



## **Structured Commentary on: Can Personal Digital Assistant-Laden Resources Enhance Self-efficacy of Practicing Nursing Students?**

By Barbara Jamieson & Loretta Secco

### **Purpose and Procedure**

The purpose of this segment is to present an interesting, informatics-focused article that warrants attention by nurses in practice and education. The article selected is one that was valued as relevant and informative for the nurse clinical educator. This structured abstract was prepared by M. Loretta Secco and the commentary was prepared by nurse expert, Professor Barbara Jamieson, Cape Breton University, Joint St FX/CBU Nursing Program in Nova Scotia.

**QUESTION:** Does the use of information-laden PDA's effectively improve nursing students' perceived effectiveness in a med-surgical clinical practice rotation?

### **Paper Reference:**

Goldsworthy, S., Lawrence, N., & Goodman, W. (2006). The use of personal digital assistants at the point of care in an undergraduate nursing program. *Computers, Informatics and Nursing*, 24(3), 138-143.

### **METHODS**

**Design:** Quasi-experimental study with random assignment of a convenience sample of 2<sup>nd</sup> year nursing students to control (No PDA) or experimental (Use of PDA) groups.

**Setting:** Acute care medical surgical settings of two acute care hospitals in Ontario, Canada.

**Participants:** 36 second year baccalaureate nursing students in an 8 week medical-surgical clinical nursing rotation volunteered to participate.

**Main outcome measures:** One main outcome, perceived self-efficacy, was measured using an established self-report scale of general self-efficacy comprised of 10, 4-point Likert items (Schwarzer & Jerusalem, 1993). A detailed measure of medication error was developed and could be implemented in future studies. Students also entered in the PDA reflective journal entries on the use and relevance of the PDA as a clinical tool.

**Intervention:** The information-laden PDA was the manipulated independent variable. Elsevier company learning resources were selected and loaded on the PDA. These resources include lab and diagnostics, drug and medical surgical reference materials. The students in the intervention group received two sixty minute teaching sessions of the use of the PDA and were also provided contact information for questions outside the sessions.

**MAIN RESULTS:** Mean self-efficacy for the intervention group nursing students was significantly higher than the control group indicating greater increase in mean score for this group. Difference or change scores also demonstrated greater increase in self-efficacy scores for the intervention group. Student nurses' PDA reflective journals confirmed the quantitative findings and documented regular use of the PDA in clinical practice with 76% reporting use more than 5 times per clinical shift. The PDA resources, drug lab and medical/surgical information sources, were described as extremely helpful.

<b>Analysis of Variance for Self-Efficacy</b>				
	Pretest	Posttest	Difference	P level
PDA Group	32.54	36.31	3.77	
Non-PDA Group	32.50	33.167	0.67	.002

**CONCLUSIONS:** This study with a relatively small sample suggested that information laden PDA's increase student nurses' general self-efficacy during an 8-week clinical rotation in a medical/surgical nursing practice setting. The positive findings suggest that PDA's hold potential as a means to foster information competence and self-efficacy of nursing students in clinical learning settings. As the authors aptly point, testing of the effect of PDA's use with an experimental study would impose greater control over biases and potential threats to study validity. Future research could focus on explaining whether the PDA improved nursing students' clinical practice performance, for example in knowledge level, preparedness for clinical practice, and medication administration performance outcomes.

### **Reference**

Schwarzer, R. & Jerusalem, M. (1993). *General Self efficacy Scale*. Retrieved from <http://userpage.fu-berlin.de/~health/engscal.htm>, Nov. 12<sup>th</sup> 2006.

### **COMMENTARY:**

Goldsworthy et al (2006) reported that use of Personal Digital Assistants (PDA's) at the point of care enhanced student nurses' self-efficacy in clinical practice. A PDA was an efficient means for students to access and retrieve salient information for patient care planning, such as drug references, laboratory diagnostic guides, medical/surgical and pathophysiology books. The researchers noted that the PDA also facilitated simultaneous collection and analysis of patient data, promoted critical thinking, and lowered anxiety levels. While the research group hypothesized the PDA would decrease student nurse medication errors through improved access to information sources and reduced anxiety, this hypothesis was not tested. The researchers aptly recommended that future research focus on this knowledge gap.

The PDA offered both students and faculty an opportunity to integrate informatics concepts within clinical and classroom situations. The PDA enabled rapid information retrieval of information without cumbersome print-based textbooks. The PDA informed student assessment and planning with accurate information sources retrieved from cross texts and journal searching.

Nursing staff also found the PDA a user-friendly means to gather information suggesting a potential tool to support quality assurance, evidence-based patient care, and life-long learning. The authors also noted that the PDA may be a resource to support nurses in the role of patient information provider in a time of rising computer and information literacy among the patient population. Further study with larger student nurse samples and examination of the medication error rates would be important to investigate. Furthermore, it would also be salient to focus on whether any students and/or practicing nurses had negative attitudes or experiences with the PDA technology.

***For correspondence:*** Prof. Barbara Jamieson, Cape Breton University, Joint CBU/St FX Nursing Program, 1250 Grand Lake Rd, Sydney, Cape Breton University, Sydney, NS, B1P 6L2; e-mail: [Barbara\\_Jamieson@cbu.ca](mailto:Barbara_Jamieson@cbu.ca)

Title: Structured Commentary: Can Personal Digital Assistant-Laden Resources Enhance Self-efficacy of Practicing Nursing Students?

Author: Barbara Jamieson, RN, BScN, MN and Loretta Secco, RN, BScN, MN, PhD

Affiliation: Joint St FX/Cape Breton University Nursing Program, Cape Breton University, Sydney, Nova Scotia

Submitted: November 2006

Accepted: November 2006

Editor: Carol McKenney, RN

APA Reference:

Jamieson, B. & Secco, L. . (2006). Structured Commentary: Can Personal Digital Assistant-Laden Resources Enhance Self-efficacy of Practicing Nursing Students? *Canadian Journal of Nursing Informatics*, 1(3), p. 10 - 14. <http://cni.ca/journal/Jamieson.pdf>