

## Effects of Education using TED Talks videos for Knowledge, Attitude and Satisfaction

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### **Abstract**

*Purpose: It is essential that nursing classes for nursing students provide high-quality nursing care to elderly patients. However, it is necessary to use various methods to understand the physiological changes of the elderly rather than simple knowledge and to have a positive perception. Therefore, in this study, the contents of TED (Technology, Entertainment, Design) Talks about elderly people and aging were selected and applied to the geriatric nursing class. Methods: In the geriatric nursing class opened in the second semester of 2016, the nursing students in the nursing area and the second-grade students watched the TED Talks videos for 6 weeks. After that, a self-report questionnaire was used to verify the effect of the questionnaire. Results: In the experimental group using the TED videos, the attitude toward the elderly were significantly higher than in the control group. There was no difference in knowledge about the elderly. Conclusion: TED Talks videos for nursing college students are useful learning materials for improvement of positive attitude toward the elderly.*

**Keywords:** Education, Learning, Geriatric nursing

### **1. Introduction**

As of 2017, Korea's elderly population aged 65 or older has led to an “aging society,” exceeding 14% of the total population [1]. It is essential for nurses to understand the elderly, because the elderly constitute generations that undergo social changes such as physical changes due to aging, mental changes such as depression and anxiety, retirement, and the need for nursing [2][3]. However, the aging of Korea is proceeding very rapidly, and the values of the elderly population are very different from generation to generation. In particular, current college students have grown up in the nuclear family structure due to industrialization; they interact with their grandparents less than before, and there is a limit to the physiological change and understanding of the elderly. Thus, it is easy to be prejudiced [3][4]. Lately, the pace of aging varies according to personal lifestyle and health care, but textbook-based education has limitations in understanding these social changes and suggests standards and nursing for uniform aging. In addition, unilateral delivery of professors and abstract concepts that have no <sup>1</sup>direct experience with the elderly detracts from the students' commitment to class and their satisfaction, and, therefore, effective methods are needed.

The use of video in education is very effective, and, in recent years, the effectiveness of education using various video media such as movies has been reported in various fields [5].

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Among them, TED Talks is a yearly lecture held by the American Nonprofit Foundation. It is run under the motto “Ideas worth spreading.” Since 2006, it has been translated into various languages from around the world and is available for free viewing [6]. This is because experts in each field focus on their own experiences and examples, and the length of the lecture is suitable for listening with a concentration of around 15 minutes. It is believed that the introduction of TED Talks videos with various contents will enable efficient classroom work because there is a limit to the class’s ability to proceed with the examples and experiences of various fields in the actual class.

The purpose of this study was to examine the effects of the TED Talks video teaching method on the knowledge about elderly, attitude toward elderly and learning satisfaction in the geriatric nursing class and to examine the possibility of application in other subjects.

## 2. Method

### 2.1. Study design

The purpose of this study is to compare the effects of TED Talks videos on the knowledge about elderly, attitude toward the elderly and learning satisfaction of geriatric nursing students among nursing college students.

### 2.2. Setting and samples

The participants in this study were 192 nursing students in the nursing school in D city. Participants tried to compare the effectiveness of the video application through the geriatric nursing in the second semester of 2016. Two of the four quartiles were selected as the experimental group and the rest were selected as the control group. Data were collected through questionnaires from those who voluntarily agreed to participate in the research. The sample size was 172 for the average comparison of the two groups when the effect size was .5, significance level .05, and power .90 using G \* power 3.10 program.

### 2.3. Measurements

**2.3.1. Knowledge:** To measure knowledge about the elderly, we used Fact on Aging, developed by Palmore [8] and modified and supplemented by Park [2]. The questionnaire consists of 26 items and is divided into “facts,” “not facts,” and “I do not know.” The answer is “1 point,” and the item that answered “I do not know. The higher the score, the higher the knowledge about elderly.

**2.3.2 Attitudes:** Attitudes toward the elderly were measured using the Aging Semantic Differential Scale developed by Sanders et al. [9] and supplemented by Han [10]. The total score is 20 points for items ranging from “very positive” (1 point) to “very negative” (7 points). A neutral attitude toward the elderly means that the total score is between 70 and 90 points. If score is higher, attitude is positive. If score is low, attitude is negative. The reliability of the instrument at the time of admission was Cronbach’s  $\alpha=.87$ , and Cronbach’s  $\alpha=.86$  in this study.

**2.3.3. Satisfaction:** Learning satisfaction was measured using a tool developed by the National League for Nursing[13] and adapted by Yoo [14]. A total of 8 items were rated on a 5-point Likert scale. The higher the total score, the higher the confidence in learning. The reliability was Cronbach’s  $\alpha = .89$  in the study of Yoo [14], and Cronbach  $\alpha=.91$  in this study.

## **2.4. Data collection**

Data were collected during the second semester of the 2016 geriatric nursing class in the second year of the university nursing school in D city. Students were told in advance about the need and purpose of the study as well as the benefits of participating in the study and the ability to discontinue it at any time. Before the class, general characteristics, attitudes toward the elderly, knowledge were surveyed. The experimental group was taught using TED Talks video. I watched a video about 10 minutes on the first day of the class, and I had time to freely discuss the testimonies that I had written for about 10 minutes in the class. Thereafter, the post-test of attitude about the elderly, knowledge toward the elderly and learning satisfaction was conducted. The research questionnaire was completed with only three digits of the student's number, and one research assistant changed to another number and coded. Of 199 collected questionnaires, 192 were analyzed, excluding those with missing values. The whole research procedure was as follows.

## **2.5. Educations using TED talks**

The Ted Talks video was selected by the researcher as appropriate for each week's lesson plans.

## **2.6. Data analysis**

The collected data were analyzed using SPSS 22.0. The general characteristics of the participants were compared with real numbers, percentages, means, and standard deviations. To compare the knowledge about the elderly, attitude toward the elderly and learning satisfaction according to the use of TED Talks in the experimental and control groups, the effects were analyzed using independent and paired t-tests.

# **3. Results**

## **3.1. General characteristics of participants**

The average age of the participants was  $21.57 \pm 4.14$  years old. There were 175(91.1%) female students and 17(8.9%) male students in the department; 77(44.1%) had experience of living with grandparents, and 115(59.9%) had no experience. There were 168(87.5%) people who had volunteered for the elderly and 24(12.5%) who had no experience. The age and sex of the experimental and control groups were similar regardless of whether they were living with grandparents or not.

The results of this study are summarized as follows. Knowledge about the elderly, attitude toward the elderly in the experimental group were  $12.49 \pm 2.92$ ,  $76.53 \pm 15.08$ , respectively, slightly lower than those of the control group ( $13.08 \pm 2.97$ ,  $78.40 \pm 12.85$ , respectively). There was no significant difference [Table 1].

**Table 1. General characteristics of participants**

		(N=192)				
Characteristics		Total	Exp. (n=101)	Cont. (n=91)	t or $\chi^2$	p
			M $\pm$ SD or n(%)	M $\pm$ SD or n(%)		
Age (yr)		21.57 $\pm$ 4.14	21.65 $\pm$ 4.39	21.48 $\pm$ 3.88	0.28	.777
Gender	Male	17(8.9)	6(5.9)	11(12.1)	2.24	.134
	Female	175(91.1)	95(94.1)	80(87.9)		
Living with grandparents	Yes	77(40.1)	40(39.6)	37(40.7)	0.02	.882
	No	115(59.9)	61(60.4)	54(59.3)		
Volunteering for the elderly	Yes	168(87.5)	90(89.1)	78(85.7)	0.50	.478
	No	24(12.5)	11(10.9)	13(14.3)		
Knowledge		12.77 $\pm$ 2.95	12.49 $\pm$ 2.92	13.08 $\pm$ 2.97	-1.39	.166
Attitude		77.42 $\pm$ 14.06	76.53 $\pm$ 15.08	78.40 $\pm$ 12.85	-0.92	.361

Exp.=Experimental group; Cont.=Control group

### 3.2. Knowledge about the elderly

Knowledge about the elderly was significantly increased from 12.49 $\pm$ 2.92 to 14.28 $\pm$ 3.83 points ( $t=-4.51$ ,  $p<.001$ ) in the experimental group and from 13.08 $\pm$ 2.97 points to 15.47 $\pm$ 4.46 points in the control group ( $t=-5.04$ ,  $p<.001$ ). There was no significant difference between the experimental and control groups ( $t=-0.98$ ,  $p=.328$ ).

### 3.3. Attitude toward the elderly

Attitude toward the elderly increased significantly from 76.53 $\pm$ 15.08 to 83.43 $\pm$ 11.12 points ( $t=-5.55$ ,  $p<.001$ ) in the experimental group and from 78.40 $\pm$ 12.85 to 81.18 $\pm$ 15.00 points in the control group ( $t=-1.87$ ,  $p=.065$ ). The difference between before and after the lesson was 6.89 $\pm$ 12.47 points in the experimental group and 2.78 $\pm$ 14.20 points in the control group ( $t=2.14$ ,  $p=.034$ ).

### 3.5. Learning satisfaction

Learning satisfaction was higher in the experimental group (21.08 $\pm$ 2.65) than in the control group (20.96 $\pm$ 2.68), but not statistically significantly ( $t=.320$ ,  $p=.749$ )[Table 2].

**Table 2. Comparison of knowledge, attitude and satisfaction in learning**

		(N=192)						
Variables	Groups	Pre-test	Post-test	t	p	Differences	t	p
		M $\pm$ SD	M $\pm$ SD			M $\pm$ SD		
Knowledge	Exp.(n=92)	12.49 $\pm$ 2.92	14.28 $\pm$ 3.83	-4.51	<.001	1.79 $\pm$ 3.99	-0.98	.328
	Cont.(n=101)	13.08 $\pm$ 2.97	15.47 $\pm$ 4.46	-5.04	<.001	2.40 $\pm$ 4.54		
Attitude	Exp.(n=92)	76.53 $\pm$ 15.08	83.43 $\pm$ 11.12	-5.55	<.001	6.89 $\pm$ 12.47	2.14	.034

	Cont.(n=101)	78.40±12.85	81.18±15.00	-1.87	.065	2.78±14.20		
Satisfaction	Exp.(n=92)	-	21.08±2.65	-	-	-	.320	.749
	Cont.(n=101)	-	20.96±2.68	-	-	-		

Exp.=Experimental group; Cont.=Control group

#### 4. Conclusion

The purpose of this study is to investigate the effects of using TED Talks videos on the knowledge about the elderly, attitude toward the elderly and learning satisfaction of geriatric nursing class students.

The results of the study showed that the learning method using video did not have any effect on knowledge about elderly but showed significant effects on attitude toward the elderly and the satisfaction level of the experimental group was higher than in the control group. This is because the contents of the video used in the class were not knowledgeable, and the other classes were the same. Therefore, it is a reasonable and cost-effective way to understand the feelings and changes of the elderly in the elderly nursing class, to develop a positive attitude, and to use TED Talks videos for better immersion and satisfaction. TED Talks videos have a wide variety of contents, so it is possible to apply them to other courses or academic studies. Therefore, I would like to suggest further research. Note that this study is difficult to generalize because nursing college students in one area were collected by convenience sampling.

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