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Educational Evaluation using a Case Study approach

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Background

• HEI and Healthcare partner organisations strive to effect implementation of policy and current practice through CPD

• Context: Acute and critical care settings

Within secondary care hospital settings acutely ill patients are exposed to unnecessary risk of adverse incidences and increased mortality due to suboptimal care.

A causative factor is the level of competence of practitioners; predominantly in the failure to monitor, recognise or respond appropriately to the deteriorating patient (NCEPOD 2005, NICE 2007).
Acute Illness Course

• The fundamental aim - to develop the care standards and competence of healthcare professionals managing acutely ill patients in hospital (Garside & Prescott 2008)
• The focus - promotion, early recognition and competent management of the acutely ill patient, to prevent adverse events or deterioration in their condition
• Evaluation to investigate:
  – The development of the course
  – The impact on students’ skills and competence in clinical practice
• To truly authenticate and justify the outcomes claimed, substantial investigation and validation
Paucity of evidence or explanatory research into the effectiveness of CPD on clinical practice

- Tennant and Field (2004) - concluded CPD did make a positive difference to practice, qualitative & sample (n = 7)
- Furze and Pearcey (1999) - CPD outcomes were usually based on the practitioners' subjective view of the perceived benefit of the educational programme, without any objective measure of patient care
- Hicks and Hennessey (2001) - CPD activity was evaluated with emphasis on ‘comfort factors’ and satisfaction with teaching rather than with the impact such experiences have on current practice
- Hardwick and Jordan (2002) – reported some change in practice and new knowledge although very little detailed data was extrapolated due the nature of their questionnaire
Case Study Approach

- Defined as an empirical inquiry that: “investigates a contemporary phenomenon within its real life context, especially when the boundaries between the phenomenon and context are not clearly evident” (Yin, 2003, p.14)

- Attention to the subtlety and intricacy of the case (Bassey, 2009)

- Investigation in the real life context and interpretation and observation of events in, or about, the natural social conditions (Simons, 2009) as opposed to the contrived and restricted contexts of a survey or experiment (Yin, 2003)

- Serves to inform practice and assist judgements that contribute to the improvement in course planning and delivery (Bassey, 2009).
The ‘Case’

• A study of the singular, the unique the primary focus being the particularity and the uniqueness of that single case (Simons, 2009)

• A case study - a particular event rather than a general event and the ‘case’ can be virtually anything (Robson, 2002; Yin, 2003).
Case study in education

- Apt tool for exploring aspects of educational practice, thereby enabling researchers to make considered opinions based on actual circumstances (Merriam, 1988).
- Link the programme’s implementation to its effects on its participants and others with a vested interest in its success (Yin, 2003).
- Ideal for evaluating multidimensional programmes and innovations in specific contexts and social and educational phenomena in general (Stake, 1995; Simons, 2009).
- Actions or consequences of educational decisions ... rich in detail in comparison to traditional restrictive, measured evaluative processes (Bassey, 2009).
- For the most part in education, the CS is not about the programme but about the people and with a particular interest in how they function.
The curriculum

- Mixture of learning strategies
  - Lecture
  - PBL
  - Simulation
  - Practice
- Mixture of assessment methods
  - Essay
  - Practice portfolio
  - Simulated exam
  - Oral exams
  - Choice of assessment method
Theoretical positions

• Supports the continuous interaction between the theoretical propositions being studied and the data being collected (Stake, 1995).

• **Competence** … one of the most commonly used words in healthcare education; yet, a nebulous concept, defined in diverse ways by different people.

• Competence provided the theoretical framework which was analysed and applied within the conceptual context of acute care.
Data Collection

• Standard ethical approval procedures
• CS accommodates the investigation of the non-routine along with the many phenomena that are of interest and can call upon multiple sources of evidence
• Triangulation - Multiple sources or methods in a mutually complimentary way - Triangulation (Begley, 1996) thus producing data which is more likely to be confirmed or validated as a result of this process (Yin, 2009).
  – Student documentation, Questionnaires, Student interviews, Managers interviews

• CS takes advantage and explore data or emerging avenues that are unexpected. It copes with the technically distinctive situation in which there will be many more variables of interest than data points
• A particular danger is that the mass of qualitative data collected has the potential to distort the view of subsequent findings and conclusions (Simons, 2009).

• Qualitative techniques - ‘subjective’, thus presenting data analysis that may not be reproducible by others
  – Is it possible to generalise from a single case?
  – Is it the goal of the research?

• CS - certain responses and findings will come up again and again – may develop the theory which helps in the understanding of other similar cases that are sometimes referred to as analytical or theoretical generalisation (Robson, 2002).

• Bassey (2009) identified the output from case studies of singularities can be described as ‘fuzzy generalisation’ from which generalisations found in the singularity may be possible.
Generalisability

• Qualitative techniques - ‘subjective’, thus presenting data analysis that may not be reproducible by others

• Is it possible to generalise from a single case?
• Is it the goal of the research?

• CS - certain responses and findings will come up again and again - may be considered as the development of the theory which helps in the understanding of other similar cases that are sometimes referred to as analytical or theoretical generalisation (Robson, 2002).

• Bassey (2009) identified the output from case studies of singularities can be described as ‘fuzzy generalisation’ from which generalisations found in the singularity may be possible.
• Caution on the basis of the single case is clearly called for and every effort should be made to avoid unwarranted claims about the generalisability of the findings (Yin, 2003).

• ... should be reserved for surveys ... (and) what can be analysed instead is how the research demonstrates that the analysis relates to things beyond the material in hand ... extrapolation better captures the typical procedure in qualitative research (Alasuurtari, 1995, p.156)
• The alleged lack of rigour of the case study is a concern for some.

• Yin (2003) who is generally an advocate has also argued that case study researcher have often adopted non-systematic procedures or allowed equivocal evidence or biased views to influence the direction of their data, findings and conclusions.

• To reduce some element of bias, the researcher must attempt be open to the contradiction of pre-conceived opinions (Yin, 2003).

• Acknowledge and value the researchers place in the process rather than trying to disguise it as some methodologies may do (Bryar, 2000).
FINDINGS
• “… you have more of an understanding of situations like at an arrest, fair enough we can’t give drugs and intubate or anything like that but you understand the process of why things are being done that way and what’s happening, so you can be prepared for what doctors are going to ask for next”

• … That was a big thing for me … the learning about what was going on underneath it all … And knowing what’s going on … if you know what’s going on you can pre-empt things”.

“... I had a situation last week ... the doctors was [off the ward] my patient was terrible... the respiratory rate was sky high, she sounded grotty, her chest was terrible ... so we dealt with it straight away while the doctor came, we gave her loads of oxygen ... listened in ... she was in failure ... we did the ECG and now I can read the ECG and say, right we are in fast AF... yes, it was just so easy and it followed the structure, all the things you’ve learnt, I knew exactly what to do straight away and I knew how to interpret what was going on. It wasn’t just the ECG ... I knew what the effects are now and I knew that his cardiac output would be starting to trail, cause that’s what happens when you get fast AF ... “
“I felt a lot calmer dealing with situations because I have that additional knowledge”

“Yes I was a more assertive as well, asking for help because I recognised some things and I was a bit more assertive if you knew something wasn’t right actually speaking up and saying that’s not right ... or questioning a lot of it”

“... it goes back a bit to empowerment ... you know when you are speaking to the doctors, because you understand a bit more about things and you understand a bit about this and you can say look the early warning score is ...”
CONFIDENCE

Knowledge
- Increased Understanding
- Background knowledge
- Sharing knowledge
- Efficiency
- Rationale for practice
- Judgement
- Able to Justify treatments
- Manage situations

Skills
- Patient Assessment
- Correct treatment
- Peri & Cardiac arrest
- Implement ABCDE
- Leadership
- ECG/ABG/Auscultation
- Fluid management

Attitudes & Behaviours
- Forward planning
- Questioning
- Calmer
- Decision Making
- Engagement
- Initiative
- Assertive/Speaking Up
- Pride
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• The study critically analysed principle dynamics that influenced learning in academic and practice settings and the complex relationship post-registration practitioners’ form with their professional development.

• CS supports a continuous interaction between the theoretical and conceptual issues being studied and the data findings.

• When considering a methodology, there can be no perfect design that specifically meets the needs of the intended exercise and there will always be some necessary tradeoffs to accommodate constraints such as limited resources and limited time.
Summary

• A clear mixture of learning methods were beneficial, with an explicit focus of the theoretical content delivered being related to the students’ clinical practice.

• The study found that choice, facilitation and feedback through mixed learning and assessment styles leads to confidence and empowerment that impact on registered nurses’ competence in clinical practice.

• The study concluded that in this case, ongoing management of practitioners’ continuing professional development was influenced by interlocking concepts that supported acquisition and maintenance of practitioners’ skills and competence in turn, improving the care provided to the acutely ill patient.
Outcomes

• Demonstrated the course impact on Clinical Practice
• Course development
  – T&L approaches
    • Teaching (Hope et al., 2011)
    • Assessment (Garside et al., 2009)
  – Academic level
• Theoretical understanding
  – Competence (Garside & Nhemachena 2013)
• Doctoral award
• McGloin, S., 2008. The trustworthiness of case study methodology. Qualitative Research 16 (1), 45-55
References 2