, can be accessed by all nursing students in Turkey and can be watched repeatedly. After the students watched the video by clicking "https://www.youtube.com/watch?v=lQi76qfcmhM" link, they filled an online "Video Evaluation Form" prepared in GoogleDocs program for data collection.

Data Collection: *"Introductory Information Form" and "Video Evaluation Form"* were used as data collection tools.

"Introductory Information Form"; This form, prepared by the researchers based on literature, includes questions such as the students' age, gender, Weighted Grade Point Average and status of using YouTube for nursing practices etc.

"Video Evaluation Form"; This form, prepared online in GoogleDocs program, was filled by the students after watching videos. It is a form that questions whether "Intravenous Catheter Application" video contributes to teaching nursing practices or not and has evaluation parameters ranging from 1 to 5 and was prepared by taking the opinions of 5 experts. While "1" signifies the lowest benefit for students, "5" signifies highest benefit.

The data of the study were collected in a digital environment with a questionnaire prepared by the researchers between May and August 2019 by using GoogleDocs. They were asked to fill out the forms after watching the video.

Data Analysis: The obtained data were evaluated by using percentage in SPSS software package. The data completed with 175 students were evaluated using percentage.

Ethical Considerations

Before starting the study, approval from Ethics Committee and written permissions from faculty, (30/05/2019 dated and xxx numbered) where the study would be conducted, and from the specified hospital for the video shooting were obtained. After the students included in the study were informed about the purpose of the study and about the application method, their verbal consents were obtained.

Limitation of the Study

The research was limited to first-year students studying at the faculty in 2019. The results obtained from the study can be generalized to the units in question and to the first-year nursing students studying between these dates.

RESULTS

When the individual characteristics of the students were examined, it was determined that their mean age was 19.49±1.35, their Weighted Grade Point Average was 2.21±0.16, 73.1% were female and 77.7% watched videos from YouTube for education before. In addition, 25.1% of the students wanted to play a role as a patient in educational videos and 46.3% wanted to play a role in educational videos as a nurse (Table 1).

When the results of students' evaluations about "Intravenous Catheter Application" video were examined, the average contribution level of the video was determined to be 3.94±0.69. It was determined that 52% of the students believed that the video shot would provide benefit to the nursing education at a high level and 21.1% believed that it will provide benefit at a very high level. In addition, it was determined that 97.7% of the students wanted new videos to be shot and 96% of them wanted the videos shot to be uploaded to the YouTube channel. 34.9% of the students wanted new educational videos to be shot for injection practices, 12% of the students wanted nutritional practices and 22.2% of the students wanted urinary practices.

36.6% of the students found the video quality sufficient and had no suggestions, 48.6% of them suggested more videos to be shot, and 9.1% had suggestions to shoot the close-up videos (Table 2).

Table 1: Distribution of Individual Characteristics of the Students (n=175)

CHARACTERISTICS		**n**	**%**
Gender			
Female		128	73.1
Male		47	26.9
Status of watching video from YouTube for education			
Yes		136	77.7
No		39	22.3
Status of wanting to participate in educational videos as a patient			
Yes		44	25.1
No		131	74.9
Status of wanting to participate in educational videos as a nurse			
Yes		81	46.3
No		94	53.7
Age $\overline{X}$=19.49±1.35			
Weighted Grade Point Average $\overline{X}$=2.21±0.16			

Table 2: Evaluation Results of "Intravenous Catheter Application" Video (n=175)

Results of "Intravenous Catheter Application" Video		**n**	**%**
Contribution Level of the Video $\overline{X}$=3.94±0.69			
Contribution level of the video			
Very high		37	21.1
High		91	52.0
Moderate		47	26.9
Status of wanting new videos to be shot			
Yes		171	97.7
No		4	2.3
Status of wanting the videos to be uploaded to YouTube		168	96.0
Yes		7	4.0
No			
Nursing practices wanted to be video recorded			
All		21	12.0
Nutritional practices		21	12.0
Urinary practices		39	22.2
Injection practices		61	34.9
Hygiene practices		14	8.0
Other (ROM exercises, Pressure wound care, respiratory practices etc.)		19	10.9
Suggestions		64	36.6
I have no suggestion, the video was appropriate		85	48.6
More videos should be shot			
A close-up video should be shot		16	9.1
Video should be shot with a student		6	3.4
Video duration should be short		4	2.3

DISCUSSION

Along with the gradually increasing number of students and in parallel, the problems in the application fields, inadequate number of teaching staff necessitates different researches for skill learning.(14) Due to the reflection of technological developments in the fields of health and education, one of the teaching methods that contribute to the development of teaching methods needed is the video application.(14,15)

The studies have revealed that the students considerably benefit from the videos for their education. In their study, Choi et al., determined that education method based on video using smartphone provided positive contribution to communication skill and emotional intelligence levels of the students and was beneficial in student education.(16) The results of the study by Pınar et al., showed that video-based simulation training improved the competence of nursing students in newborn examination. (14) It was seen in the study by Zengin and Yardımcı that the education made with "Paediatric Diagnosis" video was effective in students to gain paediatric diagnostic skills and they performed the skills in a better level.(17) In the study by Yoo et al., they recommended that video based self-assessment is a useful and effective teaching method to make undergraduate nursing students to be aware of their strengths and weaknesses and develop clinical and communication skills.(7) In addition, they observed that the use of videos in developing skills is a supportive tool for students and they found it useful.(14,18-21)

When the studies are examined, they have reported that video-based education provides benefits to the students and also increases satisfaction levels of the students. In their study, Wolf and Peyre stated that students were quite satisfied with the lessons using blackboard video.(22) In the study conducted by Chuang et al., the satisfaction mean score of the nursing students, who watched the video, with urinary catheterization application was 4.46±0.43 between 1-5.(4) In the study conducted by Mete and Uysal to investigate the opinions of the students about psychomotor skill education for establishing IV access and fluid treatment, they determined that the mean score was 3.52 (maximum 4, minimum 0).(5) In the studies by Pınar et al., and Lee et al., the students expressed their satisfaction with the use of video-based learning.(14,15) In the study by Bahar, it was determined that the satisfaction of the students in the experimental group for whom video-supported learning was used for basic nursing skills training was 96.7%.(18) In their study, Sowan and Idhail reported that the nursing students were satisfied with the web-based learning method used for teaching drug application skills.(23) In the study conducted by Du et al., reviewing 9 studies, they determined that the participants were generally very satisfied.(19) These results showed that video-based learning had a positive effect on both learning and increased competence in clinical skills. In addition, it is believed that it contributes to the literature since its results were found to be consistent with the results of other studies encouraging nursing students to get information and to think critically for learning.(4,23,24)

CONCLUSION AND SUGGESTIONS

This study revealed that video-supported education including components such as shooting the intravenous catheter application video, uploading it to YouTube channel, watching skill demonstration video at anytime and anywhere through smart phones would contribute to their education. This video, which was uploaded to YouTube channel and made accessible for public viewing, can be easily accessed by many student nurses. Nursing students can preview and review the uploaded videos at any time/anywhere before or after the course according to their personal learning speeds and models. In addition, nursing students can refresh their memories by watching the video just by clicking a link through a smartphone before applying nursing skills while practicing in a clinical environment. Students who continuously repeat by watching videos and prepare well can provide a better quality care to their patients. Video-based learning can be considered as an effective method for providing learning materials for nursing students to increase their skill competencies. With video-based

learning student-centred learning can be achieved and improved by getting away from traditional education. It can be recommended to shoot specific videos by nursing educators by ensuring effective participation of student nurses and to use them for nursing education. In addition, it is recommended for nursing educators to use YouTube, NewPipe, SkyTube, LibreTube, uYouPlus, uBlock or Kiwi Browser to learn and teach students, a generation that is unique to the rapidly changing digital world, inside and outside the classroom in order to provide the innovations they want.

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REFERENCES

1. Akın Korhan, E., Tokem, Y., Uzelli Yılmaz, D., Dilemek, H. Hemşirelikte psikomotor beceri eğitiminde video destekli öğretim ve OSCE uygulaması: bir deneyim paylaşımı İzmir Kâtip Çelebi University Faculty of Health Sciences Journal. 2016: 1(1); 35-37.

2. Cho, S.M., Choi, J. Patient safety culture associated with patient safety competencies among registered nurses. Journal of Nursing Scholarship; Indianapolis. 2018: 50(5);549–557. doi.org.proxy.wexler.hunter.cuny.edu/10.1111/jnu.12413

3. Chicca J., Shellenbarger T. Connecting with Generation Z: Approaches in nursing education. Teaching and Learning in Nursing. 2018: 13(3);180–184. 10.1016/j.teln.2018.03.008

4. Chuang, Y.H., Lai, F.C., Chang, C.C., Wan, H.T. Effects of a skill demonstration video delivered by smartphone on facilitating nursing students' skill competencies and self-confidence: A randomized controlled trial study. Nurse Education Today. 2018: 66;63-68. doi: 10.1016/j.nedt.2018.03.027.

5. Mete, S., Uysal, N., Hemşirelik mesleksel beceri laboratuarindaki psikomotor beceri eğitiminin öğrenci ve eğiticiler tarafından değerlendirilmesi, Turkish Journal of Research & Development in Nursing. 2010: 12,(2);28-38.

6. Lehmann, R., Lutz, T., Helling-Bakki, A., Kummer, S., Huwendiek, S., Bosse, H.M. Animation and interactivity facilitate acquisition of pediatric life support skills: a randomized controlled trial using virtual patients versus video instruction. BMC Medical Education. 2019:19(1);7. doi.org/10.1186/s12909-018-1442-5

7. Yoo, M., Son, Y., Kim, Y., Park, J. Video-based self-assessment: Implementation and evaluation in an undergraduate nursing course. Nurse Education Today. 2009:29;585-589. doi: 10.1016/j.nedt.2008.12.008.

8. Shadiev, R., & Yang, M. Review of studies on technology-enhanced language learning and teaching. Sustainability. 2020:12(2);524. doi:10.3390/su12020524

9. Bhatia A. Interdiscursive performance in digital professions: the case of YouTube tutorials. Journal of Pragmatics. 2018: 124;106-120. doi.org/10.1016/j.pragma.2017.11.001

10. Nacak, A., Bağlama, B., Demir, B. Teacher candidate views on the use of youtube for educational purposes. Online Journal of Communication and Media Technologies. 2020: 10(2), e202003.

11. Selwyn, N. The Internet and education. Chairman's Advisory. BBVA (eds.) 2014: 19;191-217.

12. Clifton, A., Mann, C. Can YouTube enhance student nurse learning? Nurse Education Today. 2011: 31;311-313. doi: 10.1016/j.nedt.2010.10.004.

13. Mosa, A.S.M., Yool, I., Sheets , L., A Systematic Review of Healthcare Applications for Smartphones,. BMC Medical Informatics and Decision Making. 2012: 1; 1-32.

14. Pınar, G., Akalın, A., Abay, H. The effect of video based simulation training on neonatal examination competency among Turkish nursing students. European Scientific Journal. 2016:12(15);395. doi:10.19044/esj.2016.v12n15p394

15. Lee, E., Noh, H.K. The Effects of a Web-Based Nursing Process Documentation Program on Stress and Anxiety of Nursing Students in South Korea. International Journal of Nursing Knowledge. 2016:27; 35-42. doi.org/10.1111/2047-3095.12072

16. Choi, Y., Song, E., Oh, E. Effects of teaching communication skills using a video clip on a smart phone on communication competence and emotional intelligence in nursing students. Archives of Psychiatric Nursing. 2015: 29;90-95. doi:10.1016/j.apnu.2014.11.003.

17. Zengin, D., Yardımcı, F. Hemşirelikte pediatrik tanılama becerisi kazandırmada video ile eğitimin etkinliğinin değerlendirilmesi. Dokuz Eylul University Faculty of Nursing Electronics Journal. 2017:10(4); 267-274.

18. Bahar, A. Web tabanlı eğitici video destekli eğitimin temel beceri eğitimine etkisi. New Journal of Medicine. 2015: 32;141-147.

19. Du, S., Liu, Z., Liu, S., Yin , H., Xu, G., Zhang, H.,

Wang, A. Web-based distance learning for nurse education: a systematic review. International Nursing Review. 2013: 60;167-177. doi: 10.1111/inr.12015.

20. Lahti, M., Hätönen, H., Välimäki, M. Impact of e-learning on nurses' and student nurses knowledge, skills, and satisfaction: a systematic review and meta-analysis. International Journal of Nursing Studies. 2014: 51;136-149. doi:10.1016/j.ijnurstu.2012.12.017

21. Mendoza, G.L.L., Caranto, L.C., David, J.J.T. Effectiveness of video presentation to students' learning. International Journal of Nursing Science. 2015: 5;81-86. doi:10.5923/j.nursing.20150502.07

22. Wolf, A.B., Peyre, S.E. Student Satisfaction With Blackboard-Style Videos. Nursing Education Perspectives. 2018: 39;244-246. doi: 10.1097/01.NEP.0000000000000286.

23. Sowan, A.K., Idhail, J.A. Evaluation of an interactive web-based nursing course with streaming videos for medication administration skills. International Journal of Medical Informatics. 2014: 83;592-600. doi:10.1016/j.ijmedinf.2014.05.004

24. Walton, A., Kestler, E., Dettinger, J.C., Zelek, S., Holme, F., Walker, D. Impact of a low-technology simulation-based obstetric and newborn care training scheme on non-emergency delivery practices in Guatemala. International Journal of Gynecology & Obstetrics. 2016: 132;359-364. doi:10.1016/j.ijgo.2015.08.009