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Clinical imprinting: promoting excellence in undergraduate nursing education

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The literature recognises a relationship between clinical experience and a successful undergraduate experience in nursing; however what constitutes an effective approach remains the subject of debate, particularly in relation to first year learning and experience. There is evidence from a biological standpoint that early experience impacts on the behavioural development of animals, described by Konrad Lorenz (1903-1989) as 'imprinting'. The concept of imprinting has resonance for nursing. In this paper the importance of 'getting it right at the beginning' is explored in relation to Lorenz's work and what it tells us about the impact of early clinical learning and development.

INTRODUCTION

Despite a wealth of research on clinical practice, the criteria for determining what constitutes an effective approach remains poorly defined (Kelly 2007). Pellatt (2006) believes that clinical experience is one of the most important aspects of educational preparation. The literature recognises a relationship between early learning and a successful (or otherwise) undergraduate experience in nursing (Chesser-Smyth 2005; Higgins and McCarthy 2005; Orland-Barak and Wilhelm 2005; Kelly 2007; Andrew et al 2008a; 2008b; Brown et al 2008; Andrew et al 2009). A general analysis of why individuals withdraw from university programmes found that many students leave from second and third year because of exposure to negative events in the first year (Pitkeithly and Prosser 2001). Andrew et al (2009) found that a good first clinical placement was a determinant of a successful first year and beyond. Students in this study repeatedly stressed the importance of an initial positive mentoring experience, describing this as a 'make or break' component of the first clinical placement (p17). The role of the mentor is recognised as pivotal in undergraduate education. It is however, arguably, most powerful at the beginning of the student journey where the quality of experience may potentially determine whether or not an individual thrives, or fails to thrive in the subsequent years of their nursing programme.

In nursing much of the theory and research on the impact of early clinical experience is underpinned by qualitative approaches and investigated through interview (individual and focus group) with staff, lecturers and students (Chesser-Smyth 2005; Higgins and McCarthy 2005; Orland-Barak and Wilhelm 2005; Kelly 2007; Brown et al 2008). The work of Konrad Lorenz (1903-1989) stems from a biological discipline. Although Lorenz trained as a doctor; his interests lay within the field of animal behaviour and in particular bird-behaviour. The concept of imprinting emerged from the study of graylag geese on the Austrian estate where he grew up. Lorenz divided the eggs into two groups; one group hatched by a goose the other by an incubator. The goslings hatched by the goose immediately followed their mother. The goslings hatched by incubator did not see their mother and their first living exposure was to Lorenz himself, whom they subsequently followed about the estate.

The work presented in this paper is based on research into the first year experience in undergraduate nursing, with specific reference to the work of Konrad Lorenz and the potential application of 'imprinting' to early clinical experience. The paper explores the proposition that positive early experience is one of the determinants of future success in undergraduate nursing (Andrew et al 2008a; Andrew et al 2008b; Andrew et al 2009).

BACKGROUND

Clinical experience

Nursing is essentially a practice based discipline and 'a supportive learning environment has been identified as pivotal for the transfer of theory into a clinical context' (Henderson et al 2006 p 564). Arguably the most important aspect of undergraduate education; exposure to the expert, is the cornerstone of student development. Butterworth et al (2008), report that clinical supervision as a supportive vehicle has 'attracted more attention than any other' (p270). In nursing, first year students have to become accustomed to new ways of learning. In the past students spent time in *practical rooms* undertaking nursing procedures in an environment that was both manufactured and controlled (Borneuf and Haigh 2010). Carr (2005) suggests that learning and teaching in the clinical area is both 'complex and challenging' and that in the first year, students need to begin to develop and articulate practice knowledge. She believes that the 'development of the ability to articulate knowing in practice is essential' to the development of professional identity (p333). A report from the conference, *Improving the Student Experience* (Scottish Executive 2006), concluded that adequate preparation for practice of both students and their mentors is regarded as crucial to successful clinical teaching and learning.

Using a simulated environment can create a hub of controlled and metered clinical exposure. Demonstrating is one way of modelling excellence in practice at the beginning of the undergraduate journey, removing extraneous distractions and allowing the students to immerse themselves in the 'ideal' learning experience (Murray et al 2008). In reality however real nursing takes place in the 'messy, idiosyncratic real world of clinical practice' (Warne and McAndrew 2009 p856). Producing a competent practitioner, in the longer term, involves the student in *legitimate peripheral participation*; a term coined by Lave and Wenger (1991) to illustrate the need for learning to take place in real life or situated environments. The role of simulation is out with the remit of this paper and the expertise of the author, apart from to note that it is possible to control what students are exposed to and that this method may impact positively on the quality of early clinical learning (Murray et al 2008).

No author suggests that all learning should be simulated and the amount permissible is regulated by the Nursing and Midwifery council (NMC 2007b). The idea however of the 'goal-directedness of behaviour' does have an application to clinical learning and education (Brigandt 2005 p576).

Konrad Lorenz

Konrad Lorenz (1903-1989) was an Austrian Zoologist, Naturalist, Ornithologist and Nobel Prize winner. One of the founders of studies on instinctive behaviour in animals, Lorenz is credited with the development of the concept of 'imprinting'; the bonding reaction of young birds to their first post-partum exposure; human or otherwise (Hess 1958). In human terms 'imprinting' can be described as the way in which early experience shapes behaviour and determines the consequences of that behaviour. Lorenz looked at stimuli-response action in animals, describing behaviours that led to an eventual goal. He postulated that when a bird encounters nest building material, it reacts by grasping the material and this in turn stimulates a series of building behaviours which result in a nest. This theory is based on the belief that the bird does not, at the outset, have a vision of the complete nest but will engage in set of instinctive behaviours that result in habitat construction. Lorenz acknowledged that we need to recognise 'the adaptedness and goal directedness of behaviour' however he profoundly believed in the innate nature of

animal behaviour (Brigandt 2005 p577). Lorenz's research has roots in ethology as a biological discipline. Crucial to this theory is the belief that behavioural patterns have to be 'analysed into sequences of innate and learned behaviour components'. His fundamental theory that instinctive behaviour patterns are rigid and that, 'flexible or intelligent behaviour does not evolve from instinctive behaviour' was challenged by psychologists in the 1950's and 60's who believed that this theory contributed little to the understanding of behaviour and its development (Brigandt 2005 p571).

APPLICATION TO UNDERGRADUATE NURSING

The potential application of imprinting to undergraduate nursing

The understanding that the early experiences of all animals, humans included, have an effect on behaviour is not new. Hess (1958) suggests that the question is not whether early experience impacts but how it does. As already stated, much of the research focus in nursing is qualitative, investigating the impact of positive (or otherwise) clinical experience. Imprinting has been observed in animals other than birds. Hess (1958) suggested that early social contact in humans determine behaviours at a later stage in development; stating that; 'this of course is imprinting' (p82).

In 2005 the Quality Assurance Agency introduced an Enhancement Theme focussing on the first year experience and proposed that Scottish Universities should consider the impact of the first year of undergraduate learning (QAA 2005a; 2005b). In nursing, first year students have to prepare for becoming a student and becoming a nurse. The importance of preparation for clinical practice cannot be underestimated. A report from the conference, 'Improving the Student Experience' (Scottish Executive 2006), concluded that adequate preparation for practice of both students and their mentors is vital for a successful first clinical placement. Carr (2005) believes that learning and teaching in the clinical area is both 'complex and challenging' and that in the first year, students begin to lay the building blocks from which their professional identity as qualified nurses will emerge (p333).

Early clinical experience can, according to Lemonidou et al (2004), shape future attitudes to caring. If students encounter negative feelings, ethical transgressions and poor practice at an early stage, it may lead them to examine their motivation to remain. Where, however, these feelings are shared with peers, mentors and academic staff, a sense of 'fellowship' develops, based on community working and living (p129). This promotes exploration of previously internalised feelings of disappointment and turmoil that result from initial exposure to professional discontent or disappointment. Equally within higher education students need to belong to an academic community that values their contribution to learning and knowledge. Again, early experience can shape lifelong attitudes to learning and discovery (Gallagher 2007).

The potential application of Lorenz's work to clinical learning and experience does not lie in his rigid view of behavioural development but rather focuses on the relevance of the concept of imprinting and what it tells us about the importance of 'getting it right' at the beginning of the professional journey. In nursing, parallels can be drawn with aspects of Lorenz's work on the social consequences of domestication through application to undergraduate nursing. Here we substitute 'clinical experience' for 'domestication' and view the first exposure to the clinical environment through the lens of imprinting. In nursing, the first professional exposure could be considered to be the imprint for career long professional learning and development. Lemonidou et al (2004) stress the need for exposure to excellence throughout the student journey and discuss the damage done if early learning is faulty. Andrew et al (2008a; 2008b) conclude that

success at an early stage may well underpin the development of professional behaviour throughout the undergraduate years and beyond.

Is the theory the practice?

There is often disconnect between what the literature states and what actually happens in practice. Unlike other contentious issues; such as the professional divergence between those who practice and those who research, all health stakeholders agree on the importance of exposure to excellent clinical practice in undergraduate nursing. Although many authors do not specify the first year, experience would seem to suggest that a fulfilled and emotionally secure student is more likely to remain on the programme (Andrew et al 2008a; 2008b). The profession currently evidences the impact of clinical learning and experience largely through small local studies. Imprinting introduces the concept of biological justification for planned early exposure to excellent professional behaviour in order to avoid the consequences of a false start.

Lorenz believed in the instinctive nature of behaviour; however as professionals we probably do subscribe to all aspects of his theory. The belief that much of our behaviour cannot be changed does not sit comfortably with contemporary thinking on learning and development, especially in a profession that underpins clinical learning and experience with reflection. This suggests that (in nursing terms), we believe that behaviour can be altered in the light of experience. The evidence for the use and practice of reflection is not beyond challenge. Many authors write from a discursive and not a factual viewpoint and investigation also tends towards small qualitative studies that may not be easily replicated. Despite the apparent limitations of the evidence base however, reflection is embedded in the professional culture and endorsed by the professional body (Burton 2000).

CONCLUSION

Exposure to excellence is a vital part of undergraduate nursing. The use of simulation meters and controls clinical exposure but in the longer term, students have to develop skills in a situated environment. The work of Lorenz, Hess and Brigandt demonstrate the impact of imprinting on animal behaviour, however continued reliance on the use of reflection as a change mechanism suggests that we do not, as a profession, subscribe to an instinct only view of human learning and development. There is potential to take the theory further and to begin to model the impact of 'clinical imprinting' on the development of professional behaviour. The work is still at an early stage of development and requires both expansion and refinement before a working model can be conceptualised and potentially tested in a situational learning environment.

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