



Critical thinking skills of undergraduate nursing students: Description and demographic predictors



Sharyn Hunter^{a,*}, Victoria Pitt^{a,1}, Nic Croce^{b,2}, Jan Roche^{c,3}

^a School of Nursing & Midwifery, University of Newcastle, Callaghan, NSW 2308, Australia

^b Statistical Support Service, University of Newcastle, Callaghan, NSW 2308, Australia

^c School of Medicine & Public Health, University of Newcastle, Callaghan NSW 2308, Australia

ARTICLE INFO

Article history:
Accepted 6 August 2013

Keywords:
Undergraduate nursing students
Critical thinking
Measurement of critical thinking
Health Science Reasoning Test

SUMMARY

Aim: This study investigated the critical thinking skills among undergraduate nursing students in Australia to obtain a profile and determine demographic predictors of critical thinking.

Background: There is universal agreement that being a critical thinker is an outcome requirement for many accreditation and registering nursing bodies. Most studies provide descriptive statistical information about critical thinking skills while some have studied the changes in critical thinking after an intervention. Limited research about factors that predict critical thinking skills is available.

Methods: A cross-sectional descriptive study was conducted using convenience sampling. Two hundred and sixty-nine students were recruited across three years of an undergraduate programme in 2009. Most students' age ranged from under 20 to 34 years (58%), 87% were female, 91% were Australian and 23% of first and second year students had nursing associated experience external to the university. Data about critical thinking skills were collected via the Health Science Reasoning Test (HSRT). Linear regression analysis investigated the predictors of nursing students' critical thinking skills.

Results: The students in third year had a profile of critical thinking skills comparable with HSRT norms. Year of study predicted higher critical thinking scores for all domains ($p < 0.001$) except the subscale, analysis. Nationality predicted higher scores for total CT skill scores ($p < 0.001$) and subscales, inductive ($p = 0.001$) and deductive reasoning ($p = 0.001$). Nursing associated experience predicted higher scores for the subscale, analysis ($p < 0.001$). Age and gender were not predictive. However, these demographic predictors only accounted for a small variance obtained for the domains of CT skills.

Conclusion: An understanding of factors that predict nursing students' CT skills is required. Despite this study finding a number of significant predictors of nursing students' CT skills, there are others yet to be understood. Future research is recommended exploring explicit CT instructional approaches and nursing students' CT skills.

© 2013 Elsevier Ltd. All rights reserved.

Introduction

Critical thinking is a skill that has been identified internationally as an important educational outcome of undergraduate nursing programmes. Australian, nursing competency standards identify critical thinking as one of four domains of competent clinical practise (Australian Nursing and Midwifery Council, 2006). In the United States of America (US) the integration and assessment of critical thinking skills into preregistration programmes have been mandated since 1989 (American Association of Colleges of Nursing (AACN), 2008). Much research about the critical thinking skills of nursing students is descriptive and has been conducted

in the US. This paper presents findings from a study that investigated the critical thinking skills of nursing students in an undergraduate nursing programme in Australia. These findings provide insight into factors that predict the critical thinking skills of nursing students and contribute to its development.

Background

Critical Thinking

Differing opinions between many theorists including Watson and Glaser, Ennis, McPeck, Paul, Mezirow and Brookfield contribute to the lack of clarity surrounding the definition of critical thinking (CT) (Simpson and Courtney, 2002). However, all seem to agree that CT is a cognitive skill that involves logical thinking. Most agree that CT can be learnt and that educational programmes should focus on this development (Brookfield, 1987).

* Corresponding author. Tel.: +61 2 4921 5957; fax: +61 2 4921 6301.

E-mail address: sharyn.hunter@newcastle.edu.au (S. Hunter).

¹ Tel.: +61 2 4921 6645; fax: +61 2 4921 6301.

² Tel.: +61 2 49215528; fax: +61 2 4921 6898.

³ Tel.: +61 2 49 855 202; fax: +61 2 49 855203.

Several reviews about CT skills in nursing have been published since 1999 (Adams, 1999; Simpson and Courtney, 2002; Straib, 2003; Brunt, 2005a, 2005b; Riddell, 2007). These reviews emphasise the importance of critical thinking for the delivery of safe, effective care, and recommend that nursing programmes focus on its development.

Measuring Critical Thinking Skills in Nursing

Adams' review (1999) first flagged the issue of measurement of nurses' CT using the Watson–Glaser–Critical Thinking (WGCT) tool. Adams and others (McCathy et al., 1999; May et al., 1999; Spelic et al., 2001) questioned the suitability of using WGCT to measure nurses' CT. Since then the definition of critical thinking and measurement tools based on the American Philosophical Association's (1990) conceptualisation have been used extensively in nursing research to measure nursing students' CT skills. The measurement tools based on this conception are the California Critical Thinking Skills Test (CCTST) and a more recent adaptation of the CCTST, the Health Sciences Reasoning Test (HSRT) (Facione et al., 2011). The CCTST and the HSRT provide six individual measures (domains) of critical thinking skills (p.11):

- i) total critical thinking a measure of overall critical thinking, and five subscales,
- ii) analysis and interpretation is "... used to closely examine ideas, identify assumptions, reasons and claims and to gather detailed information..." (p. 12);
- iii) inference is "... used to draw conclusion based on reasons and evidence"(p.12);
- iv) evaluation and explanation is "... used to assess the credibility of arguments (p.12);
- v) deductive reasoning involves the cognitive process of moving "... from the assumed truth of a set of beliefs or premises to a conclusion which follow of necessity" (p.13); and
- vi) inductive reasoning involves the cognitive process of "...drawing warranted probabilistic inferences regarding what is most likely true or most likely not true based on the information and the context at hand (p.13). There are two key differences between these tools. The HSRT has "...questions that use contexts appropriate to health care professionals" (p. 7) whereas the CCTST does not and the CT domains are scored differently. The following literature explores nursing studies that have utilised these tools to measure CT skills, while others tools have been excluded in an attempt to present consistent and comparative information about nurses' CT skills. Table 1 identifies the nursing studies reviewed, the CT tool used in each study and the CT domains measured; total CT skills and subscales.

Table 1
Nursing literature reviewed using CCTST or HSRT.

| Tool | Studies ^a | Subscales reported |
|-------------------------|----------------------------|-----------------------------|
| CCTST | McCathy et al. (1999) | No |
| | May et al. (1999) | No |
| | Bowles (2000) | Yes |
| | Stone et al. (2001) | No |
| | Chau et al. (2001) | No |
| | Spelic et al. (2001) | Yes |
| | Beckie et al. (2001) | Yes |
| | Profetto-McGrath (2003) | No |
| | Wheeler and Collins (2003) | Yes |
| | Shin et al. (2006) | Yes |
| | Yaun et al. (2008) | Yes |
| | Fero et al. (2010) | Yes |
| | HSRT | Sullivan-Mann et al. (2009) |
| Shinnick and Woo (2012) | | No |

^a All studies reported total critical thinking skills.

Critical thinking skills in undergraduate nurses

Since 1999 a number of studies have measured the CT skills of undergraduate nurses. Several studies which used the CCTST provide descriptions of senior undergraduate student nurses' CT skills. Some have measured only total CT skills (May et al., 1999; Stone et al., 2001) while others have measured total CT and its subscales (Bowles, 2000; Fero et al., 2010; Shin et al., 2006). In all studies but one (Shin et al., 2006), senior students were recruited from the US. Two studies (Bowles, 2000; Beckie et al., 2001), reported a similar profile of CT skills, while students in Fero et al.'s study scored higher total CT skills and some subscales. Korean students reported lower scores in total CT skills and all subscales (Shin et al., 2006). There has been no published description of Australian undergraduate nurses' CT skills.

Other studies have investigated changes in CT skills. Two cross sectional studies have been conducted, and both used the CCTST. A US study demonstrated a significant difference in total CT skill scores between junior and senior students (McCathy et al., 1999) while a Canadian study showed no increase across the four years (Profetto-McGrath, 2003). Two US longitudinal studies (both used the CCTST) showed students increasing their total and subscale CT scores (Beckie et al., 2001; Spelic et al., 2001).

Several studies explored CT skills before and after an educational intervention. Two US studies, Wheeler and Collins (2003) used the CCTST and Sullivan-Mann et al. (2009) used the HSRT, demonstrated a significant increase in scores for total CT skills and the subscale, analysis, after participating in concept mapping and simulation respectively. Sullivan-Mann et al.'s study also demonstrated a significant increase in the subscale, deductive reasoning. Others have demonstrated an increase in total CT skill scores for Hong Kong students after the introduction of video vignettes (used the CCTST) (Chau et al., 2001) and for US students after simulation experience (used the HSRT) (Shinnick and Woo, 2012) but neither was significant. Another US study measured CT skills using the CCTST of students at the entry and exit of the programme after curriculum revision focused on the introduction of critical thinking into programme objectives and teaching (Beckie et al., 2001). They found that one experimental group's total and subscale CT skills increased significantly while the other did not. A study conducted in China (Yaun et al., 2008), using the CCTST, found second year students' total CT skills, and the subscales, analysis and inductive reasoning, significantly increased after the introduction of a problem based learning intervention.

Only two studies explored relationships between demographics and CT skills. Chau et al. (2001) used the CCTST and found no significant correlations between age, gender and work experience for the domain, total CT skills. Shinnick and Woo (2012) used the HSRT and found age positively predicted total CT skills' scores, while previous employment as a nurse helper and gender were not significant.

The purpose of this study was to investigate all the domains of the CT skills of students enrolled across each year of a three year Australian undergraduate nursing programme. The following research questions guided the study:

- a. What are the CT skills of undergraduate nursing students?
- b. What demographic variables predict critical thinking skills of undergraduate nursing students?

Method

Design

A descriptive cross-sectional research design was employed as this design allowed for the exploration of critical thinking skills of nursing students across the programme. This undergraduate nursing

Download English Version:

<https://daneshyari.com/en/article/368327>

Download Persian Version:

<https://daneshyari.com/article/368327>

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