



Proffered papers: Novel education

C7.1 Development of a virtual reality (VR) tool to support therapeutic radiography (TR) students in dealing with difficult or challenging conversations

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Background: Higher Education Establishments (HEIs) are currently under increasing pressure to recruit and retain therapeutic radiography students. 1 Initial experiences of clinical placement are associated with placement-shock 2 as students are faced with cancer patients for the first time. This can include difficult or unexpected conversations. Such experiences may not match students' previous assumptions regarding placement. Effective strategies are therefore required by HEIs to prepare students for these interactions.

Purpose: This paper reports on our progress of a project in which a VR tool has been developed and piloted. We have created practice-situated VR simulations that focus on scripts based upon experiences that current students have had with patients during their placements. These are designed to be appropriate to new students but retain those elements that make the experience relatable and therefore meaningful and impactful. We will present detail regarding the bespoke prototype design and research methodology of this study.

Summary: The design stage of our work was informed by four sources of knowledge: 1. Insights provided by students and staff; 2. literature review on learning to deal difficult/unexpected conversations 3. Theories on human behaviour and reflective learning on situated experiences; 4. Current practical and theoretical knowledge on VR and conversation simulation. Analysis of interviews with students has provided rich data which have realised scenarios which enable novice learners to engage with challenging situations within a virtual reality radiotherapy clinic. These have enabled our development of a teaching and learning tool that enables a new pedagogical approach to placement preparation.

1. Health Education England. 2018. Reducing Pre-registration Attrition and Improving Retention Report. Available at: <https://www.hee.nhs.uk/our-work/reducing-pre-registration-attrition-improving-retention> accessed December 2021 2. Hyde, E. 2014. A critical evaluation of student radiographers' experience of the transition from the classroom to their first clinical placement. *Radiography*, 21. 242-247.

C7.2 New models of clinical education - pre-registration IV cannulation training for student radiographers

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Background: The skill of intravenous cannulation has been a prerequisite for diagnostic radiographers working in MRI/CT/IVUs since 1996. However, the training is undertaken after graduation and as a qualified radiographer. The training itself is usually at Level 6, which is the same as the 3rd year in an undergraduate diagnostic radiography programme. With an increase in cross-sectional imaging, and in preparation for more radiographers required in these modalities, the University of Plymouth incorporated IV training into the undergraduate syllabus. This training follows the College of Radiographers guidance.

Purpose: This module has run for the first time in September 2021 and the aim of this paper is to show the steps required to ensure that competence is achieved on service users, how this was achieved, and if there were any barriers to this skill being learnt, especially as previously it is the remit of HCPC registered radiographers. In order to ensure the students are not overwhelmed with content in this module, and using a spiral curriculum, certain aspects including anatomy and physiology, medicines management, contrast media and management of emergencies are taught in previous modules and revisited in this module.

Summary: An overview of the steps required; input from service departments and feedback from students.

1. College of Radiographers; Course of Study for the Certification of Competence in Administering Intravenous Injections. Society of Radiographers https://www.sor.org/getmedia/fcc1fc7c-d02d-4707-b9a5-a385b48cbf80/SoR_IV_Document_proof3.pdf_1

C7.3 Realising the potential of podcasting as a tool to drive continual professional development and service improvement in cancer care

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Background: By 2024 it is expected that 19.39 million people will be listening to podcasts. Currently 40% of 26 - 39-year-olds listen to podcasts on a weekly basis (Statista, 2021). Rad Chat is the first oncology specific podcast designed for cancer patients, healthcare professionals, researchers and academics. Two hosts Jo McNamara and Naman Julka-Anderson are therapeutic radiographers with unique backgrounds, bringing specialist knowledge and skill into the conversation. The podcast promotes radiotherapy and the role of therapeutic radiographers, attracting a wider demographic of audience and links patient experience to healthcare transformation and improvement in an accessible way. The need for more inclusive and diverse methods of Continual Professional Development (CPD) have been recognised in response to healthcare practitioners disclosing their learning needs.

Purpose: The hosts are interviewing guests, including patients, experts and professionals from across oncology, relying on semi-structured interviews. The content of each podcast must fit within one of the core themes: education and workforce development, people living with and beyond cancer, equality, diversity and inclusion and leadership. Evidence based practice and research is important to feature in all episodes, as the podcast is accompanied by reflective questions for those wishing to use it to evidence accredited CPD.

Summary: So far, 2,914 listens, 273 subscribers from 9 countries across the world in two months. Higher Education Institutes from across the world are integrating the podcast into the curriculum. Patients are accessing support and services advertised through the podcast and HCP's have improved and developed practice as a result of listening <https://radchat.transistor.fm/>.

1. Statista (2021) Podcasts in the UK, Statistics and Facts. <https://www.statista.com/topics/6908/podcasts-in-the-uk/> (accessed 14.12.21).

C7.4 Unlock your career potential: An escape room initiative

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Radiography as a career has advanced and there are now a wide variety of opportunities and pathways available in the field. However, for many students, there seems to be a heavy emphasis on, and education towards, conventional routes such as X-Ray, CT, and MRI. Little discussion of alternative avenues such as forensic and interventional radiography overtly take place. Consequently, a notion arises as to whether we are doing enough to promote career progression and transferability to the future workforce.

Supported through the Council of Deans Student Leadership Programme, this poster showcases an escape room initiative to explore alternative career pathways using puzzles to unlock different career talks. Developed by an undergraduate radiographer, this initiative was undertaken to increase student and early-career radiographer engagement in, and awareness of, 8 less conventional pathways. The initiative demonstrated that a career in radiography does not need to be linear, and once qualified different roles can be built upon to formulate a diverse career portfolio, with no limitations or requirement to remain within conventional routes. This poster aims to inspire people to think more widely about radiographer careers and provide insight into student engagement using an innovative concept to provide information and impact student perceptions.

This poster will be a visual representation of the virtual escape room career event initiative, acting as a focus point for discussion with UKIO participants. It will encourage students and current radiographers to develop and maximise their own career pathways and hopefully improve retention and fulfilment of the future workforce.

C7.5 What is 'knowledge mobilisation' and how can it improve radiography education?

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Background: Knowledge mobilisation (KMb) can be described as sharing knowledge across communities to stimulate change (1). It is an emerging topic within health and education literature (2), and particularly effective in both facilitating collaboration across stakeholder boundaries (3) and promoting evidence-based practice (4). Within the diagnostic radiography (DR) profession, KmB has been explored briefly regarding research implementation (5,6,7) yet

this research tends to focus only on explicit, research-based, forms of knowledge. There is also a gap in the literature linking the use of KMb specifically to DR education.

Purpose: The aim of the poster is to introduce KMb theory to the radiography profession and the potential for further research with relation to DR education.

Summary: This poster will give an overview of KMb research associated with health and education. It will also provide a critical review of the current portrayal of knowledge and knowledge sharing in DR education literature. Further to this, it will examine the potential for KMb to be used as a tool for further research to be carried out in this area.

1. Wye, L., Bolton, H., Thomas, C., Hopewell-Kelly, N., & Gibson, A. (2021). Knowledge Mobilisation, Communications & PPI Compared. NIHR Health Protection Research Unit in Behavioural Science and Evaluation at University of Bristol. Available at: <https://www.hprubse.nihr.ac.uk/knowledge-mobilisation/> [Accessed: 07/12/2021] 2. Davies, H. T., Powell, A. E., & Nutley, S. M. (2015). Mobilising knowledge to improve UK health care: learning from other countries and other sectors—a multimethod mapping study. *Health Services and Delivery Research*, 3(27). 3. Appleby, B., Cowdell, F., & Booth, A. (2020). Knowledge mobilization in bridging patient-practitioner-researcher boundaries: A systematic integrative review. *Journal of Advanced Nursing*, 77(2), 523–536. 4. Ferlie, E., Crilly, T., Jashapara, A., & Peckham, A. (2012). Knowledge mobilisation in healthcare: A critical review of health sector and generic management literature. *Social Science and Medicine*, 74(8), 1297–1304. 5. Di Michele, L., Thomson, K., McEntee, M. F., Kenny, B., & Reed, W. (2020). Knowledge translation: Radiographers compared to other healthcare professionals. *Radiography*, 26, S27–S32. 6. England, A., & McNulty, J. P. (2020). Inclusion of evidence and research in European radiography curricula. *Radiography*, 26, S45–S48. 7. Munn, Z. (2020). Why isn't there an evidence-based radiography? Reflections and a call to action. *Radiography*, 26, S14–S16.



Proffered papers: History

D8.1 A history of PET|PET-CT in the UK

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Positron Emission Tomography [PET] and more recently Positron Emission Tomography/ Computed Tomography [PET/CT] are the two most recent diagnostic modalities to be introduced into clinical practice. Paul Dirac first postulated the existence of the positron particle in 1928 and Carl D Anderson in 1932 introduced the term positron. David Kuhl and others introduced the concept of emission tomography in the late 1950's in Pennsylvania and work by Phelps and others in Washington led to further developments with Phelps credited with inventing the first PET camera in 1973. Early scanners were confined to imaging the brain. The first whole body PET scanner became available in 1977. The production of isotopes for scanning became available due to the work of Ernest Lawrence on the cyclotron in the 1930's at Berkley, California. The Massachusetts General Hospital in Boston (G Brownell and colleagues) also played a major role in advances in PET scanning. PET/CT was initially proposed by David Townsend (at the University of Geneva), Ronald Nutt (at CPS Innovations in Knoxville, Tennessee, USA) and colleagues. An early prototype system was installed in 1998 in Pennsylvania, USA. PET- CT hybrids came into use from about 2000 onwards and improved image resolution. In this talk the development of clinical PET services in the UK will also be discussed.

Reference Wong W L and Banerjee A.K (2021) A brief history of PET and PET/CT services in the UK *Invisible Light: The Journal of the British Society for the History of Radiology* 49 p5-12

D8.2 L.H Gray (Physicist and Radiobiologist): His life (1905-1965), laboratory (1957-2008) and legacy

Edwin Aird

Retired Physicist

LH Gray has been called “the Father of Radiobiology’ by E Powers when he was writing an appreciation of the impact Gray had in the USA.

His early life will be described, leading to the establishment of: “The Gray Laboratory “at Mount Vernon Hospital, Northwood in 1957.

His Legacy will be discussed, which includes President of BIR 1949-1950; seminal papers (1953,1955) considering the role of oxygen in tumours and the possibility of manipulating the oxygen level in the body to enhance tumour damage; and the Bragg-Gray theorem that links the ionisation in a small air volume to absorbed dose, the unit of which: The Gray, was adopted by the ICRU in 1975.