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Research on the Effects of Medical Humanities Video Course Based-on Jefferson Scale of Empathy-Health Professional for Promoting Nursing Student's Medical Humanities Education

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Abstract

The purpose of this paper is utilizing quasi-experimental study to evaluate the educational value of a video course for nursing student's medical humanities education. This methodological study was conducted to use the psychometric properties of the Jefferson Scale of Empathy-Health Professional student version (JSE-HPS), in a convenience sample of 597 Chinese medical university students and to describe their empathic engagement. This study was completed over a 9-month period. In the experimental group, when the students watched the video course, they evaluated the video course highly and reported an intention to change their attitude to patient. Data were subjected to exploratory and confirmatory factor analysis, test–retest, correlation analysis, t-test, and analysis of variance method. Following viewing, medical university students felt more strongly that the communication between doctors and patients are importance, medicine humanities education is necessary and mutual understanding is greatly impacts human health. As a result, the video course about medicine humanities is an effective educational tool to improve medical humanities. The results suggest that if significant modifications are obtained, this approach can be an efficient way applicable to other contexts of education.

1. Introduction

The crisis of trust between doctors and patients in China has been denounced widely [1]. An online news story on June 5, 2012, described an astonishing scandal at a hospital in Hangzhou, Zhejiang province, in which a female nurse abused an infant and uploaded several photos of the process to her Weibo. The public reacted angrily towards the scandal, and accused the medical staff of having no medical ethics or humanitarianism [2]. There are many possible reasons why Chinese doctors are mistrusted by patients. It's should be noticing that the primary reason is the absence of medical humanities education for medical students [3]. A study of 80 years of medical curricula at the Peking Union Medical College revealed that, since 1990, students' total hours spent on medical humanities have comprised only about 1% of the total; 4% is spent on historical and political courses, and 95% on basic science and biomedical courses (36% basic medicine, 29% basic science, and 30% clinical medicine) [4]. Other medical colleges in China do not seem to be much

different. As medical students, it has found that most school curricula consist of professional medical courses, but there are few courses on medical humanities and social science.

Fortunately, on May 7, 2012, the Chinese Government issued a new policy—the distinguished physician education program, declaring that the proportion of medical humanities and social science courses should be increased in medical universities and colleges to reverse the situation [5]. The effort is worthy encouraging. And it is reported that medical curriculum aims to promote doctors empathy and ethics equal their clinical skills.

Now let us examine the world today: physicians are sometimes in a hurry, being chased by statistics on the timing of examinations and evaluated on the basis of the economic turnover of their workplaces, a truly obnoxious term for a hospital.

Nowadays, strange phenomenon in hospital are listed as follows:

a) Super-specialization
b) Technicism
c) Super-professionalization
d) Hyper-medicalization
e) Insensitivity to personal and cultural values
f) Much cure and little care
g) Too much science
h) Callous treatment of patients
i) Deficit in verbal and nonverbal communication
j) Superficiality and arrogance

The improper use of evidence-based medicine divorced from an in-depth analysis of the themes of relationship and communication has progressively led physicians to focus their attention on the disease and not on the patient. Health providers take into consideration a diseased body or a part of it rather than the person who is ill. This attitude has brought about a process of alienation and in many cases the physician–patient relationship has become an experience that lacks authenticity.

2. Video Course on Medical Humanities Education

Video course as a technology in education (video guideline, video case-studies and videos embedded in multimedia webpage) integrated many educational theories (modeling, scaffolding, co-construction, situated learning) into of high quality visual-audio materials in high education. These courses can provide a vivid learning environment and a tool to promote e reflective practice among student and teachers [6-10]. Despite these strong benefits for high education, less case reported on using video course for medical humanities education. Therefore, this study aimed to design and developed a case of video course for medical humanities education.

Generally speaking, the humanities is thought to develop in medical students and practicing physicians an array of traits,

including strengthened observational and communication skills, enhanced empathy and understanding about the human condition, improved capacities to think in nimble, nuanced and creative ways about complex problems, and more socially-just orientations to the world [11-13].

Concepts, methods, and content from humanities disciplines are being used in medical curricula to consider healing, pain, suffering, or therapeutic relationships in addition to encouraging students and practicing physicians to become more self-aware, humane, and professional [14].

Some of the best produced documentaries benefits that arise from a cross-pollinated relationship between medicine and humanities are occurring in the growing, and increasingly well-regarded, fields of narrative medicine, ecohealth, and relationship based care.

3. Theory Framework

The purpose of the video course is to promote the medical humanities for medical university students. So it is important to translate the medical humanities in the form of knowledge. In this study, the point of view from the information processing was accepted. In this perspective, it is often assumed that there are two distinct kinds of knowledge, whose information processing procedure are different: declarative and procedural knowledge. The declarative knowledge refers to a representation of an object, which linked to the content of information can be described by text, picture and language. On the other hand, the idea of procedural knowledge refers to cognitive dispositions of skills that can be formed as a consequence of constrain behavioral sequences in a series of action, and can be described by video, animation and multi-media [11].

Narrative medicine, which is concerned with both clinical practice and theories of care, is informed by concepts common in literary studies and the literary arts [15]. Narrative medicine moves away from a biomedical paradigm that frames human ailments primarily as problems that need to be and can be solved in clear and evidenced-based ways. Narrative-based medicine can understand the version within the pragmatics of communication, establish a therapeutic alliance with the patient and share decisions with the patient [16]. Instead, narrative medicine works towards conceptualizing illness and wellness as experiential in nature, thus requiring patient narratives to be expressed, understood, and therapeutically addressed. Narrative medicine is not a generic knowing how to listen to patients, but requires specific skills that facilitate the collection of stories and their interpretation, just like with ultrasound or other clinical tests [17]. Scholars of narrative medicine argue that these traits of narratives are precisely what make them potentially so valuable to medical theorists and clinicians [12].

3.1. Course Contents and Structure

Medical narrative in Western art curriculum as a course of narrative medicine concept, as well as other courses, will

be used as video course design. The video course has not only text, language, aesthetic, but also has the characteristics of medical ethics, medical narrative and medical humanities etc. According to interdisciplinary communication, medical humanities art and medical professional courses, the video course can mainly be divided into four parts as follows:

Part 1: Painting Art with Medical Narrative
Part 2: Literature and Art with Medical Narrative
Part 3: Art created with the disease
Part 4: Art and disease treatment

3.2. Medical Narrative in Medicine Humanities Education

The manifestations and signs of the disease are not only being written and also being depicted by the various forms of painting before the twentieth century. Lots of famous artist expressed the disease theme in their works intentionally or unintentionally expressed the disease theme, such as Da Vinci, Rembrandt, Michelangelo, Edvard Munch, Dali and so on. Spanish famous romantic painter Francisco de Goya, the legendary Mexican painter Frida Kahlo, Scottish painter, royal art academy John Bellany, great nineteenth century art master Van Gogh, Munch, and Victorian British painter Richard Dadd all create paintings about the doctor-patient relationship. In the process of instructional design, the video course were used to show students three types of medical narrative painting works: one is the sick state of the painting works; the second is to show the doctor-patient relationship painting works; third is to show the development of medical painting works.

Western painting is advocating realistic and it is particular emphasis on the description of the characters. Thus, figure paintings and portraits become an independent branch of painting. In some of the world famous paintings, the characters are depicted as vivid, lifelike, so that the viewer can enjoy the senses of the mental outlook and health of the characters in the painting. In this research, the video course was used to express these famous painters and their representative. Because video course as audio-visual language is good at communicating emotion.

The well-known doctor-patient paintings include the famous painter *The Doctor* (1891) by the British painter Sir Feldes in 1891, Goya's S*elf Portrait with Dr Arrieta* (1820), Bloomberg's *Bonjour Professor Calne* (1988), Munch's *Dr Jacobsen electrifying Munch* (1908-9), Jan Steen's *The Doctor's Visit* (1665), Carol's *Portrait of Dr. Eloesse* (1931).

The paintings about doctors include Cavenaille, Felix Rey and Gachet, Portrait of Dr Jacobsen, et al. The art works of recording the medical development process are Rembrandt's *The Anatomy Lecture of Dr. Nicolaes Tulp* (1632), Jan van Necks' *The Anatomy Lesson of Professor Frederik Ruysch* (1683) and so on.

4. Research Approach

4.1. Data Collection

Semi-structured interviews were used for collecting the result of questionnaire. The design of questionnaire was based on the framework Jefferson Scale of Empathy-Health Professional (JSE-HP).

Questionnaire with a ten-point Liker scale (Likert, 1932; Verhagen et al., 1998; Linacre, 2002) (from 1 = strongly disagree to 10 = strongly agree) was used evaluating the Perspective-taking (10 items), Compassionate care (7 items) and Standing in patient's shoes (3 items).

After questionnaire had been returned, the responses were synthesized and developed through a diagram chart and then categorized into similarities and differences.

After questionnaire had been finished, medical students were do Pre-test before learn with education media, after that they were do Pros-test for a questionnaire to assess students' opinions toward the developed education media.

4.2. Data Analysis

Descriptive analyses were performed for all items. The Jefferson Scale of Empathy is a widely used psychometric tool in order to measure empathy levels among health professional students [18]. Data extracted from the Chinese version of the JSE-HPS were subjected to both exploratory factor analysis (EFA, to examine the underlying construct of the scale among the sample) and confirmatory factor analysis (CFA) [19]. Data analysis was done using SPSS (Statistical Package for Social Science for Windows edition) software.

Collection Data was collection opinion of teachers at expert education for confirms using an instructional design framework for educational media. Study students' opinions for educational media were undergraduate students of Chongqing Medicine University and North Sichuan Medical College.

4.3. Result

After watching the video course of Part 1: Painting Art with Medical Narrative, students described the characters in the story with their own language. This can make students more enhance the ability to express, through different perspectives on the story of the ability to establish a correct doctor morality. In fact, this instructional strategy depicts a sensible scene where a doctor is treating a sick patient in treatment room. In the video course, the shots expressed one of the famous painting called *doctor*, shown as figure 1.

Figure 1. The Painting of Doctor.

The little girl lying on the bed by two chairs, her left hand weak to fall on the bedside; sick child is very anxious, sad and tired, is helplessly buried in the corner of the table. The girl's father stood straight on his side, gently stroking his mother's shoulders, his face expression of perseverance revealed to the doctor's confidence and sustenance. Low windows into the dawn, indicating that at this time is already at dawn, the doctor after overnight rescue, the sick child has been out of the crisis, control the condition, and slightly tired of the doctor is still eyes focused, threw himself Sick child who is thinking about the next step in the treatment program. It is worth mentioning that the creation of the oil painting in the era, antibiotics have not yet invented, the doctor also lacks effective drugs and tools, the number of children died in the epidemic of the epidemic. Even so, the doctor's duty is to save lives, this work to shape the doctor regardless of the patient poor and humble, young and old, loyal to duty, cure and save the noble image, works come out, become a well-known handed down masterpiece. The replica of the painting is hung in many hospital halls or doctors' clinics' offices and has become the most common props for medical students' professional ethics education, motivating medical workers to work hard for the health of the patients.

After viewing the video course, students were more likely to agree that medical humanities course is important to their expert study. And they were less likely to believe that medical humanities is primarily someone else's job (see Table 1).

Table 1. Students' Attitudes toward Medical Humanities Education.

Items	Score	ANOVA F statistic	P value
Listen carefully, detailed inquiry, meticulous examination, patiently informed the treatment side case	7.64 8.37	1.63	<.01
The property body language	4.58 5.67	1.56	<.01
During the diagnosis and treatment to consider the patient's economic conditions	9.16 7.68	1.32	<.01
Respect the patient's personal privacy	9.82 9.73	1.08	<.01
The video course is an effective way to teach about medical humanities	6.82 8.54	2.67	<.01
Transitional care	9.78 7.67	7.87	<.01
Respect the patient's religious habits	4.54 5.47	7.76	<.01

Empathy score of medical students has got a high level when these students had learned the video course (see table 2).

***Table 2.** The Pre-test and Post-test Scores of Empathy Scale.*

Items	Pre-test Score	Post-test Score	P-Value
Perspective-taking	43.6±6.10	64.2±3.26	<.01
Compassionate care	24.8±6.91	44.2±3.26	<.01
Standing in patient's shoes	12.7±2.97	20.2±2.58	<.01
Empathy Score	81.1±16.1	128.6±10.0	<.01

5. Conclusions

The Chinese version of the JSE-HPS is psychometrically sound for use with Chinese students. Differences in factor loadings and distribution can be explicated by cultural differences between populations in which the scale has been tested.

Monitoring empathy level with a psychometrically sound instrument in medical humanities education is pivotal, as empathy is one of the key elements of engaging with patients and their caregivers.

It is important that not only empathy levels remain stable or increase during the study path, but also that new teaching strategies can be applied in the clinical setting in order to strengthen empathy. Thus, the importance of further research into the reasons why there is an apparent decrease in empathy levels following clinical placement is highlighted.

Studying empathy would allow researchers, teachers, and clinicians to understand the contribution it provides to healthcare professionals' competence and patient outcomes.

Ultimately, it is only the patient who can tell whether a healthcare professional demonstrates empathy in a particular situation. In the future it will be useful to study empathy through both a quantitative and a qualitative study design where patients' perspectives are taken into account, as they are the ones.

Video courses have a wide range of coverage, low cost, targeted, content updates and real, intuitive and so on, is a very suitable method for medical humanities. This part of the teaching can improve the ability of medical students to observe and explore the ability to cultivate doctor's professional ethics.

Acknowledgements

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