Factors affecting the foci for radiography research
Hogg, P, Robinson, L, Mackay, S and Seddon, D

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In the second series of articles on transformation Peter Hogg et al continue the outline of transformation in the research focus.

Introduction

This article is the second in a series of three articles, the first of which was published in 2019. The series of articles focuses on the role of universities in the development of radiographic professional knowledge and practice. The purpose of these articles is to explore the ways in which universities can support the development of professional knowledge and practice in the field of radiography.

University contribution to radiographic professional knowledge and practice advancement

Central to the selection of the research topics was a requirement for the topic to be of significance to the radiographic community. This requirement was met through a process of consultation and discussion with radiographic professionals. The topics selected for the research project were chosen based on the importance of the research questions and the potential for the research to have a significant impact on the radiographic profession.

University contribution to radiographic professional knowledge and practice advancement

The role of universities in the development of radiographic professional knowledge and practice is critical. Universities provide a unique environment for the advancement of professional knowledge and practice through the process of research. This process involves the generation, analysis, and dissemination of new knowledge and understanding.

In radiography, research is an essential component of professional practice. Research helps to identify and address gaps in current knowledge, and it can lead to the development of new and innovative practices. This process is known as research into practice.

Research into practice

Research into practice is a key component of the radiographic profession. It involves the identification of research questions, the generation of research findings, and the dissemination of those findings to the radiographic community. Research into practice is essential for the advancement of professional knowledge and practice.

Knowledge exchange

Knowledge exchange is a process that involves the transfer of knowledge from one group to another. This process is important in the radiographic profession because it allows knowledge to be disseminated and shared with a wider audience.

Knowledge exchange in radiography

Knowledge exchange in radiography is a key component of the research project. It involves the sharing of research findings with the radiographic community, and it is essential for the advancement of professional knowledge and practice.

Outcomes

The outcomes of the research project were that the radiographic community was better able to understand the research findings and that knowledge exchange was improved.

Factors affecting the effectiveness of research into practice

The factors affecting the effectiveness of research into practice include the quality of the research findings, the relevance of the research findings to the radiographic community, and the methods used to disseminate the research findings.

Conclusion

The research project on research into practice in radiography was successful in demonstrating the importance of research in the radiographic profession. The project showed that research into practice is essential for the advancement of professional knowledge and practice, and it highlighted the need for continued investment in research in the radiographic profession.

In the second series of articles on transformation, Peter Hogg et al. continue the outline of transformation in the research focus. The first article focused into the leadership of university research. The second article examined the role of university-generated research in the development of professional knowledge and practice. The third article will consider the role of university-generated research in the development of professional knowledge and practice in the context of the current research focus.
Investigate technologies and imaging practice to improve
within patient pathways

Figure 1: Impact pathway for an aspect of mammography breast imaging research.

1. Potential outcomes
   a. Enhanced machine and practitioner capability
   b. Discovery of new facts
   c. Predictions which have clinical and professional relevance
   d. Improved cancer pick up
   e. Improved patient experience

2. Nature of impact of the research
   a. Technology change; knowledge transferred into product development
   b. Enhanced staff technical and interpersonal abilities
   c. Service development, including enhanced patient experience and reduced nurse attendance rates

3. Potential interested users of the research
   a. Industry
   b. Patients
   c. Practitioners
   d. Educators
   e. Professional bodies
   f. NHS Managers
   g. Funding bodies

Figure 2: Broad aims for research topic selection.

1. Investigate technologies and imaging practice to improve image quality and diagnostic reliability
2. Investigate the factors that enhance or compromise patient and carer safety and well-being in the context of diagnostic CT
3. Evaluate the contribution of diagnostic imaging services within patient pathways

would require more than one discipline on a collaborative research team, as such a multi-disciplinary approach would normally be essential to reflect the demands of research question/s

Strategy for selecting our research topics

At the onset we acknowledged that our staff had a diverse research skill set and our research interests were equally diverse. As previously explained, we knew we had to focus into clinical imaging and that we must work in collaborative research teams. As part of the focused process and at an early stage, we set broad aims to help direct where our research should lie (Figure 2).

This meant we would have to move away from existing research, develop additional skills and move into new areas. This would require reaching consensus on the new focus and then working on these. On selecting the first topic there was a need to think creatively. Our debates were not about identifying a set of isolated research projects, nor were they about one staff member having a research idea and pursuing that in isolation of others. The debates sought to identify topics which had not yet passed and we now have a large body of empirical material to submit to journal publishing with considerable scope for addressing a set of inter-related research questions. Each inter-relation would have to consider how each research question could relate to, and help partially unlock, the answer to another research question.

Consequently, our research became multi-layered and multi-faceted. Our strategy for topic selection turned out to be one of speculation, opportunism and iterative refinement; it was pragmatic and highly reflective. Pilot research activity tended to surround literature analysis and testing theories by gathering and analysing empirical data. The process we followed was not without an evidence base; it was guided by knowledge transferred from a highly successful research unit within our own university.

We were mindful not to select topics in which we may have to compete with highly successful research teams from other universities. Hard decisions had to be taken about what not to pursue and this involved identification and cessation of aspects of our early research which did not appear to be thriving.

Some staff found these false starts frustrating; however we tried to view these activities as re-definition and focusing of our scope and purpose. Importantly these activities helped us to stop investing resources in areas which did not make adequate progress. Our low resolution CT research, in the context of SPECT-CT, was identified through deductive reasoning and by contrast, the selection of our breast research was highly opportunistic.

Consistent with planning for transferring research into practice, the potential for collaboration was assessed and where potential existed, we put together multi-disciplinary collaborative research teams. To oversee our research we established two steering groups; one for breast and one for SPECT-CT – low resolution CT.

External funding was important and at all stages we had our minds on grant applications. However, until we had characterised our research identity, we did not engage in this activity because we did not have a track record in our area of interest. That era has now passed and we now have a large body of empirical material to submit to journal publishing and we should have a clearly defined focus because depth is more important than breadth.

We continue to be mindful of external and internal agendas. For instance we feel that new resolution CT research will have value beyond the original context, as our methods and results are likely to have importance to optimising dose and image quality in diagnostic CT for our mammography research. We recognise that extending the screening programme age will mean our work could impact on a larger proportion of the population.

Final thoughts

In this article we have set out what we believe to be the important factors that should be considered when defining a new area of research which would likely have value to our profession. We acknowledge that the range of areas we have selected is limited and they do not reflect our entire educational portfolio, or the scope of radiographic practice per se. The nature of quality research, it should have a clearly defined focus because depth is more important than breadth.

Building on this article, next month we will give an overview of one of our research areas – breast. In that article we shall outline how the specific strands of the research inter-relate to form a cohesive approach to investigating a particular problem.

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The first article in this series was: Transformational leadership in changing a research culture: a personal reflection (Synergy I&TP, April 2011).

References for this article can be found under ‘Synergy resources’ at www.sor.org/members/pubarchive/synergy.htm

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