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Using PDA’s to Increase Self-Directed Learning in Nursing Students

By

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It is the expectation of every nursing school in the nation that nursing students be able to search data basis, effectively and efficiently utilize nursing specific software. At Clayton State University there is an additional expectation that all students have laptop computers and be able to access them. This need for easy access to current medical information has been recognized. Spyglass Consulting (Scully, 2004) conducted a study regarding trends in mobile consulting. They found 90% of clinicians under the age of 30 utilized some form of reference material on a daily basis. Anecdotally nurses that utilized the technology reported that it allowed them to work more efficiently and increased quality of patient care (Scully). Forrester’s Consumer (Stolworthy, 2003) surveyed practicing physicians and nurses to assess their PDA usage. It was found that 559,800 nurses reported using Personal Digital Assistants (PDA’s) in their practice and 408,020 physicians also reported usage. Drug References was the more accessed information (Stolworthy).

Self-directed learning (SDL) is defined as: the learner who takes control of his own learning (Pintrich, 1995, 2005). The process involves several different constructs such as; 1) acknowledging the degree of knowledge one has about a topic, 2) different learning skills, tactics, or methods of learning, 3) setting goals, and 4) monitoring ones progress towards achieving the identified goal (Pintrich). It has long been accepted in nursing that our students have to become lifelong learners to remain abreast with the changes in healthcare. To accomplish this, they must be SDL.

The purpose of the PDA study was to; evaluate if nursing students would use PDAs at the point of care, how the PDA was accessed, what information was retrieved, and does PDA usage support SDL? The three research questions were; 1) in what ways does the PDA support or constrain SDL in nursing students? 2) To what degree does the PDA assist the learner in taking control of a learning situation? 3) When and how did you use the PDA over the past week?

Data collection consisted of; Think-Aloud- which was completed at the beginning and completion of the study, direct observation with follow-up interviews, weekly interviews and Nursing Central Tracking. Think-Aloud was created by Meichenbaum & Biemiller (1998), which is a method of evaluating self-directed learning. This tool consists of two parts, task function and phases. Students are given a case study to review, and then asked to identify any further information needed and plan the care for this patient. The student’s responses are recorded and labeled as to what task function they are most closely related to. Task function has four levels of learning: defining, planning, monitoring, and evaluating. According to the number of responses in each of the four levels of learning, they are identified as to the phase of SDL they are in. The phases are: acquisition, consolidation and consultation.

Participants in the study consisted of full-time second and third semester nursing students in a western School of Nursing. All students owned or had access to a PDA and had clinical at a designated clinical facility. Both males and females were included in the study.

The results of the study, utilizing the Think Aloud tool, indicated that 8 of the 9 participants were SDL at the beginning of the study. All subjects were identified as SDL by the end of the study. Two of the subjects displayed a higher level of SDL at the onset. Even though the subjects showed levels of SDL
prior to the study, all increased in their level of SDL. The conclusion was drawn that the PDA usage did support SDL.

Students reported that using the PDA: decreased their anxiety, and increased their self confidence. The practice of looking up information increased their ability to retain this information. Students reported it was their preferred method of learning. PDA usage also provided pertinent and current information at the time it was needed.

Usage of the PDA was obtained from Unbound Medicine. They were able to track; the number of applications and information read, and number of times the PDA was synchronized. The most frequently accessed resource was Davis’s Drug Guide. The least accessed resources were Disease & Disorders and Davis’s Lab Manual. It was also observed that student nurses were accessing their PDA’s at point of care to look up; new medications, procedures, and new patient diagnoses.

The implications of this study support current literature in that PDA’s do assist nursing students at point of care. Medications are the most frequently sought after information on the PDA, which support safe practice and improved patient outcomes. As electronic medical records become practice rather than possibility, students who have become comfortable with this additional technology will adapt it more quickly.

SDL reinforces ones level of prior knowledge. It also provides a resource for seeking out current knowledge. Self Directed Learners control what and when information is sought out which result in current-time learning. The learning strategies provided and supported by usage of the PDA are illustrated in the attached table.

Currently there are a number of resources that can be utilized on PDA’s or the current platform of iPod touches. They included, but are not limited to: Pepid, Epocrates, SkyScape (which will also provide the platform (PDA or iPod), WebMD, Apps from iTunes store and Unbound Medicine. Additionally many publishers are also making electronic books available, especially Elsevier.

IPods have to this point been the preferred platform over iPhones because of the camera ability. Cameras in the clinical arena have been frowned on because of the potential HIPPA violations. Unfortunately the technology has surpassed our demands in that the iPod touch now comes equipped with a camera.

The instant access of valuable information has been shown to increase the student’s ability to be a SDL. It has also been shown to increase their self-confidence. Current students indicate that this is their preferred method of learning. Since nurses are required to be lifelong learners to keep abreast of the every changing healthcare field, it only makes sense to allow students to access the information that they need by the method they prefer. PDA’s, iPods or whatever platform is available are the means of this easy access to information.
References


