Learning Situation in Nursing Education: A Concept Analysis

Running head: Learning situation and nursing

Authors

Hooman Shahsavari
Assistant Professor, PhD in Nursing, Faculty of Nursing and Midwifery, Tehran University of Medical Sciences, Tehran, Iran.

Zahra Zare
(Corresponding Author)
PhD Candidate in Nursing, Faculty of Nursing and Midwifery, Tehran University of Medical Sciences, Nosrat St., Tohid Sq., Po. Box: 1419733171, Tehran, Iran
Email: h_shahsavari@sina.tums.ac.ir
Tel: (+ 98) 21 61054342, Cell phone: (+98)912-2959382 Fax: (+98) 21 66941668
Email: zare@nm.mui.ac.ir

Pauline Griffiths
Associate Professor (Honorary), (PhD, RN, PGCE (FE)), College of Human and Health Sciences, Swansea University, Swansea, UK.
Email: paulinemonica@hotmail.co.uk

Mojtaba Vaismoradi
Researcher, (PhD, MScN, BScN), Faculty of Nursing and Health Sciences, Nord University, Bodø, Norway.
Email: Mojtaba.vaismoradi@nord.no

Conflict of interests: The authors declare no conflict of interests.

Statement of author roles/contributions to the manuscript.
Study design: HS, ZZ,
Data collection: HS, ZZ.
Data analysis: HS, ZZ, MV, PG.
Study supervision: HS, MV, PG.
Manuscript writing: HS, ZZ, MV, PG.
Critical revisions for important intellectual content: HS, MV, PG.

Source of funding

Tehran University of Medical Sciences, Tehran, Iran provided facilities and support for this research project.

Learning Situation in Nursing Education: A Concept Analysis

Abstract

Background and purpose: The nursing student requires opportunities to learn within authentic contexts so as to enable safe and competent practice: one strategy to facilitate such learning is the creation of learning situations. A lack of studies on the learning situation in nursing and other healthcare fields has resulted in insufficient knowledge of the characteristics of the learning situation, its antecedents and consequences. Nurse educators need to have comprehensive and practical knowledge of the definition and characteristics of the learning situation so as to enable their students to achieve enhanced learning outcomes. The aim of this study was to clarify the concept of learning situation as it relates to the education of nurses and improve understanding of its characteristics, antecedents and consequences.

Methods: The Bonis method of concept analysis, as derived from the Rodgers' evolutionary method, provided the framework for analysis. Data collection and analysis were undertaken in two phases: interdisciplinary and intra-disciplinary. The data source was a search of the literature, encompassing nursing and allied healthcare professions, published from 1975-2016

Results: No agreement on the conceptual phenomenon was discovered in the international literature. The concept of learning situation was used generally in two ways and thus classified into the themes of: 'formal/informal learning situation' and 'biologic/non-biologic learning situation'. Antecedents to the creation of a learning situation included personal and environmental factors. The characteristics of a learning situation were described in terms of being complex, dynamic, and offering potential and effective learning opportunities.

Consequences of the learning situation included enhancement of the students' learning, professionalization, and socialization into the professional role.

Implication for Practice: The nurse educator, when considering the application of the concept of learning situation in their educational planning must acknowledge that the application of this concept will include the student's clinical learning experiences. More studies are required to determine factors influencing the creation of a successful learning situation from the perspectives of nurse educators and nursing students, clinical nurses and patients.

Keywords: evolutionary, concept analysis, Bonis method, learning situation, nursing education

INTRODUCTION

Nurse educators are challenged to implement teaching strategies that promote students' clinical competencies and the development of critical and reflective thinking skills. Through the application of pedagogical processes, nurse educators aim to prepare the future generation of nurses with the required professional competencies to be able to meet patients' care needs effectively. Nurse educators therefore have a fundamental and on-going responsibility to seek to improve the quality of educational delivery (Hatlevik, 2012; Pijl-Zieber et al., 2014).

Learning is a psychological process that aims to provide changes in an individual's knowledge and behaviour (Collins & O'Brien, 2011). Situation is defined as a set of things that are happening and the conditions that exist at a particular time and place (Cambridge online Dictionary, 2016). Although learning takes place in the individual's mind, it is however the result of an interaction between the individual and environment within the learning context (Pear, 2014). Such a context may facilitate or inhibit learning. The learning context, as a learning

situation, consists of a complex set of intertwined factors in a particular time and place (Simons, van der Linden, & Duffy, 2007). Learning therefore should not be considered solely an intrinsic trait of the student, but rather as a response to a situation (Cowman, 1998).

Achievement of learning is therefore subject to multifaceted elements including the student as an individual, the curriculum, the teacher, and the learning situation. The learning situation is one of the essential elements of the learning process and comprises of the physical environment the student in placed in plus human, psychological and social factors. A suitable learning situation is affected by the student's learning style and the teaching strategy utilised by the educator, plus their interaction and personal compatibility (Kostovich, Poradzisz, Wood, & O'Brien, 2007). According to the roles as taken by the educator and the student, learning can be both teacher-directed and self-directed (Peters, 2013). The common formal settings for learning in nursing are classrooms, clinical skill laboratories and clinical settings: the creation of learning situations by educators is required in each of these areas. The educator's ability to control the learning situation in each of these settings is different, for instance learning is less controllable in clinical settings compared to skill laboratories and classrooms (Shahsavari, Parsa Yekta, Houser, & Ghiyasvandian, 2013; Wong et al., 2008).

Learning situations are not always experienced as being effective and meaningful by students due to shortcomings in the creation of an effective learning situation (Bisholt et al., 2014). Improving awareness of how to create learning situations that enable the learning process, and the resultant delivery of high quality patient care by competent nurses, is a key challenge for nurse educators (Papathanasiou, Tsaras, & Sarafis, 2014).

Learning situation and nursing

The education of healthcare professionals, particularly nurses, has evidenced a shift from the learning of routine procedures in a controlled environment to the development of students' knowledge and skills experientially and so requires employment of the best learning situations for self-learning and delivery of evidence-based practice (Henderson, Cooke, Creedy, & Walker, 2012). Thus is the responsibility of all involved in nursing education to appreciate the organizational requirements that lead to an effective learning situation and to apply this knowledge to create meaningful educational opportunities for their students.

The Theoretical Background of Concept Analysis

A paucity of studies on the learning situation in nursing, and other healthcare fields, has resulted in limited understanding of the characteristics of the learning situation and its antecedents and consequences. In scientific disciplines, including nursing, the development of conceptual understanding facilitates research and systematic analysis of phenomena within the discipline (Rodgers & Knafl, 2000). Also, the discussion of concepts helps obtain a consensus of understanding that reduces the risk of misunderstanding and the potential for inappropriate application (Hutchfield, 1999). Concepts are considered the building blocks of theories that then lead to the expansion of nursing knowledge (Rodgers & Knafl, 2000). Therefore, concept analysis is an important strategy for nurse researchers seeking to provide applicable nursing science knowledge (Tofthagen & Fagerstrom, 2010). Concept analysis also helps to classify nursing phenomena, to organize ideas so as to reach a common interpretation of phenomena, to clarify hidden understandings, and to inform the academic discipline of nursing (Rodgers & Knafl, 2000).

In the Rodgers' evolutionary approach of concept analysis, the emphasis is on the dynamic nature of concepts of interest and their role in the development and expansion of knowledge.

This approach accepts that concepts develop over time and are affected by the context in which they are used (Tofthagen & Fagerstrom, 2010). The Rodgers' method of concept analysis therefore follows an inductive approach to data analysis and acknowledges that there may be future development of the concept. Results obtained utilising this method therefore can be considered as a starting point for concept analysis and so makes this approach a useful strategy for the discussion, development and study of nursing concepts (Bonis, 2013, Rodgers & Knafl, 2000).

The learning situation as a dynamic concept has not been addressed appropriately in the nursing literature. Whilst it is a term used widely throughout the literature, no attempt has been discovered that seeks to clarify it from a nursing perspective. Although it is noted that concepts often have some common agreement in terms of meaning and application in different disciplines, each discipline is required to provide its own knowledge to establish both specific and common understandings of concepts used (Bonis, 2013). The aim of this study was to clarify the concept of learning situation and improve understanding of its characteristics, antecedents and consequences to provide clearer understanding of the concept for international nurse educators and to inform the knowledge base of nursing.

METHODS

Design

The Bonis method of concept analysis (Bonis, 2013) is derived from the Rodgers' evolutionary method of concept analysis and provided the framework for this study (Table 1). Although the Rodgers' method has the capacity to conduct a precise concept analysis, the Bonis method involves steps that lead to high quality data analysis due to the consideration of interdisciplinary and intra-disciplinary contextual characteristics.

Data Collection

The electronic databases CINAHL, PubMed (including Medline), SCOPUS, OVID, Wiley Online Library and Science Direct were searched using the key word of "learning situation" in all fields. In terms of alternative keywords, "learning climate" and "learning environment" also were used to conduct the search. Given that the oldest paper discovered in the nursing science literature (Anderson et al., 1975) used this concept in 1975, the year range of the articles selected was from 1975 to 2016.

The inclusion criteria: English language papers published in peer-reviewed journals; papers utilising quantitative and qualitative research designs; and access to full-text versions. Doctoral dissertations and non-authentic texts were excluded due to the bulk of such data and the time required exploring and reviewing. According to the Rogers' method, reviewing about 20% of the retrieved papers in each discipline would be sufficient to achieve a consensus (Rodgers & Knafl, 2000). Finally, 21 articles from the nursing discipline and 27 articles from non-nursing disciplines that used the concept of learning situation were selected randomly and reviewed. Non-nursing disciplines were consisted of 'education', 'sport', 'psychology', 'medicine', 'public health' and 'medical education'.

Thematic Analysis

A thematic analysis method was used for data analysis. The full text of each article was read several times to determine how the concept of learning situation was described, and how its characteristics, antecedents and consequences were articulated. Reflection upon similar patterns in the findings from the selected papers in terms of the description and definition of the learning

situation, and its characteristics, antecedents and consequences were compared and contrasted. This process was repeated in an iterative process to develop, refine, organize and integrate findings and then to develop themes. Similar themes were explored, compared and collapsed until the final overarching themes were identified (Bonis, 2013). To enhance rigorousness, three of the researchers analysed the included papers independently. The process of code extraction and categorization was based on the consensus of the research team.

In the thematic plotting step, the research field of the principal author of each paper was specified and the themes related to each paper were presented in tables (Table 2 & 3). The papers were then grouped as interdisciplinary and intra-disciplinary in the tables, and a "×" mark was placed under the appropriately ascribed theme related to each paper (Bonis, 2013).

RESULTS

No comprehensive and consensus definition of this concept was found in the international literature reviewed. Analysis of the identified literature indicated that the term ‘learning situation’ was described in varied ways by individual researchers from different disciplines. To present results in an understandable way the concept’s characteristics, antecedents and consequences, with a focus on differences between nursing and non-nursing disciplines, are presented (Bonis, 2013). (Table 2 & 3).

The developed concept definition, the alternative concepts and differences between these concepts is discussed next and an exemplar of the concept application provided.

Characteristics of Learning Situation in Nursing Education

Being formal

The learning situation may be informal in that it is unprecedented, unplanned and uncontrollable, for instance, a nursing student may see a classmate, who is not wearing gloves, insert an intravenous cannula and become contaminated with the patient's blood. The student learns that such behaviour demonstrates poor technique and is potentially harmful. In contrast, other learning situations that are created deliberately to achieve specific learning objectives are formal learning situations. A learning situation in most nursing papers refers however to the formal learning situation (Table 2).

Being non-biologic

In the fields of biology and psychology, the learning situation refers to the creation of biological changes in the body or the mind of the learner. The learner is inevitably a non-human-being and strictly controlled laboratory conditions shape the learning situation for the study samples. This sort of learning situation is not relevant to nursing education (Table 2).

Multifactoriality

The learning situation consists of dynamic set of varied objectives and subjective components, so it is multi-dimensional and includes conditions, or an environment, in which the required elements for learning should be prepared (Bisholt et al., 2014). The student and educator create their own world and share some parts of it in order to create an interpersonal world (Janhonen & Sarja, 2000). Several organizational and environmental factors, besides individual factors, influence and thus help constitute the learning situation (Pimmer, Pachler, & Genewein, 2013).

Complexity and dynamicity

The learning situation is a potential, and an inherently complex, situation which then needs to be converted to a real-life situation (Kragelund, 2011a, Nielsen, Sommer, Larsen, & Bjørk, 2013). The dynamism of a learning situation is a function of its components, including the individual

(Sanford, Townsend-Rocchiccioli, Quiett, K., & Trimm, 2011), the environment (Killam, Mossey, Montgomery, & Timmermans, 2013) and time (Anderson et al., 1975). The diversity of each of these components leads to different experiences of the learning situation (Scott, 1982). With such multifaceted complexity involved this means that, a learning situation can be relatively uncontrollable (Nielsen et al., 2013), changeable (Merchant, 1989) and modifiable (Cooper, Taft, & Thelen, 2004)

Directability

Learning situation is a situation that can be directed and such directing is essential for its effectiveness. The success therefore, of the learning process requires that the learning situation to have had adequate planning (Anderson et al., 1975). It is also suggested that whilst planning learning situations that some controlling factors are integrated into this planning to help ensure the achievement of appropriate results. These factors help simplify the learning situation (Nielsen et al., 2013), make it safe (Killam et al., 2013) and support it (Anderson et al., 1975).

An approach that is motive-generating yet realistic requires consideration when planning for the creation of a learning situation (Bines & Jamieson, 2013), (Ekebergh, 2011). The student needs to be prepared for real world situations through the determination of what are realistic learning situations and acknowledgement that effective learning is affected by the degree of patient interaction (Bisholt et al., 2014). Through individualizing the learning situation student learning and the provision of patient care become coherent entities (Sanford et al., 2011).

The experiential nature of the learning situation also affects its creation. Experiential learning leads to skill acquisition, individual development, and increased social knowledge and understanding (Anderson et al., 1975)

Learning situation and nursing

The objective-orientation of the learning situation is another important factor influencing planning strategies to achieve effective learning. A learning situation requires specific objectives to articulate the required learning for professional practice and the assessment of the individual nurse's performance (Anderson et al., 1975). Additionally, learning should be planned so it is consistent with the educational level expected of the student and able to take advantage of a diversity of learning situations to augment the individual's learning potential (Bisholt et al., 2014).

In the discipline of nursing, encouraging discussion (Janhonen & Sarja, 2000), facilitating cooperation (Dickins, Levinson, Smith, & Humphrey, 2013) and providing a protected environment to challenge practice (Luhanga, Myrick, & Yonge, 2010) can turn a clinical exposure into a learning situation.

Antecedents: Factors Affecting the Learning Situation

According to Bonis (2013), the antecedents of the concept capture the characteristics of the events or experiences that precede or lead up to the concept. Therefore, the learning situation creation is affected by the situation awareness of both student and educator (Kragelund, 2011b); the performance of the student and educator (Berings, Poell, Simons, & van Veldhoven, 2007); previous experiences (Burke & Wilson, 1997); existing knowledge and expectations (Sweeney, 1994); individual characteristics of the student and educator (Milne, 1984); and the educator's teaching style (Xiao, 2006). In the field of psychology, the mental conditions of the learner (Blake, Boccia, Krawczyk, & Baratti, 2011) and external stimuli such as sound (Franco, Cleeremans, & Destrebecqz, 2011) have been cited as contributing factors.

Consequences of the Learning Situation

Bonis (2013) suggests that consequences describe the situation as experienced by individuals after the occurrence of the learning event. The consequences of a learning situation in nursing should involve enhanced professionalism and socialization of the nursing student in terms of knowledge, skills, attitudes, and ethics (Kragelund, 2011a, b). Professionalism can be defined as "the demonstration of high-level personal, ethical, and skill characteristics of a member of a profession" (Catalano, 2015, p 4). Professional socialization is defined as the process in which occupational identity can be internalized and developed by a member of a profession (Mariet, 2016). The learning situation also can affect the student's personal learning style (Berings et al., 2007) and decision making abilities (Killam et al., 2013), when required to provide solutions for issues and receive feedback. Standing (2007) defined clinical decision-making as a complex process involving information processing, critical thinking, evaluation of evidence, applying relevant knowledge, problem-solving skills, reflection, and clinical judgement to select the best course of action to optimize a patient's health and minimize any potential harm. The learning situation, particularly its professional and social consequences, is therefore of particular relevance to nurse education.

Definition of the Concept

The learning situation in nurse education is comprised of a dynamic set of objective and subjective components, such as individual, environment and time, coupled with a specific learning theme planned so as to stimulate learning and enhancement of the knowledge, skills and attitudes that contribute to the development of the nursing student's professional competencies and socialization. A learning situation is influenced by the individual characteristics of both the student and educator, their expectations and awareness of the situation, the quality of their

performance, previous experiences and teaching styles of the educator, plus the student's personal learning style and decision making abilities (Figure 1).

Alternative Terms

The alternative terms ‘learning climate’ or ‘learning environment’ were used in the literature. A learning climate relates to those subjective and emotional factors that affect learning (Dale, Leland, & Dale, 2013). There are however many similarities between the concepts of learning environment and learning situation. A learning environment is similar to a learning situation in so much as it consists of numerous elements and encompasses the affect of the environment on the nursing student, this includes the academic/clinical/social setting, the equipment, the clinical staff, the patient, the nurse educator and other educators, and the nurse mentor (Papp, Markkanen, & von Bonsdorff, 2003). Nevertheless, the most important difference between these terms is the understanding and relevance of goal-orientation and subject dependence found in a learning situation. A learning situation relates to a specific topic and is formed around an explicit educational purpose, for example when an educator puts a student in a situation to learn how to manage a patient’s needs.

Exemplar of the Concept

An exemplar of the concept in action that illustrates the attributes, antecedents and consequences of the concept derived from nursing literature (Bonis, 2013, Rodgers & Knafl, 2000) is now provided.

Axelsso, Herrera, and Bang (2016), sought to understand the experiences of pre-hospital emergency nurse (PEN) students undergoing clinically-based training, with a special focus on their learning process. As nursing in pre-hospital emergency care is a relatively new

specialization in Sweden, skills in patient assessment and appropriate care planning are key challenges. To function effectively in the unfamiliar pre-hospital setting students needed effective and targeted educational preparation so as to be able to discharge this aspect of their role appropriately. The authors argue that a clinical learning environment can provide suitable opportunities to master the skills that a PEN requires. The focus of this study was an eight-week period of ambulance practice during the one-year master's program in pre-hospital care. The context of pre-hospital care required a different set of learning situations than those that influenced learning for specialist nurse students during their hospital clinical-based training. Emergency team members, patients and their families and nursing students and educators were involved in the learning situation and all affected the learning experience of the student.

Learning took place in real environments, with the unplanned location of the accident/incident and the subsequent distinct pre-hospital care needs of the patient being situation specific. The presence of the student in an emergency situation gives an opportunity to experience how to handle that situation. During this period, and through encountering different learning situations, the students learned the requirements of PEN professional practice, and were socialized in the context of pre-hospital care practice. The required competencies were developed and the knowledge, skills and attitudes expected of the PEN evidenced. The clinical educator could, it was demonstrated, decrease the student's vulnerability through behaving calmly, knowledgeably, confidently and reflectively. Stressors related to traumatic incidents and fatigue and hunger due to a lack of breaks or long periods of transportation were identified as affecting the student's learning negatively.

In summary, the authors introduced the pre-hospital care context as a learning situation shaped by different people, places, times and clinical challenges that could affect the student's learning

either negatively or positively. The awareness of the student and educator about the potential learning opportunities of each situation, their previous learning experiences and the active participation of the student contributed to students' professional development and socialization (Axelsson et al., 2016).

DISCUSSION

For a situation to be a learning situation there is a perquisite that both the student and the educator are aware of the potential learning opportunities it presents: a situational awareness. If the student is aware of the purpose, and future application, of the learning objectives offered, then learning is more likely to lead to favourable results (Thomas & Thomas, 1988). The most successful learning experiences are created in situations that are planned in advance, even if the actual specifics of the clinical event or sequence of relevant exposures cannot be controlled. A necessity for a high-quality learning experience is that learning situations are varied, intellectually demanding and based on each student's level of attainment and personal learning style (Papp et al., 2003). Previous experiences of the educator and student about learning and the subject of learning are important factors influencing the learning situation (Brugnolli, Perli, Viviani, & Saiani, 2011).

A learning situation is therefore a set of intertwined factors affecting learning. Shuell (1988) suggests that learning will never occur in a closed environment, but rather it occurs within a context that can be facilitating or inhibiting. Creating a welcoming and open atmosphere for learning is therefore important for students (Mc Cabe & Timmins, 2003). Blumberg (2009) argues rather than being merely a provider of information the educator plays the primary role in creating a learning situation, and that the role of educator includes the guiding and facilitation of the learning process by creating environments suitable for learning. During the creation of

learning situations, the educator develops the active learning situations for the student (Blumberg, 2009). It is the educator, and the clinical health providers with whom the student interacts, who are the vital players in the creation of a positive teaching and learning experience for the student (Clarke, Gibb, and Ramprogus 2003).

Not all learning situations may be considered effective learning situations if students do not receive ongoing support in the learning environment. According to Firoozehchian, Ezbarmi, and Dadgaran, (2012), personal motivation and interest are key factors contributing to students' self-confidence and effective learning. However, without support the student, despite having had opportunities to learn in a variety of experiences, may consider that they have not benefited from such exposure (Clarke et al., 2003).

Learning situations should be organized based on real world situations that are relevant to the nursing student and the goal of the provision of holistic care to patients; this encompasses theoretical knowledge, plus the applied values and principles of professional practice (Papathanasiou et al., 2014). In nurse education, therefore, creating opportunities for experiential learning is a prerequisite for an effective learning situation. Fowler (2008) contends that a learning situation is created when one can understand an experience and think of it as an integral part of the professional knowledge requirement of the qualified practitioner. Dadgaran, Parvizy, and Peyrovi, (2012) argue that the personal characteristics of a nursing student provide a key influence on their clinical learning, therefore the effectiveness of a learning situation is related also to the student’s personal traits.

Being goal-oriented, questioning, collegial, and challenging can convert a situation to a learning situation. A learning situation can be identified in the form of a non-routine situation by

the teacher and student (Kragelund, 2011a, b). If the educator and student can agree a common perception of teaching and learning this then helps to create purposeful and consistent learning outcomes (Collins, Selinger, & Pratt, 2003). Both professionalization and socialization are the potential consequences of the creation of a learning situation. Dinmohammadi, Peyrovi and Mehrdad (2013) suggest that the major elements of professional socialization are the acquisition of organizational and professional identities however they caution that socialization is a process that is inevitably complex, diverse, dynamic, and unpredictable. In addition, the preparation of nurses to provide safe care requires active learning techniques, with a focus on the development of self-efficacy, decision making skills and knowledge of the responsibility to manage challenging situations (Christiansen, Prescott, & Ball 2014). Well supported learning situations can enhance students' skills in these essential elements of professional nursing practice.

Limitations and Suggestions for Future Studies

One of the main limitations of this study was the selection of only 20 percent of all available articles and exclusion of other literature, such as dissertations, concerned with the concept of interest. Therefore, it is possible that some potentially useful papers may have been eliminated in the process of this literature review. In addition, the selection of English language papers led to articles related to the study topic in other languages not being included. As a result, a Euro-centric conceptualization was achieved. Rodgers and Knafl's (2000) contention that the evolution of a concept must be considered over time and that it is dynamic in its use and understanding has been supported by the findings of this study.

The concept of learning situation, and the influence on the creation of a leaning situation from the perspective of nurse educators, nursing students, clinical nurses and patients, has rarely been studied. Therefore, future studies on the experiences of stakeholders can help to describe this

concept and furthermore clarify the roles and elements required in the creation of a positive learning situation.

CONCLUSION

The conceptual definition of learning situation is different when used in the context of nursing compared to other disciplines such as biology and psychology. The nursing literature explored clarified that the learning situation could be theoretical or clinical and that learning was achievable in terms of changes in behavior, knowledge or attitude. However, other scientific disciplines conceptualized the learning situation in experimental terms when learning was considered at molecular and biochemical levels.

Learning situations require consideration of both what is happening (e.g. the patient needs) and the conditions that are pre-existing in that time and place. In the education of nursing students therefore, this concept should be considered during both theoretical and practical learning opportunities

Also, interdisciplinary research in the various health care fields may be able to determine the special underlying factors influencing the learning situation, both within and between disciplines, and so assist the development of the concept of learning situation in nursing.

Implications for Practice

The role of nursing education in the establishment of the professional competency of nurses is irrefutable. The findings of this study, by clarifying the concept of learning situation and its characteristics, antecedents and consequences, can offer direction for nursing students, educators and educational policy makers to design strategies to improve teaching and learning. Knowledge of the learning situation, and those factors influencing it, can help change situations into learning

situations, and so increase the exposure of nursing students to those learning experiences necessary for safe and competent practice.

The learning situation is at the core of the teaching-learning process in nursing education and it is therefore essential to optimize the use of learning situations. Nurse educators and nursing students need to appreciate the specific role and identity of the learning situation. To do this, nurse educators should be aware that learning situation is conceptually distinct from the learning environment and learning atmosphere. Furthermore, the teaching methods and strategies utilised within a learning situation must be adapted so as to enable flexibility. Learning situation should be objective-oriented, program-based, patient-centred, team-based, realistic, practice-oriented, student-centred, diverse, safe and supportive. Learning situation in nursing is often intricate and its optimum use requires the acquisition of those distinct educational skills required to manage such complex learning: these skills may need to be developed and educators supported to do so. Moreover, the learning situation has a multi-dimensional identity and its management requires attention to all aspects of learning. Whilst all learning situations in nursing are not necessarily effective, findings from this study indicate that if the student is provided with supportive direction to guide learning then the learning situation is more likely to be effective.

REFERENCES

Aglen, B. (2016). Pedagogical strategies to teach bachelor students evidence-based practice: A systematic review. *Nurse Education Today* 36, 255-263. doi: 10.1016/j.nedt.2015.08.025.

Alnes, R.E., Kirkevold, M., & Skovdahl, K. (2013). The influence of the learning climate on learning outcomes from Marte Meo counselling in dementia care. *Journal of Nursing Management* 21(1), 130-140.

Andersen, L. S., Larsen, B. H., & Birkelund, R. (2015). A companionship between strangers–learning from fellow people with cancer in oncology wards. *Journal of Advanced Nursing*, 71(2), 271-280.

Anderson, S., Fricke, E., Gunn, L., Sochacki, C., & Nolan, M.G. (1975). The new graduate in the operating room. *The Nursing Clinics of North America* 10(4), 655-665.

Apicella, P., Ravel, S., Deffains, M., & Legallet, E. (2011). The role of striatal tonically active neurons in reward prediction error signaling during instrumental task performance. *The Journal Of Neuroscience: The Official Journal Of The Society For Neuroscience* 31(4), 1507-1515.

Axelsson, C., Herrera, M.J., & Bang, A. (2016). How the context of ambulance care influences learning to become a specialist ambulance nurse a Swedish perspective. *Nurse Education Today*. 37, 8-14. doi: 10.1016/j.nedt.2015.10.029.

Backaberg, S., Rask, M., Gummesson, C., Brunt, D. (2015). Video-based feedback combined with reflective enquiry–An interactive model for movement awareness among nursing students. *Nordic Journal of Digital Literacy* 9(4), 246-264.

Berings, M.G., Poell, R.F., Simons, P.R., & van Veldhoven, M.J. (2007). The development and validation of the On-the-job Learning Styles Questionnaire for the Nursing Profession. *Journal of Advanced Nursing* 58(2), 480-492.

Bines, J.E., & Jamieson, P. (2013). Designing new collaborative learning spaces in clinical environments: experiences from a children's hospital in Australia. *Journal of interprofessional care* 23, 23. Suppl 2:63-8. doi: 10.3109/13561820.2013.795933.

Bisholt, B., Ohlsson, U., Engstrom, A.K., Johansson, A.S., & Gustafsson, M. (2014). Nursing students' assessment of the learning environment in different clinical settings. *Nurse Education in Practice* 14(3), 304-310.

Blake, M.G., Boccia, M.M., Krawczyk, M.C., Baratti, C.M. (2011). Scopolamine prevents retrograde memory interference between two different learning tasks. *Physiology & Behavior* 102(3-4), 332-337.

Blumberg, P. (2009). Developing Learner-Centered Teaching: A Practical Guide for Faculty. Wiley. First ed. San Francisco.

Bonis, S.A. (2013). Concept analysis: method to enhance interdisciplinary conceptual understanding. *Advances in Nursing Science* 36(2), 80-93.

Boosman, H., Visser-Meily, J.M.A., Post, M.W.M., Lindeman, E. & Heugten, C.M.V. (2012). Exploring the relation between learning style and cognitive impairment in patients with acquired brain injury. *Neuropsychological Rehabilitation* 22(1), 26-39.

Brembs, B. (2011). Spontaneous decisions and operant conditioning in fruit flies. *Behavioural Processes* 87(1), 157-164.

Brugnolli, A., Perli, S., Viviani, D., & Saiani, L. (2011). Nursing students' perceptions of tutorial strategies during clinical learning instruction: A descriptive study. *Nurse Education Today* 31(2), 152-156.

Burke, L.M., & Wilson, A.M. (1997). Mental models, metaphors and their use in the education of nurses. *Journal of Nursing Management* 5(6), 351-357.

Butterly, D.A., Petroccione, M.A. & Smith, D.M. (2012). Hippocampal context processing is critical for interference free recall of odor memories in rats. *Hippocampus* 22(4), 906-913.

Cambridge University (2016) Cambridge online dictionary. Available from the URL: dictionary.cambridge.org. (Accessed 24.07.2016)

Christiansen, A., Prescott, T., Ball, J., 2014. Learning in action: Developing safety improvement capabilities through action learning. Nurse Education Today 34, 243-247.

Clarke, C.L., Gibb, C.E. & Ramprogus, V. (2003). Clinical learning environments: an evaluation of an innovative role to support preregistration nursing placements. *Learning in Health and Social Care* 2(2), 105-115.

Clemensen, J., Larsen, S.B., Kirkevold, M., & Ejskjaer, N. (2008). Treatment of diabetic foot ulcers in the home: video consultations as an alternative to outpatient hospital care. *International Journal of Telemedicine and Applications*, 2008, p.1. doi: 10.1155/2008/132890.

Collins, J.B., Selinger, S.J. & Pratt, D.D. (2003). How do perspectives on teaching vary across disciplinary majors for students enrolled in teacher preparation. University of British Columbia.

Collins, J.W., & O'Brien, N.P. (2011). The Greenwood dictionary of education. ABC-CLIO. Second ed, California.

Cooper, C., Taft, L.B. & Thelen, M. (2004). Examining the role of technology in learning: An evaluation of online clinical conferencing. *Journal of Professional Nursing* 20(3), 160-166.

Cowman, S. (1998). The approaches to learning of student nurses in the Republic of Ireland and Northern Ireland. *Journal of Advanced Nursing* 28(4), 899-910.

Dadgaran, I., Parvizy, S., & Peyrovi, H. (2012). A global issue in nursing students' clinical learning: The theory–practice gap. *Procedia - Social and Behavioral Sciences* 47, 1713-1718.

Dale, B., Leland, A. & Dale, J.G. (2013). What factors facilitate good learning experiences in clinical studies in nursing: Bachelor students' perceptions. *ISRN Nursing*. doi: 10.1155/2013/628679. eCollection 2013.

Daouk, Z., Bahous, R., Bacha, N.N., & Blessinger, P. (2016). Perceptions on the effectiveness of active learning strategies. *Journal of Applied Research in Higher Education* 8(3), 360 - 375

Dickins, K., Levinson, D., Smith, S.G. & Humphrey, H.J. (2013). The minority student voice at one medical school: lessons for all? *Academic medicine: Journal of the Association of American Medical Colleges* 88(1), 73-79.

Dinmohammadi, M., Peyrovi, H. & Mehrdad, N. (2013). Concept Analysis of Professional Socialization in Nursing. Nursing Forum 48(1), 26-34.

Ekebergh, M. (2011). A learning model for nursing students during clinical studies. *Nurse Education in Practice* 11(6), 384-389.

Firoozehchian, F., Ezbarmi, Z.T. & Dadgaran, I. (2012). Nursing-Midwifery Students and Teachers' Views of Effective Factors in Clinical Education. *Procedia - Social and Behavioral Sciences* 47, 1832-1837.

Fowler, J. (2008). Experiential learning and its facilitation. *Nurse Education Today* 28(4), 427-433.

Franco, A., Cleeremans, A. & Destrebecqz, A. (2011). Statistical learning of two artificial languages presented successively: how conscious? *Frontiers in Psychology* 2, 229. doi: 10.3389/fpsyg.2011.00229. eCollection 2011.

Guy, R., Pisani, H.R., Rich, P., Leahy, C., Mandarano, G. & Molyneux, T. (2015). Less is more: Development and evaluation of an interactive e-atlas to support anatomy learning. *Anatomical Sciences Education* 8(2), 126-132.

Hatlevik, I.K.R. (2012). The theory-practice relationship: reflective skills and theoretical knowledge as key factors in bridging the gap between theory and practice in initial nursing education. *Journal of Advanced Nursing* 68(4), 868-877.

Hay, A., Smithson, S., Mann, K., & Dornan, T. (2013). Medical students' reactions to an experience-based learning model of clinical education. *Perspectives on Medical Education*, 2(2), 58-71.

Henderson, A., Cooke, M., Creedy, D.K. & Walker, R. (2012). Nursing students' perceptions of learning in practice environments: a review. *Nurse Education Today* 32(3), 299-302.

Hutchfield, K. (1999). Family-centred care: a concept analysis. *Journal of Advanced Nursing* 29(5), 1178-1187.

Izawa, C. (2008). A unified theory of all-or-none and incremental learning processes via a new application of study-test-rest presentation programs and psychophysiological measures. *The American Journal of Psychology* 121(4), 565-606.

Janhonen, S. & Sarja, A. (2000). Data analysis method for evaluating dialogic learning. *Nurse Education Today* 20(2), 106-115.

Jensen, A.L. (2009). Principles of adult learning: the learning process. *Revue scientifique et technique (International Office of Epizootics)* 28(2), 831-837.

Catalano, J. T. (2015). *Nursing now! Today's issues, tomorrow's trends*. FA Davis. Seven ed. Philadelphia.

Killam, L.A., Mossey, S., Montgomery, P. & Timmermans, K.E. (2013). First year nursing students' viewpoints about compromised clinical safety. *Nurse Education Today* 33(5), 475-480.

Kostovich, C.T., Poradzisz, M., Wood, K. & O'Brien, K.L. (2007). Learning style preference and student aptitude for concept maps. *Journal of Nursing Education* 46(5). 225-31.

Kragelund, L. (2011a). The Windmill of Learning Processes: A learning and teaching tool for student nurses and mentors. *Nurse Education Today* 31(1), 54-58.

Kragelund, L. (2011b). Student nurses' learning processes in interaction with psychiatric patients: A qualitative investigation. *Nurse Education in Practice* 11(4), 260-267.

LeBlanc, J., Hutchison, C., Hu, Y., & Donnon, T., (2013). A comparison of orthopaedic resident performance on surgical fixation of an ulnar fracture using virtual reality and synthetic models. *The Journal of Bone & Joint Surgery*, 95(9), p.e60. S1-5. doi: 10.2106/JBJS.K.01284.

Luhanga, F., Myrick, F. & Yonge, O. (2010). The Preceptorship Experience: An Examination of Ethical and Accountability Issues. *Journal of Professional Nursing* 26(5), 264-271.

Mariet, J. (2016). Professional socialization models in nursing. *International Journal of Nursing Education*, *8*(3). 143-148.

Mc Cabe, C. & Timmins, F. (2003). Teaching assertiveness to undergraduate nursing students. *Nurse Education in Practice* 3(1), 30-42.

McClure, E., & Black, L. (2013). The role of the clinical preceptor: an integrative literature review. *Journal of Nursing Education*, 52(6), 335-341.

Merchant, J. (1989). The challenge of experiential methods in nursing education. *Nurse Education Today* 9(5), 307-313.

Milne, D. (1984). The relevance of nurses' characteristics in learning behaviour therapy. *Journal of Advanced Nursing* 9(2), 175-179.

Moris, J., Carnero, S. & Loy, I. (2012). A test of Rescorla and Wagner's (1972) prediction of nonlinear effects in contingency learning. *Learning & Behavior* 40(4), 507-519.

Nielsen, C., Sommer, I., Larsen, K. & Bjørk, I.T. (2013). Model of practical skill performance as an instrument for supervision and formative assessment. *Nurse Education in Practice* 13(3), 176-180.

Nilsson, M.S., Pennbrant, S., Pilhammar, E. & Wenestam, C.G. (2010). Pedagogical strategies used in clinical medical education: an observational study. *BMC Medical Education* 10, 9. doi: 10.1186/1472-6920-10-9.

Nonaka, T., Bril, B. & Rein, R. (2010). How do stone knappers predict and control the outcome of flaking? Implications for understanding early stone tool technology. *Journal of Human Evolution* 59(2), 155-167.

Noroozi, O., Biemans, H.J. & Mulder, M. (2016). Relations between scripted online peer feedback processes and quality of written argumentative essay. *The Internet and Higher Education* 31, 20-31.

Papathanasiou, I.V., Tsaras, K. & Sarafis, P. (2014). Views and perceptions of nursing students on their clinical learning environment: Teaching and learning. *Nurse Education Today* 34(1), 57-60.

Papp, I., Markkanen, M. & von Bonsdorff, M. (2003). Clinical environment as a learning environment: student nurses' perceptions concerning clinical learning experiences. *Nurse Education Today* 23(4), 262-268.

Pear, J.J. (2014). The Science of Learning. Taylor & Francis. First ed. New York.

Peters, O.P. (2013). Learning and Teaching in Distance Education: Analyses and Interpretations from an International Perspective. Taylor & Francis. UK.

Petrenko, M. (2015). The Developmental Interactive Technology of Students' Creative Activity. Open Science Journal of Education, 43-47.

Pietschmann, M., Endrass, T., Czerwon, B. & Kathmann, N. (2011). Aging, probabilistic learning and performance monitoring. *Biological Psychology* 86(1), 74-82.

Pijl-Zieber, E.M., Barton, S., Konkin, J., Awosoga, O. & Caine, V. (2014). Competence and competency-based nursing education: finding our way through the issues. *Nurse Education Today* 34(5), 676-678.

Pimmer, C., Pachler, N. & Genewein, U. (2013). Contextual dynamics in clinical workplaces: learning from doctor-doctor consultations. *Medical Education* 47(5), 463-475.

Racsmány, M., Keresztes, A., Pajkossy, P., & Demeter, G. (2012). Mirroring intentional forgetting in a shared-goal learning situation. *PloS One*, 7(1), p.e29992.

Rodgers, B.L. & Knafl, K.A. (2000). Concept Development in Nursing: Foundations, Techniques, and Applications. Saunders. Second ed. London.

Sanford, J., Townsend-Rocchiccioli, J., Quiett, K. & Trimm, D. (2011). "I See My Mother's Face": Student nurse experiences caring for cancer patients. *European Journal of Oncology Nursing* 15(1), 46-52.

Schwager, S., Runger, D., Gaschler, R. & Frensch, P.A. (2012). Data-driven sequence learning or search: What are the prerequisites for the generation of explicit sequence knowledge? Advances in cognitive psychology / University of Finance and Management in Warsaw 8, 132-143.

Scott, B. (1982). Competency based learning: a literature review. *International Journal of Nursing Studies* 19(3), 119-124.

Seehagen, S. & Herbert, J.S. (2010). The role of demonstrator familiarity and language cues on infant imitation from television. *Infant Behavior & Development* 33(2), 168-175.

Shahsavari, H., Parsa Yekta, Z., Houser, M.L. & Ghiyasvandian, S. (2013). Perceived clinical constraints in the nurse student–instructor interactions: A qualitative study. *Nurse Education in Practice* 13(6), 546-552.

Shuell, T.J. (1988). The role of the student in learning from instruction. *Contemporary Educational Psychology* 13(6), 276-295.

Simons, R.J., van der Linden, J. & Duffy, T. (ed.) (2007). New Learning. Springer, Netherlands.

Snelgrove, S., Tait, D.J. & Tait, M. (2016). Teaching psychology to student nurses: the use of 'Talking Head' videos. *Research in Learning Technology* 24: 30891 - http://dx.doi.org/10.3402/rlt.v24.30891

Spruijt, A., Wolfhagen, I., Bok, H., Schuurmans, E., Scherpbier, A., van Beukelen, P. & Jaarsma, D. (2013). Teachers' perceptions of aspects affecting seminar learning: a qualitative study. *BMC Medical Education* 13, 22. doi: 10.1186/1472-6920-13-22.

Standing, M. (2007). Clinical decision-making skills on the developmental journey from student to Registered Nurse: a longitudinal inquiry. *Journal of Advanced Nursing*, 60(3), 257-269.

Stoian, A.C. (2016). Distorted perceptions of teachers in organizing the differentiated learning situations. *Social Sciences and Education Research Review* 3, 147-158. doi:10.17684/issn.2393-1140

Sweeney, N.M. (1994). A concept analysis of personal knowledge: application to nursing education. *Journal of Advanced Nursing* 20(5), 917-924.

Thomas, K.J., & Thomas, H.K. (1988). Articulation of Credits: Continuing Education for Career Ladder Upward Mobility in Nursing. *The Journal of Continuing Education in Nursing* 19(3), 103-108.

Tofthagen, R. & Fagerstrom, L.M. (2010). Rodgers' evolutionary concept analysis--a valid method for developing knowledge in nursing science. *Scandinavian Journal of Caring Sciences* Suppl 1:21-31. doi: 10.1111/j.1471-6712.2010.00845.x.

Trollvik, A., Ringsberg, K.C., & Silén, C. (2013). Children's experiences of a participation approach to asthma education. *Journal of Clinical Nursing*, 22(7-8), 996-1004.

Urcelay, G.P. & Miller, R.R. (2010). On the generality and limits of abstraction in rats and humans. *Animal Cognition* 13(1), 21-32.

White, G. (2011). Mental load: helping clinical learners. *The Clinical Teacher* 8(3), 168-171.

Wiegert, O., Joels, M. & Krugers, H.J. (2008). Corticosteroid hormones, synaptic strength and emotional memories: corticosteroid modulation of memory - a cellular and molecular perspective. *Progress in Brain Research* 167, 269-271.

Wong, F.K., Cheung, S., Chung, L., Chan, K., Chan, A., To, T. & Wong, M. (2008). Framework for adopting a problem-based learning approach in a simulated clinical setting. *Journal of Nursing Education* 47(11), 508-514.

Xiao, L.D. (2006). Nurse educators' perceived challenges in mandatory continuing nursing education. *International Nursing Review* 53(3), 217-223.

Zars, T. (2010). Short-term memories in Drosophila are governed by general and specific genetic systems. *Learning & Memory* (Cold Spring Harbor, N.Y.) 17(5), 246-251.

Zawaduk, C., Healey-Ogden, M., Farrell, S., Lyall, C. & Taylor, M. (2014). Educator informed practice within a triadic preceptorship model. *Nurse Education in Practice* 14(2), 214-219.

Table 1. The steps of Bonis' method of concept analysis (Bonis, 2013).

1. Specifying the concept of interest;
2. Specifying the alternative terms and similar words;
3. Selecting resources to collect data within a timeframe and appropriate disciplines;
4. Collecting data;
5. Analyzing themes;
6. Drawing a thematic plot;
7. Identifying articles' sources
8. Collecting information for the purpose of recognition of characteristics, antecedents and consequences of the concept;
9. Analyzing data according to the characteristics, antecedents and outcomes;

10. Finding an example of the concept in the nursing discipline;
11. Identifying the applications of concept in nursing;
12. Describing the limitations of the study

Table 2. The application of the learning situation in nursing articles

Author(s)	Year	Discipline	Application							
				Formal Learning						
					Component Oriented					
			Informal Learning	Biological learning situation	Influencing factor	Building factor	Inherent attributes	Consequence-oriented	Setup oriented	
Aglen et al.,	2016	Nursing					×	×	×	
Snelgrove et al.,	2016	Nursing						×	×	
Backåberg, et al.,	2015	Nursing							×	
Andersen et al.,	2015	Nursing				×		×	×	
Guy et al.,	2015	Nursing					×		×	
Axelsson et al.,	2016	Nursing			×	×	×	×	×	
Bisholt et al.,	2014	Nursing			×	×	×	×	×	
Zawaduk et al.,	2014	Nursing			×					
McClure et al.,	2013	Nursing							×	
Killam et al.,	2013	Nursing			×	×	×	×	×	
Nielsen et al.,	2013	Nursing				×	×		×	

Dickins et al.,	2013	Nursing					×
Bines et al.,	2013	Nursing			×	×	×
Ekebergh	2011	Nursing		×	×		×
Sanford et al.,	2011	Nursing	×	×			×
Kragelund	2011	Nursing	×	×	×	×	
Kragelund	2011	Nursing		×	×	×	×
Luhanga et al.,	2010	Nursing			×		×
Berings et al.,	2007	Nursing	×	×	×	×	
Xiao	2006	Nursing	×				
Cooper et al.,	2004	Nursing			×		×
Janhonen et al.,	2000	Nursing					×
Burke et al.,	1997	Nursing	×				
Sweeney et al.,	1994	Nursing	×				
Merchant	1989	Nursing			×		
Milne	1984	Nursing	×				
Scott	1982	Nursing			×		
Anderson et al.,	1975	Nursing		×	×		×

Table 3. The application of the learning situation across non-nursing disciplines

Author(s)	Year	Discipline	Application							
				Formal Learning						
			Informal Learning	Biological learning situation	Component Oriented			Consequence-oriented	Setup oriented	
					Influencing factor	Building factor	Inherent attributes			
Stoian et al,	2016	Education				×	×	×	×	
Noroozi et al.,	2016	Education			×	×	×		×	
Daouk et al.,	2016.	Sport			×	×	×			
Petrenko et al.,	2015	Psychology			×		×			
Pimmer et al.,	2013	Medicine				×				
Hay et al.,	2013	Medicine			×					
Spruijt et al.,	2013	Medicine							×	
LeBlanc et al.,	2013	Medicine							×	
Trollvik et al.,	2013	Health						×		
Alnes et al.,	2013	Health						×		
Boosman et al.,	2012	Medicine				×				
Schwager et al.,	2012	Psychology	×				×			

Moris et al.,	2012	Psychology	×				×		
Racsmany et al.,	2012	Psychology					×		
Butterly et al.,	2012	Psychology					×		
Franco et al.,	2011	Psychology			×				
Blake et al.,	2011	Psychology	×	×	×		×		
Pietschmann et al.,	2011	Psychology				×	×		
White	2011	Medical education				×			
Brembs	2011	Biology	×	×					
Apicella et al.,	2011	Biology	×				×		
Seehagen et al.,	2010	Psychology					×		
Urcelay et al.,	2010	Neuroscience Psychology				×		×	
Nilsson et al.,	2010	Medical Education					×		
Zars et al.,	2010	Biology	×	×					
Nonaka et al.,	2010	Human evolution							×
Jensen	2009	Education						×	
Clemensen et al.,	2008	Medicine	×						
Izawa	2008	Psychology					×		
Wiegert et al.,	2008	Neuroscience Psychology		×	×				

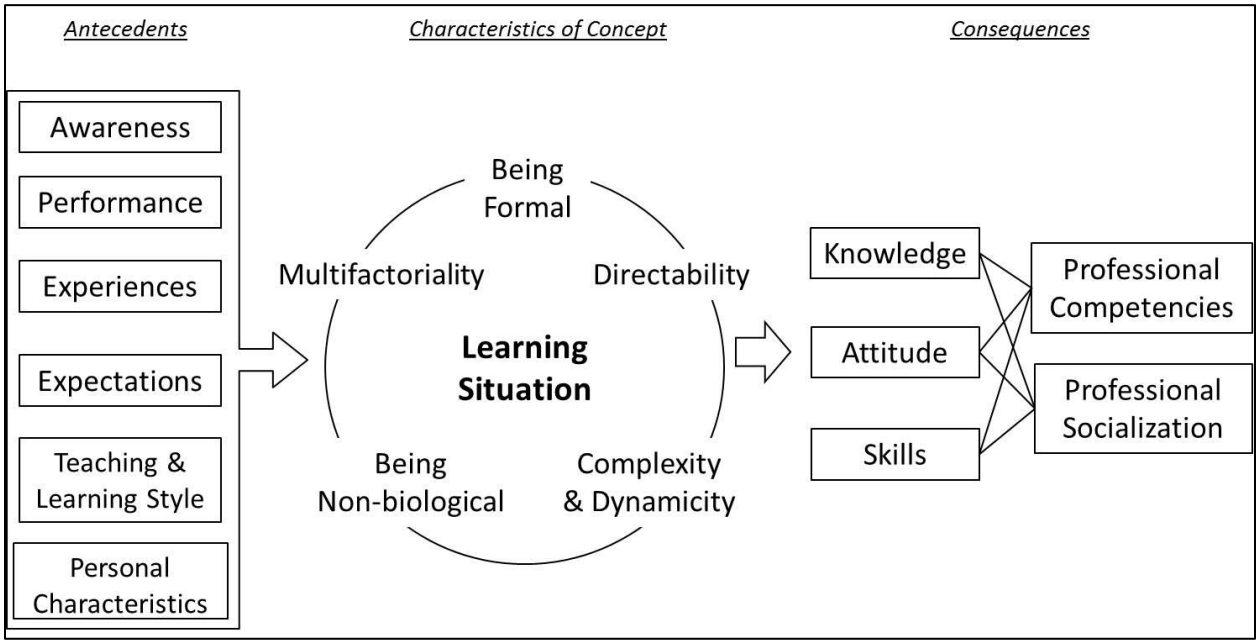

Figure 1. Characteristics, antecedents and consequences of the concept of learning situation in nursing education