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Educational Perspective

Research Informed Teaching Experience in Diagnostic Radiography: The Perspectives of Academic Tutors and Clinical Placement Educators

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ABSTRACT

Introduction: This small scale qualitative research study investigated the perceptions by both academic tutors and clinical placement educators of integrating the research-informed teaching experience (RiTe) within an undergraduate radiography curriculum to support the learning and practice of image quality and dose optimization.

Method: A purposeful sampling approach was used to recruit participants and two asynchronous online focus groups (OFG) were used for data collection. An inductive thematic approach was taken to analyse both sets of OFG data.

Results and discussion: Five academic tutors and four clinical placement educators participated in the research. Three overarching themes common to both sets of OFG data were identified. Findings confirmed that both OFGs felt that the RiTe supported student learning of image quality and dose optimization as well as the development of research skills. However, the clinical placement educators did identify that students may find it difficult to transfer and apply this knowledge into practice (theory-practice gap).

Conclusion: Results from both OFGs support RiTe with regard to the teaching and practice of image quality and dose optimization. However, greater involvement by clinical placement educators may help to overcome issues with the translation of RiTe by students into the clinical environment (theory-practice gap) and support its continued development within the curriculum. It was also identified that RiTe could be developed for qualified staff for continued professional development.

RÉSUMÉ

Introduction : Dans cette étude de recherche qualitative à petite échelle, les auteurs se penchent sur les perceptions des enseignants et des éducateurs en stages cliniques sur l'intégration de l'expérience d'enseignement fondée sur la recherche (EEFR) dans le contexte d'un programme d'enseignement de premier cycle en radiographie pour appuyer l'apprentissage et la pratique de la qualité de l'image et de l'optimisation de la dose.

Méthodologie : Une approche d'échantillonnage non aléatoire a été utilisée pour recruter les participants et deux groupes de discussion en ligne asynchrone ont été utilisés pour la collecte de données. Une approche thématique inductive a été utilisée pour analyser les deux ensembles de données provenant des groupes de discussion.

Résultats et discussion : Cinq enseignants et quatre éducateurs en stages cliniques ont participé à la recherche. Trois thèmes principaux sont ressortis dans les ensembles de données des deux groupes de discussion. Les résultats confirment que les deux groupes de discussion considèrent que l'expérience d'enseignement fondée sur la recherche (EEFR) appuie l'apprentissage par les étudiants de la qualité de l'image et de l'optimisation de la dose ainsi que le développement des compétences de recherche. Les éducateurs en stages cliniques ont cependant indiqué que les étudiants pouvaient avoir de la difficulté à transférer et appliquer ces connaissances en pratique (fossé entre la théorie et la pratique).

Conclusion : Les résultats des deux groupes de discussion soutiennent l'expérience d'enseignement fondée sur la recherche (EEFR) en ce qui concerne l'enseignement et la pratique de la qualité de l'image et de l'optimisation de la dose et soutiennent son développement continu dans le curriculum. Cependant, une plus grande participation par les éducateurs en stages cliniques pourrait contribuer à corriger les problèmes de transfert de l'EEFR dans l'environnement clinique par les étudiants (fossé entre la théorie et la pratique) et soutenir son développement continu dans le curriculum. Il a également été indiqué que l'EEFR pourrait être développé pour le personnel qualifié dans le cadre du perfectionnement professionnel continu (PPC).

Keywords: Pedagogy; radiography; theory-practice gap; continual professional development; clinical placement; skill acquisition

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Introduction and Background

The research-informed teaching experience (RiTe) was developed in 2009 and is now fully integrated within our BSc (Hons) Diagnostic Radiography Programme and summative assessment scheme. RiTe uses a combination of research, simulation, and inquiry-led learning to support the application of theoretical knowledge, research skill development, and clinical practice by our year 1 and year 2 students. The active involvement of students within subject-based research has been shown to not only enhance knowledge but also to develop student research and communication skills (particularly when they are involved with some or all of the research stages) [1, 2]. Specifically, RiTe encourages our students to undertake an inquiry-led approach to learning within small groups to research the effects of x-ray exposure factor manipulation on image quality and dose optimization [3]. Evaluative research of the student experience of RiTe has supported its introduction as a teaching strategy with regard to the knowledge acquisition and practical application of image quality and dose optimization, as well as the development of research skills [4–6].

Clinical hospital placements form an essential part of the undergraduate student radiographers' education and provides opportunities to work in real life environments where theory can be integrated into practice [7]. However, a phenomenon known as the theory-practice gap has been identified across multiple health care disciplines, whereby students struggle to apply taught theory with the reality of practice. This gap may also affect professional competence and contribute to difficulties in progressing from student to novice professional [8, 9]. Clinical placement educators (CPEs) play a vital role in supporting students so that they gain the appropriate experience and skills to bridge this gap and help to support the continued development of the undergraduate curriculum by recognizing the value of linking theory with clinical practice [9].

Although the student experience of RiTe has previously been reported [4–6], no research has been undertaken to explore the academic or CPE point of view. The purpose of this small-scale qualitative study was therefore to explore these perspectives with regard to the integration of RiTe within the curriculum and in supporting student learning and practice of image quality and dose optimization. This would also determine opportunities for the further development of RiTe.

Method

Ethical Approval

Ethical approval was granted before recruiting participants and good ethical practice was followed, which included informed consent via an information sheet and the use of closed online focus groups (OFG). Confidentiality was emphasized to all OFG participants by the researcher and participants were asked not to share information outside each OFG. Given the professional background of the participants, it was expected that this would be respected.

Data Collection

A qualitative study using purposeful sampling was used to recruit participants for two asynchronous OFGs, one for academic tutors (ATs) and one for CPE. Purposeful sampling is a recognized technique in qualitative research as it aims to target key informants who will have a specific and unique perspective on a phenomenon [10]. For the AT OFG, a wide range of opinions from a number of different perspectives (eg, strategic vision, resource management, and pedagogical responsibilities) were sought and the following were asked to participate as they each provided a unique perspective or experience of RiTe—a Physicist who teaches on the Undergraduate Programme, a member of the academic staff who teaches imaging technique, the Research Dean, Undergraduate and Postgraduate Programme Leaders, Academic Head of Department, Clinical Learning Manager, and an AT with an awareness of, but no involvement with RiTe. The University currently has 12 CPEs who act as the primary liaison between the University and hospital clinical placement sites and all were invited to participate.

The use of asynchronous OFGs provided a convenient way for participants to engage with the research since there were no constraints with regard to arranging venues and times. Responses in the OFGs were transferred directly into an electronic document so they were accessible for analysis without the need for transcription or editing, thereby enhancing the accuracy of collected data and eliminating transcriber bias [11]. This approach also encouraged the exchange of experiences and allowed participants to comment on each other's interpretations of RiTe [12, 13].

Each OFG was conducted within the Blackboard Virtual Learning Environment via an online Wiki and access was restricted to participants for each OFG. Seven semi-structured questions were discussed by both OFGs (Table 1) with the first author/researcher acted as moderator to ensure participants posted responses to the questions posed [14]. Both OFGs ran for 6 weeks with the moderator asking participants to visit their respective OFG at least once a week. Participants were also invited to add comments which were used by the moderator to generate further questions for exploration.

Data Analysis

An inductive thematic approach was taken to analyse both sets of OFG data. This approach was selected to allow themes to emerge from the data and to provide a more open-ended and exploratory approach to the research. Thematic analysis also provided a flexible research tool when searching for and identifying common themes that extended across both OFGs. Codes were assigned to overarching themes by following the six-phase process outlined by Braun and Clarke [15] (Table 2). Similarly, the