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Comparing the Durability of Professional Ethics' Learning in Two Methods of Group Discussion and Multimedia Software

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Abstract: One of the main concerns of educators is the knowledge retention of information learned by students. The purpose of this study was to compare the durability of professional ethics' learning in two methods of group discussion and multimedia software. This was a quasi-experimental study of two before and after groups (group discussion and multimedia software).The study population consists of nursing and midwifery students of Bushehr University of Medical Sciences who were in their 6th and 8th semester. The students entered the two groups by random allocation. The number of samples in each group was N = 30 subjects. Pre- test were immediately carried out before the groups were exposed to the online discussion board or multimedia. Post-test occurred 4weeks after learning. The durability test utilizing the researcher developed questionnaire of professional ethics, after confirming validity and reliability. The statistical tools used for data analysis was t-test and ANOVA. Durability score in the group discussion was 10.38 wheras in the multimedia groups the udrability score was 11.36. No significant difference was observed between the durability of group discussion and multimedia method. In the findings, there was no indication of statistically significant difference between pre-test and durability of group discussion ($p = 0.702$) and no statistically significant difference between pre-test and durability of multimedia ($p = 1$). Despite lack of obvious differences in students' education methods, the effect of multimedia method durability over time is more than that of group discussion method. You havnt shown this in your study Educators can apply multimedia method as an effective method for durability.

Key words: Professional ethics, group discussion, multimedia, learning durability, Iran

INTRODUCTION

Effective, deep and efficient learning, maintaining and increasing motivation and above all information durability in the minds of students have always been a problem for educators, and in this regard; one of the best solutions to solve this problem is the use of educational methods that create more durability of information in the minds of students (Baghcheghi *et al*., 2010). In educational programs, two general models of teaching have been seen. The first model; professor-based, with the aim of shaping behavior, according to a preset model, is a learner's support. In this model, learners learn more and soon they forget. The second model that considers a learner's needs and abilities is called student-based (Hazavehei *et al*., 2010). Multimedia education methods in recent decades have created a significant growth in education and have made multimedia education in industrial communities to achieve dramatic improvements with the help of electronic revolution (Yeh *et al*., 2005; Jabbari and Balchshian, 2008). Multimedia software should possess three attributes, text, image and sound. Of course, some consider interaction in this category that is called interactive multimedia software (Meshki *et al*., 2014). In multimedia educational package, all capabilities are utilized for the production of an educational software and in an attractive and varied environment, the software is expected to interactively teach educational concepts to students (Hekmatpour *et al*., 2013). On the other hand, teaching method of discussion is a student-based educational method. This technique allows students to actively participate in educational activities and learn how to take learning responsibility and it also allows them to share their views, opinions and experiences with others (Karimi *et al*., 2012). However, few professors are familiar with this method and barely use it. Most educational members resist changes in education (Moeini *et al*., 2011). One of the biggest problems of education is information durability. Information durability in the mind can be improved using images, videos and even describing a patient (Hazavehei *et al*., 2008). The enhancement of information durability can be achieved by some methods

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in different ways. Learning method based on problem solving is one of the ways that can be used to enhance taught information in the mind (Khani *et al*., 2015). Other ways with high information durability in presented methods are multimedia education, group discussion and lecture (Daneshmandi *et al*., 2011).

Since, information durability in multimedia method was mentioned in Mohammadi Bagh study as well as in Mousaei Fard study, the present study was performed to compare the durability of professional ethics learning in two methods of group discussion and multimedia software.

MATERIALS AND METHODS

This is a quasi-experimental study of two before and after groups. The study population consists of nursing and midwifery students from Bushehr University of Medical Sciences who were in their 6th and 8th semester and had clinical work experience as internship before the study was carried out. Inclusion criteria include the tendency of students to participate in the study and nursing students who were in their 6th or 8th semester while exclusion criteria include guest students who were less than 2 semesters in the school. After preparing the list of students from the Education Department, students in their 6th and 8th semester were randomly allocated based on a draw into two groups. After determining the discussion and multimedia groups with a draw, the names of students (in 6th semester and 8th semester separately) were individually written on a paper and put in a box and by picking them students were considered in pre-determined groups and this continued until the completion of the sample size. In group discussion, subjects were divided into 5 groups of 6 members (Baghcheghi *et al*., 2010). The number of students in each group according to similar studies was 30 subjects. Data collection tool include a two-part questionnaire (5 questions) of personal information and the second part containing 21 items with yes and no answers for knowledge evaluation (correct answer = 1, wrong answer = 0). For the tool validity, after preparing 21 items from various sources of nursing ethics by the researcher with scientific panel (thesis advisor and consulting advisor, professor of statistics) in order to determine content validity and content validity index, 10 faculty members from the School of Nursing and Midwifery in Bushehr were provided with the questionnaire and after collection, content validity was calculated as 0.73 while content validity index was 0.90 (score higher than 0.62 for content validity and higher than 0.79 for content validity index is good. In order to determine tool reliability, internal consistency and external reliability were calculated. In this regard, Kuder Richardson method was applied to measure internal consistency and repeatability Pearson correlation coefficient and the values obtained were 0.65 and 0.73 respectively, the results indicate a statistically significant relationship. The purpose of conducting this study was clearly explained to both groups of students. Educational file of multimedia group was a combination of image, PowerPoint, video and lecture with videos designed in a hospital environment by nurses according to the questionnaire questions after which they were confirmed by thesis advisor and 8 expert professors (expert criterion in education aspect is being a faculty member of Nursing and Midwifery Department in Bushehr) and after their final approval, they were delivered on the CD. In the first session for group discussion group, students were first provided with the questions and after completion and collection of the questionnaires, students were divided into 5 groups of 6 members and for each group a representative was selected by the group members, then the given content (the questionnaire questions) was read in a quiet environment for all groups separately and groups' representatives after discussing the issue raised in groups, declared their group final answer, then discussion on each group answer began and the researcher moved answers to the correct answer and finally groups were provided with the correct answer. After discussion and review of each questionnaire content, post-test was performed. Pre-test was done and then post-test was performed to measure the durability of taught information. After 2 necessary sessions for group discussion, in another session for multimedia group; first pre-test was done and after collecting questionnaires, prepared multimedia content was read for the group in a quiet environment for 45 min and the researcher provided no explanation before and after reading. After 1 month, group discussion durability post-test was performed. Information collected in this study were analyzed using statistical software SPSS version 20 and descriptive- analytical statistics. In this study, descriptive statistics was performed using frequency distribution table and percentages, minimum and maximum, mean and standard deviation to describe the study participants. For the comparison of mean in two independent groups, t-test was used before and after intervention, in each group, paired t-test was used and for statistical comparison of two independent groups, ANOVA test was used. All ethical issues regarding the study were observed.

RESULTS AND DISCUSSION

According to the study findings, gender had no significant difference in two groups. Most subjects were 22-23 year old while few were in the range of 24-26 years old. For participants' semester distribution in this study,

Table 1: The difference between the durability of professional ethics learning before and after learning in two methods o fgroup discussion and multi-media software

The study finidings	Comparing durability	
	Multimedia durability	Group discussion durability
Score	11.36	10.38
SD	1.59	2
Significance level	0.590	

it was found that semester distribution in both groups was homogenous. Pre-test score in group discussion method was obtained as 11.04 and in multimedia method it was obtained as 10.98 while no statistically significant difference was observed (p = 0/983) between two pre-tests. Students' knowledge durability score on the issue of Nursing Ethics in multimedia group was higher than group discussion, but no statistically significant difference was observed in the field (p = 0.590).

No significant difference was observed between nursing students' average knowledge scores of professional ethics discussion in pre-test step and durability in group discussion (p = 0.702). No significant difference was found between nursing students' average knowledge scores of professional ethics discussion in pre-test step in multimedia group and multimedia durability (p = 1). The differences between the durability of professional ethics learning before and after learning in two methods of group discussion and multimedia are given in Table 1.

The results of statistical analysis suggest that although in pre-test step, average scores of knowledge of professional ethics in group discussion is more of a multimedia method, this difference is not significant. The results of this study are consistent with Daneshmandi *et al*. (2011). Study on examining the effect of self and other-aid learning by two methods of lecture and multimedia software package on the performance of military personnel conducted on 300 nurses in Tehran. According to the comparison of students' average knowledge durability score of professional ethics discussion in group discussion and multimedia methods, it was found that durability score in multimedia group was higher than group discussion. The above findings are consistent with studies of Mokhtari Noori, Mollazade et al as well as Wahhabi *et al*. (Colliques, 2011; Daneshmandi *et al*., 2011; Mollazadeh *et al*., 2014). In order to compare nursing students' average knowledge scores of professional ethics discussion before and after learning in multimedia method according to analysis performed using paired t- test, it was found that no significant difference was found between multimedia learning before and after the intervention (p = 0.963) which is consistent with the findings of Wahhabi (Forouhari *et al*., 2011) on lack of a significant change of multimedia software score before and after the intervention in an increase in nurses' learning about triage. The present study was also consistent with national study of Ling Ye et al. entitled comparing the effect of multimedia and experimental groups on self-efficiency education and nurses' basic functions in patients with joint replacement in 2003. Ling national study confirms the superiority of the experimental method as the superior way to multimedia method in education for nurses in terms of hip replacements and lack of a significant difference in multimedia scores before and after education. Being quiet and just a good listener, inactivity and lack of active participation of students in education, non-use of opinions of other students and lack of focus on the issues and challenging them can justify why the learning rate is lower than expected. In examining average difference of students' knowledge durability score of professional ethics discussion in group discussion and multimedia methods, it was found that durability score in multimedia group was higher than group discussion but the difference was not significant between the two studied groups (p = 0.590). Mollazade in his study stated that despite the lack of obvious differences in students' education methods, the durability effect of multimedia method over time is more than other methods (Mollazadeh *et al*., 2014). The above findings are consistent with studies of Mollazade *et al*. (2014) as well as Wahhabi. (Siavash *et al*., 2011; Daneshmandi *et al*., 2011; Mollazadeh*et al*., 2014). The author believes that as a memory of a video remains in the mind for a long time, multimedia content designed as video, PowerPoint etc will also remain in students' mind for a long time. In group discussion, it was expected that because of deep thinking, challenging issue, as well as alternative information, instead of taught content in short-term memory over time, post- test had higher scores.

CONCLUSION

The study results demonstrate that multimedia education had higher information durability than group discussion; this confirms that educators can use the method as one of the active methods of information durability for students' education. Since, multimedia method can be flexible to adapt to a person life program, it needs less time for education and the person can use the method separately from others with no need to be present in a specified place and will cause the person's motivation to learn through this method. Therefore, the use of multimedia education method can be a proper

solution to enhance information durability in a mind that requires proper preparation and planning for the application of this method. Communication and socialization skills in medical sciences' groups especially nursing are critical and valuable that can be realized by group discussion method. Students in group discussion method on the one hand should be careful to get other members' opinions and on the other hand should provide a logical and reasonable answer for acceptance or rejection of their ideas and both require special frameworks for logical and principled communication among all members of a group. So, learning life skills such as cooperation and interaction with others is realized better through group discussion.

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