Self Regulated Learning for Developing Nursing Skills Via Web-Based

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ABSTRACT

The purpose of this study is to find out whether the first year student nurses able to learn and develop the psychomotor skills for basic nursing care using web-based learning environment. More importantly, the researcher investigated whether web-based learning environment using self regulated learning strategy able to help students to apply the psychomotor skills in the real world. In this qualitative design research, samples were assessed for cognitive and psychomotor learning. The samples were first year student nurses enrolled in diploma in nursing. After learning to apply and remove sterile gloves via web based, students were assessed on their cognitive and performance skills. Results showed that majority of students obtained better cognitive skills results and able to demonstrate the skills effectively.

Keywords: *self-regulated, web-based learning, nursing skills*

INTRODUCTION

In 21st century, the current paradigm shift in the tertiary education from teacher-centered to student-centered instruction. In other countries some faculty is attempting to design more self-paced and independent strategies to teach basic nursing skills. There is a particular need for change in how basic nursing skills are taught, but this change must not compromise the quality of education. In this research, the researcher applied instructional design in providing theoretical contents and psychomotor skills to help students learning.

In the technology learning environment student nurses can download lecture note and build knowledge on her own, and not supplied by the tutor as in the classroom setting. Jonassen (2000) described that computers as a mindtools and it can be a knowledge construction tools and hypermedia as mindtool. According to him the computer application can help student and teacher in construction knowledge and organizing contents. Web site construction considered as one of the hypermedia. In a hypermedia system, the nodes are accessed by following links that connect them. Therefore, students can get many different sources of knowledge from various sites and this indirectly will engaged students learning. Jonassen (2000) summarized a few advantages of hypermedia as mindtools, such as learners are much more mentally engaged, learning are more meaningful, abstract ideas can be presented, students are highly motivated and promote critical thinking.

RESEARCH BACKGROUND

Most of the time tutors are responsible to teach in a few classes and also teaching in the clinical area. Therefore majority of them unable to spend extra time with those student nurses in their practice of nursing skills. To provide more time to learn necessary nursing sills, a skill laboratory was set up to maximize the amount of time to practice on their own. However many beginning student nurses informed that they need the tutor to be there whenever they need help. Unfortunately most of the tutors are busy with other task and many tutors involved teaching basic nursing skills. Therefore, this strategy does not ensure that content is delivered in a consistent manner, nor does it accommodate diverse learning styles. This type of teaching strategy is difficult for those complex nursing

skills. This is also supported by Pullen, Murray and Mcgee (2001) in their research. They mentioned that most of the faculty staff reported evidence of inconsistencies in the basic psychomotor nursing skills during the evaluation period. Due to this the students are confused, fearful and frustrated when they overheard their faculty talking about the inconsistencies in the evaluation.

Furthermore, all tutors using lecture demonstration as a teaching strategy to teach nursing skills. At the end of each semester, students were given feedback evaluation form. They are required to evaluate on subjects and their tutor teaching presentation. Majority of students informed that some tutors did not follow the standard protocol procedure checklist. According to. Jefries, Rew and Cramer (2002) they strongly said that all students must proceed at the same pace, regardless of interest, talents, demands on time and prior experience. Therefore, to have consistency in contents delivery, one of the nursing school in Indiana constructed a design self paced, interactive, student centered strategy to teach basic nursing skills via web-based. Different learners have different knowledge; different learning styles and has different cognitive abilities. In traditional teaching method, it is difficult to cater all student needs especially in class with high number of students.

In 21st century of teaching and learning, the current paradigm shift in the tertiary education from teacher-centered to student-centered instruction. In other countries some faculty is attempting to design more self-paced and independent strategies to teach basic nursing skills. There is a particular need for change in how basic nursing skills are taught, but this change must not compromise the quality of education.

In this research study the researcher designed a web-based course for development of nursing skills as an alternative to the traditional lecture demonstration. The researcher applied the educational pedagogy and principles of instructional design to build the web site. Web-based instruction makes education and training more accessible, more individualized, convenient and able to study at their own pace and time. This is supported by the research outcome of "experiences of online learning : student perspective" conducted by Sit, Chung, Chow and Wong (2004) shows that students satisfied this method of learning and the structure of delivering of contents material.

PROBLEM STATEMENT

Fundamental of Nursing is a behavioural science subject.. The student nurses who enrolled in promoting psychosocial health and physiologic health programmes are majority from form five school leaver either from science or art stream. Students find it very difficult to learn nursing subject, especially those from art stream because they do not learn pure science compared to students in science stream. They have difficulty in understanding the aseptic principles, microbiology and anatomy and physiology because contents are very abstract for the beginning student nurses. All these subjects need to be mastered by student nurses first, in order to proceed to the next level of psychomotor skills. Repeated explanations during lecture and low test scores reflect this difficulty. Therefore a good understanding of the content is required for the critical thinking skills used in the care of patient. Due to this problem there is a need to develop an instructional tool that would help teach the subject effectively using technology.

Academically, students` participation in the class and level of interaction with the tutor are important because it can facilitate the learning process. There should be a two way communication in between the tutor and the students. Students will benefit from the tutors` feedback if the communication is active. However when the classroom is big, the average group size was between 80 to 100 students currently in this programme. Tutor only focused on those who are sitting nearest. Students who are sitting far at the back are not paying attention as sometime they can`t see the whiteboard. Do students learn in this type of environment? When minimal learning takes place, subsequently this may compromise the nursing care to the patients. As the size of class increase the cognitive level of interactive decline and has an impact on the academic achievement as described by Leufer (2007). In her finding research discussion she summarized that teaching strategies and classroom layout were considered to have an impact on the learning experience

When the enrolment of students increased, definitely there will be physical layout constraint in the skills laboratory for students to practice their basic nursing skills. This is problematic because students frequently indicate that they do not feel as though they have enough time and preparation to perform skills given the amount of time spent on lecture demonstration. Students unable to practice perfectly and confidently, as a result they are not ready to apply their skills in the clinical setting, so transferring skills in the skill laboratory to the real world is challenging. Subsequently, student nurses are not well prepared to nurse the patients in the ward or they feel inadequate or weak in their ability in performing nursing care as agreed by Ballard and Trowbridge (2004).

For many years, the tutor who taught the subject, need to guide all the students to develop the skills in the

laboratory at the schedule time. She has to oversee 80 to 100 students. It is impossible to pay attention to all students at the same time. The college knew that it is necessary to improve students` performance. Perhaps the tutors and the college management need to look into alternative strategy of teaching to promote students acquisition of skills. In the clinical setting, feedback from the clinical instructor gave the same reason that majority of beginning student nurses perform inadequately especially in the sterile procedure such as wound dressing and wearing sterile gloves. All students must perform correctly to ensure patients safety. Using appropriate aseptic technique can reduce the risk of infection among the patients. The impact was great if the patients sustained infection from inadequate nursing skills in dealing with aseptic technique. Hart (2007) carried out a survey, and she strongly agreed that the use of aseptic technique can reduce the risk of infection in the hospital. To support this data, a research was carried out in UK, saying that most of the student nurses` clinical competency skills are not competent yet during the clinical placing and the students expressed out their dissatisfaction in their basic nursing skills as view by Dolan (2002).

LITERATURE REVIEW

Application of Web-Based in Nursing Education

There has been much attention in the past decade using technology in nursing education. There were several descriptions of web-based learning experience which were very positive in learning and teaching. This innovation in educational delivery methods has overcome traditional barriers to education, and makes education more accessible. Cook (2005) strongly agreed that web-based learning can reach large, heterogeneous audiences and can fix into cognitive and learning style and may increase its effectiveness. Therefore, western countries using web based learning for many years but not in Malaysia yet especially in Diploma of nursing.

A study was carried out by Hallgren, Parkhurst, Monson and Crewe (2002) to evaluate the effectiveness of web-based interactive teaching tool that uses self-assessment exercises with real-time feedback to aid students' learning gross anatomy class in a medical school. Subjects were divided into 3 groups. Group 1 only had access to web-based learning tool with graphic showing the locations of anatomic landmark. Group 2 received introductory material and 3rd group not enrol in the course. Results showed that subject which had access to web-based tool improve in scores on anatomic landmark exam. So, web-based tool enhance their learning because web-based system enable to represent combination of media format such as text, image, animation, graphic, sound and voice. This is also agreed by Liaw (2004) claimed that above features represent the web-based environment characteristic.

Another study was investigated by Maag (2004) to study the effectiveness learning method of and interactive multimedia learning tool on nursing students` maths knowledge and self-efficacy. It was a comparison study in between 4 groups after intervention of treatment. Results showed that the 4th group reported that they were satisfied with the method of learning, the teaching was enjoyable and more interesting and provide sufficient feedback because they were allowed to view 3 multimedia modules on interlink web pages, with the modules consisting of text, image, animation and interactive feedback. Again, this is similar with what as cited by Liaw (2004) that web-based systems can integrate various kinds of information to access. She also informed that web-based systems provide a cross-platform environment that can be executed independently.

Web-based learning are perceived as offering the potential to promote lifelong learning by supporting flexible learning fostering learner control and stimulating learner engagement suggested by Eisenstadt and Vincent (2000). Learners have the full control over their own learning and interaction with peers. For learning to occur, the learner communicate with the tutor related to the assignment or contents, this will enhance the opportunity in building or constructing the new ideas. In addition, they share their knowledge with other people. Therefore, lots of learning took place within the context of web-based environment. Interaction in learning is a main ingredient to process knowledge and development of skill. Merill (2002) claimed that one of his first principle of instruction, mentioned that learning is promoted when new knowledge is integrated into the learner`s world. He called this as integration phase, whereby the learner reflect and create.

A research on meaningful interaction in web-based learning: a social constructive interpretation was conducted by Woo and Reeves (2007). They commented that all interaction do not lead to increase learning process. They believed that meaningful of interaction was related to the learning social constructivism theories. Perhaps the primary intention of their research is to re-conceptualize online interaction in terms of meaningful learning based on learning social constructivism theories. They also emphasized that learning and thinking happened in social contexts and consists of authentic whereby the leaner take part in activities directly and relevant to the real life. They viewed that to engage authentic learning, learners will engage in the task, generating ideas, sharing resources, negotiating, and synthesizing individual thoughts, refine and complete the task. As a result of this finding, tutors need to design and

implement appropriate effective interaction activities within web-based learning environment embedded with authentic task.

An article review, cited by Legg, Adelman and Levitt (2007) stated the use of constructivism applicability online learning environment in nursing education. Constructivism allows tutor to develop strategies that enhance students' motivation and encourage interaction. Learners are responsible on their own learning and regulate their own learning situation. The tutors only guide and facilitate learners learning.

RESEARCH QUESTIONS

1. How does self regulated learning via web based help students in gaining cognitive skill?
2. How does self regulated learning via web based help students in gaining psychomotor skill?

METHODOLOGY

The methodology of this research study is a qualitative design. There are two types of qualitative research technique in gathering the data. The design techniques are content analysis and observation.

Content Analysis

To answer the research question 1, the researcher applied content analysis. Content analysis is a method for summarizing and studying the contents. Students` cognitive skill was measured by analyzing the multiple choice questions and short answers questions. In this research study the content analysis was about the lower thinking order and higher thinking order level of thinking referring to Bloom taxonomy. Using Bloom`s model as a framework to classifying cognitive skill into knowledge, comprehension, application and analysis were used in the test items. In the true/false and multiple choice questions were prepared based on knowledge comprehension and application level which was categorized in lower thinking order test items. Short answer questions were prepared according to higher order thinking level of application and analysis category.

The researcher carried out the content analysis for all the items. During the analysis the researcher explored the content and lookout for statement that represent information, ability to recall, understanding of concept, ability to use prior knowledge, ability to describe and justify. In the higher order thinking level, statements that student able to generate deep cognitive process whereby students able to manipulate the information. Marks were allocated on the content analysis based on marking scheme. A research study by Su and Osisek (2011) using revised Bloom`s taxonomy framework to use in promoting knowledge transfer. They use this framework to prepare the multiple choice test for knowledge and comprehension domain. Higher order thinking level they used open ended questions. After evaluation of test item analysis indicated positive outcome of cognitive process related to the subject content.

Observation

The researcher used the observable performance to find out whether the researcher can achieve the instructional objectives. The purpose of observation was to allow students to demonstrate their acquired knowledge and skills. Observation technique is also used in a study carried out by Jeffries (2001) using observation technique and checklist to evaluate students` competency in medication administration in learning laboratory at a scheduled time. The results revealed that 90% of students pass the skill competency in administering of oral medication after exposure to CD-ROM format teaching.

To answer research question 2, a checklist was used to observe students skill performance. The checklist contains a list of behaviour that can be scored. They are best suited for complex behaviour or performance. An audiotape recording of wearing and removing sterile gloves are behaviours requiring sequences of actions that may be clearly identified and listed on a checklist. The checklist measures learning outcomes based on specific criteria. The criteria on the scale were all vital to aseptic principles. The checklist consisted of three criteria upon which the student was evaluated. These were performed well, performed fairly well and wrongly performed. Performed well refers to

the accuracy of performing the psychomotor task. It includes the student`s ability to identify principles and apply them in a given situation. Perform fairly refer to student`s ability to demonstrate the task satisfactory. Wrongly performed indicated student`s unable to perform or perform in the wrong manner.

RESEARCH FINDINGS

The research findings is discussed referring to the research questions.

Research question 1 : How does self regulated learning via web based help students in gaining cognitive skill?

Bloom (1956) developed taxonomy of educational objectives to assist educator in the evaluation of course material and to test leaning outcome. He categorized learning into three domains. In the cognitive domain it was classified into six levels according to the hierarchy from simple to complex. At the end of each lesson usually the teacher will measure the learning outcome to see the student cognitive skills.

From the analysis indicated that self-regulated learning via web based can help students in gaining cognitive skill. It was predicted that most of the students gain cognitive skill after two weeks exposure to web learning. The results show that knowledge and comprehension level were easily scored as indicated in test item 1, 2, 4, 6, 7, 8 & 9. These reflect the students understanding of statements and recognize the need to know. As in test item number 3, based on the analysis showed that students able to understand the concept of principle asepsis.

How student learns best based on their prior knowledge. Students learning process can be developed when the students able to link to their personal experience and knowledge. The teacher could facilitate the students to perform the self-regulated learning in the web-based environment by giving handout and other learning material in advance. This is also agreed by Ausubel`s (1968) that when the educator able to relate meaningful information to students such as prior knowledge can enhance meaningful learning. Moreover, Moss and Azevedo (2008) finding indicated that students with high prior domain knowledge have a well established, interconnected knowledge based of topic. The analysis of test item number 5 indicated that students able to think deeply and manage the difference in size of boarder edge sterile field area. Thus they able to regulate their own learning and do comparison with the information they get from the web or peer.

A well plan Instructional technology and design according to how people learn in the self regulated learning strategies able to promote students cognitive skills. From the cognitive analysis most of them able to understand the test item. Learning via web based multimedia can promote students understanding and indirectly improve students test score. This is also supported by Gagne (1974) that systematically designed instruction can influence learning. From the analysis the result indicated that majority of students able to use self-regulated learning strategies to achieve their learning. In addition, audio and visual material such as video and text via web can enhance students learning process. Research indicates learners retain 20% of what they hear, 40% of what they see and 75% of what they see, hear and do. Therefore, instructional technology supports this learning process. Resources from the web based such as text, power point slides, video presentation and link to other web site are different type of application of teaching modalities. Students can process the material in accordance with their individual preferences and strategies at any time and any place provided an internet connection is available. Furthermore, due to its interactivity, it can cater to all levels of multiple of intelligence learners.

A research conducted by Ley & Young (2001) suggest that instructional principles for self-regulated learning can support and facilitate in less expert learner. One of the principles suggested by them is organizing and transforming instructional materials. Based from the analysis, the researcher noticed that the students able to gain their cognitive skills after they were exposed to web based instruction. The researcher organized the learning materials so that students able to learn on their own. The analysis revealed that retrieving learning material and planning their own studies from web-based can improve the cognitive skills among the self regulated learner.

As a result of organizing instruction systematically this can promote students cognitive and metacognitive.

Gagne (1979) stated that external stimulation such as instructional event can influence learners` internal condition of learning and cognitive process. The researcher uses Gagne nine events of instruction in his web based. Due to this, the results of lower and higher thinking order questions stated that student able to score. Therefore designing appropriate and effective strategies can fulfil and satisfy students` learning needs.

On the other hand, according to Narciss, Proske and Koerndle (2007) they claimed that hypermedia system in the web based can foster students self regulated monitoring. Transfer of knowledge and gaining the cognitive skill allowed students knowing how to apply specific cognitive processes associated with their learning task. As we can see from the analysis for all the test item majority of the students able to apply their learned new information from web and they transfer newly constructed knowledge. Learning outcome was achieved as indicated in the cognitive post test. It may be that these students have a more diversified of learning skills. From the analysis of result the researcher noticed that more students score better result in the true/false and multiple choice questions as compared to the short answers question. Generally students performed better in lower thinking order question because the level of understanding is simple and student know what they think.

The challenge as an educator in web based is to create the learning environments for students with the responsibility the educator able to shift from the teacher - centered to student centered. In student-centered learning students share idea with peers and discuss the course topic. Through the discussion and negotiation students were self regulating via web based environment and this will promote their course content in greater depth. A research was carried out by Fish and Arbaugh (2005) they found that learner achieved higher perceptions of learning when knowledge is transmitted through web based learning.

In the higher thinking order question is more complex, some students found it difficult to elaborate in depth. This group of student need more assistance to guide their studies or lack of socialization with peer group. Finding from the analysis revealed that test item for short answer question (SAQ) were answered as below. This is the statement for test item 1 for SAQ which is categorized in the higher thinking order level. Here are the response given by the students in this question.

List three purpose of wearing gloves

Respondent 1 description of test item 1 SAQ

1. *Prevent cross contamination*
2. *To protect the client*
3. *To protect the nurse.*

Respondent 2 description of test item 1 SAQ

1. *Reduce microorganism*
2. *To prevent hygiene*
3. *Touch contaminated items*

Respondent 3 description of test item 1 SAQ

1. *When patience in isolation room.*
2. *When performing sterile procedure.*
3. *Prevent contamination*

Above answers given by the students indicated that students will gain the cognitive and skill development if they start to interact with others, in addition student will feel more confidence in their study and this will stimulate self regulated leaner. Knowledge is constructed while engaging in activities, receiving feedback from peer or teacher. The expert student will assist the less expert student in expanding the new knowledge. As stated by Vgotsky (1986) learner can achieve cognitive skill if assistant is provided to guide them.

According to Andrade and Bunker (2009) they mentioned that success of web based learning using self regulated learning were related to a few dimensions such as physical and social environment, time, method and motive. In general the motivated students, able to set their own learning goal and monitor their learning will help

them to develop the cognitive skills. With the experience of self study via web based, eventually students will build their own knowledge and know one`s own cognition. In addition interaction with peers helps students to promote deeper learning. From the analysis stated that majority of students gain cognitive skill learning via self regulated learning through web based as indicated below from the respondent test item 2 & 3 for SAQ questions for higher thinking order.

This is the statement for test item 2 for SAQ which is categorized in the higher thinking order level. Here are the response given by the student in this question.

Explain when will you used a non sterile glove.

Respondent 1 description of test item 2 SAQ

1. *When collection urine specimen.*
2. *When performing daily activities in the ward.*
3. *When performing perineum care.*

For test item number 4 SAQ statement stated below are the responses given by the students.

Describe when should you put on, and when should you remove gloves.

1. *When completing nursing procedure*
2. *When doing procedure*
3. *Before and after touching patients*
4. *Before giving bedpan to patient*
5. *During and after administer suppository.*
6. *When performing perineum care.*
7. *When performing surgical dressing.*

Based on the students response above, finding from the research indicated that participants of this study self-regulated their learning based on metacognition knowledge of themselves as learners and improve their critical thinking.

In addition to that, self regulated learner faced many challenges as online learner. They must master a large demand which match their learning goal, must be able to monitor their studies, sharing ideas with peer and get corrective feedback for their learning process. Student with good and capable to self regulate learning able to manage their learning task and motivation. The cognitive test results indicated that students who are highly motivated scored better grade in the test. This is also agreed by Bandura (1977) he mentioned that a self regulated learner will continue set their learning goal as source of motivation.

In other hand, student who obtained low score in the cognitive test could be they do not set their learning goal, lack of peer interaction and did not monitor their own learning. In other words, if students cannot use self regulatory learning behaviours to perform self regulating learning, they will not have a good online learning effectiveness.

According to Kuiper and Pesut (2003) self regulated learning can promote cognitive skills and competence through metacognition reflective reasoning. Providing real world situation can help students to learn better so that they can apply knowledge into practice. Therefore, students do not have many difficulties in the modified essay question because there a few type of learning modalities, variety of media can be used to include in the web based design. This is also supported by Ausubel (1986) his advance organizer can help students facilitate learning and improve the learning outcome.

In summary, the application of self regulated learning via web-based can improve students` cognitive skills regardless of process of learning by each individual. The finding above shows that self regulated able to help all types of students to study independently via web and peer group. The above finding shows that not only development of cognition is important by using self regulated learning via web-based, the researcher need to look into the students

motivation goal, achievement goal and self efficacy in the next research.

Research question 2 : How does self regulated learning via web based help students in gaining psychomotor skill?

The students who received learning via web based generally able to perform the psychomotor skills. Therefore using self regulated learning via web can help student to gain psychomotor skill. The prior knowledge helps student to make connections to the reading material. Based on the result technique of handling sterile gloves, the sub tasks for step 1, 2 & 3 indicated student can perform how to select the appropriate size glove, open the inner wrapper and hold the cuff at the first gloves using index finger and thumb. In addition to that students tried to convert the cognitive process into appropriate action.

Students must have acquired knowledge on sterile gloves through own learning via web. The knowledge they gain transform into action mode. Student obtained some pre requisition from the cognitive skill and able to retain and response accordingly after the stimulation from the web based learning. According to Bandura (1976) observation learning theory, in between attentional processes and retention processes one must pay attention to the modelled via video presentation in web based to grasp the important main idea. Therefore students who diligently self regulated their own learning should be able to reproduce the action.

A research carry out by Watts, Rush & Wright (2009) they introduce self assessment checklist for student to view their own performance after recorded in the video. Result indicated that student able to develop the skill and indirectly it facilitates the development of self regulated learning.

Technique of wearing sterile gloves

Result indicated that students were able to demonstrate the 4 sub tasks of technique of wearing sterile gloves as stated below.

"Step 4, result revealed that most students able to perform this act by inserting the dominant hand into the glove without contaminating.

Step 5, students ensure that their fingers are slotted correctly into the gloves.

Step 6, Insert the gloved fingers under the fold of the second glove and removed"

If students continue to practice and get corrective feedback from the educator or peer group, they definitely can produce the skills competently. On the other hand, students can perform well because their movement of fingers are associated with their mental process. Schmidt (1982) agreed that motor learning is a set of processes associated with practice or experience leading to relatively permanent changes in skilled behaviour. In addition to that, students' goal will be achieved if certain action is taken to improve them and indirectly will satisfy his need and motivation. A study carried out by Brydges, Crnahnan, Safir & Dubrowski (2009) stated that participants who learned via self directed for suturing skill using instructional video of an expert performing the wound closure able to demonstrate the skills better than control process group. The results indicated that self guided group with process goals indicate greater skill retention than outcome group. They concluded that providing self-guided process orientation checklist can enhance the efficiency of simulation based education in the absence of an instructor.

Technique of adjusting sterile gloves

The students must practice these part tasks to criterion in order to demonstrate mastery. The level of mastery depending upon the amount of resources available in the web based environment. Practice should also be

distributed over time in order to affect stronger learning. Students monitor their progress of learning so that they are able to retain and to transfer the acquired skills. Based on the result the researcher noticed that self regulation via web based able to guide student to accomplish the sub tasks as indicated below.

"Step 8, students ensure their fingers slotted correctly into the gloves

Step 9, students able to unfold the cuff of the first gloves.

Step 10, students able to adjust gloves by interlocking the fingers

Step 11, students able to keep hand above the waist after wearing the gloves."

According to Bandura (1976) observation learning theory he explained that in production processes learner should be able to convert the cognitive process into behavioural action. To ensure students able to learn the sub tasks, the students can download the step by step checklist and watch the video. The students can practice many times till they are confident and competent on their pace. Gagne (1974) mentioned that motor skills as simple sequences of motor responses and often will be combined into more complex performances. Therefore, the results indicated that student can perform to adjust the sterile gloves learning by their own after self regulated learning strategies. This indicated that they were able to demonstrate the motor skill by using the checklist, watch the model via video and multiple practice section.

Technique of removing sterile gloves

Skills were develop through constantly with well guided and informative practice. The learning of psychomotor skill was best accomplished by practicing to improve the accuracy and effectively. Students were able to get information from the web based anytime and anywhere on their self learning. In addition, educator plays a crucial role in their planning of instruction material and a good role model. This will help student to retrieve the reading material, checklist for the skills and video presentation at any time on their own pace. Students imitate and learn corrective method on their own by observing the sub tasks via video. Based on the analysis students were able to perform perfectly and effectively the 4 sub tasks for technique of removing sterile gloves as indicate below

"Step 12, Student know where to hold the outer part of glove at wrist level and pull outward.

Step 13. They able to crumple the dirty glove in gloved hand.

Step 14, they can demonstrate how to insert 2 ungloved fingers under the cuff of gloved hand and pull out."

Nadler, Thomson & Boven (2003) agreed that participants who received observational training by watching videotaped were able to solve the negotiation skill. This is also supported by Bandura (1976) who strongly mentioned that people learned by observing someone behaviour. If students continue to practice the motor skills eventually they will master the skill. Another research conducted by Watts, Rush and Wright (2009) use self assessment checklist to view student`s own performance after videotaping.

The checklist represent as a guideline for motor performance and students learned to correct their own mistake and by peer rating. They concluded that this method able to facilitate the development of a self regulated learner.

In summary student self regulated learning via web based do improve in psychomotor skills, however student who are lack in motivation or unable to monitor their own learning will not benefit in acquiring this skills. Gagne (1979) stated that students who continue to practice the skill can enhance the smoothness of performance.

Hence, in the context of web based learning environment, learner need to utilized their metacognitive knowledge and self regulated learning skills so that they can achieve the learning goal. This constructivist approach enable student to focuses how to deal with problem solving and thinking skills with peer group.

Additionally, it also emphasizes to student`s ability to solve the real life and practical problems. The concept

of zone of proximal development (ZPD) by Vygotsky in 1922, learning within the zone can be achieved if a capable peer guided the learner through the learning activity to reach the goal. This is also agreed by Illeis (2007) he claimed that learning is an interaction process in between an individual and their learning material and social environment. Therefore self regulated learning can help students gain the cognitive and psychomotor skills.

CONCLUSION

This research indicated that students adapted self regulated learning strategy. Successful students manage to plan, monitor and evaluate their work in the web based environments and to manage their motivation. The results also hinted that encouragement and scaffolding from the teacher, modelling and peer group seem to help students feel confident and efficiency in their ability to learn online. Results of the study clearly demonstrated that the learning via web based assisted student to use the technology to support their learning. Learning via web based not only gave students a powerful tool for instruction but also provide them a new insight into different way of learning method. Social learning and scaffolding theory by Bandura and Vgotsky in the researcher instructional learning offers promising results as indicated in the analysis. Therefore these constructivism learning theory do promote and gain students cognitive and psychomotor skills. In addition to attention, enhance retention and stimulate their prior knowledge. The students, therefore, did learn and retain the new cognitive and skills. Although the students did learn, it is very vital for them to associate this knowledge and skill in the real world. During the students` clinical experience, they might have cared for patients who required the students to utilize the newly learned skills. This additional experience learning via web based could have had a strong impact on their performance. Due to this, it may not compromise the nursing care to the patients if students able to carry out effectively and efficiently. In summary problems related to insufficient time of tutor to guide students in the big classroom can be eliminate if tutor use self regulated learning via web based.

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