



## Developing a multi-method approach to data collection and analysis for explaining the learning during simulation in undergraduate nurse education



Andrew J. Bland <sup>a, \*</sup>, Jane Tobbell <sup>b</sup>

<sup>a</sup> Department of Nursing & Health Sciences, University of Huddersfield, UK

<sup>b</sup> Division of Psychology and Counselling, University of Huddersfield, UK

### ARTICLE INFO

#### Article history:

Received 4 November 2014

Received in revised form

26 June 2015

Accepted 21 July 2015

#### Keywords:

Simulation

Education

Learning

Socialisation

Nursing

### ABSTRACT

Simulation has become an established feature of undergraduate nurse education and as such requires extensive investigation. Research limited to pre-constructed categories imposed by some questionnaire and interview methods may only provide partial understanding. This is problematic in understanding the mechanisms of learning in simulation-based education as contemporary distributed theories of learning posit that learning can be understood as the interaction of individual identity with context. This paper details a method of data collection and analysis that captures interaction of individuals within the simulation experience which can be analysed through multiple lenses, including context and through the lens of both researcher and learner. The study utilised a grounded theory approach involving 31 undergraduate third year student nurses. Data was collected and analysed through non-participant observation, digital recordings of simulation activity and focus group deconstruction of their recorded simulation by the participants and researcher. Focus group interviews enabled further clarification. The method revealed multiple levels of dynamic data, concluding that in order to better understand how students learn in social and active learning strategies, dynamic data is required enabling researchers and participants to unpack what is happening as it unfolds in action.

© 2015 Elsevier Ltd. All rights reserved.

### Introduction

Simulation is an evolving pedagogical approach to teaching prevalent in many undergraduate nursing curricula (Gillan et al., 2014) and as such requires educators to become familiar with its attributes in the context of learning. Many universities have developed simulation centres that represent ward areas (Berragan, 2011) often requiring substantial capital and investment. Such investment creates considerable pressure to then use it (Miller and Bull, 2013) which may lead to premature utilisation of equipment without fully understanding its potential or opportunity to evaluate its effectiveness. Despite such investment student experience and understanding of what they perceive to be occurring during the simulation remains largely unarticulated and underdeveloped. Limited literature has sought to capture student experience focusing on satisfaction, perceived confidence and enjoyment of

the learning experience rather than how learning occurs. There is an abundance of literature supporting the use of simulation to improve patient outcomes, but a lack of evidence-based principles, theory, or ideology related to how students learn with simulation (Walton et al., 2011). Despite the documented use and perceived benefits of simulation in nursing, little evidence exists regarding how nurse academics consider the use of simulation as a teaching strategy (Miller and Bull, 2013). Walton et al. (2011) further asks, “as faculty, what do we really know about how students learn, of their socialization using simulation, of their experiences, and of how they transition skills and knowledge from simulation to clinical practice?” (p. 299). It may be prudent for educators to question whether there has been a rush to include simulation without fully understanding the mechanisms of learning which underpin it (Bland et al., 2014). Continued research into simulation-based teaching and learning is required if we are to develop effective pedagogical methods that utilise simulation-based learning. However, research that is limited to the pre-constructed categories imposed by some questionnaire and interview methods may only provide partial understanding. This is problematic in

\* Corresponding author.

E-mail address: [a.j.bland@hud.ac.uk](mailto:a.j.bland@hud.ac.uk) (A.J. Bland).

understanding the mechanisms of learning in simulation-based education as contemporary distributed theories of learning posit that learning can be understood as the interaction of individual identity with context. To better understand the learning process inherent in simulation, data are needed which captures the interaction of individuals within the simulation experience particularly as simulation-based learning is often constructed in groups adding an additional layer of complexity to the teaching and learning endeavour.

## Background

Tobbell et al. (2010) identifies a range of evidence that argues for a reconceptualization of learning from the traditional internalisation of transmitted messages to that of an understanding and consideration of social process. Simulation-based learning in nursing education has consciously or sub-consciously reflected this and perhaps developed a theatre for social learning by the very nature of group activity so prevalent in nursing pedagogy. Onda (2011) recognises that simulation exercises illustrate collaborative learning efforts where tasks are addressed as a group rather than an individual. Such group activity can be identified with learning theories that have developed their focus from individual learning to social learning. A growing body of educational attention has emphasised the socially situated nature of knowledge and particularly the role that activity and experience play in learning practical skills (Field, 2004; Hall, 2006) with this concept forming the basis of a significant re-thinking of learning theory by Lave and Wenger in the late 1980's and early 1990's (White, 2010). Lave and Wenger (1991) perceived learning to be a process that takes place within a framework of social participation rather than within the individual mind (Spouse, 1998). A primary focus of learning as social participation is that the individual is an active participant in the practices of social communities, and in the construction of his or her identity through these communities (Wenger, 1998). Vygotskian (1978) theory emphasises the important social interaction and community plays in the process of making meaning. McAllister et al. (2013) interprets this as while students learn through trial and error, reading books and attending lectures, they will learn the world of nursing culture more fully through opportunities of social interaction and active processes. McAllister et al. (2013) considers that Vygotsky's influential concept of the Zone of Proximal Development when applied to nursing means students learning and development will be enhanced through interactions with a skilled educator or other more knowledgeable students. This social interaction in learning repositions learning from a passive, receptive and content driven process to one which is dynamic, active requiring of reflexivity (Berragan, 2011). Engestrom's (1994) work on activity theory and expansive learning recognises such dynamic activity as it emphasises change rather than stability, focusing upon the dynamics of learning (Berragan, 2013). Socio-cultural or activity theories of learning seek to explain the social nature of learning and propose that knowledge and learning are considered to be contextually situated (White, 2010). Such contextually situated learning being the integration of practice through engagement with a community of practice and is a matter of participation, of joining a community of practice (Lave and Wenger, 1991). Andrew et al. (2008) describe a community of practice as a model of situational learning, based on collaboration between peers, where individuals work to a common purpose. Simulation-based learning is often carried out in small groups, trying to emulate authentic contexts of practice and as Onda (2011) recognises, nurses rarely function single-handedly; rather they act as members of teams with simulation creating collaborative learning efforts and group interaction, in fact a reflection of the real world outside of

education. Although we learn in a number of ways, overwhelming evidence now exists to reposition learning from the passive to that of social learning that is dynamic and is constructed and reconstructed in social contexts including the classroom, the simulated ward and the learning group. As such we need equally dynamic data to capture student interactions as they participate and collaborate in simulation-based education if we are to better understand the complexities of learning.

Video recording of student's activity during a simulation has been utilised by educators of nursing in different contexts particularly for debriefing. Gordon and Buckley (2009) found that viewing their recorded video performance of the simulation experience was rated highly by 86% of the participants contributing positively to the simulation experience. A review of the literature by Megel et al. (2013) found specific purposes for video include (a) debriefing related to student performance, (b) review in search of specific behaviours or competencies, (c) scoring for quantitative analysis of student behaviours, and (d) evaluation or revision of nursing program curricula (p. e306). Another potential use of video recording is for observation research where action and interaction can be analysed by the participant and researcher. The observation of what people do and how they do it can lead to powerful data (Baillie, 2013) and in particular to record activity within a learning experience where students interact in groups. In addition to being permanent, video captures complex and fine units of behaviour such as facial expressions (Polit and Beck, 2012) which may be missed using other methods. The attention to context is a defining characteristic of qualitative research and the meaning of speech or action is always situated with laws of behaviour not independent of context (Bazeley, 2013). Using video to record student activity in context can potentially offer a better understanding of how students learn in simulations that promote active participation and social interaction.

## Objectives

This study was developed to explore how simulation facilitates learning in an undergraduate nursing curriculum utilising an interpretative paradigm. A qualitative design that adopted a grounded theory approach (Glaser and Strauss, 1967) was undertaken to gain understanding from the perspective of students exposed to the experiences of simulation-based learning. The objectives for this paper are to detail a method of data collection and analysis that uses video to access students understanding of their learning and to share preliminary findings that illustrate how this method offers greater potential than narrative data alone in enhancing the depth and quality of data in observational studies. Jewitt (2012) recognises from the work of Kissman (2009) that the potential of video as an investigative tool within social science has been theoretically and methodologically neglected despite a broad take up. Video data was used as a 'show and tell' approach to enable researcher and participants to unpack what was happening as it unfolded in action, providing evidence of activity in context.

## Design

Grounded theory is generally considered useful when studying human action and interaction (Baker et al., 1992; Parse, 2001; Holloway and Todres, 2003) assisting the researcher to move from a description of what is happening to an understanding of process by which it is happening. It aims to generate a theory that explains a social process, action or interaction (Petty et al., 2012). The approach to data collection and analysis detailed in this paper has a particular relevance to both simulation-based education and grounded theory. Simulation in nursing is often constructed in

Download English Version:

<https://daneshyari.com/en/article/366751>

Download Persian Version:

<https://daneshyari.com/article/366751>

[Daneshyari.com](https://daneshyari.com)