Theme: Research in education for nursing sciences: projects and results.

The 'bioscience problem' in undergraduate nurse education: resolvable or unsolvable?

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For decades physiology and anatomy (biosciences) have been recognised internationally as being amongst the most stressful subjects that students have to learn. This presentation describes current work, and the outcomes of a series of studies we have conducted mainly over the last 5 years, with the aim of identifying a strategy intended to support student learning. The studies build upon our earlier work that demonstrated (in Australia) that student self-efficacy in science was a predictive factor in course progression [1], and (in the UK) that nurses lacked confidence in discussing basic and applied biosciences with colleagues. [2]

In seeking to explore the potential impact of insufficient learning and/or subject confidence we presented staff nurses in surgical directorates in two geographically-distinct hospitals in eastern England with practice –focused scenarios.[3] Findings suggested that nurses were proficient at clinical observations but were less knowledgeable and/or unconfident about their understanding of the underlying physiology that might risk a rapid change in the patient's condition. Many noted that much of their bioscience learning had come from their time in practice, though length of time in practice did not associate with their level of understanding suggesting that attitudinal influences as well as basic understanding at registration might be factors. We [3,4], and others [5,6], have suggested that the anticipated understanding of biosciences for high-level practice is not achieved by student nurses on completing their undergraduate course.

Our analysis of learning issues in Year 1 of undergraduate study [7] suggests key issues that need to be considered are prior academic attainment in science, which is an inconsistent predictor of bioscience achievement in nursing courses, and students' confidence with bioscience which impacts on their transference of prior learning to nursing practice. Our integrative review of international literature on empirical intervention studies designed to support student learning in biosciences [8] found a paucity of evidence to indicate improved course attainment, but what was suggested is that early intervention might help to raise efficacy and so reinforce basic understanding. On-line learning activities looked promising in this respect.

In reporting these studies we will introduce our recent attempts to raise student capacity to transfer learning through an on-line support programme for students in Year 1 of their course. We also report the issues we have faced that questions if we have yet found the best means to resolve the 'bioscience problem'.

References

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Biography

Dr Andrew McVicar, Reader in Physiology and Healthcare has a longstanding history of scholarly publications and empirical research around bioscience learning and stress in nursing and health. He has published extensively with John Clancy and more recently with Dr Andrew, Professor of Nursing, who has similar interests in bioscience learning in nursing courses.