Using Digital Technology and Interactivity Design to Drive Interactive Networks and the Co-Construction of Social Knowledge: the Nurse Navigator System

Introduction

The integration of a navigator system as an essential part of a social constructivist approach to development of lifelong learning has been explored in undergraduate nursing degree programmes. The integration of Virtual Learning Environments with online E-Portfolio systems and the opportunity for online collaboration and live engagement with processes of reflective practice was an integral part of the University of Sunderland’s Nurse Navigator System (NNS). The aim of this study was to explore nurse students’ experiences of using the Nurse Navigator System during their final year of the programme at the University of Sunderland.

Underpinning Educational Philosophy

Vygotskyan philosophical and metaphorical ‘scaffolding’ of learning from this permitted a control in the deliverable phasing of developmental progression through the programme in which the opportunity to develop and shape culture was also an acknowledged reality (Vygotsky 1978). Cultural dependence also had to be shaped between clinical and academic practice, yet situates the student and person-centred experience within it. At this stage it was acknowledged that a social constructivist curriculum: • Contextualises and frames individual beliefs and values in the context of social situations. • Focuses on the situated context of knowledge construction. The relative authenticity of the learning context impacts on students capacity to engage and transfer acquired knowledge to new settings. • Ensures focused activities that provide opportunities for individuals to construct their understanding of reality and root this in the social processes of learning. • Integrates and triangulates authentic assessment processes in relation to the social construction of knowledge, capacity and affective development. The approach is characterised by critical reflective practice and ongoing processes of developmental progression.

Curriculum Design Principles

In keeping with the social constructivist philosophy of an integrated curriculum, the BSc (Hons) Adult Nursing Practice programme embeds learning experiences of engagement with a very specific community of practice (a) nursing. The ethos of this approach stemmed from the co-construction of a curriculum that necessitated it to be content specific in relation to professional regulation by the Nursing and Midwifery Council (NMC) yet driven by learning objectives rooted in current evidence that characterises professional practice. This stemmed from its central vision of: “Education Transforming Practice”.

This co-construction was the product of a wide scale scoping exercise with patient carers and public involvement representatives, programme stakeholders from regional NHS Trusts and academic staff. This process involved embedding affective domain learning across all of the constituent modules of the academic programme.

Pragmatics of Design

The construction and labelling of a relatively disparate set of university IT systems as the ‘Nurse Navigator System’ was routed in the principles of broader design research where methodologies of teaching, learning and assessment were used to drive educational innovation within and between clinical and academic teaching. In terms of pragmatic design and appearance this was straightforward. However, the theoretical basis of this design was more complex and rooted in core pedagogic design principles. The key focus leading formulation and development of this programme was complex and multi faceted. It involved the construction of domain specific and dominant collective teaching and learning activities to be practised within a multi faceted, multi context driven by an assessment process which was in turn triangulated by a Practice Assessment Database across an core programme domain of learning as learning, psychosocial, cognitive and affective domains. This design involved changeable variables such as people (patient carer public involvement representatives, NHS Stakesholders and academic staff), infrastructures, processes, policies, professional regulation and environmental constraints. In essence the design of construction and teaching and learning processes for this study, there was an increased likelihood of being able to apply the phenomena of complex curriculum justification; design and development to an observable context. In its most form it was pragmatic and relatively straightforward in terms of the student learning process – student mix meeting framework. The project was acknowleded and developed as a very small scale study of the initial BSc (Hons) cohort. As such, no claim of generalisability to a greater population in context. The methodological approach adopted was selected for two main reasons:

Methods: Phase 1

Following formal institutional ethical approval for both phases of the research students were recruited to this study, and the Faculty of Health Sciences and Wellbeing were recruited purportedly to the investigation. In the first phase of the study which that students undertaking this specific programme were experienced to answer questions about the initial piloting of the Nurse Navigator System. The process of participation was entirely voluntary and students were invited to participate in this investigation. The 21 students entering Semester Two of their studies in the academic year 2016-2017. The study was cross sectional and descriptive in design, with data collected via a specifically adapted self-reporting Clinical Learning Environment Inventory (CLEI), which was adapted to capture student perceptions of the usefulness of specific practical resources to their potential employability in the context of nursing practice. The adaptations captured student perceptions about the experiences of student resources to their potential employability in the context of nursing practice. The adaptations captured student perceptions about the experiences of student resources to their potential employability in the context of nursing practice. The adaptations captured student perceptions about the experiences of student resources to their potential employability in the context of nursing practice.

The questionnaire consisted of 29 questions which addressed students who responded to an agreement or disagreement level to which they agreed or disagreed with core statements of their use of the system. These themes were correlated with the dimensions semiannually outlined by Moos (1979) and mapped against core skills in relation to: • Individualisation – the degree of autonomous practice that the Nurse Navigator System provides to the student experience. • Innovation – the degree to which new approaches to learning technologies can be implemented. • Inclusion – how much of an opportunity each student is afforded in individualising their Nurse Navigator experience. • Task Orientation – how clear and well organised learning and teaching experience the Nurse Navigator System. • Satisfaction – the degree to which personal and professional development has taken place as a result of using the Nurse Navigator System.

Methods: Phase 2

The capturing of the group dynamic or ‘spark’ between group members is actually much less important than establishing lived experiences and the stories and narrative accounts that can be used to articulate them. It can be argued that in this sense it advocates a greater sense of authenticity in response, in comparison to a focus group since stories are elicited in the context of creating an environment for the session that makes participants feel less formal and able to give a response in the form of a personal story rather than an interactive dialogue. Since anecdotal responses lies at the heart of good storytelling, the creation of sound questions that encourage personalised stories is pivotal.

Findings and Discussion

The six most salient outcomes of the evaluation to be embedded back into the iterative development of the NNS revealed:

1. That students perceived there was an impact of the NNS on the progressive development of their psychomotor competence and functional skills since it facilitated the development of their underlying cognitive knowledge.
2. That students perceived that the impact of the NNS on their collaborative social learning was significant in terms of its being readily comparable to existing social networking sites.
3. The value of immediate feedback critical reflective practice that the NNS provided was a positive experience that facilitated the notion of thinking and reflecting ‘in action and on action’ (Schön,1995).
4. Embedded critical reflective practice that the NNS facilitated in relation to the contribution learning gain depend on how the system is used to harness human interaction rather than learning gain as a critical reflective practice (Vygotsky,1987).
5. Lack of regular accessibility to the system on clinical placements is a high ranking priority.
6. Regular use of the NNS was associated with a greater degree of student engagement with the programme and interactivity within the cohort.

Conclusion

The NNS has been piloted for a full academic year and initial evaluation revealed its potential for development and potential transferability to other similar educational contexts is high. Students most appreciate the opportunity to use the NNS to access collaborative processes of integration of reflective thinking on their feet in everyday clinical practice placements. Potential barriers to regular use included institutional fence issues, the potential for the system to be used purely as a social infrastructure rather than as a resource for proactive learning and the availability and cunmery of information technology equipment.