**TITLE: SUPPORTING STUDENT NURSES IN CLINICAL PLACEMENT THROUGH VIRTUAL IN-PRACTICE SUPPORT: INNOVATION UPTAKE AND THE ‘VIPS’ PROJECT**

**ABSTRACT**

The integration of technology in nurse education has become an essential element of academic practice. Yet innovation uptake between academic institutions and their clinical practice partners has proved problematic, leading to a slow introduction of digitally enhanced teaching and learning innovations, particularly in the area of clinical leadership. The Virtual in Practice Support (VIPS) project involved two academic institutions working with the same Mental Health Care service partner aiming to maximise student clinical placement learning. Student nurses in their final year of training were invited to take part in testing the viability of distance e-tutoring (via computer access to academic nurse lecturers) for facilitated critical reflection. A video linked conference session was set up for students to undertake a group based online (i.e. virtual) group tutorial. The VIPS project required significant championing in order to overcome bureaucratic hurdles such as ethics, access and equipment needed to meet the requirements of students whilst on clinical placements spread across a wide geographical variety of locations away from the University. The VIPS project findings highlight; i) the importance of a clear project vision for innovation uptake ii) consequences of working with innovation champions and iii) how technology can be used to maximise student learning across geographical distance through online facilitated group critical discussion. The VIPS’ participants were able to articulate positive outcomes as a result of engaging in a multi-institutional project that capitalised on the richness of nursing clinical practice learning experience for both the students and the academics involved as innovation champions.

Keywords: *technology enhanced learning, e tutoring, online conferencing, nursing students, clinical placement support.*

**Highlights:**

* Innovation uptake across complex organisations
* Online peer learning approach for enhanced student learning on clinical placement
* Nursing students online critical learning for improved clinical leadership and innovation uptake

**INTRODUCTION**

Much has been written about the process of on line or e-learning processes in higher education (Williamson, 2011). However little has been trialled or tested in how to utilise online technology to provide nursing students, whilst on clinical placements away from their academic institution, to gain access to tutors via computer based online tutorials. Australia and the United States of American are leading the way in terms of using technology to enhance nurse education, but not without a radical change being required in terms of attitudes and creative problem solving to deal with the potential stress and anxiety associated with any change process (Kenny, 2002).

Within nurse education published reports on enhanced technology have tended to focus on application and use of simulated clinical learning or, report negatively on the lack of enhanced computer skills in nursing students to confidently and effectively engage with technology (Glogowska, 2011). More recent publications express a revolution in the area of tele/digital health innovation yet little evidence exists on whether quantitative or qualitative learning outcomes are achieved nor how technology is being used to improve nursing students clinical learning experience (Kirkwood et al , 2014).

Achieving a specified level of contact between academics and nursing students whilst on their clinical placements has a high level of inconsistency across academic institutions. Such variance is largely dependent on both expectations of academic staff priorities mixed with changing face of service delivery arrangements for mental health clinical placements. Both students and clinical staff have high expectations of what is often called the link lecturer’s role and their ability to offer direct support to students and clinical mentors in practice settings. Macintosh’ (2015) suggests high level of inconsistency in performance of the link lecturer’s role raises questions about the benefits of the role for student learning, thus the two HEI’s involved wanted to consider the impact of distance support to students whilst away from the University on their clinical placements.

How technology can be used to improve the learning experience of nursing students whilst on clinical placement is therefore a necessary component of contemporary learning and a central theme to this project report. We hope this paper provides evidence of the extended benefits of using virtual in-practice support and it’s positive impact on both students and staff involved, particularly in the area of clinical practice innovation uptake.

**Technology enhanced learning: evidence from the published literature**

A literature search was undertaken which resulted in only a limited amount of papers. Material published between 2008 – 2015 was selected for inclusion. Four major search engines were used (Embase, BNI, CINAHL and Google Scholar) that identified 31 papers. The search terms were; ‘ *nurse education* and/or *nursing education; online conference* or *web conference, telephone* or *chat, remote support* or *virtual support, supervision* or *mentor.* Of the 17 papers selected for review; 3 related specifically to online clinical supervision (in allied health disciplines). Three related to online clinical/case conferencing, 4 were reporting on use of blended learning approaches in nurse education. One paper focused on web conferencing software. Two were written about the use of educational chat rooms, leaving only four papers specifically relating to nurse education and technology use.

**Nurse education and technology use: the published evidence**

According to Kopp et al (2010), e-tutoring is becoming an integral element of modern learning, offering students remote access to academic resources which provides numerous practical benefits. For example, (i) overcoming the large geographical spread of clinical placements to the host education institution campus’ (ii) a reduction in time academics and students spend travelling to and from host sites for tutorial meetings, (iii) increased effective use of students time spent travelling away from clinical placement plus (iv) academics have increased opportunity to engage with more than one student at a time thus improving efficiency and promoting collaborative learning.

E-tutoring not only enables learners to readily access learning resources as individuals, it also provides opportunity for enhancing the process of collaborative learning. Students are given the ability to connect with others via the use of online technologies, to overcome feelings of anonymity and isolation in their practice area. Students join on-line, to connect with others across extensive geographical distance between practice areas to their host educational institute. This also enables groups of individuals to engage and foster collaboration with others with whom they would not normally connect whilst out on placement, which can be an isolating experience for students, particularly working within community based teams rather than hospital sites.

In Canada, Park et al (2010) outline the benefits of a mobile Faculty presence using on-line access. Through use of mobile electronic devices nursing students in clinical placements have increased confidence to access academics, as well as gaining placement support from their clinical mentors. However, they warn that restrictive wifi connectivity in hospital settings meant a change to hospital policy was required, to enable hand held mobile devices to be permitted in clinical sites. Park et al (2010) concludes that the increased connectivity between practice and academics was a highly successful mechanism ‘*to bring back the pedagogical perspective at the point of care*’ (p. 33).

Lasater (2014) qualitatively investigated the use of distance mentoring with dyads (consisting of nurse tutors and their nurse students) working together over distance, as an alternative to more conventional use of face to face meetings. Distance did not appear to impede the usefulness of the learning from the different mode of communication that took place. Students reported they were able to learn and understand the importance of critical thinking, whilst on clinical placement. Carley (2015), also reports how technology based learning strategies can support nursing students whilst on placement, which stimulates their critical thinking and reflective inquiry approach, needed to improve their decision making in clinical practice.

**VIRTUAL ONLINE TUTORING: THE ‘VIPS’ PROJECT**

The VIPS project aimed to explore pedagogic benefits of virtual online e-tutoring with mental health nursing students whilst on clinical placement. The two higher education institutions (HEI) involved used the same clinical setting for mental health clinical placements. Therefore timing of student placements were specifically chosen to overlap, so that both Higher Education Institutions (HEI) students would be dialling in at the same time for the e-tutoring sessions. This was the first time such a collaboration had been undertaken. Specific permission and purchasing of appropriate headsets were required and ordered before the VIPS sessions could begin. This was facilitated by close working with the in-house technological support.

Once a fortnight, an academic (from across the two HEIs) was available, at a specified time via online access, offering students facilitated critical reflective space to consider their learning experience whilst on clinical placement. Students would dial in at the predetermined time, using computers that had been specifically identified within the education facilities at the clinical host institution.

Once students were logged on through use of Skype©[[1]](#footnote-1), students engaging with the VIPS e-tutoring took it in turns to raise a headline issue they wanted to raise about a particular situation they were working with hoping to gain a better level of understanding. Students then chose one headline issue they would like to discuss in more detail. Once the topic was agreed, the student who raised the chosen headline would then describe the situation in more detail, paying attention to avoid using identifiers that would breach confidentiality.

Students were facilitated by the e-tutor to first pose clarification questions. Once the full extent of the clinical situation was understood, students were guided to ask more critical, probing questions via the online group. Focused questioning from the e-tutor helped clarify potential learning opportunities, with each student logged into the discussion encouraged to speak in turn, thus establishing an online etiquette. After the first session had been structured this way, the students began to ask, without prompting from the e-tutor, pertinent and critical questions about the topic being presented. This critical enquiry approach (Lather, 1991) to learning encouraged the student presenter to consider alternative strategies to improve client outcomes. Students very naturally sought feedback on any changes that had taken place inbetween sessions and were keen to consider the impact of the last session’s discussions on any agreed actions.

**The role of the virtual e-tutor**

The virtual academic e-tutor was encouraged to focus their attention during the VIPS sessions on four key tasks.

1. Fostering collaborative learning and active engagement
2. Stimulating more in depth understanding of situated learning episodes
3. Promoting learning motivation and critical reflection
4. Providing constructive feedback and observation of the learning process being undertaken

The e-tutor would guide the students questioning process, managing the risk of people talking over each other whilst using online conferencing and encouraging the quieter students to have their say. During the student discussions, the e-tutor would also make observational statements aimed at helping identify when students were offering advice as opposed to encouraging self-awareness in the presenter, through Socratic questioning (Paul & Elder, 2006) and experiential learning strategies (Heron, 1974).

Invariably one academic took a lead facilitator role; leading the discussion and facilitating student input (as outlined above). The additional e-tutor was then able to focus their attention to taking detailed field notes on the process of using online tutoring. They were also able to further interject discussions with; critical questions to challenge students’ understanding of relevant policy, bring alternative perspectives in practice issues, help identify theoretical underpinnings and offer other lines of enquiry students might wish to research after the session ended to extend their knowledge base. Two virtual academic tutors were available at each of the eight sessions undertaken as the pilot VIPS project. At one session all four e-tutors were available online. This was not planned, but seen as a sign of the level of interest and commitment from the academic staff involved.

**VIPS evaluation process**

Students volunteered to be a part of the VIPS project and were asked to complete a learning needs repertory grid prior to commencing the VIPS project activity. They were also expected to complete an evaluation sheet after each VIPS session they took part. This allowed for evaluation data of the process to be monitored over time.

The VIPS project captured student and academic staff information, via evaluation of their experiences of the online e-tutoring process. The focus of the evaluation was on student’s learning outcomes captured through a simple five point Likert scale and free text evaluation feedback at the end of each online tutorial session.

Students were also asked to rate how supported they felt when using a different pedagogical technique, such as the online e-tutoring.

A final measure was student and staff opinion as to whether this new virtual approach affected students’ critical thinking and whether staff involved felt the e-tutoring process affected student learning in any way (positively or negatively) whilst on their clinical placement. A specific evaluation form was created to capture this level of feedback. All staff involved completed forms at the end of each session they were involved with. All students were asked to complete their forms at the end of each session they dialled into. A small incentive (book token) was offered all students involved on completion of their evaluation forms.

**FINDINGS**

Evaluation data captured from all of the students and HEI staff engaged in the eight weeks VIPS project included written and verbal feedback. All four of the HEI e-tutors who participated were invited to a post project telephone interview. Students were also invited to a post project focus group and were given their vouchers when handing in their evaluation sheets. At any one time, eight students had logged into the VIPS sessions, from a potential cohort of 12 available students. One student logged into all eight sessions. On average students were able to access 6 of the eight sessions, due largely to shift patterns. Two students logged into the VIPS sessions from their personal computers, whilst not on a clinical shift, so effectively dialling in on their day off. This level of engagement was seen again as a positive indicator of students’ commitment to the VIPS project activities.

The following quotation is from one of the student’s feedback at the focus group interview:

*This really helped me in talking about different ways of communicating with patients. I had a patient that was not engaging, then the facilitator said what have you tried? I explained that the patient doesn't stay in one place, so it was suggested I could walk with them, or go with them on an activity. The learning was that you can engage with a patient in a way that is right for their level of restlessness. It’s not just by sitting them down to talk to them. The tutor said, it is not that the patient does not wish to communicate, but that the patient’s condition makes it difficult for them to engage with you. I said, that is good. It really helped me to understand it from the patient perspective, rather than just from mine, as what I think I should do as a nurse (*HEI1: Std 3).

The student evaluation forms identified an issue commonly discussed was about helping students clarify their relationship with other professional groups. Many students raised how it was difficult for them to understand all the different roles professionals that constituted the multidisciplinary team had. Having an understanding of the differences, they saw as vital to getting the best from their placements learning opportunities. In particular students spoke of understanding what different roles bring to the patient’s care package. For example, knowing whether to refer someone for an Occupational Therapy assessment, or to a Clinical Psychologist. The potential learning from this discussion the students identified as imperative to getting the best care for their patients.

All of the students identified the importance of their clinical mentors on their VIPS evaluation forms. One of the tutors also identified this commonality in terms of what affected students learning on clinical placement. The e-tutor reported that:

*Where students said they had a supportive mentor, for example, someone who is guiding them, the student felt that they achieved a lot more in terms of learning about patient care, and about the treatment options available, than if their mentor was not available to them, or not very supportive (*HEI2: Tutor 1*).*

An unexpected outcome from feedback obtained from both students and staff involved was that the joint approach (engaging with two different HEI’s) enabled students to meet lecturers and fellow students who they might not normally have met, or spoken to, whilst on placement. Having access to other people helped bring a sense of collegiality, knowing students from another HEI were having similar learning issues, gave all the students involved an improved sense of confidence.

Overcoming any organisational difference between the two HEIs was that all involved in the VIPS sessions had a working knowledge of the National Health Service (NHS) Trust placements students were allocated to. This level of ‘insider’ knowledge also promoted and enabled discussion of situational issues, with all remaining sensitive to, and considerate of, the clinical context. For example, whether this was a newly merged clinical team or whether the service had recently been relocated to a new site or whether a serious critical incident had recently occurred that was impacting staff morale and sickness levels. Students VIPS sessions had to remain conscious of confidentiality issues, as with any other assignment they would undertake on their course. All students adhered to this process, without exception. This was particularly pertinent when two students were dialling in whilst off site, and off duty.

A key element that aided student learning and improved their critical thinking was the process allowed time for a cross fertilisation of ideas; from both student peers and lecturers exploring a particular issue through guided questioning. For example, one student raised an issue on team communication, and a fellow student asked very clear facilitative questions that enabled the student to understand the issue from an alternative perspective.

The presenting student was encouraged to take back the agreed actions that had been jointly devised through the VIPS session discussions, and all were keen to hear how progress had been made. The student dialled in again for the next VIPS sessions and was able to report that they had raised the suggestions and the team were keen to employ these. The whole process made the student feel particularly proud and encouraged as a valued contributor to the team changing its activities to become more client focused. As a result it was clear how the student had effectively implemented a change that had improved client outcomes through improving channels of communication between staff in the team. They wrote on their evaluation sheet about how this experience had helped them really understand their clinical leadership skill developments.

*I used my role as a leader to negotiate and liaise with relevant multi professionals with regards to patient care to improve multi-professional/ multi-disciplinary team working relations to develop tailor made solutions.*(HEI1: Std 5)

Despite some students saying during the early VIPS sessions that they had nothing to discuss, once others got talking, they were soon able to see the value of listening to each other’s scenarios and joined in with questioning and offering ideas to help improve patient care delivery.

Major issues discussed during the VIPS sessions can be seen as mainly relating to understanding the student role in clinical placement in terms of i) professionalism (clarifying roles and responsibility of a student nurse in relation to other members of the multidisciplinary team (MDT)) ii) the level of support available in clinical placements (particularly in relation to the support and availability of clinical mentors) and iii) application of theory to practice (students were encouraged to consider what the theoretical approaches that might help them understand patients behaviours, symptoms etc.) v) change management and leadership and vi) effective communication, both in MDT and with disturbed clients. A few times issues were raised for discussion that students were struggling with in their clinical placements, but were not seen as a part of the nursing role. For example, one student described feeling frustrated at not knowing much to help a patient in terms of immigration law, although the topic did raise some interesting points for discussion that will not be reported here.

**Practical lessons learned**

Lessons learnt about using the information technology systems were captured from the evaluation data and also from the local technical support at the host clinical organisation. These are provided in the section below as follow up actions if the VIPS process is to be further rolled out across additional clinical sites.

Throughout the duration of the e-tutoring sessions, technical staff were available to provide local support for the VIPS project. This included booking rooms, setting out webcams and headsets, producing instructions for students and trouble-shooting log-on difficulties. The system worked satisfactorily but certain technical issues need to be addressed. These relate to three specific lessons learned:

1. Skype is a bespoke implementation which has to be requested through the Information and communication technology department. The software has been deployed on the computers in the training rooms on two clinical sites, identified as core locations, easily accessed. However, no such facility is available on the central site so students on placement there or in the community will need to travel to attend sessions, or alternatively gain permission to dial in from their own personal devises. This approach is not ideal, and raises ethical and confidentiality concerns.
2. Even when Skype was successfully installed on the clinical site computers the security systems in place meant that users had to enter their network details in the proxy settings field in order to connect to the internet. Specific instructions for achieving this were produced but, certainly for the first session, many students needed additional support to get Skype working effectively. In advance of a broader roll-out of this project, it would be preferable if the software could be set up to be more intuitive and user-friendly.
3. Finally, several students reported having problems with sound quality and, in particular, audio feedback which compromised their participation in discussions. Skype was not designed for use in close proximity with other users and the headsets provided, following consultation with colleagues contributed to the problem due to lack of specification in order to minimise project costs.

All three of these practical problems could be very easily overcome by allowing use of personal devices rather than requiring individuals to attend sessions together, particularly when sat closely together in the clinical placement site training rooms. As outlined above, this does pose ethical and confidentiality issues that would require further discussion and agreement prior to students being given permission to log in this way.

**DISCUSSION**

There is growing evidence to show how introducing new ways of working in complex settings, such as Higher Education Institutions and health care service settings, is hugely problematic (Martin et al, 2011: Hardy et al, 2013). Health care has been one of the slowest sectors to adopt and implement information technology advancements due to a fragmented internal infrastructure despite recognised economic benefits. Yet technological advancements are continuing to escalate, but the vision for enhanced technology provision runs well ahead of the practicalities available to ensure these gains can be delivered in a sustainable way (Williams, 2016).

Undertaking a trial, as outlined by this VIPS project, has been reported as helping improve the chances of innovation uptake, with emerging new strategies being identified to aid transferability across complex organisations (Monteiro, Pollock & Williams, 2014). What was learned from the VIPS pilot project, despite being a small scale trial, is the extent to which any innovation requires a clear vision and purpose that is readily understood and adopted at a top down and bottom up approach. In this case, the collaborating organisations were quick to recognise the potential benefits of introducing e-tutoring. Not only in terms of enabling greater flexibility for academic tutors to access more than one student whilst out on clinical placement, at one single point. For the students themselves, they were quick to agree to take part due to their recognised need for academic support whilst learning to deal with new experiences on their clinical placements. Being able to have the time and space to discuss issues they were facing with others was a key driver to students all wanting to take part on the VIPS trial.

The importance of identifying innovation champions is often cited as being another important ingredient to innovation uptake, especially in complex settings (Sergeeva, 2016). Jenssen & Jorgensen, (2004) describe an innovation champion as someone willing to take risks by enthusiastically promoting the development or implementation of a new idea that is outside of the organisations normal processes.

Success of the VIPS project was enhanced by the small team of innovators from across the three organisations who self-selected to take part in the project delivery and evaluation. Chang (2016) identifies such people as transformational leaders, those who can work with others to skilfully facilitate sustainable change. This approach to transformational change was further replicated in how each of the VIPS sessions were facilitated. For example, encouraging self-determinism, promoting critical reflection and focused questioning (Manley et al, 2009).

A final point is the students’ desire to understand more fully their social identity within the clinical placement setting. Using a social identity frame of analysis (Ybema et al, 2009; Sergeeva, 2016), understanding and having a strong sense of self is a feature of an innovation champion. Therefore, if student nurses are to be encouraged to influence and lead change from a transformational perspective, then having a clear sense of their role, and how they engage and influence others in their clinical teams, and what influence they have on their clients welfare all impact on whether change and innovations can be readily adopted locally.

The student’s evaluation data (given above) identified their ability to recognise how challenging the daily workplace activities, as a student nurse, had stretched and developed their leadership potential. Therefore, if student nurses are adequately supported whilst in clinical placement, they have the potential to become innovation champions, as those willing and able to influence change, and advocate for new approaches to old problems. Sergeeva (2016) describes this innovation transformational process as, *deepening our understanding of ‘organisational becoming’, in terms of ways practitioners see themselves as present and constructing images for the future* (p. 87)

**CONCLUSION**

The Virtual in Practice Support (VIPS) project provided the opportunity to integrate technology in student nurse education between academic institutions and their clinical practice partners. The pilot project has proved uptake of digitally enhanced teaching and learning innovations is achievable, with the help of local champions and has been well evaluated. The VIPS’ participants were able to articulate positive outcomes as a result of engaging in a multi-institutional project that capitalised on the richness of nursing clinical practice learning experience for both the students and the academics involved.

**REFERENCES**

Carley, A. (2015). Using technology to enhance nurse practitioner student engagement. *The Nurse Practitioner*, *40*(7), 47-54.

Chang, Y. Y. (2016). Multilevel transformational leadership and management innovation: intermediate linkage evidence. *Leadership & Organization Development Journal*, *37*(2).

Glogowska M. (2011) **How 'blended' is blended learning?: Students' perceptions of issues around the integration of online and face-to-face learning in a continuing professional development (CPD) health care context.** *Nurse Education Today*;31(8):887-891.

Hardy, S, Jackson, C., Webster, J., Manley , K. (2013) educating advanced level practice within complex health care workplace environments through transformational practice development. Nurse Education Today 33 1099-1103 33 1099-1103

Heron J (1974) *The concepts of the peer learning community*. Guildford University Surrey. Department of Education Studies. The Human Potential Research Project.

Jenssen J.I. & Jorgensen,G. (2004) How do corporate champions promote innovations? *International Journal of Innovation Management* 8 (1) 63-96

Kenny A (2002) Online learning: enhancing nurse education? Journal of Advanced Nursing 38 (2) 127-135.

Kirkwood A, & Price L (2014) Technology-enhanced learning and teaching in higher education: what is enhanced and how do we know? A critical literature review. Learning, Media and Technology 39 (1) 6-36.

Kopp, B., Germ, M., & Mandl, H. (2010). Supporting Virtual Learning through E-Tutoring. In B. Ertl (Ed.), *E-Collaborative Knowledge Construction: Learning from Computer-Supported and Virtual Environments* (pp. 213-231). Hershey, PA: Information Science Reference. doi:10.4018/978-1-61520-729-9.ch012.

Lasater, K., Young, P. K., Mitchell, C. G., Delahoyde, T. M., Nick, J. M., & Siktberg, L. (2014). Connecting in distance mentoring: Communication practices that work. *Nurse education today*, *34*(4), 501-506.

Lather P A (1991) *Getting smart: Feminist research and pedagogy within the postmodern*. Routledge New York

Macintosh T (2015) The link lecturer role: inconsistent and incongruent realitis. *Nurse Education Today* 35 e8-13

Manley, K., Titchen, A., Hardy, S., 2009. Work based learning in the context of contemporary UK healthcare education and practice: a concept analysis. *Practice Development in Health Care* 8 (2), 87–127.

Martin, G. P., Currie, G., Finn, R., & McDonald, R. (2011). The medium-term sustainability of organisational innovations in the National Health Service. *Implementation Science*, *6*(19), 1-7.

Monteiro E., Pollock, N. and Williams, R (2014) Innovation in Information Infrastructures: introduction to special issues: *Journal of the Association of Information Systems* 14 (4) i-x

Nursing and Midwifery Council (2015) *The code: Standards of conduct, performance and ethics for nurses and midwives.* London NMC <http://www.nmc-uk.org/The-revised-Code/>

Park C.L., Van Neste-Kenny J.M., Burton P & Kenny R.F (2010) A model of mobile faculty presence in nursing education practice. *Canadian Journal of Nursing Informatics.* 5 (3) 21-42.

Paul R, & Elder L (2006) *The Art of Socratic Questioning. Based on critical thinking concepts and tools.* The Foundation for Critical Thinking . www.criticalthinkging.org.

Sergeeva, N. (2016),"What makes an “innovation champion”?" European Journal of Innovation Management, 19(1) 72 – 89

Williamson R. (2011) **Improving student support using placement development teams: staff and student perceptions.***Journal of Clinical Nursing* ;20(5/6):828-837.

Williams, R. (2016) Why is it difficult to achieve e-health systems at scale? *Information, Communication & Society*, 19(4) 540-550,

Ybema A, Kennoy,T., Oswick, C., Beverungen A., Ellis, N., and Sabelis, I. (2009) Articulating identified. Human Relations 62 (3) 299-322

1. Skype is part of Microsoft computer software, free to download, allowing communication via telephone, video conferencing, or instant messaging. For the VIPS project, the video conference call package was used. [↑](#footnote-ref-1)