Philosophical and theoretical content of the nursing discipline in academic education: A critical interpretive synthesis

Rega Maria Luisa

Elsevier BV

info:eu-repo/semantics/article
info:eu-repo/semantics/acceptedVersion
© Elsevier Ltd.
CC BY-NC-ND https://creativecommons.org/licenses/by-nc-nd/4.0/
http://dx.doi.org/10.1016/j.nedt.2017.07.001

https://erepo.uef.fi/handle/123456789/4412

Downloaded from University of Eastern Finland's eRepository
Accepted Manuscript

Philosophical and theoretical content of the nursing discipline in academic education: A critical interpretive synthesis

Maria Luisa Rega, Fabia Telaretti, Rosaria Alvaro, Mari Kangasniemi

PII: S0260-6917(17)30160-0
Reference: YNEDT 3574

To appear in: Nurse Education Today

Received date: 7 October 2016
Revised date: 6 June 2017
Accepted date: 4 July 2017

Please cite this article as: Rega, Maria Luisa, Telaretti, Fabia, Alvaro, Rosaria, Kangasniemi, Mari, Philosophical and theoretical content of the nursing discipline in academic education: A critical interpretive synthesis, Nurse Education Today (2017), doi:10.1016/j.nedt.2017.07.001

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.
PHILOSOPHICAL AND THEORETICAL CONTENT OF THE NURSING DISCIPLINE IN ACADEMIC EDUCATION: A CRITICAL INTERPRETIVE SYNTHESIS

Maria Luisa Rega*
PhD Student
Department of Biomedicine and Prevention
University of Rome Tor Vergata
Rome
Italy
*Corresponding Author

Fabia Telaretti
MSN
Department of Health Management
Catholic University of the Sacred Heart
Rome
Italy

Rosaria Alvaro
Associate Professor in Nursing Sciences
Department of Biomedicine and Prevention
University of Rome Tor Vergata
Rome.
Italy

Mari Kangasniemi
Docent
University Lecturer
University of Eastern Finland
Faculty of Health Sciences
Department of Nursing Science
Kuopio
Finland

Funding statement:
The authors received no financial support for the research, authorship, and/or publication of this paper.
ABSTRACT

Background. Nursing as clinical practice, management and research are based on nursing philosophy and theory. Thus, the philosophical and theoretical content is required to be incorporated in academic education in order to enable nurses’ skills for reflection, analysis, and thinking about the profession.

Objective. The aim of this review was to describe what is known of the philosophical and theoretical content of the nursing discipline within academic education.

Design. A critical interpretive synthesis (CIS).

Methods. Electronic searches were performed across four databases, CINAHL, Scopus, Medline, and Web of Science, for papers published in English from 1980 to 2016. The selection of original articles was based on stages, and inclusion and exclusion criteria were used. Quality of the selected papers were evaluated by method sensitive appraisal criteria. The five phases of CIS were used to combine the selected data.

Results. The searches resulted 9,148 titles, whereas 13 were selected. Nurses need philosophical and theoretical education in order to be aware of human health and explain the complexity of the human experience of illness. The philosophy of science, the philosophy of care, and theory development were highlighted as the key contents in nursing academic education as these subjects are central to the discipline that ensures that nurses acquire advanced skills. A model was developed that linked disciplinary issues the progression nursing science through the influence of advanced skills.

Conclusions. Based on the findings in this study the philosophical and theoretical content of nursing discipline crates a basis for the academic education and enables a professional and exclusive vision for nurses. It provides an overall understanding of people’s lives and support nurses to achieve deeper awareness of the meaning of illness and health in a person lifespan what is needed on the evidence-based decision making.

Keywords: academic, discipline, education, nursing, philosophy, theory.
1. Introduction

In the course of their clinical practice, nurses need to know how to act, but theoretical knowledge can provide arguments about why they should act (Rolfe, 2013). Questions that start with why can be used to create nursing targets and link specific acts to both human beings and experiences (Newman, 2003; Northrup et al., 2004). We need to combine knowledge to raise awareness of particular issues and inform good-quality clinical decision-making (Christensen, 2011). As an applied science, the nursing discipline reflects the practical nature of nursing and consists of a mixture of pragmatic and theoretical knowledge (Alligood, 2011; Newman, 2002). The philosophical and theoretical content of nursing education (at both the Masters and the Doctoral level) creates a basis for the nursing discipline, which guides the development of later expertise in a clinical practitioner, someone who teaches nursing or a nurse researcher (Hicks and Butkus, 2011). Thus, focusing on nursing concepts, theories, and models supports nursing experts to practice, develop, and study advanced nursing practices (Doane and Varcoe, 2008; Donohue–Porter et al., 2011). In addition, the methodological content of education aims to guarantee that individuals have the capacity and the aptitude to use, assess, and produce scientific knowledge (Christensen, 2011).

2. Background

The philosophical and theoretical content of academic education refers to the underlying knowledge of the concepts and theories of nursing science (Clarke, 2011). The philosophical content consists of verbally expressed pragmatic or logical ideas and it explains the primary interest of the discipline, whereas the theory is concerned with the structure of clearly defined concepts (Grace and Perry, 2013; Nyatanga, 2005). In the nursing discipline, the empirical environment in clinical practice is multidimensional and complex; therefore, it requires clarified concepts, broad theories, and continuous theory development (Burney, 1992; Gallagher, 2007; Ingram, 1991; Meleis and Price, 1988; Miller, 2008). Theory development is linked to knowledge development and it provides a basis for further reflections, investigations, refinements, and a source of new knowledge (Algase, 2007; Cody, 2011). The development of theories is a part of the processes of reflection, analysis, formulation of questions, thinking and relating concepts, translating them into written or verbal mode, and using them to change reality (Butts and Lundy, 2003).

The theoretical and philosophical content of academic education is important for clinical practice because exploring this subject provides an opportunity to develop a deeper
understanding of reality and make a substantial contribution to the profession (Clarke and Holt, 2001; Smith and McCarthy, 2010). In nursing and healthcare, the development of critical analysis and the aptitudes to read, evaluate, and understand phenomena are crucial abilities of nursing academics. These abilities can also support nursing leaders to apply their knowledge to develop the necessary care improvements. Thus, it is useful to find new strategies so that nurses can practice their advanced skills (Donohue–Porter et al., 2011; Schober and Affara, 2006).

Despite a general agreement among nursing scholars about the importance of philosophical and theoretical knowledge in the nursing discipline, their roles have been largely restricted to the academic curricula of nursing (Donohue–Porter et al., 2011; Karnick, 2013). In fact, academic nursing curricula have been found to comprise other disciplines such as biological and related sciences, social and behavioural sciences, and medical or surgical content, with a significant lack of philosophical and theoretical discourse about the nursing discipline (McNamara et al., 2012; Northrup et al., 2004). Although it has received less attention, the distinctive philosophical and theoretical content of the nursing discipline at the academic level, is an essential component of its development (Baumann, 2010; Chinn, 2007; Dyess et al., 2010; Miller, 2008).

The aim of this review was to describe what is known of the philosophical and theoretical content of the nursing discipline which is included in academic education based on previous studies. The produced knowledge can be used in education to develop teaching on philosophical and theoretical content as a part of nurses advanced skills. Two review questions were formulated based on preliminary literature searches on the subject; these are:

1. What are the reasons behind the inclusion of the philosophical and theoretical content of the nursing discipline that has been included in academic education?
2. What kind of philosophical and theoretical content has been highlighted in academic education?
3. **Design.** Critical Interpretative Synthesis (CIS)

The critical interpretive synthesis (CIS) (Dixon-Woods et al., 2006) was used as a review process. This was suitable for this study because it enables a synthesis of diverse literature, and the papers selected in our review were conducted with different methods. In addition, the process was suitable because our research question was philosophical by nature and required an interpretation when synthesizing the data.
4. Method

According to Dixon-Woods et al. (2006), the critical interpretive synthesis includes five phases: formulating the research question, searching for the literature, determining the quality, sampling, extracting data and conducting an interpretive synthesis. In the first phase, we formulated a research question based on the previous literature.

4.1 Search strategy

The second phase was the searching of previous studies. A systematic literature search was conducted using electronic databases CINAHL, Scopus, Medline and Web of Science. The searches were limited for papers published in English from 1980 to 2016. We used a wide time span for searches in order to achieve all relevant papers regarding the research question. The search terms and their combinations with regard to nursing philosophy, theory, and academic education were employed (Figure 1).

Figure 1. Flowchart of the Critical Interpretive Synthesis process.

4.2. Inclusion and exclusion criteria

During the selection process, papers were included if i) they focused on philosophical or theoretical content, ii) they focused on academic education in the nursing discipline, and iii) if they were conducted using any scientific method. Papers were excluded if they focused on the use or development of theories. The papers included highlighted how the philosophical and theoretical content of nursing discipline was essential for the understanding of the complex phenomena of nursing that evidence-based practice alone could not encompass. All the others were excluded. The selection was carried out independently by two researchers, and then, they agreed on the final selection.

4.4 Quality appraisal

On the third phase, the quality was determined by using method sensitive appraisal criteria (Dixon-Woods et al., 2006). For the two qualitative studies, we used the Critical Appraisal Skills Programme (CASP, 2013) that consists of 10 questions with a three-level scale (yes, no or cannot tell). The questions were concerned with the explanation and justification of the aim, the research design (including the recruitment strategy, setting for the data collection, the data collection methods, and the data analysis), and the results. The remaining nine, which were discussion papers, were evaluated according to the quality criteria specified by McCullough et
al. (2007) to see i) whether they focused on the research question or aim, ii) if the relevance of the argument-based techniques of the papers was identified, and iii) if the conclusions drawn in each paper were recognized and whether they sounded consistent with the focused question. Based on quality appraisal, all 13 qualitative and discussion papers were included.

4.5 Search outcome

In the fourth phase, we identified search outcome (Dixon-Woods et al., 2006). The initial search provided 9,149 papers. The titles and abstracts were read to determine relevance, and on this basis, we excluded 8,839 papers due irrelevant titles; having read 51 abstracts, 21 were considered for detailed review. Having reviewed the 21 abstracts and full texts, we excluded a further eight papers from the review, retaining 13 papers (Figure 1).

4.6 Data extraction and synthesis

The fifth phase, extracting data and conducting an interpretive synthesis (Dixon-Woods et al., 2006), was divided into three sub-phases. During the first sub-phase (reciprocal translational analysis) of the data extraction and synthesis process, the papers we included were read repeatedly to obtain an overall understanding of the material. The second sub-phase was to identify contradictions among the papers trying to clarify them (refutational synthesis) and to extract and tabulate the papers according to the author(s), year, aim, design, philosophical and theoretical content, and results (Table 1). After that, during the third sub-phase (lines-of-argument synthesis), two of the authors (MLR and FT) analysed and extracted the data according to the research questions, and collaborated on the synthesis and the critical review of the results. The synthesis was created and presented according to the review questions. In order to improve legibility, we added a definition of some concepts (e.g. ontology, epistemology) in the results section. The definitions are based on the references which are not included in the review (Killam, 2013; Meleis, 2007; Reed, 1997; Slevin, 2003).

Table 1. Original studies included in Critical Interpretive Synthesis

5. Results

5.1 Reasons for the philosophical and theoretical content in academic education

Based on our results, the reasons to include that the philosophical and theoretical content in academic education was linked to the theory-practice relationship in the nursing discipline. The theory-practice was found to play a crucial ethical role in supporting decision-making in
clinical practice. It was also related to the philosophical content in education because the main goal of nursing research is to increase nursing knowledge while advancing practice (Donohue–Porter et al., 2011; Silén and Johansson, 2016).

The philosophical content of education provided ethical support for the nursing practice and it has been applied in clinical settings because it facilitated a humanization process, the research of meaning, the awareness of choice to improve the quality of life, the care during healing processes, and the support when people were dying (Butkus, 2011; Di Bartolo, 1998; Edwardson, 2010; Grace and Perry 2013; Hicks and Northrup et al., 1998; Silén and Johansson, 2016; Smith and McCarthy, 2010). The theoretical content was also essential for changing healthcare settings in order to obtain clinical advancement and develop professional distinctiveness (Donohue–Porter et al., 2011). Deeper philosophical and theoretical content of the discipline was required to develop future nursing scientists. Without theory, there could be no improvement and professional independence (Arreciado Marañón and Isla Pera, 2015; Butts and Lundy, 2003).

According to the authors, for reflective ethical clinicians, the understanding of ontology and epistemology mature during the expert practice of nursing (Hicks and Butkus, 2011). Ontology of nursing refers to an inherent human process of well-being, manifested by complexity and integration in human systems (Reed, 1997). According to Hicks and Butkus (2011), ontology is presented as a part of the nurse’s personal being: it lies in the nurse's individuality and in their ability to achieve knowledge, thereby improving their technical skills through experience over time. Ontology pursues the ‘why questions’ related to nursing’s existence and function; it is concerned with the philosophical meaning of the word as well as the study of human being and his existence. In this case, it is related to nursing existence and its functions (Killam, 2013). The term epistemology refers to the theory of knowledge in philosophical inquiry (Killam, 2013; Slevin, 2003). According to Grace and Perry (2013) and Hicks and Butkus (2011), epistemology is related to the growth in nurses’ personal understanding and in the use of research methods and knowledge from other disciplines. It contributes to the development of knowledge within the discipline and investigates the disciplinary responsibilities. It is also concerned with moral issues, philosophy, and ethics.

A theoretical basis for this discipline has been identified as a prerequisite for the philosophical approach and it has been found to be advantageous for scholars and nurses to identify and analyse problems in order to find solutions that are useful in practice. A solid theoretical
background is needed to improve research skills. Nowadays, scientists are in agreement that the main purpose of research in the healthcare field is to focus on health equity and safety for people of all ages. Research is a tool that helps individuals to cope with health issues in the environments where healthcare services are delivered (Potempa et al., 2008). Autonomous discipline must be based on shared targets among professionals, even if nurses can be inspired to put different theories into practice. For example, the King and Neuman models are different, but they share the same practical implementation and contribute to the development of the nursing profession and the patient's welfare (Burney, 1992).

According to Grace and Perry (2013), research is also helpful for synthesizing new perceptions of what is necessary and required. Nursing science needs to be led by professionals who have grasped the theoretical basis of the discipline so that they can face the challenge of distinguishing between the various technical and professional standards of its practice (Smith and McCarthy, 2010; Arreciado Marañón and Isla Pera, 2015). Despite this, the generation of theory-based science in the nursing discipline has been witnessed to considerably constrain prolific scientific careers. The old dichotomy between theory and practice received a new look with the introduction of the DNP programmes, which do not consider theory as academic education. Despite this, it has been argued that clinical scholarship must be skilled in critical and theoretical discourse in order to recognize the gaps in knowledge that are linked to clinical practice (Dracup et al., 2005).

5.2 The philosophical and theoretical content in academic education

Based on our results, philosophy of science, philosophy of care and theory development were highlighted as the primary philosophical and theoretical contents in academic education. Philosophy of science has been identified as the main content in the nursing discipline because all the scientific theories and research methods are joined to some philosophical structure. Therefore, an understanding of the basic components of philosophy and the philosophy of science provides essential support for scientific research. In fact, the first aim of research in nursing is to increase the knowledge of the discipline in order to advance practice (Di Bartolo, 1998). Thus, the philosophy of science has been seen as an elementary part of education and it needs to be considered as the basis for developing new theories to advance knowledge. In addition, the integration of epistemology and ontology as part of the philosophy of science has been linked to improving competence in practice (Arreciado Marañón and Isla Pera, 2015; Hicks and Butkus, 2011). It has been argued that the philosophy of science can improve nursing
science; without it, skills such as inductive and deductive thinking abilities have been neglected in the past (Grace and Perry, 2013). It is important for students (as future members of a professional discipline) to immerse themselves in their field of study to learn the practice guided by philosophy and theories to gain a unique perspective on the discipline (Arrehiado Marañón and Isla Pera, 2015; Smith and McCarthy, 2010).

5.3 Philosophy of care

Philosophy of care was also found to provide a basis for nursing in relation to several theoretical frameworks and levels (Grace and Perry, 2013; Silén and Johansson, 2016), including grand theories, identifying specific phenomena through abstract concepts, and deeper meta-theories providing a conceptual framework under which the key concepts and principles of the discipline can be identified as disciplinary knowledge (Meleis, 2007). Furthermore, the philosophy of care has been considered a moral obligation as it clarifies the aim of a practical profession to pursue the human good and to understand the right way in which it should be achieved (Grace and Perry, 2013). Thus, philosophy of care has been linked to improving the quality of patient care (Northrup et al., 2004). With regard to the leading role of the philosophy of care, the current evidence indicates that modern educational programmes should deal with theories and studies on topics that include a knowledge of people and communities as a whole (Silén and Johansson, 2016). A nursing science focused on philosophy of care is emphasized in its 'core' relationship, presence, and sharing of meaning with the patient (Smith and McCarthy, 2010). From this perspective, the philosophy of care is strictly linked to middle-range theories, which are more precise and only analyse a particular situation with a limited number of variables (Meleis, 2007). Smith and McCarthy (2010) consider the relationship between nurses and patients in depth, connecting advantageous practice to theory and identifying how people need care. These middle-range theories, which regard the transitions during life or the influence of the environment on healing processes, show how the theoretical content of nursing discipline, grounded in the philosophy of care, can help professionals to approach specific health needs (Donohue–Porter et al., 2011).

5.4 Theory development

In addition, theories and concepts development has been reported to ensure the advancement of nursing science (Donohue–Porter et al., 2011), and theory development has been considered essential for the academic training of nurses. Theories and concepts development occurs when scholars use methods such as inductive and deductives approaches to thinking: inductive
reasoning takes information gathered from specific events and derives a general statement or theory to describe the underlying principle. In a deductive approach, a hypothesis testing means examining how well a general statement applies to a specific case (Arreciado Marañón and Isla Pera, 2015; Silén and Johansson, 2016). Both reasoning methods were found as crucial to include in academic education in the nursing discipline in order to improve nurses’ skills to develop patient outcomes in daily procedures (Butts and Lundy, 2003; Edwardson, 2010; Northrup et al., 2004; Smith and McCarthy, 2010). Theories such as those of King and Neuman (Burney, 1992), Carper's way of knowing, and the principles of Benner's acquisition skills (Hicks and Butkus, 2011) were considered in the papers in this review.

6. Discussion

Based on our review, multiple reasons have been presented to incorporate philosophical and theoretical content of nursing discipline in academic education. In clinical practice, management and research nurses need to have a deep understanding of the theory–practice relationship and ethics, as well as ontological and epistemological basis of nursing, in order to be aware of human health and explain the complexity of the human experience of illness. Thus, the philosophical and theoretical content is needed to create a framework for nursing but also for the current evidence-based knowledge. Moreover, we found that more often in previous studies, philosophical and theoretical content in academic education, was highlighted as grounded on meta-theories, grand theories and middle-range theories which led to help people to solve health problems taking account of health transitions during life.

Based on our review, we created a model to clarify how philosophical and theoretical content was related to academic education. This model showed that nursing was a practice-oriented discipline that was grounded in scientific matter and substantiated by its disciplinary issues (Figure 2). In line with the relationship between theory and practice, nursing is a science that is continuous evolving as nurses find new solutions for patients’ problems. The philosophical and theoretical content has been designed to understand people in the context of the patient–nurse dyad. The final product, namely advanced skills, is crucial for the development of nursing as an autonomous profession in healthcare settings. Philosophies of science, philosophy of care and theory development were highlighted as the main content in nursing academic education as they are central to the discipline that ensures that nurses acquire advanced skills. Without disciplinary issues, nursing would lose its essence and nurses would be mere technicians. The main findings of this study support the assumption that the philosophical and theoretical
content of the nursing discipline must play a leading role in nursing curricula in order to obtain a professional and exclusive vision. The seminal works of its most representative philosophers and theorists make it clear that the disciplinary issues of the nursing profession are essential for its existence (Clarke, 2011; Fawcett, 2003).

Figure 2. A model linking nursing philosophical and theoretical content from academic education to advanced skills.

Even though nursing scientists recognize the importance of philosophical and theoretical content in nursing education, this has frequently been missing from many master’s programmes (Karnick, 2013). Smith and McCarthy (2010) found that theory did not appear as a separate concept, but was included in content which covered the subject matter of communication or decision-making. For example, there was nothing in the master’s programmes that they examined which described something as a contemporary epistemology of nursing. Therefore, there was nothing to remind the master’s students about the various knowledge pathways or their importance within nursing education. On the contrary, several topics suggested the need for an evidence-based approach.

Incorporating philosophical and theoretical content into the academic education of the nursing discipline is currently considered almost unnecessary. Unfortunately, most nurses only recognize the value of the specific goals of evidence-based practice and place their emphasis on a practical degree. Literature has, however, underlined the fact that this is a limited vision that relegates nurses to a subordinate role to other disciplines (Edwardson, 2010). Furthermore, if we look at advanced skills separately from the theoretical content, we risk taking the profession backwards. Although educational systems in nursing differ from one another, one aspect that they share in Europe and the United States is the progressive inclusion of topics such as safety and quality, evidence-based practice, information technology, and research methodology within academic curricula; this is at the expense of the theories and philosophies of nursing (Donohue–Porter et al., 2011). Actually, the relationship between theory and practice is risky; therefore, the risks have been replaced by evidence-based practice and nursing has lost the true foundation of praxis (Arreciado Marañón and Isla Pera, 2015). Evidence promotes the best decisions for activities, but it cannot improve theory unless this is implicit in the evidence (Clarke and Jones, 2011; Donohue–Porter et al., 2011; Northrup et al., 2004).

Nursing science delivers a basis for evidence-based practice and aims to explain phenomena exclusive to nursing. Evidence-based practice provides the best evidence to guide choices in
practice (Hicks and Butkus, 2011). Philosophical thinking is not the empirical evidence of modern health care systems, but it drives a critical interpretation of reality, supporting the formulation of questions and considering possible answers. Philosophical thinking is what promotes the advancement of knowledge and knowledge development, which focuses on improving peoples’ lives—this is an ethical responsibility of the profession (Grace and Perry, 2013).

6.1 Implications for the future

A mandate to train professionals equipped with knowledge of the discipline is required to advance nursing science. It can be considered as a standard to address the daily challenge of differentiating between technical and professional levels of preparation (Willis et al., 2008; Smith and McCarthy, 2010). In fact, today's professionals constantly need to find new solutions for diminishing waste and to struggle against the unstoppable reductions within limited financial and staff resources. Therefore, it is essential for people involved in economic policies to meet the challenge of maintaining quality while minimizing costs in our healthcare settings (Clarke and Holt, 2001). However, the focus should be on care, rather than science or applied science (Smith and McCarthy, 2010). It would also be useful to carry out a further study of this topic by using empirical research among educators and students as well as a curriculum analysis of academic education in the nursing discipline.

6.2 Review rigour and limitations

The rigour of review has been ensured during the process. The decision of databases and search terms was based on the preliminary searches, discussed in the research group and an educated librarian was consulted. The selection of papers was conducted by two research collaborations: in both selection phases, researchers selected papers independently, using inclusion, exclusion, and quality appraisal criteria.

There could have been a language bias in our literature search as it was limited to journals published in English while other potentially important studies in other languages were not considered. There could have been another selection bias due to the high number of titles found during the initial search. However, the researchers collaborated on the selection and this may have improved their rigor during selection. This review included only the research papers, what may be another bias, and it is possible that some theses, related papers or unpublished works
were not identified. Also, the inclusion of websites or the curricula of different universities would provide updated information about what is going on in the faculties internationally.

7. Conclusions

The key findings of this study indicate how the philosophical and theoretical content of nursing makes an important contribution to the overall knowledge of people’s lives, helping nurses to have a deeper understanding of people’s illnesses and well-being in the lifespan that can’t be restricted to the evidence-based decision making. This is quite a reason to maintain and deepen the philosophical and theoretical content of nursing in the curricula today. The findings of our research show that philosophies of science, philosophy of care, and theory development were considered leading areas of content in academic education, even if their role was limited in the academic curricula. In fact, the theoretical content of nursing is extremely important today as nurses are looking for the advanced skills they need to gain social recognition, which has only partially been acquired to date. The awareness of using disciplinary issues as a tool to obtain autonomy in the profession is a crucial step in nursing practice. In fact, the true essence of nursing does not lie in the activities that nurses perform, but in the improvement they bring to the patients’ lives. Despite this, the relationship between theory and practice is being replaced by that of evidence-based practice. Furthermore, our review indicates that evidence promotes the best decisions for activities, but it cannot improve theory and evidence-based practice alone cannot explain the phenomena that are exclusive to nursing. Theory provides care procedures, and without it, the context becomes meaningless and prescriptive. In the dimension of philosophy of care, the nurse is not only the healthcare professional who provides care, but also the person who enables the patient to assist himself/herself. In addition, further improvement in nursing curricula, should be to introduce academic educational strategies to integrate the theoretical content that considers the use of theories for clinical case analyses from the perspective of theory development into curricula. This could be, for example, an ongoing collaboration between a theory expert and a clinical faculty member in order to clarify how theory is recognizable in clinical cases. Moreover, the practice of research offers a unique contribution to theory development and provides a strategy for a better understanding of the role of theory.

Declaration of Conflicting Interests:

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this paper.
References

*included in the review

**Databases**

<table>
<thead>
<tr>
<th>Databases</th>
<th>CINAHL</th>
<th>Scopus</th>
<th>Medline</th>
<th>Web of Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Search phrase:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>((nurs* AND (education* OR teach* OR curriculum OR syllabus) AND philosoph* OR theor* AND (post-graduat* OR master OR advanced OR academic*))</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Limits:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific; peer-reviewed; published in English and between 1980-2016</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total search result (titles):**

<table>
<thead>
<tr>
<th>Databases</th>
<th>CINAHL</th>
<th>Scopus</th>
<th>Medline</th>
<th>Web of Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>(N = 9,149)</td>
<td>4,639</td>
<td>1,276</td>
<td>1,727</td>
<td>1,507</td>
</tr>
</tbody>
</table>

- Excluded based on titles (n=8,839)

**Articles included based on titles:**

<table>
<thead>
<tr>
<th>Databases</th>
<th>CINAHL</th>
<th>Scopus</th>
<th>Medline</th>
<th>Web of Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n=310)</td>
<td>213</td>
<td>30</td>
<td>22</td>
<td>45</td>
</tr>
</tbody>
</table>

- Excluded based on abstracts (n=51)

**Articles included based on abstracts:**

<table>
<thead>
<tr>
<th>Databases</th>
<th>CINAHL</th>
<th>Scopus</th>
<th>Medline</th>
<th>Web of Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n=259)</td>
<td>162</td>
<td>22</td>
<td>31</td>
<td>44</td>
</tr>
</tbody>
</table>

**Articles included based on full text:**

<table>
<thead>
<tr>
<th>Databases</th>
<th>CINAHL</th>
<th>Scopus</th>
<th>Medline</th>
<th>Web of Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n=21)</td>
<td>9</td>
<td>5</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Articles included after removing duplicates:**

- (n=13)

---

**Figure 1. Flow-chart of Critical Interpretative Synthesis process**
Figure 2 - A model linking nursing philosophical and theoretical content from academic education to advanced skills
### Table 1. Original studies include

<table>
<thead>
<tr>
<th>Author(s) (year), Country</th>
<th>Aim</th>
<th>Design/Method</th>
<th>Philosophical and theoretical content</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Butts &amp; Lundy (2003), United States.</td>
<td>To investigate the teaching and learning process regarding philosophy of science and to offer original suggestions based on classroom experience.</td>
<td><em>Case Study, descriptive analysis and learning creative strategies</em></td>
<td>Philosophy of science (Kuhn, T.; Dewey, J.), N° references: 29</td>
<td>The philosophy of science courses for doctoral students. Because it provides interpretation of reality.</td>
</tr>
<tr>
<td>Di Bartolo (1998), United States.</td>
<td>To investigate the contribution of philosophy of science to evolution of nursing as a discipline.</td>
<td><em>Scientific discussion paper.</em></td>
<td>Philosophy of science (Toulmin, S.; Popper, K.), N° references: 23</td>
<td>Doctoral programs remain the major source of future scholars concerning philosophical bases and their impact on inquiry and continuous knowledge development. Approaches are offered to guarantee that DNP programs are designed to offer suitable nursing theory and, therefore, nursing science and practice.</td>
</tr>
<tr>
<td>Donohue-Porter et al. (2011), United States.</td>
<td>To discuss inclusion of nursing theory in all levels of curricula when encountered with many pressures and prerequisites contending for course content, assignment, and credit.</td>
<td><em>Scientific discussion paper.</em></td>
<td>Nursing theories (Meleis, A.I.; Karpenter, R.), N° references: 39</td>
<td>It insinuates that DNP may evolve as a scientific discipline has made in recent decades.</td>
</tr>
<tr>
<td>Dracup et al. (2005), United States.</td>
<td>To argue about the introduction of a new degree, the Doctor of Nursing Practice (DNP).</td>
<td><em>Scientific discussion paper.</em></td>
<td>Problem solving as a main practical knowledge of DNP, N° references: 7</td>
<td>The qualitative and quantitative data sets together can aid to enhance the understanding of knowledge into the practice of nursing.</td>
</tr>
<tr>
<td>Edwardson (2010), United States.</td>
<td>To discuss about the introduction of the doctor of nursing practice, and how (DNP) has matured serious apprehensions about the discipline’s ongoing aptitude to form its body of knowledge at a correct rate.</td>
<td><em>Scientific discussion paper.</em></td>
<td>The focus is to differentiate Ph.D. and DNP capacity of scientific knowledge generation from DNP practical knowledge, N° references: 14</td>
<td>The philosophical inquiry is linked with knowledge generation from theory and methodological research.</td>
</tr>
<tr>
<td>Grace &amp; Perry (2003), United States.</td>
<td>To propose a 3-level taxonomy of philosophical inquiry to guide nursing curricula and research.</td>
<td><em>Scientific discussion paper.</em></td>
<td>Philosophical inquiry, critical consciousness, analysis and application of philosophy to nursing problems for generation of new knowledge, N° references: 42</td>
<td>Students believed that theoretical knowledge is indispensable. The skills developed gave novice nurses’ confidence to do the work and prepare for clinical practice.</td>
</tr>
<tr>
<td>Marañón &amp; Pilar Pera (2016)</td>
<td>To investigate into nursing students’ perception of their theoretical and practical training and how this training influences the process of constructing their professional identity.</td>
<td>Qualitative, ethnographic study.</td>
<td>No philosophical and theoretical content, N° references: 29</td>
<td>The quarrel is made that Ph.D. and DNP can work in concert.</td>
</tr>
<tr>
<td>Hicks &amp; Butkus (2011), United States</td>
<td>To improve talents and performances of masters teachers in nursing.</td>
<td><em>Scientific discussion paper.</em></td>
<td>Theories of Nursing (Carper, B.A.; Benner, P.S.), N° references: 40</td>
<td>The philosophical inquiry is linked with knowledge generation from theory and methodological research.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Author(s) (year), Country</th>
<th>Aim</th>
<th>Design/Method</th>
<th>Philosophical and theoretical content</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northrup et al. (2004), Canada.</td>
<td>To study the interaction among historical events, modern influences, and confusing meanings to guide and form the progress of nursing scholarship, practice, and education.</td>
<td><em>Scientific discussion paper.</em></td>
<td>Nursing disciplinary knowledge (Fawcett, J.; Alligood, M.R.; Newman, M.), N° references: 32</td>
<td>The training for entry into nursing graduate study in nursing must be based on the science programs of academic education.</td>
</tr>
<tr>
<td>Potempa et al. (2008), United States.</td>
<td>To define whether nursing is meeting it’s promoted goals of scientific development of the discipline and planning for academic careers.</td>
<td><em>Cross-sectional design. (N=861)</em></td>
<td>No philosophical and theoretical content, N° references: 37</td>
<td>The contemporary system for doctoral education does not prepare the number of nurses to substitute retiring faculty or increment the faculty.</td>
</tr>
<tr>
<td>Smith &amp; McCarthy (2010), United States.</td>
<td>To study how the knowledge of the discipline of nursing was combined into the pivot documents guiding the growth of baccalaureate and higher-degree educational curricula in nursing.</td>
<td><em>Scientific discussion paper.</em></td>
<td>Nursing disciplinary knowledge (Fawcett, J.; Roy, C.; Newman, M.), N° references: 51</td>
<td>The training of practitioners who work in different disciplines offers a basis for criticism and application of knowledge from various perspectives and its application to patient care.</td>
</tr>
<tr>
<td>Sílen, M &amp; Johansson, L (2015)</td>
<td>To describe and analyze the topics theoretical frameworks and concepts in the discipline.</td>
<td>Descriptive design with a qualitative and quantitative approach.</td>
<td>Nursing disciplinary knowledge (Eriksson's Theory of Caritative Caring; Travelbee's Theory of Nursing), N° references:</td>
<td>There is a need to widen the study of theoretical frameworks and concepts in the discipline and their application to practice.</td>
</tr>
</tbody>
</table>
nursing students’ independent projects, which lead to a Bachelor’s degree, in a Swedish context.

Human-to-Human Relationship Model; Orem’s Self-care Theory).

*N° references: 17

*as defined in the study
Highlights

- Philosophy of science, philosophy of care and theory development are highlighted as the philosophical and theoretical content in academic education in nursing discipline.
- The knowledge of philosophical and theoretical content would support nurses to understand the person’s illness and well-being in the lifespan. In addition, the knowledge about philosophical and theoretical content would deepen understanding of linkage between theory and practice in nursing profession and enables a continuous advancement. Applying theory in their daily work, nurses can develop the advanced skills to help patients to solve their problems.
- Thus, philosophical and theoretical knowledge is needed because evidence-based practice alone cannot explain phenomena that are exclusive to nursing.
- The awareness of disciplinary issues as a tool to obtain autonomy in the profession and practice in healthcare setting.