



## Nursing students' experiences of involvement in clinical research: An exploratory study



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### ABSTRACT

**Background:** Nursing education can positively affect nurses' attitudes toward nursing research, resulting in better patient outcomes. Experiential learning theory was the basis for this study.

**Objectives:** To explore nursing students' experiences of involvement in clinical research, their approach to learning and their interest in nursing research.

**Design:** Cross-sectional.

**Methods:** One hundred and twenty-six nursing students were invited to be involved as data collectors in a research project as part of their training in research methodology. The students completed an evaluation form and the Revised Study Process Questionnaire. The questionnaires were analyzed quantitatively and one open-ended question was analyzed qualitatively.

**Results:** On the whole, the students were happy to be involved in the data collection although a minority felt uncertain and exposed. Students with a deeper approach to learning felt that their involvement had increased their interest in nursing research and they stated that data collection should be a regular feature of the course.

**Conclusions:** Participation as data collectors in research has the potential to increase interest in nursing research among students with higher levels of deep learning. Further studies are needed to examine ways to increase interest in research among students with lower levels of deep learning.

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### Introduction

Nursing education has the potential to positively influence on nurses' attitudes toward nursing research and evidence-based practice, which could result in better patient outcomes. Making use of the students' experiences, observations and reflections in training related to nursing research could facilitate the students' use of a deep learning approach and thus contribute to a better understanding of nursing research and evidence-based practice. An experiential learning approach of this nature was applied when nursing students were invited to collaborate as data collectors in a research project.

### Background

The shift in nursing education toward an academic approach could exert a positive influence on nurses' attitudes, knowledge and perceptions of nursing research (O'Brien and Heyman, 1989). A higher level of nursing education could promote better patient outcome in health care and the application of evidence-based nursing methods (Kajermo et al., 2008).

The involvement of nursing students' in clinical research has the potential to increase the use of evidence-based nursing, but have only to minor extent been explored. However, there are studies about nurses' attitudes toward evidence-based nursing and nursing research. Studies have shown, although nurses had a positive attitude to research, they report relatively low utilization of research findings (Bostrom et al., 2009; Wangenstein et al., 2011). On the other hand, nurses' attitudes to research have been found to influence the utilization of research positively (Estabrooks et al.,

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2008), which could be inspired by university courses on nursing research (Bonner and Sando, 2008).

Involving students in research activities has the potential to promote students' use of evidence-based nursing. In one project, baccalaureate nursing students collaborated with registered nurses in certain research areas relevant to the nurses' patients (Gray, 2010). This increased the students' knowledge of evidence-based practice. Halcomb and Peters (2009) discuss how research teaching needs to be relevant to nursing students' practical work, making use of real-life clinical problems in research education. When nursing students were involved in a research project as data collectors, they acknowledged that their involvement had increased their understanding of the research process (Davies et al., 2002; Niven et al., 2013). Involvement in the research project also increased the students' understanding of the ethics involved in a research project (Davies et al., 2002).

Higher education is shifting from a teaching perspective to a learning perspective. Experiential Learning Theory has been defined as "The process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience" (Kolb and Kolb, 2005 p. 194). Experiential Learning Theory proposes a constructivist theory of learning, i.e. social knowledge is created and recreated in the personal knowledge of the learner. Experiential Learning Theory includes two dialectically related modes of grasping experience – Concrete Experience (CE) and Abstract Conceptualization (AC) – and two dialectically related modes of transforming experience – Reflective Observation (RO) and Active Experimentation (AE). Experiential learning constructs knowledge within a learning cycle where the learner uses all these modes – experiencing, reflecting, thinking, and acting – in a recursive process. Concrete experiences form the basis for observations and reflections. The reflections are transformed into abstract concepts from which new actions can be planned and tested, which then create new experience in the cycle (Kolb and Kolb, 2005). The proposition that learning is a process of adaptation to the world has been applied when attempts have been made to include students in research projects. It has been shown that active learning is effective in the students' learning process (Everly, 2013; Munro et al., 2012).

Students' approaches to learning could be an obstacle to learning in that some students adopt a surface learning approach and are only able to account superficially for the facts, while other students adopt a deep learning approach and acquire a deeper understanding of the facts (Biggs and Tang, 2007). When engaging in learning, students also adopt a deep approach to learning. Biggs (1993, 2001) describes the process of learning in the Presage-Process-Product (3P) model. The presage factors exist prior the learning situation and refer to *Student factors*, such as prior knowledge and preferred approaches to learning, as well as *Teaching context*, such as content, methods of teaching and assessment, institutional climate and procedures. The process involves the task, the learning-focused activities, and the ongoing approaches to learning. The product relates to the learning outcomes, which could be described quantitatively or qualitatively (Biggs, 1993; Biggs et al., 2001). Ramsden (2003) argues that students' learning outcomes are related to their approach to learning, in that a deep approach to learning is related to higher quality outcomes and better grades.

The aim of the present study was to explore nursing students' experiences of participation in clinical research, their approaches to learning and their interest in nursing research. In the present study, we included the presage of learning by investigating the students' approaches to learning. The process, i.e. the learning-focused activity in the present study, was the experiential learning adopted through involvement in the research project. The presage and the

process have the potential to promote the learning outcome, which in the present study was an increase in interest in nursing research and evidence-based practice.

## Methods

The design of the present study was descriptive and cross-sectional, using both quantitative and qualitative methods. Nursing students in the third year of their nursing program and who were taking a course in research methodology were invited to collaborate as data collectors in a research project. The research project was a point prevalence study conducted on two occasions – in February 2011 at a university hospital and in September 2011 at a county hospital, using the same procedure but with a different group of students. In total 100 hospital wards were involved comprising departments of internal medicine, surgery, geriatric and oncology. The aim of the point prevalence study was to investigate symptoms and other important concerns among adult in-patients by structured interviews. Point prevalence studies have been conducted previously in order to collect data about the prevalence of distressing symptoms in hospitalized palliative care patients (Sigurdardottir and Haugen, 2008) and to collect data about the prevalence of pain among patients at a university hospital (Wadensten et al., 2011). Students have been involved previously in data collection in point prevalence studies (Westergren et al., 2008, 2009). Ethical approval was obtained from the Regional Ethics Committee (Ref. No. 604-10) and the hospital managements approved the concept. Prior to the data collection, the hospital wards involved received detailed information about the study and the procedure.

## Procedure

A pilot study was conducted prior to the first data collection day and involved ten voluntary students on three wards at a university hospital: a medical ward, a surgical ward and an oncology ward. After the pilot study, some of the logistical aspects were adjusted and the following procedure was applied.

The students were given the opportunity to collaborate in the research project as part of the data collection methods course unit. Prior to the data collection day, the participating students attended three workshops, i.e. observation, interviews and questionnaires. At the questionnaire workshop, the students were given all the information about the study as well as instructions about ethical considerations in research. The data collection involved both qualitative and quantitative data collected in a structured interview. At the workshop, the students trained in all the procedures that were due to take place on the data collection day, i.e. informing about the study, obtaining informed consent, performing a structured interview with a fellow student and being interviewed themselves. At the end of the workshop, the students were given the opportunity to ask questions and reflect on the study and the data collection situation.

On the data collection day, students were assigned to the hospital wards by the research team. The number of students was determined by the number of beds on the ward, the aim being to achieve a ratio of about 10 patients per student. The students were instructed to contact the ward nurse when they arrived on the ward. They were given information about the number of patients on the ward and the number of patients who should be excluded according to the exclusion criteria. When shown to the eligible patients' rooms, the students provided verbal and written information about the study and the patients were then given the opportunity to consider if they were willing to participate. The patients who were willing to participate gave their informed

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