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Clinical imprinting: The impact of early clinical learning on career long professional development in nursing

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ABSTRACT

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 of learning. 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 article the importance of 'getting it right at the beginning' is explored and what, if anything, Lorenz's theory tells us about the impact of early clinical learning on subsequent professional development.

Introduction

Despite a wealth of research on learning in clinical practice, the criteria for determining what constitutes an effective approach remains poorly defined (Kelly, 2007). The literature recognises a relationship between the quality of clinical learning and a successful (or otherwise) undergraduate experience in nursing (Chesser-Smyth, 2005; Higgins and McCarthy, 2005; Orland-Barak and Wilhelem, 2005; Pellatt, 2006; Kelly, 2007; Andrew and Ferguson, 2008; Andrew et al., 2008; Brown et al., 2008; Andrew et al., 2009; Andrew et al., 2011). Andrew et al. (2009, 2011) found that a good first clinical experience was a key determinant of a successful first year and beyond. Students repeatedly stressed the importance of an initial positive mentoring experience, describing this as a 'make or break' component of the first clinical placement (p. 17). In the United Kingdom (UK) 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.

Konrad Lorenz (1903–1989) an Austrian Zoologist, Naturalist, Ornithologist and Nobel Prize Winner was 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). 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 then followed as they would the parent bird. Lorenz's work focussed on the 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 serious 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' (Brigandt, 2005, p. 577). 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, p. 571). More recently Bennett and Hacker (2003) explored the historical and conceptual roots of brain functioning describing how the brain maps and processes behaviours. The work is underpinned by the study of philosophy and neuroscience and interpreted through the medium of brain imaging. This hybrid discipline is referred to as neurophilosophy and is based on the understanding that the brain

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is 'hard wired' by evolution to deal with problems through the expression of learned behaviours. This theory has synergy with Lorenz's earlier work.

The application of Lorenz's work is not interpreted in this article from a rigid standpoint. The interest lies in what his theory can teach us about the long term impact on professional development of early clinical learning. In human terms 'imprinting' describes the way that early experience shapes behaviour and determines the consequences of that behaviour (Hess, 1958). If this theory is applied to nursing it suggests that a faulty imprint created at the beginning of the professional journey may contribute to failure to thrive as an undergraduate and challenge the attainment of competence as a qualified nurse or health practitioner. Targeted intervention to correct faulty behaviours may be indicated if early learning patterns indicate poor performance or faulty imprint at the beginning of clinical development. This article discusses the proposition that the quality of early clinical learning is one of the determinants of future success in undergraduate nursing and beyond. Clinical impact is explored from the perspective of imprinting and the potential usefulness or otherwise of an adaptation of this theory to the practice of nursing.

Clinical imprinting

The understanding that the early experiences of all animals, humans included, have an effect on behaviour is not new. The question is not whether early experience impacts on human behaviour but how it does. Imprinting has been observed in animals other than birds; early social contact in humans also determines behaviours at a later stage in development. Hess (1958) stated that 'this of course is imprinting' (p. 82). If early experience shapes future attitudes to caring as suggested by Lemonidou et al. (2004) the impact of early clinical exposure may have an effect on future performance and (in behavioural terms) could be an early predictor of progression and competence. The impact of early exposure therefore creates the imprint for career long professional learning and development. In a similar way 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 and Ferguson (2008), Andrew et al. (2008) conclude that success at an early stage may well underpin the development of positive professional behaviour throughout the undergraduate years and beyond. Lorenz's work was considered restrictive because he believed that instinctive behaviour patterns cannot be modified by experience. Other contemporaries of Lorenz however assumed that flexible or insightful behaviour is gradually derived from instinct (Brigandt, 2005).

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 education and practice (Andrew et al., 2009). 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 and Ferguson, 2008; Andrew et al., 2008). Students sometimes struggle to understand their role in the clinical area and also what their learning range should be within practice. If they are paired with unqualified staff to learn 'basic nursing care' qualified staff cannot monitor the acquisition of appropriate behaviours. If monitoring is not the role of the qualified nurse then there is divergence between student perceptions of nursing care and the actual behaviours required for competence (Ousey and Johnson, 2007). Imprinting supports planned early exposure to excellent professional behaviours, modelled by experts to avoid the predictable consequences of a false start.

Situational learning

McKendry et al. (2011) observe that the question of where skills and professional competencies should be learned and taught has been a bone of contention in nursing for many years. This ongoing discussion reflects polarised views of nursing; is it part of the academy or essentially vocational with learning primarily located in situ. Nursing is still essentially seen as a practice based discipline however the move to a degree exit profession ignites the clinical learning debate again. Although it is generally accepted that the clinical environment underpins the transfer of theory into a clinical context, we continue to challenge academic legitimacy and champion technical competence (Andrew et al., 2011).

Arguably the most important aspect of undergraduate education, mentoring for excellence in practice is recognised as the cornerstone of student development. 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 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 (p. 333). 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.

A simulated environment can create a hub of controlled and metered clinical exposure. Demonstrating is one way of modelling excellence in practice, removing extraneous distractions and allowing the students to immerse themselves in the 'ideal' learning experience (Murray et al., 2008). In reality real nursing takes place in the 'messy, idiosyncratic real world of clinical practice' (Warne and McAndrew, 2009, p. 856). Andrew et al. (2011) discuss the need for learning to take place in an authentic practice environment. 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 article 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 in the United Kingdom (UK) is regulated by the Nursing and Midwifery council (NMC, 2007). The idea however of the 'goal-directedness of behaviour' may have an application to clinical learning and education (Brigandt, 2005, p. 576). In 2005 the Quality Assurance Agency (QAA Scotland) introduced an *Enhancement Theme* based on the first year experience in Higher Education and proposed that Scottish Universities should consider the impact on the student population of the first year of undergraduate learning (QAA, 2005a,b; Pitkeithly and Prosser, 2001). 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. The Scottish Executive (2006) concluded that adequate preparation for practice of both students and their mentors is vital for a successful first clinical placement.

Learning and teaching in the clinical area is the cornerstone of education and it is in the first year that students begin to lay the