From a Nursing Diploma to a Bachelor's Degree: Critical Thinking

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Abstract

The demands of decision-making in nursing practice require nurses to make sound judgements in a complex and rapidly changing healthcare environment. Critical thinking (CT) is an essential component of the repertoire of skills nurses must develop to meet these changing demands. Findings from studies conducted in developed countries recommend further research to explore educational strategies to teach CT. Nursing education in Kenya is primarily delivered using traditional teacher-centred strategies. Although nursing programmes seek to develop CT skills in nursing graduates, research in Kenya has not yet provided evidence of the learning and application of CT skills in practice. Research that illustrates how CT is learned is essential for curriculum review enabling faculties to develop innovative student-centred teaching strategies. This study illuminates how nurses described CT and their preferred learning strategies for developing CT skills. A qualitative descriptive design was adopted with a purposive sample of seven diploma-bachelor graduates. Using an interview guide, the researchers conducted one-on-one semi-structured interviews. Content analysis was done to identify themes emerging from the data. Two themes emerged from the data: description of CT, and acquiring CT knowledge. The results of this study demonstrate that CT definition is highly discipline-specific and recommends student-centred strategies as more effective in developing CT skills. The findings indicate that nurses' ability to engage in CT is promoted when nurse educators use learning strategies that actively engage students in the application of knowledge.

Keywords: clinical judgement; clinical reasoning; critical thinking; critical-thinking skills; decision-making

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Introduction and Background Information

Critical thinking (CT) is an essential component of nursing education and practice that affects patient outcomes and empowers the nurse to arrive at competent clinical decisions (Hager et al. 2003). Brunt (2005) defined CT as a practical process of purposeful thinking and reflective reasoning in which practitioners examine ideas, assumptions, principles, conclusions, beliefs, and actions in the context of nursing practice. The most cited definition of CT is provided by the American Psychological Association (APA) that describes CT as the purposeful self-regulatory judgement that results in interpretation, analysis, evaluation, inference and explanation of the evidential conceptual considerations upon which a judgement is based (Facione 1990). Building on the APA definition, Facione (1990) acknowledges that CT is closely linked to problem-solving, creative thinking and decision-making, and states that insufficient research has been conducted to examine these relations. Although there are many definitions of CT, several commonalities exist: CT is defined as an active process that extends beyond basic acquisition and memorisation of information (Brunt 2005; Luckowski 2003; Riddell 2007; Thompson 2010). In the same vein, nurses experience this almost daily as they make complex decisions that affect quality and patient safety. Despite the attention devoted to CT, there is a paucity of research in the East African region to guide educators in developing appropriate learning strategies that facilitate the acquisition of CT skills in student nurses.

Purpose of the Study

To explore the perceptions and views of Kenyan graduate nurses as they learned CT skills at a local university.

Statement of the Research Problem

Recognition that CT is an essential element of nursing practice has led to its inclusion as an outcome criterion for baccalaureate nursing education worldwide (Brunt 2005; Edwards 2007; Fero et al. 2009). However, at the hospital in which this study was conducted, the author had observed that while RN-BScN graduates assessed patients, the follow-through interventions were weak. Nurses do not appear to adequately think through the implications of the presenting patient problem, reducing the potential for individualised care and negatively affecting the quality and standards of patient care provided. Although nursing programmes seek to develop CT skills in nursing graduates, research in Kenya has not yet provided evidence of the learning and application of these skills in practice. Further research is required to understand how nurse educators can better use strategies to teach students how to think critically, and more studies in learning are required. This study attempts to add to the knowledge of how students learn CT and how nursing courses could be used to develop CT skills that can be applied to practice. This problem led to the following research questions*:*

- How do RN-BScN graduates describe CT?
- Were there any particular teaching strategies that contributed to the development of the RN-BScN graduates' CT skills?

Literature Search Strategy

Databases searched were Hinari, Google Scholar, CINAHL, COCHRANE library, and Wiley Interscience journals. Using free text, the key search terms were entered into each database. The Boolean "and" was used to combine terms and focus the search. Papers retrieved were appraised for relevance and reference texts scrutinised to identify secondary sources. Literature selected was limited to a 10-year period (2000–2010). Preference, however, was given to the papers between 2005–2010 to enable consideration of current education and health agendas. Literature in the final review was grouped under common themes of CT, CT education approaches, clinical outcomes and impact of CT.

Articles meeting the following criteria were retained for further analysis:

- articles whose main content was specific to CT teaching in nursing and other disciplines as opposed to general CT;
- articles whose content was specific to evaluation of CT abilities and effectiveness of methods of teaching CT;
- articles or studies that were peer reviewed as opposed to anecdotal literature; and
- articles or studies published in an English journal.

There were challenges in accessing literature from Kenya or even the developing world; some of the criteria above were overlooked in regard to CT.

Literature Review

The term "critical thinking" has been used to describe fundamental skills used by nurses for over a decade and yet a common understanding of the term and what it exactly means has yet to be achieved (Shirrell 2008). CT has been developed from an abstract concept to an exceedingly practical and relevant aspect of everyday life encompassing academia and practice (Distler 2007). Thus CT involves the reflection and at times suspension of judgement, an evaluation and critical appraisal, and is oriented towards making judgements about many situations encountered daily.

The aim of nursing education principally centres on the transmission of knowledge and assisting students to acquire the necessary skills and attitudes associated with nursing practice (White and Gomez 2002). The learning is essentially a matter of creating

meaning from the real activities of daily living and it occurs both in class and the clinical area. Even so, Banning (2008) asserts that CT is the hallmark of the effective practitioner and graduate nurse. Snyder and Snyder (2008) caution that CT is not an innate ability, thus though some students may be naturally inquisitive, they require training to become systematically analytical, fair and open-minded in their pursuit of knowledge.

According to Karagözoğlu (2008), nursing curricula can either prepare or be an obstacle to the student's thinking and acting as future qualified staff. As Meehan-Andrews (2009) states, nursing courses must prepare nurse graduates who are proficient, well-rounded individuals with an adequate background knowledge base, high level of clinical skills and the capabilities for continued self-learning in a rapidly changing technological world. Accordingly, this will develop their CT skills. As professionals, nurses have to be critical thinkers who keep an open mind and question the status quo. This allows them to be reflective and critical in their daily practice and provides them with the confidence to be prudent in differentiating good practice from ineffective practice.

Stanley (2003) observed that although nurses experienced many challenges as they studied, they acquired new knowledge and CT skills. The themes in this study appear to be closely linked to the four themes identified by Lillibridge and Fox (2005) who explored the experiences and perceptions of RN-BScN graduates regarding the impact of the degree on their personal and professional lives. The analysis revealed the following common themes: Looking at things differently (seeing the bigger picture, developing new thinking skills) as a change agent, growth of knowledge, gaining more global perspective, and feelings of personal accomplishment (Lillibridge and Fox 2005). These findings are also consistent with those of Newton and Moore (2013) in which the participants perceived a direct relation between their education and their approach to patient care. Overall, this study uniquely contributes to the nursing body of knowledge by providing rich descriptions of lived experiences, particularly by identifying the courses that most influenced the nurses and how this knowledge transformed their approach to everyday practice.

Based on the literature review, case-based learning (CBL), problem-based learning (PBL) and reflective practice appeared to be the best choices for integrating a rich and practical concept of CT into nursing courses (Kaddoura 2011; Nerantzi 2011; Price 2004). These strategies enable students to analyse clinical incidents while broadly applying them to other situations, events and phenomena. They have the advantage of focusing on CT dispositions that help students improve as nurses and as critical thinkers. Whereas CT is a core competency in nursing and has been widely discussed in nursing education, students also need to learn CT dispositions in order to be effective thinkers (Kaddoura 2011). Among the dispositions are open-mindedness, creativity and truthfulness. CT dispositions tend to seek a clear statement of the question, take into account the total situation, consider other points of view but also take a position and change it when the evidence and reasons suggest so (Facione 1990).

Despite this, some researchers have acknowledged that nurse educators focus more on knowledge transmission than stimulating learners to think for themselves (Banning 2008; Distler 2007), particularly when the lecture method is employed as the primary teaching strategy. In Kenya, the lecture method is commonly used in nursing education. The design of the Kenya diploma nursing curriculum has also contributed to the tradition of content saturation of facts and the production of a nurse who is taught to be obedient. Though anecdotal, evidence confirms that this is a major point of concern in nursing in Kenya today. Quantitative studies by Banning (2008) and Sulaiman, Rahman, and Dzulkifli (2008) concluded that education appears to have a limited effect on graduates' CT ability and recommended further studies to explore educational strategies to teach CT.

Research Methodology

Research Design

A descriptive qualitative design was used to explore the views and perceptions of RN-BScN graduates regarding how they described CT and how CT was taught. Using an interview guide, the researcher conducted semi-structured one-on-one interviews to gather the views of the RN-BScN graduates on their CT experiences.

Sampling

Purposive sampling was used to enlist seven respondents who would provide the "rich data" required. A letter about the study was sent to the Director of Nursing Services at the hospital. This letter included information about the study and the approximate participant numbers. Based on the names given by the ward managers, the nurses were asked if they would like to participate. Recruitment materials were sent to the Nursing Education Services Coordinator who contacted (by phone) and informed the graduates from the cohorts of 2005–2011.

The names of those who were willing to participate were then sent to the researcher who explained about the study and obtained their informed consent. One graduate was selected from each of the seven years the programme had been in existence.

Pilot interviews were conducted with three RN-BScN graduates who were not working in the study hospital. These participants highlighted ambiguity in some of the questions which were consequently reworded; for example, question number seven, which had originally read "What difficulties did you experience as you studied CT?" was changed to "What was the most frustrating or difficult aspect of learning to think more critically?"

Data Collection Procedure

The interviews were conducted over three months. All the participants completed a brief demographic questionnaire. The interview guide was used to guide the participants in recalling their experiences in as much detail as possible. The interview guide consisted of eight questions that were phrased with the intention of eliciting the participants' perceptions, thoughts and views. The open-ended questions were developed using a mixture of "my student experience" and ideas from the literature. Studies such as Kaddoura (2011) helped to develop questions around perceptions about CT and BScN education.

The researcher acted as a facilitator throughout the interviews, using additional questions as appropriate to clarify points and to refocus if necessary. Probes were used that encouraged depth, detail and the expression of feelings and concerns. The interviews continued until the topic was saturated and the interviewees introduced no new perspectives on the topic (Creswell and Creswell 2017). Each interview lasted approximately 40–50 minutes. The audiotaped interviews were then transcribed and analysed using content analysis.

Ethical Considerations

The research protocol was approved by (1) the University of Dundee Research and Ethics Committee, (2) The National Council for Science and Technology (NACOSTI) of the Ministry of Education, Science and Technology, Kenya, (3) the hospital's Research and Ethics Committee, and (4) the hospital's Chief Nursing Officer. The participants were informed verbally and in writing about the study background and that participation was voluntary. The participants could withdraw from the study at any time. They were assured of anonymity and confidentiality of information and they gave consent without any coercion or unfair inducement. The informed consent form was obtained before each interview. Confidentiality and privacy were maintained by the use of codes and locking up all of the study information provided by the participants.

Data Analysis

A thematic content analysis was used to categorise recurrent or common themes and to report the key elements of the respondents' accounts. Following transcription, each transcript was read and reread by the author to develop a deep understanding and to make sense of the description. Phrases directly relating to CT were extracted. Formulated meanings were then created with each underlying meaning being coded. These codes were then clustered into major categories and sub-categories, and similar codes were combined. Prevalent themes that emerged from close reading of the narrative data were then looked for. Similar codes were gathered into one category and summarised as themes.

Trustworthiness

To provide evidence that the descriptions and analysis represented the reality of the situations and the persons studied, a reflexive journal was used by the researcher to capture the interactions and reactions and to clarify emerging perspectives as the study proceeded. Additionally, member checking with four participants was used to ensure that their ideas were represented accurately. Furthermore, the researcher provided a detailed and thorough explanation of how the data were collected and analysed, thereby providing an "audit trail".

Results

Analysis of the demographic data revealed that the seven participants were similar in most respects. Six of the participants were female with only one male. Three of the nurses were between 41–50 years, and four were between 35–40 years. The majority of the participants (five) were in leadership or supervisory positions as nurse educators or managers, while two were clinical nurses in direct patient care. Three participants had 11–15 years of experience while the other four had 5–6 years of experience. The following two themes emerged from the findings: (1) description of CT, and (2) how CT was acquired. The findings are presented with narratives that are the voices of the respondents.

Theme 1: Description of CT

None of the participants provided a clear concise definition, however, most were able to verbalise some elements or characteristics of CT. Nurse 3 alluded to the many definitions of CT:

> Um ... It has many definitions, but I would say that CT is the way through which nurses/people look at a situation, gather facts and decide on how to handle it. That is the best definition I can give it.

The majority of the participants described CT as broad and open to multiple possibilities when viewing the big picture. Nurse 7, the only male participant, stated,

> I would say it is wide thinking to enable the nurses to be able to look at issues from a more critical angle for the benefits of the care they give to the patients.

Another participant described CT as broad, stating that one must consider several opinions to decide how to care for the patient, and that CT encourages students to discover as well as process information.

> In nursing practice, CT is very important especially when you have to deal with real-life situations where you have to consider several opinions. (Nurse 2)

Nurse 3 defined CT as the

> … ability to see beyond the obvious, questioning and asking why, why, why. One must also have knowledge to apply CT effectively.

The participants also described CT as an act of inquiry. They stated that by being inquisitive, they applied a scholarly approach to evaluate current practices. Thus, they were able to question practice in an effort to enhance patient outcomes.

> One nurse came to check morphine for the same patient and I was really concerned. I went out of the report room to assess the patient and was shocked. He had a feeble pulse rate with very fast respirations. This was a patient we could not give morphine to because it would depress his respiration further.

Nurse 6 added that CT means the ability to see things shortly before they occur and to use the necessary tools to anticipate a potential problem before it becomes a problem. Thus, nurses have the ability to recognise changes in a patient's condition, to perform independent nursing interventions, to anticipate orders and to prioritise.

Theme 2: Acquiring Critical Thinking Knowledge

The participants reported that their ability to think critically was strongly influenced by formal and informal learning experiences. They described how they learned theory in class and had clinical rotations in the wards, which helped them integrate theory into practice.

> Actually, I would say my CT development in the classroom and clinical areas was like twins, because whatever I learned in class as theory, I needed to go to the clinical area and practice it, and put it in writing for my faculty to check whether I am getting it right, so they were concurrent. (Nurse 5)

The participants reported that the teaching methodologies used to deliver the CT content helped them to safely apply that knowledge. The participants felt that the classroom provided opportunities for deeper thinking. Classroom-related strategies that were reported as most helpful were PBL, reflective journals, the nursing process, concept maps, case studies, group discussions, and academic writing.

> We also did concept maps, whereas initially we thought that we were duplicating work for no good reason, the concept mapping really sharpened our deep thinking about patient assessment and the interrelation between patient symptoms, investigations, treatments, medication and the nursing diagnosis. I would say the concept maps were really powerful enhancers of CT. (Nurse 3)

PBL required working cooperatively in groups, which enhanced problem-solving and self-directed learning.

> I remember PBL was new to us, and most people would not participate. We devised a way of ensuring everyone participated. All of us had sheets of paper on which we gave

> marks to individuals based on their participation. There was a group leader for every weekly discussion, and it worked very well. (Nurse 6)

Keeping a reflective journal throughout the course helped them because they had somewhere to write things down, particularly if they felt something was unusual and they could learn from it. The participants stated that as they reflected, they moved beyond their personal views to how their practice related to the wider clinical areas.

> Yes, the reflective journals. Students would report the incidences/situations happening in the clinical setups in the journals. The faculty would then choose a few incidences for discussions by the whole class. (Nurse 1)

In their reflective writing, participants took a "fresh look" at their practice, viewing it through a different lens and questioning previously accepted, taken-for-granted systems and routines.

By reflection, the participants developed rationales for their actions and were able to uncover things patients were not saying. In one instance, Nurse 3 described a patient who had an abscess, yet when giving his history, he said he had a backache. By talking to the patient, she managed to identify his problem and called in a surgeon appropriately.

> A male patient was admitted complaining of, what was it, yes, backache. However, I noticed that he was walking with his legs wide apart, which is not typical of backache patients. I found time and engaged the patient in social conversation. He opened up and told me that he had an abscess in his private parts and he was embarrassed about it. He was taken to the theatre, and the abscess was drained. I remember the patient's words very clearly: 'Nursing has changed, what are they learning nowadays?' He was very happy.

Case studies were also cited as major promoters of CT skills. The participants stated that case studies helped them identify important issues and the effects of possible solutions. Thus, they were well positioned to provide nursing care that benefitted patients. Case studies allowed the participants to experience client situations they had never had access to in a clinical setting.

> I also liked case studies so much because they challenged my thinking. Case studies really, really stimulated and provoked me to think beyond the obvious and use theory to explain practical everyday problems. (Nurse 6)

The participants stated that clinical areas also contributed to the development of their CT skills. They had positive experiences in their clinical placement as they talked to one another, discussing, questioning and sharing points of view, which greatly enhanced CT skills learning.

> The discussions we held as small groups really stimulated deep thinking. The PBL and case studies we were given made us really think broadly. After clinicals, we had to pick one patient and develop a nursing care plan and a concept map. (Nurse 4)

Discussion of Research Results

RN-BScN Graduates' Definitions of CT

Fero et al. (2009) reported that although CT is a key component of nursing practice, education and knowledge, it is ambiguously defined and applied within the profession. Although none of the participants in this study was able to provide a clear and concise definition, most were able to verbalise some elements or characteristics of CT, frequently referring to CT as deep thinking, an act of inquiry, reflection and analysis.

The findings regarding the definition of CT were closely aligned with the definitions of Brunt (2005) and Luckowski (2003). For example, the participants in this study viewed CT as a manner of thinking and considering more than one point of view. Similarly, the findings of this study also support those of Kaddoura (2011) regarding reflection as CT. CT was characterised in this study as thinking widely and deeply about a situation, language that parallels Facione's (1990) notion of CT as thinking to deepen understanding. Consensus exists regarding problem-solving and decision-making as CT skills, as noted in this study and studies by Jones and Morris (2007). These two skills (problem-solving and decision-making) appear to be similarly defined and described across studies.

The participants in this study also defined CT in terms of broad thinking that credited them with the ability to approach situations from more than one perspective and to solve problems creatively. This is consistent with Banning (2008), who defined CT as a complex process that enables nurses to reach conclusions on issues that may or may not have correct answers; it includes both dispositions and abilities. This process involves the use of questioning, inquiry and applying knowledge.

Some participants in the study found it easier to describe CT using the nursing process approach. This is consistent with Saintsing, Gibson and Pennington (2011) who propose that CT is at the centre of clinical reasoning, clinical judgement and the nursing process. This definition is also consistent with McMullen and McMullen (2009), who suggest that nurses' CT processes should include a comprehensive assessment of the patient and analysis and prioritisation of the patient's needs, followed by interventions and evaluation.

Although the nurse graduates provided satisfactory definitions, these results indicate that CT is highly discipline-specific. The results presented here may justify the recommendation that scholars must clarify what CT is in the context of nursing which is also consistent with findings of past studies by Banning (2008), recommending the identification of strategies to promote CT in the context of providing nursing care.

Consequently, there is a need to rethink the implications of the findings as they relate to the idea of CT in nursing practice; nursing must define what particular set of skills nurses must acquire to become critical thinkers considering the influence of tasks and the complexity of clinical situations.

RN-BScN Graduates' Perceptions of Teaching Strategies

Globally, the goal of nursing education centres principally on the transmission of knowledge and assisting students to acquire the necessary skills and attitudes associated with nursing practice (Thompson 2010). Learning is essentially a matter of creating meaning from the real activities of daily living and occurs both in class and in the clinical area (Banning 2008; Gabr and Mohamed 2011). The CT module that the participants experienced at the university was designed to produce students who would demonstrate an understanding of the theoretical concepts related to CT and to facilitate the development of CT skills.

It is important to note that participants were nurses whose prior diploma training had not exposed them to CT; thus, they needed to be taught and nurtured to develop these skills. This study has highlighted that educators must teach thinking directly, engaging students in substantive learning activities that will develop their CT. The importance of clinical experience in this process cannot be overemphasised. Fountain (2011) asserted that CT is not easily learned in the classroom but that it is perfected at the bedside through experience. Similar sentiments were expressed in this study supporting the finding that clinical placements were extremely beneficial. The study findings also support Benner's (1984) theory of novice to expert in which nurses obtain experience through a continuum and become more confident in their CT and decision-making processes.

All participants valued PBL, concept maps, CBL, the nursing process and clinical placements as a means of developing CT skills. A range of literature (Nerantzi 2011; Simpson and Courtney 2008; Thistlethwaite et al. 2012) supports the use of these strategies in promoting CT skills.

The RN-BScN graduates valued the significant role played by PBL in the development of CT. This process is consistent with what proponents of PBL (Nerantzi 2011) claim: that it is an effective strategy for improving problem-solving and CT abilities. Additionally, PBL challenges the student to thoroughly question all premises upon which a possible solution may be based (Nerantzi 2011). This claim is also supported by Gabr and Mohamed (2011), who established that PBL produces professional practitioners who have at their disposal the skills necessary to continually adapt to change, both within the professional environment and in their external environments. According to Gabr and Mohamed (2011), PBL has the potential to structure knowledge so that acquisition and recall are optimised, students develop self-directed learning skills, and there is an increased motivation to learn. This perception is consistent with other authors (Bilgin, Şenocak, and Sözbilir 2009; Nerantzi 2011) who determined that

PBL is more effective than traditional lecture methods in enhancing students' problem-solving and self-directed learning skills. It is therefore important for nurse educators to choose active strategies or a combination of strategies that will promote CT (Kaddoura 2011).

The RN-BScN graduates reported that case studies and critical incidents helped immensely in developing their CT skills. Some reported they developed new confidence as they discussed situations with their peers. This is similar to findings reported by (Kaddoura 2011) who highlighted that students who had completed three years of education in a case-based curriculum tended to receive higher CT scores than a comparison group from a traditional lecture-based curriculum. This suggests that CBL may be a more effective approach than the traditional lecture approach for educating nurses in improving CT skills. These results represent a meaningful, positive outcome for nursing education institutions seeking alternative approaches to the teaching of CT skills. In summary, PBL, CBL and reflection are active learner-centred strategies that the RN-BScN graduates attributed to the development of their CT skills as they shifted the focus of power from the teacher to the student.

Conclusion

CT is an analysis of the scenario at hand by using all means possible and evaluating the benefits and side effects of the outcome, indicating that CT is highly discipline specific. There is therefore a need to rethink the implications of the findings in relation to the idea of CT in nursing practice. Nursing has to define what particular set of skills nurses must acquire in order to become critical thinkers considering the influence of tasks and complexity of clinical situations. This justifies the recommendation that scholars need to clarify what CT is in the context of nursing. Whereas nursing is a dynamic profession that requires continual development (Riddell 2007), CT is an essential component of nurses' daily needs to problem-solve, to make decisions and to improve health outcomes for patients. Consequently, nurse educators must use learner-centred strategies that actively engage students in the application of knowledge. Such strategies incorporate practice situations and capitalise on the experiences of students to develop their CT skills. The effort is worth the reward: nurses who can think critically can solve real-world problems (Facione 1990; Snyder and Snyder 2008).

Recommendations

The education system in Kenya needs to move away from the traditional mode of knowledge transfer to empowering students with the ability to think critically. Curriculum reforms that are responsive to changes within the healthcare delivery system are advocated. These implications are an important aspect of the education of a nurse, who then is able to move into the ever-changing practice of healthcare. The nursing curriculum needs to be regularly evaluated for teaching strategies to determine how the

faculty could better provide the experience for students to improve their CT skills. These results can be used by Kenyan nurse training institutions seeking alternative educational approaches in an attempt to enhance students' CT skills.

Study Limitations

The small purposive sample was a notable limitation although saturation of the data was achieved. Only one participant was male; with the number of men joining the nursing profession, this is an important limitation to consider. The perceptions of CT of male nurses may differ from the perceptions of female nurses. The other notable limitation was that the researcher passed through the same RN-BScN programme and had a personal relationship with nearly all of the participants. Because of familiarity, the respondents may have felt they had to respond in a certain manner to please the researcher, which may have influenced the content of the subject's descriptions in such a manner that they do not reflect the participants' actual experiences. To overcome this, bracketing was performed throughout the study to suspend the researcher's beliefs regarding the phenomenon.

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