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ORIGINAL ARTICLE

Paramedics' Perception on Video Assisted Learning Method in Learning Emergency Skills

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ABSTRAK

Penggunaan teknologi informasi merupakan salah satu kaedah pengajaran popular dalam bidang perubatan. Salah satu kaedah yang digunakan ialah pembelajaran berasaskan video (PBV). Pengunaan video sebagai bahan bantu pengajaran bagi pembelajaran kemahiran kecemasan bukan sesuatu yang baru. Namun, kajian mengenai persepsi penggunaan PBV ini masih kurang. Kajian kualitatif ini melibatkan empat perbincangan kumpulan fokus setelah peserta mengikuti sesi pembelajaran skil melalui PBV. Seramai 20 orang paramedik dibahagikan kepada empat kumpulan fokus. Mereka terlibat dalam perbincangan setelah mengikuti PBV. Hasil kajian ini menunjukkan bahawa terdapat tiga tema utama yang dikategorikan sebagai: i) kelebihan video sebagai alat bantu mengajar, ii) halangan dalam menggunakan video sebagai alat bantu pengajaran; dan iii) cadangan dalam menggunakan video sebagai alat pengajaran. Kajian ini menunjukkan bahawa paramedik yang terlibat merasakan video berpotensi sebagai satu kaedah dalam mempelajari kemahiran kecemasan. Walau bagaimanapun, mereka mencadangkan bahasa ibunda digunakan sebagai bahasa pengantara dalam pengajaran berasaskan video ini. Ini menunjukkan bahawa penggunaan Bahasa Inggeris dalam PBV mempunyai kelemahan untuk memahami kandungan pembelajaran.

Kata kunci: paramedik, pembelajaran, persepsi

ABSTRACT

Information technology use in healthcare education has become a popular medium of instruction. One of the medium of instruction is video assisted learning (VAL). The use of VAL as an instructional method in the teaching and learning of

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emergency skills is not new. However, there are lack of studies on the perception of using this method in learning emergency skills. This qualitative study involved four focused discussion groups following a VAL instruction on emergency skills. A total of 20 paramedics were divided into four groups. They were involved in a focussed discussion after a VAL instruction session. Findings reveal that the paramedics perceived three major themes which were categorized as : i) advantages of video as teaching tool, ii) barrier in using video as a teaching tool; and iii) suggestions on using video as teaching tool. The findings indicate that the paramedics perceived VAL as a potential tool for learning emergency skills. However, they suggested the language of instruction should be in their mother tongue for better understanding. This implies that using English language has disadvantage in technology enhanced learning for better understanding.

Keywords: paramedic, learning, perception

INTRODUCTION

The use of multimedia instruction like video, has been established as a potential teaching technique. The Video assisted learning method is similar to traditional lectures. In few cases, it increased student learning satisfaction (Lee et al. 2007). A study by Akl et al. (2008) supported the capability of students' performance which increased with video assisted learning. In the same study, the authors found that the students were able to complete laparoscopic suturing procedure within an accepted time. In another study by Xeroulis et al. (2007), sixty first year medical students were taught on suturing with the use of self study computer-based video instructionand two blinded experts assessed their performance on a Global Rating Scale which has shown improvement in students' suturing skills. In addition, study by Lee et al. (2007) also concluded that the use of an instructional DVD is more effective than face-to-face didactic teaching for teaching pediatric intra-osseous needle insertion to medical professionals. Furthermore, a study by Whatley and Ahmad (2007) which assessed the use of video as a teaching tool in medical education showed that video is a powerful teaching medium to attract students' attention. The study also revealed that it is also a strong motivator for learning. Moreover, over the years, videos have gained popularity on the web as a medium of presenting materials that incorporate multimedia content for e-learning. This method allows learners to learn on their own using video. However, according to Hammound et al. (2006) it is difficult to find and develop effective and quality video-module as an instructional material. Currently, there are a large number of poorly designed instructional videos frequently accessible through different venues such as the internet or commercially available videos that provide very limited instruction. Valcke

and Wever (2006) has mentioned, that the current concern is to find adequate information to develop effective and appealingly designed video instruction materials. Nevertheless, a qualitative perception of using video as a learning medium needs to be carried out to explore further on how video based learning can be optimized in teaching healthcare providers.

MATERIALS AND METHODS

This study used a qualitative research design. This study aimed at exploring paramedic students' perception of the video assisted learning method as an instructional method of learning emergency skills.

Ethical approval was obtained from the Medical Research Ethics Committee, Universiti Kebangsaan Malaysia Medical Centre prior to data collection. During the whole research process thought was given to non-compulsion, educated assent, members' secrecy, flexibility of members to pull back at whatever time they wished without being penalized. The members were consoled that their reactions would be kept secret and their characters would not be uncovered in research report and publications. They were recognized by the use of pseudonyms.

PARTICIPANTS

Twenty paramedics were involved in this study. They attended a 15- minute video session on knowledge and skills regarding intraosseous cannulation in English. Then they were assigned into four groups and each individual in the group practiced the skills. After the practice session, they were assessed on their knowledge and skills. After completing the session, all the paramedics were invited to be involved in a focus group discussion pertaining to their experiences of the teaching method. All of them participated in this study. They were divided into four groups and each group consisted of five participants.

DATA COLLECTION

A semi–structured discussion guide was used to collect data on the participants' insight regarding the use of video for enhancement of knowledge and psychomotor skills. The interview was designed to explore their perception regarding video assisted learning. The data were collected through focus group discussion. The discussion was conducted after the training session. The session started with a briefing to all the participants regarding the purpose and method involved in the discussion. A total of four group discussion sessions were recorded with sound recording record-keeper after getting informed consent from them. Each focus group discussion lasted for about 45 minutes. Three general questions were discussed "how do you feel about this teaching session", "what is your expectation of using video as a teaching tool" and "how do you suggest to improve the delivery of teaching by video". Various methods of probing such as active listening, paraphrasing, and reflecting were employed to facilitate the discussion.

DATA ANALYSIS

The qualitative data was collected and analyzed, concurrently. A content analysis method was performed whereby an orderly coding and sorting methodology was utilized. The researcher listened to the audio recorded talk painstakingly and information was translated verbatim. Transcribed information was analyzed through the constant comparative; a back and forth process to identify the themes which were coded and categorized.

Concerns of validity and reliability in qualitative studies such as this concerns its trustworthiness. The first measure of trustworthiness was gathered through member-checking where three of the participants checked and affirmed the themes identified. Then, two experts from the medical staff were given the data and asked to identify the themes and develop the codes and categories. These were compared to those identified and developed by the researcher.

RESULTS

DEMOGRAPHICS CHARACTERISTICS OF PARTICIPANTS

The sample consisted of 20 paramedics. The study had a total of 2 females and 18 males. Their ages were between 21-32 years. Fifty-five percent of the participants had more than 3 years of working experience and 45 % had less than 3 years of working experiences. All the participants were diploma holders of a Diploma in Medical Assistance Programme.

EMERGING THEMES: PERCEPTIONS TOWARD VIDEO ASSISTED LEARNING METHODOLOGY ON LEARNING EMERGENCY SKILLS

This section presents the findings from the discussion, according to the themes identified through the qualitative data analysis process. Three major themes were identified which were categorized as: i) advantages of video as a teaching tool, ii) barrier in using video as a teaching tool; and iii) suggestions on using video as a teaching tool.

ADVANTAGES OF VIDEO AS TEACHING TOOL

Eight sub-themes were identified from the discussions which were categorized as advantages of video as a teaching tool. The participants felt that the use of video in the training was an advantage because it: (i) increased their interest; (ii) provided better understanding; (iii) presented a better learning tool; (iv) increased their confidence; (v) promoted self-learning; (vi) enabled observation of learning by doing; (vii) helped them in learning procedure skills; and (viii) helped them in delivering standard information.

When asked about how the video was a teaching tool, participants said that they were happy using the video and felt that it increased their interest because [they could] *see how the skill was done by watching and it* [made] *clearer picture of the procedure, really see what* [was] *happening … language that they used in teaching is simple and easy to understand* and that the video has an *image and action* with a *voice* which we can watch than lecture.

In terms of understanding, the participants felt that the video provided better understanding because they could see the steps one-by-one with an explanation which [gave] better understanding … *learn better … see the way how a skill was demonstrated clearly on the picture and* [could] *focus to it*, and the image of the equipment and place and procedure. However, one of the participants - mentioned that it was a new method and he needed someone to show the steps to him. He felt that he could not fully learn from the video; that he could only get 60-70% of information from this video because [he felt] difficulty in understanding the language and [he was] not very good in English. He preferred that the medium of instruction to be his mother tongue which is Malay to make him understand better.

In addition, one of the participants also felt that when [he] focused [he could] learn the steps by watching the video [and] concentrated [his] view and mind to the video… because [he was] interested with the skill. It [made his] mind capture a picture of the video. Meanwhile, one of female participants felt that [she could] see many times if it is in the video. [They could] play on DVD and watch as many times [they wanted]. By doing so, [they] understand and remember better. [They] also [could] pause [the] video and watch properly, the video to look at all the steps. However, they felt not able to catch the word … very fast … [could] understand but not fully.

The participants also felt that the use of instructional video in learning intraosseous cannulation made them more confident in performing the skill. They felt by watching the video then practice could improve their confidence level. They felt that [they could] see many times and replay and replay to remember the steps … to practice while watching the video … gain more confident when practice together with video ; that the video was very helpful [because they could] perform more confidently when [they could] see the skills. It also [helped them] to learn any time when free.

In terms of promoting self-directed learning, only a few participants responded clearly that the video promoted self-directed learning. He said that there are many emergency skills to be learned and it is difficult to remember all of them. So, [he preferred] to watch video to enhance [his] skills. This is because not all the skills [are] practiced every day like Cardiopulmonary Resuscitation (CPR), which [they could] practice and remember better. Meanwhile, although others did not respond directly that the video promoted self-directed learning, one participant responded that [she] sometimes watch the video for enhancing [her] skill from YouTube indicates that she was comparing the instructional video she used in this study was like the video that she observed on You Tube which required her to access on her own. Similarly with, similar to others' response that they could use video to recall the skills indicate that the video did promote self-directed learning.

Other advantage of the use of the instructional video was that it enabled observation of learning by doing,

the learning of procedural skills and delivering of standard information. Learning occurs more when the input is not only through listening or audio, but also through watching or visual. This was specifically indicated by a participant who said that [he] learned the skill by watching from another person doing and sometimes [teaching] by senior. This implies that the video enabled him to observe another person doing the action and therefore learn from that observation. The participants also mentioned that video can help in learning of procedural skill because they could use video to recall the procedure steps, and it enabled standard information to be conveyed accurately. This was because a recorded video could be used to replay whenever necessary.

BARRIER IN USING VIDEO AS A TEACHING TOOL

Result from the discussion showed that there was only one barrier in learning through video. The participants said that they had a problem in learning through video because of the medium of instruction which was difficult to understand. They preferred the language to be Malay which they felt necessary to enhance their acquisition and learning of knowledge and psychomotor skills. They said that [it would be] helpful, but need to focus on the language and pronunciation which [they] need time to interpret and understand it and they [had] difficulty in following different language very fast. Other than Malay language displayed video, [they] needed more time to watch the video before [they could perform the procedure). If the video was in Malay language (they) had no problem to watch and follow the video contents.

SUGGESTIONS IN USING VIDEO AS A TEACHING TOOL

Based on the barrier described by participants, it appeared that the only problem was the language used in the video. Therefore, they suggested that the language of instruction should be in Malay so as to enhance their understanding which may contribute to their acquisition and retention of the knowledge and skills. If the language used in the video was Malay, [it was] easier to understand the steps better because [the] language was mother tongue language (Ms X). One of the participants (she) also felt that apart from watching the video, she [needed] someone to teach her. She expressed her worries because [she is] still a junior staff and probably [make] mistake if [she practiced by herself] without a guide. She said that she was still learning and it [was risky] for [her] to practice [by herself]. Therefore, (she) still needed trainer to teach the emergency skill, although we watched the video … She also felt that she needed to read and understand before watching the video and it can … *make to understand better.*

In addition, the participants felt that video could be used to learn some short emergency skills. This is because they could recall the skills when they watched the video. They felt that it was easier to remember and could help in doing revision.

DISCUSSION

In this study, the analysis of perception of the four focus groups' discussion towards VAL showed that the participants felt video had a positive learning impact regarding learning emergency skills. They expressed their feeling on the use of video as a teaching tool for emergency skills. They felt that the video plays an important role in the teaching of emergency skill. The finding noted the advantages of video on teaching of emergency skill. This means that they felt the video was a better teaching tool for learning emergency skills. A similar study by Kenny (2002) found that participants felt the use of video for learning emergency skills was a flexible learning method. Thiele (2003) found that students were more motivated in the self-preparation learning journey. Majority of the students had dissatisfactory feelings of being unable to ask questions while watching a video. This reflects to theories that propagate the use of multimedia tools as an engaging tools for students learning.

Tsay et al. (2000) expressed that learning occurs when a learner constructs an internal representation of his / her unique vision of knowledge. Moreover, Leidner and Jarvenpaa (1995) found that individuals would learn better when they discover things by themselves. This is similar to the discussion findings when the participants mentioned that they like to learn through video because they felt that intraosseous cannulation is an important skill for them. In this study, the participants felt that video engaged them to learn the skill. This is because they felt that video has images and action. It was similar to the finding by Zhang et al. (2006) that video allowed students to view actual objects and realistic scenes, to see sequences in motion and to listen to the narration.

Despite findings indicate that video is one of the learning tools for teaching and learning of emergency skills;the participants also suggested ways to improve the video provided so as to gather more potentials of using video in learning. The participants suggested that the language of instruction should be the participants' mother tongue in order for them to understand the content better. They also suggested that the contents of the lecture and information delivery has to be considered for attracting more attention and engaging the students. They also suggested that it is a suitable tool for learning short emergency skills which needs to be considered in preparation of the video.

In this study, all the four focussed groups' discussion expressed similar perceptions towards the use of video as a teaching tool for emergency skills. Although, the paramedics differ in their age, working experience and education background, they were similar in their perception; which they felt that the video has helped them to improve their knowledge and skills on emergency procedure. Nevertheless, one paramedic said that the video did not play an important role in the teaching of emergency procedure because he felt that he needed an instructor to guide him. This feeling was illuminated in his performance where he did not perform well in both the knowledge and skills tasks after being exposed

to the video. This paramedic was the most senior participant in comparison with the other paramedics. This implies that to some extent, age difference could also influence the finding. The young paramedics were more enthusiastic to learn in comparison to the senior staff; who may also be less motivated after been working for many years. Another factor that could influence their perception towards VAL was their training experience. Findings indicate that the participants' training level could also influence their perception. This is because those who attended basic and advanced training felt the video as a helpful tool to gain information, but those with basic training only felt that video was not the only tool to teach skills. This is because; currently the education of emergency training using video has become more common. Those that have been trained in advanced courses were usually exposed to a video orientated training program rather than basic training. For instance, training of Advance Cardiac Life Support usually conducted with the use of video. By doing so, the participants exposed to this method are encouraged to do self-directed learning before attending the course. This could influence their motivation on starting self-directed learning in the future.

The participants also felt that the language used should be in their mother tongue. In Malaysia, Bahasa Melayu is the formal and compulsory language while English is the second language. This means that more Malaysians are better versed in the Malay language rather than English. It can be said that our paramedics are more comfortable with Malay to talk, learn and write. Therefore, the preparation of video using Malay language may need to be considered in the future.

This research was limited by the participants of the study. The paramedics involved were only from one teaching hospital. Hence, the findings revealed these paramedics' insights and their experienc with VAL.

The analysis of qualitative data showed that participants could also suggest on the development of the video; in relation to the medium of instruction used. It needs to be in a language that is suitable and easy to understand. This suggestion can be considered in the development of future videos. The participants preferred that the language used in this video to be the mother tongue, so as to enhance their understanding.

CONCLUSION

As a conclusion, this study indicated that paramedics perceived video assisted learning as a potential tool for learning emergency skills. However, they suggested the medium used for video instruction need to be in their mother tongue for better understanding.

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