

# Application Progress of Teaching in the Form of Traffic Short Videos in Nursing Education

Qingxia Yu\*

Southwestern University of Finance and Economics, Chengdu 610052, Sichuan Province, China

\*Corresponding author: Qingxia Yu, 1251668194@qq.com

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**Abstract:** With the rapid development of the information technology era, the teaching quality requirements continue to surge, and the mode of education in colleges and universities has also carried out certain innovations. The integration of modern information technology into the teaching process and the combination of medical content has become a new hotspot for reform and innovation of medical education at home and abroad. In this paper, we will describe the application of traffic short videos as the main teaching form in nursing education in domestic and foreign studies, and the role of the application of this teaching form in the improvement of theoretical knowledge and clinical skills of nursing students, as well as the impact on the cultivation of nursing students' professional cognition, communication skills, critical thinking, etc., with the aim of providing new perspectives for the subsequent nursing education.

**Keywords:** Traffic short video; Nursing education; Nursing theory; Nursing operation; Clinical thinking

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## 1. Introduction

Short video is a kind of Internet content dissemination mode, which is a video with a length of less than 5 minutes on the Internet, suitable for viewing in a mobile state and short-time leisure state, providing high-frequency video content. From 2020 to the present, short videos have exploded in a "blowout style" with many advantages such as fast communication speed, wide range of communication, novel content, and strong interactivity, which have been widely used in the process of people's social communication and humanistic activities. Similarly, in recent years, the teaching method of short videos combined with medical knowledge has set off a "new wave of education" in the field of medical teaching, and the implementation of this educational method has achieved significant teaching results<sup>[1]</sup>. Studies have shown that basic medical teaching combined with short videos of clinical diseases can effectively link basic theory and clinical diseases, which is conducive to students' mastery of theoretical knowledge and the formation of clinical thinking<sup>[2]</sup>. At the same time, it facilitates students' understanding and mastery of the important and difficult points, achieving the effect of twice the result with half the effort<sup>[2]</sup>. Therefore, the integration of short videos into nursing teaching is not a new teaching idea. In order to further promote the teaching method of combining nursing with short videos, the

process and results of the application of short videos in nursing education at home and abroad are summarized to provide certain references for the subsequent use of short videos in nursing teaching.

## **2. Current status of the application of short videos in teaching and learning**

### **2.1. The development of the application of short videos in the process of educating people**

As a new type of media communication method, short video has rich content forms and a wide range of communication channels. Pre-recorded teaching content in medical education has become increasingly common. With various popularized network technologies as well as the booming development of online media, online learning has become one of the daily teaching means, while the demand for high-quality video content is increasingly surging. Some scholars have shown that the working mode and idea of human education in colleges and universities in the context of the era of integrated media need to be somewhat revolutionized<sup>[3]</sup>. Short video education will become a very effective means of innovation, especially for the difficult-to-visualize educational process and program education, video learners can view the content at their own pace anytime, anywhere, and revisit the material when necessary<sup>[4]</sup>. YouTube is now being used as an innovative platform for the distribution of clinical education materials abroad<sup>[5]</sup>. The full utilization of YouTube can help students with online learning, nursing teaching, and technology use<sup>[6]</sup>, as well as help students overcome clinical psychological barriers and confidence development<sup>[7]</sup>.

### **2.2. Importance of short videos in the process of parenting**

Firstly, short videos combined with teaching can stimulate students' independent learning. Studies have shown that the teaching of short videos can stimulate cultural creativity and inspire teachers and students to create works with individuality and characteristics by combining knowledge content, teaching resources, and professional characteristics to convey more profound cultural values<sup>[8]</sup>. Stanford School of Medicine produced 2014 short patient-centered animated videos in 36 years and combined them with flipped classroom teaching methods for microbiology, immunology, and infectious disease course lectures. Most of the students gave positive comments on the videos after the class, and this learning process enhanced student engagement in learning and communication with the instructor<sup>[9]</sup>. Similarly, a study<sup>[10]</sup> showed that medical students' curiosity about the content and motivation to learn showed positive feedback after consistently watching multiple instructional videos of less than 2 minutes in length and assessing learning outcomes. Secondly, the combination of short videos can increase the diversity of teaching and overcome the spoon-fed education of boring clinical theory teaching. The short video playback process can give the audience a sense of pleasure, and can quickly "catch the eye" in a short period of time, prompting the target object to stay. Studies have shown that showing learners animated health education videos based on a storyline can capture the attention of students<sup>[11]</sup>. Educators in Australia have stimulated creative development in simulation by providing nursing students with ongoing access to short videos based on clinical skills, accomplishing this in an interesting and varied way<sup>[12]</sup>.

## **3. Application of short videos in nursing education**

### **3.1. Teaching nursing theoretical knowledge**

Yu and Fang<sup>[13]</sup> utilized short audio and video presentations to provide concise explanations of medication concepts or topics, and randomly grouped sophomore nursing students into an experimental group that was intervened with a "micro-lecture video + SPS" and a control group that only used traditional online teaching methods. Holland *et al.*<sup>[14]</sup> investigated the intervention group that received only standard instruction and

unlimited access to short videos of practice examples of oral medications, and a control group that received only standard instruction, with learning outcomes assessed by modules and satisfaction questionnaires returned at the end of the class to measure the effectiveness of the instruction. Scholars such as Latimer *et al.* [15] conducted a mandatory medication safety course with case studies to reinforce the concepts of learning about the role of healthcare professionals in the medication cycle and used a series of short videos that demonstrated systemic factors associated with medication errors and their prevention to help students identify the causal systemic factors of these medication errors and potential prevention strategies to address the problem. Similarly, Chuang *et al.* [16] set up an expert committee to discuss and send the edited, dubbed, and completed nursing skills demonstration videos to the intervention group's cell phones for repeated viewing and learning, and their findings showed that they were more able to promote the students' knowledge and skills of catheterization compared to the control group with normal instruction. The results of this study are consistent with the findings of Lee and Shin [17], indicating that to a certain extent, short-video learning is beneficial to the mastery of knowledge and skills.

### **3.2. Nursing skills training**

Nursing students not only need to learn professional nursing knowledge but also need to focus on practice. Integrating short video technology and text teaching mode into nursing teaching work is more easily accepted by students [18]. Chen *et al.* [19] applied the "short video + knowledge" joint teacher standardized patients to hepatobiliary surgery nursing clinical teaching, the video content and the key points of knowledge were combined, fitting the students' memory laws and making it easy for students to learn. The same short video teaching format has also been widely used in foreign nursing practical training teaching. In the context of compromising the ability to maintain cardiopulmonary resuscitation learning in the context of COVID-19 to avoid in-person training, Caballero Valderrama *et al.* [20] recorded a short video teaching after determining the content of the teaching to help nursing participants update the knowledge and skills in life support. Nolte *et al.* [21] had nursing participants assess the acquisition of relevant professional knowledge as well as skills by watching a short instructional video related to alpha-1 antitrypsin deficiency (AATD) and conducting a follow-up test 3–6 months after watching the video, respectively. Similarly, in the undergraduate nursing course, the experimental group with short video teaching lasting 1 month was compared with the control group with normal teaching, and it was observed that the students who watched the videos were able to better master the techniques as a way to improve the students' clinical thinking skills [22].

### **3.3. Short videos and nursing humanistic cultivation**

The modern view of nursing emphasizes that human health is the center, and nursing personnel need to focus on the care and understanding of patients in addition to solid theoretical knowledge of nursing and excellent operational skills. Some studies have shown that receiving good nursing humanistic literacy can play a positive role in the smooth progress of nursing work [23]. A foreign study showed that the use of case scenarios and skills videos as short videos of practice teaching strategies for nursing students in distance education can have a positive impact on the professional values and perceptions of nursing students towards the nursing profession [24]. McConville *et al.* [25] asked students to develop and produce video clip materials related to their teaching knowledge, to write appropriate scripts and to perform them in recorded performances, and to assess how students dealt with groups of patients with potential clinical difficulties and communication barriers to improve nursing students' self-efficacy.

## 4. The effects of short videos on nursing education

### 4.1. Improvement of professional knowledge and skills

The combination of short videos and nursing theoretical knowledge teaching improves nursing students' understanding of theoretical knowledge. Studies have shown<sup>[13]</sup> that in the comparison of micro-lecture video teaching methods and traditional online teaching methods, the experimental group's theoretical assessment scores were significantly better than the control group's assessment scores ( $P < 0.01$ ), and the students had positive feedback about the micro-lecture video teaching methods. Yin<sup>[26]</sup> decomposed the movements of the closed peripheral infusion method, and the students selected some of the movements by themselves and made a 15-second Douyin short video. The results proved that compared with the traditional demonstration teaching method, the experimental group's practical assessment scores were significantly improved ( $P < 0.01$ ), and there were different degrees of improvement in the students' independent learning ability ( $P < 0.01$ ), the ability to link theory to practice ( $P < 0.01$ ), and the ability to work in a team ( $P < 0.01$ ), which is in line with the results of the study by Guo *et al.*<sup>[27]</sup>. Ju and Zheng<sup>[28]</sup> selected 100 nursing interns as the research object, the experimental group used short video scenario simulation combined with OSCE way to carry out training and assessment, and the control group used the traditional way to carry out training and assessment. The results showed that the core competence of nursing students in the experimental group was significantly higher than that of the control group after the training and assessment ( $P < 0.01$ ).

### 4.2. Improvement of critical thinking skills

Low critical thinking skills can bring negative feedback for nurses in the clinical environment, such as stagnant work processing, incompetence in solving patient problems, and low clinical reasoning<sup>[29]</sup>. Therefore, it is particularly important for nursing students to develop critical thinking during their school years. YouTube has been used by academics to upload and share video clips to supplement topics taught in the classroom or clinical laboratory and is useful in linking theory to practice and facilitating discussion and critical thinking<sup>[30]</sup>. It has been shown that the use of AR (augmented reality) to integrate short video clips of patients presenting and responding to treatments can help to improve students' real-life experience in this area and expand critical thinking skills<sup>[31]</sup>. Dehghanzadeh *et al.*<sup>[32]</sup> randomly assigned Iranian nursing students to traditional classroom and "flipped classroom + short video" classroom groups, using theories of surgical nursing as the content of the lectures. The mean scores of critical thinking tendency and its domain of engagement in the "flipped classroom + short video" classroom group were significantly higher than those of the traditional classroom group ( $P < 0.0001$ ). Logan *et al.*<sup>[33]</sup> used short videos in the perioperative nursing teaching and learning process to engage students and promote critical thinking, decision-making, and creativity.

### 4.3. Improvement of communication and career awareness

Students can increase self-awareness and promote self-directed learning by watching short video representations of themselves. A Korean study<sup>[34]</sup> found that students who watched a video of their own catheterization insertion and self-assessed it had higher communication ( $P < 0.01$ ) and career competence ( $P < 0.01$ ) compared to a control group of students who received only a bibliographic assessment guide. Grouping students to learn about infectious diseases using a "flipped classroom + short video" method can significantly improve students' communication and teamwork skills<sup>[35]</sup>. Surintorn *et al.*<sup>[36]</sup> conducted a quasi-experimental study using a pre-test-post-test design with 126 nurses in Thailand, in which nurses watched an online smoking cessation video. Nurses were trained by watching online smoking cessation videos, and participants were assessed before and after the training using questionnaires, and the study showed that video instruction significantly improved nurses' knowledge ( $P < 0.01$ ) and self-efficacy ( $P < 0.01$ ), and increased nurses' awareness of smoking

cessation counseling services and confidence in their self-efficacy.

## 5. Summary and outlook

To summarize, short videos as a new teaching tool used in the cultivation process of nursing students at home and abroad significantly improved students' nursing professional knowledge and nursing operation skills, and later promoted nursing students' communication skills, critical thinking, and self-knowledge of their profession, and enhanced the comprehensive quality of nursing students.

The Internet has become one of the most important teaching aids in recent years, and there are numerous ways to use it to complete lectures in combination with teaching content, but most of them still uphold the core educational viewpoint of spoon-fed education. The short video has changed the stereotypical thinking of traditional teaching methods and increased the activity of the teaching process. Combining boring theoretical knowledge with rhythmic background music allows students to have a more intuitive understanding of disease in the process of watching short videos. At the same time, we need to transform the stereotype of the "teacher" as the main body in the lecture process, mobilize the students' subjective initiative, and greatly enhance learning efficiency. At present, the domestic short video combined with nursing knowledge of education is mostly presented as a single disease to introduce the teaching method, while the short video on nursing education in foreign countries tends to use modular disease combined with short videos to complete the teaching and maintain a long-term repeated learning process, so that the short video education is more generalized and more significantly enhances the students' mastery of professional knowledge. In view of the current situation, on the basis of the existing teaching, short video teaching should be integrated into the whole teaching process in the future, so that short video teaching is more in line with the education of nursing talents to promote the cultivation of applied talents, in order to cultivate excellent talents who can adapt to the needs of the nursing industry in the future.

## Disclosure statement

The author declares no conflict of interest.

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