The relationship between and the characteristics of computing competence and confidence in undergraduate students of nursing

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Abstract

The aim of this research was to understand the relationship between and the characteristics of computing competence and confidence in student nurses. The evolvement of ICT, computers and computing has influenced human interaction with each other and with these resources. Computing as one aspect of ICT reflects the technical interface that student nurses will encounter during their studies and elsewhere. The absence of a dominant paradigm in the literature on ICT, computers and computing influenced the choice of two sequential exploratory quantitative and explanatory qualitative studies. Data for the first study were collected through survey using a postal questionnaire, from a volunteer sample of first and second year student nurses between July 2008 and April 2009. N = 375, representing 18.75% of first and second year undergraduates in a School of Nursing. A Principal Components Analysis gave five underpinning components. These influenced the second study. This was a recording of simultaneous concurrent think-aloud commentary and behaviours of 19 volunteer first, second and third year student nurses working in small groups on a computing activity, between October and December 2010. Protocol Analysis was used to examine a computing task outcomes and concurrent think-aloud comments. The results and findings showed a complex relationship between competence and confidence in this context. The evidence revealed that these students wanted a combination of teaching and social learning approaches. In both studies

confidence had a high representation. In in the second study this became evident where collaboration and social learning in small groups clearly influenced confidence and competence. Research originality and its contribution to nursing lie first in the use of an innovative combination of methods. Secondly, the grouping and exploration of a range of subtle and seemingly unremarkable phenomena gave unique insight into how student nurses develop computing competence and confidence, not examined elsewhere. Significantly the two studies revealed differing levels of ability within and across the academic year groups. The findings show that attention to the social and psychological aspects of learning is crucial for skill and confidence development. Students would benefit from a bespoke range of approaches to suit their individual needs. This requires a balanced response between ongoing assessment of individual needs and proactive teaching and learning provision. Transferable to a wider setting, this research adds to the current understanding of ICT and computer related teaching and learning in nurse education.

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