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**'Social interactivity as Driver and Digital Technology as Vehicle: Facilitating Affective Domain Learning for Undergraduates'**

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## Amended Version (Changes Highlighted in Yellow)

# 'Social interactivity as Driver and Digital Technology as Vehicle: Facilitating Affective Domain Learning for Undergraduates'

### Abstract

**Aim** – The aim of this pedagogical research was to investigate the perceptions of the integration of digital technology into a Pre-Registration Nursing degree programme. This process illuminated student perceptions of the impact of the digital technology platform on the context of work based learning and also potential employability in the future.

**Methods** – In adopting Design Research as an overarching methodological approach for this study, it enabled application of the phenomena of complex curriculum justification, design, and development to an observable context. In its rawest form, this was a pragmatic and relatively atheoretical approach, nevertheless underpinned by robust mixed-methods framework, incorporating anecdote circles. Braun and Clarke's (2006) six-phase approach to thematic analysis was adopted as a systematic, yet recursive, approach to inductive qualitative analysis.

**Findings** – Results of this pedagogical study were consistent with the stance that technology enhanced learning has a tangible impact on the socio-cognitive learning of students by providing a mechanism for engaging with decision making, problem solving and reflexive praxis. In particular, the Nurse Navigator System was perceived as a mechanism of enhancing the potential for the establishment of communities of practice in which the co-construction of meaningful knowledge about patient care could be established.

**Conclusion** – The study revealed the concept of social interactivity for affective domain learning was impacted positively upon by the integration of technology enhanced learning (i.e. the Nurse Navigator System). Pivotal to the success of this, though, is the capacity of clinical and academic staff who can facilitate this sufficiently well in practice and a period of preparation for students so that they can understand the distinction between cognitive, psychomotor and affective domain learning and the places and integration of each across an academic curriculum.

**Keywords:** Digital Technology, Pre-Registration Nursing, Curriculum Development, Work Based Learning, Employability

## 'Social interactivity as Driver and Digital Technology as Vehicle: Facilitating Affective Domain Learning for Undergraduates'

### Introduction

Responses to educational reform have meant that in terms of the future potential employability of students, there has been a corresponding rise in needs-led curriculum design and new and innovative pedagogic approaches in digital interactivity in UK Higher Education (HE) (Tsiotakis & Jimoyiannis, 2016). Within the context of a new BSc (Hons) in Adult Nursing Practice at the University of XXXX curriculum design was undertaken in partnership with stakeholders from regional trusts, patient care and public involvement representatives, and academic staff. From this came the mission statement of "Education Transforming Care." The aim of developing a digital Nurse Navigator System was a threefold means of

- Using technology and strategic pedagogic design to simultaneously drive human relationships at the heart of both the patient and student experience;
- Driving an integrated curriculum;
- Maximizing the potential of student nurses to simultaneously be functionally competent and authentic in their provision of care and workforce ready on completion of their studies at the university.

### Background Literature

Alongside critiques of Higher Education (HE) curricula in relation to their relative complexity, the identification of the critical level, timing, collaboration, and interaction among academic and clinical staff and their students, has become increasingly important (Duncan-Howell, 2010). The BSc (Hons) Adult Nursing Practice programme at the University of XXXX was an opportunity to drive the concepts of authenticity and flexibility in education, through the use of the institution's operational virtual learning environment (VLE) platforms and learning technology of the institution. It also, most importantly, was an opportunity to personalize opportunities for educators across the programme to interact and communicate with one another while in different contextual settings and bases (Chieu & Herbst, 2016). The programme was also designed to integrate the co-construction of knowledge from initial evaluation of the programme and fostering and advocating social interaction between students, their peers, their clinical educators, and academics (Yen et al., 2012).

Considerations of the previously published literature permitted relationships and patterns between points of interactivity online to provide an insight into behavioural activity and level of engagement of students. These highlighted the characteristics and the potential for limitation of student online learning activity that had previously been posited by Lee and Bonk (2016).

## Strategic and Conceptual Design of the Navigator System

Strategically and conceptually, the theoretical and operational design of the **Nurse Navigator System** focused on three key areas:

1. *Capacity for the driving of social interactivity*: the potential for academic staff, students, and clinical mentors and link tutors using the system to communicate and interact with one another regardless of the context of nurse educational provision (clinical or academic);
2. *Learner interface*: the devices and computer programmes that enable processes of interactivity;
3. *Learner content*: the interaction that takes place between the student and the VLE content of relevance to clinical or academic learning.

Embedding the opportunity for ongoing evaluation and the co-construction of new knowledge with students/academics and clinicians was a priority in the pilot implementation of this project. This was a mechanism by which insider knowledge could be captured and the ontological positional stance of the authors made transparent.

### Philosophical Backdrop

Social constructivism provides a philosophical backdrop for curricula that shapes and values individuals (Richards, Graber and Woods, 2018). In relation to the vision and strategy underpinning U.K. HE provision, the University of XXXX has a civic responsibility anchored by the human experience rather than one which provides a student education in abstraction from it. As mentioned earlier in the case study, we were keen to implement a mechanism of evaluation that was authentic and reflected the overall ethos of the programme in engaging with people, whose work would be at the forefront of patient care. Accompanying this is Weber's assertion that we are "cultural beings" and in this sense the graduates we produce for societal engagement and impact in health care provision lend the world their significance (Bruun, 2016). Perhaps the greatest lesson others might learn from our research is the need to consider the concept of authenticity and to ensure that by claiming to be authentic this is not just a tokenistic form of lip service, which is evident upon dissemination and sharing of their findings. It is also an extremely pragmatic approach when researchers know their participants because it adds a degree of transparency to the methods being adopted.

### Curriculum Design Principles

In keeping with the social constructivist philosophy of an integrated curriculum, the BSc (Hons) Adult Nursing Practice programme engenders processes of enculturation into a very specific community of practice that is, 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 is driven by learning objectives rooted in end what ought to characterize professional practice. This stemmed from its central vision of "Education Transforming Care." This co-construction was the product of a wide-scale scoping exercise with patient carer and public involvement representatives, programme stakeholders from regional NHS Trusts,

1  
2  
3 and academic staff. This process involved embedding affective domain learning across all  
4 of the constituent modules of the academic programme.  
5

6 Vygotsky's (1978) philosophy and metaphorical "scaffolding" of learning from this  
7 permitted a control in the deliverable phasing of developmental progression through the  
8 programme in which the opportunity to develop and shape culture was also an  
9 acknowledged reality. Cultural dependence also had to be shaped between clinical and  
10 academic practice, yet situate the student and person-centred experience within it.  
11

12  
13 At what can be regarded an early stage of developing the Nurse Navigator System, it was  
14 acknowledged by the researchers that a social constructivist curriculum:  
15

- 16 • Contextualizes and frames individual beliefs and values in the context of social  
17 situations.  
18
- 19 • Focuses on the situated context of knowledge construction. The relative  
20 authenticity of the learning context affects students' capacity to engage and transfer  
21 acquired knowledge to new settings.  
22
- 23 • Ensures focused activities that provide an opportunity for individuals to  
24 construct their understanding of reality and roots this in the social process of education.  
25
- 26 • Integrates and triangulates authentic assessment processes in relation to the  
27 relative progression of cognitive, psychomotor, and affective development.  
28
- 29 • Is characterized by critical reflective practice and ongoing processes of  
30 reflexivity.  
31
- 32 • Is dependent on the effective facilitation of academic and clinical teaching staff,  
33 and in this respect, it acknowledges the pedagogic expertise of the facilitator in relation  
34 to the content-specific expertise necessary to support students' capacity to learn. The  
35 provision of available resources linked to prior knowledge is pivotal to academic  
36 development.  
37
- 38 • Necessitates access to an IT and traditionally equipped learning environment  
39 with access to information retrieval resources and, where appropriate, situated or  
40 experiential learning that can support active learning.  
41
- 42 • Necessitates the inclusive, co-construction, and collaborative construction of  
43 knowledge which can be internalized at an individual level. It embeds an ethos of value  
44 and respect, which is embodied in activity, characterized by co-operation, and demands  
45 a proactive approach and an ongoing commitment to deep learning.  
46
- 47 • Permits the representation of knowledge from an unlimited range of resources  
48 and in which the cultural situation or context of that knowledge is significant to the  
49 articulation of it.  
50  
51  
52

53 The construction and labelling of a relatively disparate set of university IT systems (the  
54 VLE, E-Portfolios, and Padlet) collectively as the "Nurse Navigator System" were routed in  
55 the principles of broader design research where methodologies of teaching, learning, and  
56 assessment were used to drive educational innovation within and between clinical and  
57 academic teaching. In terms of pragmatic design and appearance, this was relatively  
58  
59  
60

1  
2  
3 straightforward and the process was undertaken by an associate tutor, employed  
4 specifically for this purpose.  
5

### 6 **Research Design and Methodology**

7  
8 The focus of the overarching research methodology was to shape the pedagogic research  
9 in this evaluation to provide actionable outputs. Curriculum design of the BSc (Hons) Adult  
10 Nursing Practice programme was complex and multifaceted. It involved the construction  
11 of domain-specific and domain-collective teaching and learning activities. This system of  
12 delivery was ensured to be driven by an assessment process which was in turn  
13 triangulated by a Practice Assessment Document across all programme domains of  
14 learning across psychomotor, cognitive, and affective domains. This design involved  
15 changeable variables such as people (patient carer public involvement representatives,  
16 NHS Stakeholders, and academic staff), infrastructures, processes, policies, professional  
17 regulation, and environmental constraints. In adopting Design Research as an overarching  
18 methodological approach for this study, there was an increased likelihood of being able  
19 to apply the phenomena of complex curriculum justification, design,. In its rawest form,  
20 this was a pragmatic and relatively atheoretical approach, nevertheless underpinned by  
21 robust mixed-methods framework. The project was acknowledged and developed as a  
22 very small-scale study of the initial BSc (Hons) cohort. As such, no claim of generalisability  
23 is made from the study to a wider context. The methodological approach adopted was  
24 selected for two main reasons:  
25  
26  
27  
28

- 29 1. The approach offered the highest degrees of procedural trustworthiness and  
30 authenticity in relation to the data collected in both phases of the research.  
31
- 32 2. In comparison with observational and longitudinal studies, it offered a very  
33 practical and straightforward means of data collection and analysis in the context of an  
34 initial pilot study.  
35

### 36 **Method**

37  
38 The word anecdote (certainly within the context of qualitative research) can often be  
39 associated with research that has no scientific underpinning or capacity for analysis,  
40 beyond hearsay. However, we adopted methods, which emphasized the authenticity of  
41 the data we were collecting but at the same time ensured its analytical integrity and  
42 worth as a robust piece of qualitative research. A theoretical framework was something  
43 we were convinced would provide us with this degree of integrity, as outlined below.  
44  
45

### 46 **Research Phase 1**

47  
48 Students of the BSc (Hons) Adult Nursing Practice programme in the Faculty of Health  
49 Sciences and Wellbeing were recruited purposively to the investigation. This sampling  
50 technique was adopted on the basis that students undertaking this specific programme  
51 were experienced to answer questions about the initial piloting of the Nurse Navigator  
52 System. The process of participation was entirely voluntary and students were invited to  
53 participate via posters around the University Campus. The sample was made up of 21  
54 students entering Semester 2 of their studies in the academic year 2016-2017. The study  
55 was cross-sectional and descriptive in design, with data collected via a specifically  
56 adapted version of the Clinical Learning Environment Inventory (CLEI), which was adapted  
57 to capture student perceptions of the usefulness of the Nurse Navigator System to their  
58  
59  
60



potential employability in the context of nursing practice (Moos, 1980). The adaptations captured student perceptions about the extent to which the Nurse Navigator System prepared students in terms of graduate employability. The questionnaire consisted of 29 questions which asked students to respond with an opinion as to whether they agreed with the level to which they agreed or disagreed with core statements of their use of the system. These values were correlated with the dimensions seminally outlined by Moos (1980) and mapped against 15 core skills in relation to:

- Individualisation—the degree of autonomous practice that the Nurse Navigator affords students in their everyday student experience;
- Innovation—the degree to which new approaches to learning technologies can be implemented;
- Involvement—how much students actually use the Nurse Navigator to contribute to their studies across the BSc (Hons) Adult Nursing Practice programme;
- Personalisation—how much of an opportunity each student is afforded in individualizing their Nurse Navigator experience;
- Task Orientation—how clear and well organized learning and teaching resources are across 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.

The 15 core skills, which were developed from and overarched Moos's dimensions, became the focus of the study. Student perceptions of each were gathered to illuminate the extent to which students felt that the Nurse Navigator System had affected the development of their:

- Active listening skills;
- Classroom management;
- Communication skills;
- Confidence;
- Creativity;
- IT skills;
- Independence/capacity to learn autonomously;
- Initiative;
- Leadership;
- Professionalism;
- Reflection;
- Research skills;
- Self-esteem;
- Teamwork.

A total of 14 usable responses (response rate 66%) were obtained from 21 BSc (Hons) Adult Nursing Practice students.

## Phase 2: Research Design and Execution

### “Anecdote Circles” in Action

1  
2  
3 Anecdote circles were adopted as a deliberate alternative to focus groups for this  
4 research evaluation project (Ali, 2014; Lugmayr et al., 2016). Little documented in the  
5 context of pedagogic research, they appeared to offer a means of authentic informality  
6 where students could voice their opinions inclusively and honestly in a manner which  
7 reflected the ethos of the Nurse Navigator System (i.e., social interactivity). The issue of  
8 the researchers also being teachers of the students meant that this approach could be  
9 conducted with a degree of authenticity and credibility on behalf of the researchers too.  
10

### 11 **Pre-Stage Planning**

12 This involved establishing a series of straightforward guidelines for the participants in the  
13 study. They were stated at the beginning of each anecdote circle and also at any stage  
14 where it was felt that they were being breached or needed to be reminded of the process.  
15 In the case of the anecdote circle case study here, these guidelines were as follows:  
16

- 17 ■ Focus on giving us some examples of your experience here and how it might link to  
18 stories from [nursing] student placement experience.
- 19 ■ Please try not to interrupt others as they are in the middle of their stories as this will  
20 stop the “flow” of what they are thinking and articulating to us.
- 21 ■ Don’t be afraid if we have a gap in the flow of our stories; there is no pressure on you  
22 to speak continually.
- 23 ■ If you feel the need to contradict someone, then try to put your perspective across  
24 instead.

25 At this stage, content validity checks were also undertaken as an ongoing process so that  
26 at the end of each story with the students, it was certain that interpretation of intended  
27 meaning could be assured. This was deemed important in relation to the immediacy of  
28 the interpretation and the potential to lose valuable information.  
29

30 In addition, a series of intuitive probes was integrated, which could be used to further  
31 encourage the conceptual depth of student narratives and stories to deepen further.  
32 These were as follows:  
33

- 34 ■ “Can you tell us a bit more about that . . .?”
- 35 ■ “Where did that experience come from, can you tell us a bit more?”
- 36 ■ “Have you got any examples of that from [nursing] student experience that you can  
37 bring to that?”

### 38 **Stage 1**

39 This phase was an opportunity to establish what the exact themes of the evaluation would  
40 become—it can also be termed an “anecdote-elicitation” session. Being strategic here in  
41 terms of controlling how many themes for discussion are both wanted and necessary in  
42 the study is important. For the purposes of this evaluation, there was a deliberate focus  
43 on two story questions, namely, critical reflection and reflexivity.  
44

### 45 **Stage 2**

1  
2  
3 This stage involved extending discussion to the context to employability. In this instance,  
4 it was “Tell me about to what extent using the Nurse Navigator System has made an  
5 impact on you preparing to become an employable nurse.”  
6

7 This necessitated, first, facilitating the group in establishing their operational definitions  
8 of both terms. In some instances, there was discussion and disagreement about what it  
9 meant to each of them, including the following terms:  
10

- 11 ■ Employability
- 12 ■ Prospective work roles
- 13 ■ Contribution to daily student experience
- 14 ■ Social networking
- 15 ■ Barriers and facilitators of practical usage
- 16 ■ Professionalism
- 17 ■ Nurse identity

18  
19  
20  
21  
22 As these words had such a resonance with the participants, they were deliberately  
23 integrated into the questions.  
24

### 25 **Stage 3**

26  
27 In terms of the question, it was necessary to elicit emotion in the participant’s responses,  
28 so emotional words of extreme were that which would help them to relate the context of  
29 what they were doing to their real experience in practice. Part of this process is to  
30 deliberately incorporate a scale of emotion with both extremes of it into the questions.  
31 This was primarily to provide extreme binary terms so that ultimately the storytelling  
32 process would not become overly skewed by the tone of the question and allowing them  
33 to position themselves on a continuum of choice and contemplation in terms of how they  
34 reacted and engaged with the elicitation question.  
35  
36

### 37 **Stage 4**

38  
39 This stage necessitated building the actual elicitation question. In accordance with the  
40 published evidence base on anecdote circles, a process of image building was combined  
41 with the concept of emotion. This was to ensure the participants had a specific “anchor”  
42 for their stories in being able to build their stories and regale their anecdotes comfortably.  
43

44 It started with “Think about when you first used the Nurse Navigator System in practice—  
45 what did it remind you of . . .”  
46

47 Then, “Think about using the Nurse Navigator System when you’re out there on clinical  
48 placement . . .”  
49

50 Then, “Consider . . . how this differed to being on campus during your academic blocks  
51 for a minute . . .”  
52

53 Emotive words were then integrated into these questions:  
54

55 When were you apprehensive, certain, confident or unsure about using the Nurse  
56 Navigator System in practice.  
57

58 As recommended in the literature, a spectrum of emotions was incorporated so that this  
59 increased the chance of a memory being triggered by the question.  
60

## Stage 5

Once the group had settled, they were asked the first prompting questions.

### Data Analysis

Braun and Clarke's (2006) six-phase approach to thematic analysis was adopted as a systematic, yet recursive, approach to inductive qualitative analysis. In accordance with recommendations of the process, data were not viewed in a linear fashion and ideas were extracted as they emerged during the process of interpretation (often after visiting and re-visiting particular transcripts), and the researchers proceeded to the next phase where appropriate.

#### Phase 1

This entailed familiarization with the data set where the researchers immersed themselves in the data collected via extensive reading and re-reading of the transcribed information from the data collection. This was a process undertaken by two researchers (CH & YG) where a consensus could be reached between those themes independently found to be most commonly occurring.

#### Phase 2

Data were coded: this involved creating and identifying themes that came from analysis of the data sets. This subsequently guided analysis and provided a systematic approach at a semantic and conceptual level, which could be mapped against existing published literature. This was achieved by manually coding every data item and completed by the two researchers involved, collating every element together so that it could be independently checked for inclusion in the overall findings by both.

#### Phase 3

This entailed exploring the data for the specific themes identified in Phase 2 of the data analysis, defined in accordance with Braun and Clark (2006) as "coherent and meaningful patterns in the data" of direct relevance to the research aim. If a theme emerged from more than 10% of respondents, it was deemed to be meaningful to the study. Its coherence was judged on the basis of non-ambiguous articulation of student perceptions. As there was a degree of diversity in the questions asked, this meant that 100% of respondents contributed to at least four themes.

#### Phase 4

This stage involved reviewing the emergent themes. It provides a means of checking that these were relevant to the data extracts when they are taken in abstraction from the complete data set.

#### Phase 5

Providing a definitive theme for each one that has emerged from the study entails defining the overall findings so that each can be individually examined.

#### Phase 6

1  
2  
3 This stage involved analysing the themes relative to one another in terms of their rate of  
4 occurrence and writing up the findings in relation to this. It also involved merging  
5 analytical narratives and examining this in relation to the existing published evidence  
6 base.  
7

### 8 **Findings and Discussion**

9

10 The findings from the study have clear implications for nursing curriculum design  
11 alongside which, they provide evidence of theoretical consistency with existing literature  
12 in the field of technology enhanced learning. In the context of experiential learning whilst  
13 on clinical placement, the integration of the Nurse Navigator was undoubtedly  
14 functionally limited by the firewall security systems in local NHS Trusts where the practical  
15 elements of programme delivery take place, as illustrated by student comments,  
16  
17

18 “There’s no point in even trying, when there’s a Firewall and there’s  
19 just such a difference between Trusts that you might as well not  
20 bother sometimes... mobiles are better but it doesn’t always look  
21 great if you’re on a mobile in the middle of a ward” (Student  
22 A)  
23  
24

25 and

26  
27 “...don’t talk about the Firewall...just don’t go there, I mean I know  
28 it has to be there, it just stops everything” (Student B)  
29

30 The context of technology enhanced learning as an adjunct to and sometimes integral  
31 part of inquiry based learning across a newly developed curriculum was indicative of the  
32 need for less didactic approaches to learning.  
33

34 It became apparent in relation to the relative age of students, this was also a general  
35 indicator of their capacity to use technology seamlessly within their studies or whether it  
36 was perceived as another skill set to be learned or potentially even a barrier to the  
37 immediacy of learning. This is consistent with the findings of other current authors in the  
38 field of technology enhanced learning (Henderson, Selwyn and Aston, 2017) and also the  
39 students themselves,  
40  
41

42 “It’s taken me a while to get there but I do Facebook now and most  
43 platforms have the same sort of set up... we had nothing like this  
44 when we were younger and I suppose if it is used properly, it really  
45 adds to what you can learn on the job and in the classroom” (Student  
46 C)  
47  
48

49 and

50  
51 “It’s just what we always do, I mean we’ve grown up with this stuff, so  
52 we think nothing of it – using it for Uni is different but it would  
53 definitely be better as an app” (Student D)  
54

55 Since the curriculum adopted a blatant social constructivist philosophical stance, it was  
56 also apparent that mature students were more conditioned to didactic teaching and  
57 learning approaches, whereas younger students were less conditioned to teacher centred  
58 learning and were more flexible in their capacity to take risks in the context of technology  
59  
60

1  
2  
3 enhanced learning, again these findings were consistent with those of another author in  
4 the field (Hampton, 2017).

5  
6 Our results were consistent with the stance that technology enhanced learning has a  
7 tangible impact on the socio-cognitive learning of students by providing a mechanism for  
8 engaging with decision making, problem solving and reflexive praxis. In particular, the  
9 Nurse Navigator System was perceived as a mechanism of enhancing the potential for the  
10 establishment of communities of practice where the meaning making surrounding patient  
11 care could be explored (Pimmer and Pachler, 2013). This was illustrated clearly via some  
12 of the thoughts students expressed in the anecdote circles,  
13  
14

15  
16 “It definitely made a difference to catch what you were thinking  
17 about there and then. It’s like sometimes you go off and you try to  
18 remember things but you forget some of the important bits and  
19 then after you’ve done the reflection bit you realise you’ve missed  
20 it off – with this, it’s different, you get it done there and then and  
21 it’s just there for you to use when you want to. It makes a massive  
22 difference to what you take in and what you’ve got left to make  
23 sense of” (Student E).  
24  
25

26 In common with the published literature on this issue to date it is apparent that those  
27 nursing students, whose main technological equipment consists of a mobile phone, are  
28 content to socially interact and embed educationally focused conversation and social  
29 media apps to their learning on a daily basis (Curran et al, 2017). This is perceived as a  
30 social norm in the cohort who acted as participants in this study.  
31

32  
33 “It’s just part of what you’d do anyway.... Isn’t it?” (Student E)

34  
35 How they do this is inherently linked to how much they already know about using  
36 technology, which makes an app far more convenient than several different platforms  
37 being integrated into one conceptual model, as in the Nurse Navigator’s original format  
38 (Webb et al, 2017). It is interesting that even though clinical placement is an integral part  
39 of formal learning in practice, that because of enhanced social interactivity in the context  
40 of patient care, nursing students regard this as being ‘informal learning’ and that this  
41 context is where they learn best. The situated nature of their learning in nursing practice  
42 arguably gives authenticity to their transferrable learning in practice. It also actively  
43 contributes to their longer term lifelong learning and also potentially widening  
44 participation where entry level behaviour can distinguish student profiles quite distinctly  
45 in the earliest stages of the BSc (Hons) Adult Nursing programme. The students  
46 articulated this too, for example,  
47  
48

49  
50 “It’s like there’s a real difference between where we all were when  
51 we started and where we are now...do you know what I mean?...  
52 Like when we first arrived it was dead obvious that some people  
53 had already worked in care and knew a lot of stuff – I think having  
54 the information available was a big help and you felt like when you  
55 were away from the Uni you still had that sort of relationship with  
56 people where you could, like, ask – even if it was via a mobile and  
57 it was like it was fine because we were allowed to use them – not  
58 where the patients were like, but it was good!” (Student F)  
59  
60



1  
2  
3 The majority of nurses in the group could not define what was actually meant by the term  
4 'active listening skills' – this is where the use of an anecdote circle rather than a formal  
5 focus group provided them with a forum to identify what was perceived as an ambiguous  
6 term and allowed the facilitators of the anecdote circle to clarify operational definitions  
7 for the purpose of the research. Once this had been clearly established as the capacity to  
8 hear and extract the most salient aspects of a dialogue or discourse, all students agreed  
9 that the use of the Nurse Navigator provided them with an active forum to both be heard  
10 and to be able to co-construct knowledge with others for use in the context of experiential  
11 learning,  
12

13  
14  
15 "It just gives you a chance to think when you're there, instead of  
16 storing it all up for later" (Student G)  
17

18  
19 Central to this was their confidence and initiative in being able to extend and articulate  
20 meaning both to each other and to the people within their care, whom they regarded as  
21 an integral part of the learning experience, whether in the context of experiential learning  
22 in local NHS Trusts or in academic classroom based teaching sessions. Classroom  
23 management needed to be constructively aligned with the specific learning outcomes of  
24 modules if this was to happen though, and several students reported that they felt 'out  
25 of sync' with what was being taught and how they were learning. It is apparent that an  
26 awareness of domain specificity by facilitators of teaching sessions is pivotal to this, since  
27 this has ramifications of the subsequent capacity of students to transfer knowledge, skills  
28 and values to other situational contexts,  
29

30  
31  
32 "Being really hands on and being with people is where it matters  
33 though, it matters because how you treat people matters – so it's like  
34 its technology but it isn't about the technology it's about making you  
35 communicate better" (Student H)  
36

37  
38 Creativity was not seen as being integral to the experience of using the Nurse Navigator  
39 system, although students could perceive why aspects of this may be important in  
40 practice. It is arguable that leadership and professionalism are in a stage of early  
41 development with students in the initial stage of a degree programme, but the Nurse  
42 Navigator was perceived to have impacted positively on the potential for comradery  
43 rather than teamwork. As the Nurse Navigator was used via the internet, the capacity to  
44 research new or unfamiliar areas of knowledge online, was deemed to be a positive  
45 aspect of using the platform in practice. All students reinforced that they would much  
46 prefer an app for this to happen in practice. Experiential learning on placement with the  
47 Nurse Navigator System available gave a formalised reason for student nurses to interact  
48 at the point of care, using mobile technology that may not otherwise have been  
49 acceptable in the context of the workplace. A classic example of this is the use of mobile  
50 phones. In some hospital areas though, mobile phone use is restricted and it quickly  
51 became apparent that clear parameters of acceptable use, in relation to both data  
52 confidentiality and moral and ethical acceptability are necessary. This raises important  
53 questions for future research about the place of social interactivity and how this can be  
54 operationally defined in the context of professional practice for healthcare education,  
55 where apps are being used to increase engagement.  
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3 This work echoes the seminal work of Lave and Wenger (1991). In this sense nurse  
4 education is still wholly reliant on the formulation of a Community of Practice with  
5 established and practising nurse mentors yet highlights the paradigmatic shift and  
6 influence of technology enhanced learning over the last ten years in practice. It is likely  
7 that as learning evolves that the contextual significance of where people learn will  
8 increase in relation to this. In relation to learning environments, this also has broad  
9 implications for the consideration and place of tacit knowledge in the context of social  
10 interactivity in technology enhanced learning. Most notably, it highlights that accessibility  
11 to knowledge is no indicator of its correct or appropriate application to practice and  
12 maintains its position as an adjunct to yet an integral part of how people learn in 'situ'.  
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### 16 **Conclusion**

17 The concept of social interactivity for affective domain learning was impacted positively  
18 upon by the integration of technology enhanced learning (i.e. the Nurse Navigator  
19 System). Pivotal to the success of this, though, is the capacity of clinical and academic  
20 staff who can facilitate this sufficiently well in practice and a period of preparation for  
21 students so that they can understand the distinction between cognitive, psychomotor and  
22 affective domain learning and the places and integration of each across an academic  
23 curriculum. Not only does this impact upon the concept of social interactivity, it also  
24 provides a mechanism by which formal assessment processes can drive learning and  
25 teaching in the context of clinical and professional nursing practice across the curriculum.  
26 The provision of an App, though, rather than a series of platforms, which when working  
27 in conjunction with each other have a collective name is perceived as being better.  
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