Theory of Nursing Intellectual Capital

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Abstract

The major concepts of the middle-range theory of nursing intellectual capital are described including the relationships of the concepts to nursing knowledge and continuing professional development and the impact on patient and organizational outcomes. The theory is evaluated using the internal and external criticism evaluation process. A literature search of the theory was done and the results explained. The strengths and weaknesses of this theory are summarized and the theory level is identified. The application of this theory to the nursing administrator role is discussed in relation to continuing professional development of staff nurses.

*Keywords*: nursing education, nursing theory, nursing intellectual capital,

professional development, patient outcomes, healthcare organization

Theory of Nursing Intellectual Capital

One of the most important roles of the nurse leader is developing and maintaining nursing human capital. There are many aspects of nursing leadership work that compete for time and resources. The theory of nursing intellectual capital identifies and supports the important concepts and interrelationships needed to invest in the body of nursing knowledge within a healthcare organization. There is great emphasis on education in the nursing profession but continuing professional development (CPD) must be supported and the knowledge gained must be put in to practice where patient and organizational outcomes can be impacted.

This paper is a critique of the middle-range theory of nursing intellectual capital (NIC) developed by Christine L. Covell. This theory was derived from the intellectual capital (IC) theory in the fields of economics and accounting. Covell applied this theory to continuing professional development in nursing. The basis for this theory came from the identified need to invest in the knowledge of nurses as nursing knowledge, experience and skill directly impact patient outcomes as well as the outcomes of the organization. As in the business world, intellectual capital is important to healthcare and nursing. Performance and outcomes of an organization are directly tied to the investment in human capital. Nursing leaders are responsible for developing the human capital of each staff nurse.

This theory critique describes the theory of nursing intellectual capital and its major concepts. A critical reflection of NIC theory including internal and external criticism has been applied to this theory and is outlined in this critique. Research generated by this theory is examined including the testability of this theory. The strengths and weaknesses of NIC theory are provided and practical application of the theory in nursing leadership practice is also considered.

**Theory Description and Major Concepts**

The nursing theory of intellectual capital was published in 2008. Christine L. Covell was motivated to develop this theory to show how the interrelationships between nursing work environments, collective nursing knowledge, nursing skills and experience learned through continuing professional development (CPD) correlate to patient and organizational outcomes. Covell (2009) comments that the financial challenge experienced during the 1990’s contributed to the reduction and sometimes elimination of funding for nursing education. Investing in continuing professional development was seen as a benefit of employment, not as an essential resource for nurses. Rising healthcare costs and advances in new technology require a better understanding of the influences nursing intellectual capital have on patient and organizational outcomes (Covell, 2008).

 The main concepts of the nursing intellectual capital theory are derived from the intellectual capital theory originating out business economics and accounting with a foundation in organizational learning theory. The intellectual capital theory focuses on relationships between the concepts of human capital, structural capital and relational capital and the impact on performance outcomes (Covell, 2008). Covell theorizes that these concepts can be applied to collective nursing knowledge in healthcare organizations.

 The middle-range nursing theory of intellectual capital was developed as a result of a systematic analysis of the intellectual capital concepts in comparison to nursing concepts. This theory is based on the knowledge that increasing healthcare costs have limited the finances to invest in continuing professional development of nurses. In addition, the development of nursing knowledge has been directed to individual nurses verses the entire nursing body (Covell, 2008). Nurses report that their learning needs cannot keep up with the fast development of new technologies and medications. Nurses share that they need financial assistance from their employers to remain competent in the workplace (Covell, 2009).

 The nursing intellectual capital theory is broad in scope and holds great value if applied to the entire body of nursing within an organization. NIC conceptualizes the aspects of nursing human capital and nursing structural capital and the impact on patient and organizational outcomes. The basic principal of middle-range NIC theory is presented as part of two interdependent concepts. These two concepts are nursing human capital and nursing structural capital. The theory proposes three things. First, nurse staffing and employer support for CPD influence nursing human capital. Second, nursing human capital influences patient outcomes and organizational performance. Lastly, nursing structural capital influences patient outcomes. These propositions are shown in Figure 1 (Covell, 2008).

**Figure 1 Middle-range nursing intellectual capital theory**

 

**Critique of the Theory**

An internal and external critique of the theory of nursing intellectual capital identifies clear concepts that may be applied to practice. Additional testing with empirical studies is needed to fully validate using this theory to guide further research in nursing practice.

**Internal Criticism**

 **Clarity.** This theory is not complex and is easily understood. At first consideration the concepts are rational and make sense and are used consistently throughout the theory. The major concepts of middle-range NIC theory are presented as part of two interdependent concepts. These two concepts are nursing human capital and nursing structural capital. The theory proposes three things. First, nurse staffing and employer support for CPD influence nursing human capital. Second, nursing human capital influences patient outcomes and organizational performance. Lastly, nursing structural capital influences patient outcomes.

 **Consistency.** The concepts of human capital, structural capital and business performance outcomes from the intellectual capital theory correlate to nursing conceptual definitions. Intellectual capital theory in business is organizational knowledge that is translated into business performance. Nursing intellectual capital is nursing knowledge which is transformed into nursing and organizational performance. Human capital is described as the knowledge, skills and experience of employees (nurses). Structural capital is the knowledge of the organization that exists in paper files, databases and daily routines. For nursing, structural capital is the nursing knowledge that is transformed in to practice protocols and care guidelines.

 **Adequacy.** This theory is adequate in both the business world and in nursing. The concepts can be easily appliedto nurses giving direct patient care but need further testing with application to non-direct nursing roles like nursing administrators, educators and researchers. Covell (2008) cautions that the application of NIC applied to other groups needs careful consideration of desired outcomes and factors influencing how nurses use their human capital. **Logical development.** There is logical development of the concepts of this theory. Covell (2008) proposes the following relationships of the concepts and clearly synthesizes the empirical evidence to support these propositions:

* Nurse staffing is directly associated with nursing human capital.
* Employer support for nurse CPD is directly associated with nursing human capital.
* Nursing human capital is directly associated with patient outcomes.
* Nursing human capital is directly associated with organizational outcomes.
* Nursing structural capital is directly associated with patient outcomes.

Covell (2008) states “no evidence was found suggesting that nursing structural capital influences organizational outcomes and is affected by environmental factors of interest in the middle-range theory” (p. 100). The intellectual capital theory and the development of NIC theory propose that nursing structural capital supports nurses’ existing knowledge and skills through the provision of evidence-based research which guides decision-making in the clinical setting.

 **Level of theory development.** This theory is explanatory at this time. There is a clear definition of concepts and how they can be applied to nursing knowledge and the impact on outcomes for patients and the organization as a whole. Further empirical testing and subsequent research can develop this theory to the level of predictive and prescriptive.

**External Criticism**

 **Reality convergence.** The assumptions of NIC represent the current world of nursing. The principles of intellectual capital are appropriately applied to nursing intellectual capital and support outcomes for patients and healthcare organizations. In relation to the real world, NIC is on target with the challenges before hospital administrators and nursing leaders with regards to diminishing reimbursements and the accelerating advances in technology.

 **Pragmatic.** NIC can be operationalized in the healthcare setting with the support of administration and a financial commitment to providing continuing professional development for nurses. This theory can be applied to nurses providing direct patient care.

 **Utility.** This theory has not resulted in specific research studies of nursing intellectual capital. It does meet the criteria of an empirical study and sufficient evidence is provided for each proposition. NIC can generate a hypotheses and subsequent research though more empirical studies are needed to guide research.

 **Significance.** This theory is significant as current literature shows increased investment in nursing education results in improved outcomes for patients and the organization as a whole. The study of intellectual capital concepts applied to nursing has resulted in the following developments:

* A middle-range theory that conceptualizes the nursing knowledge available within healthcare organizations.
* There are important interrelationships among unit level variables within the work environment, nurses’ knowledge, skills and experience, knowledge structures, and patient and organizational outcomes.
* The middle-range explanatory theory can be used to explain the conditions under which nursing knowledge within organizations influences patient and organizational outcomes (Covell, 2008, p. 100).

 **Discrimination.** This theory is based on intellectual capital concepts from the business world yet can clearly be correlated to the IC concepts and applied to nursing intellectual capital. Currently this theory applies to nursing care givers. Application of NIC to other nursing roles that do not provide direct patient care such as educators and administrators needs further consideration in relation to preferred outcomes.

 **Scope of theory.** The scope of this theory is specific to bedside nurses. The scope could be expanded to include nurses in other roles such as education or leadership.

 **Complexity.** Covell provides a clear and concise explanation of NIC and provides a clear visual diagram to support this theory. The basis of this theory is NIC is embedded in two interdependent concepts which are nursing human capital and nursing structural capital. Staffing and organizational support for continuing professional development influences human capital. Nursing human capital impacts patient and organizational outcomes. Finally, nursing structural capital impacts patient outcomes (Covell, 2008).

**Research Generated from the Theory**

 Several literature searches did not produce any research on NIC. Therefore the impact of nurses’ knowledge on organizational outcomes is not fully realized. Intellectual capital is discussed frequently in the areas of business, information technology and staff retention but the specific theory is not mentioned in the area of nursing and healthcare. Since the introduction of nursing intellectual capital theory in 2008 one systematic review was found regarding information technology and building of nursing intellectual capital for its safe use. This review was completed by Poe (2011) and explored what are the best practices needed to develop nursing intellectual capital to be used in information technology for providing safe clinical care.

The concept of NIC is supported in literature with regards to continuing professional development. Nursing research is essential to developing the knowledge of staff with subsequent application to practice at the bedside. An infrastructure needs to be in place within healthcare organizations to support engaging staff nurses in research. Hospital systems with effective research and evidence-based practice (EBP) programs engage staff early, educate staff through involvement, create internal expertise in the area of research and EBP as well as ensuring that EBP is implemented and patients experience improved lives as a result of the care nurses provide (Gawlinski, 2008).

**Theory Application to Nursing Administration**

Investing in nursing intellectual capital is a key consideration for nursing leaders. Many literature sources share the opinions of nurses that their participation in ongoing education is important to increase knowledge, support career development, maintain professional competence, develop decision-making skills in the clinical setting and improve patient outcomes. An identified weakness of this theory is the need to validate these perceptions through research that supports the concepts of intellectual capital in nursing.

 Some studies have been done which identify the correlation of the academic preparation of a nurse in relation to adverse patient outcomes. Aiken and colleagues found that in hospitals with higher patient-to-nurse ratios, surgical patients had more adverse outcomes and nurses experienced higher rates of burnout and dissatisfaction with their jobs (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Another study looked at specialty certification and postsurgical patient outcomes. This study estimated that by increasing perioperative specialty certification for 10% of registered nurses decreased patient complications or death by approximately 8% (Newhouse, R., Johantgen, M., Pronovost, P., & Johnson, E. (2005).

 The strength of NIC is that the theory recognizes the complexities of the healthcare environment and the importance of developing nursing knowledge to positively impact patient and organizational outcomes. NIC may be applied to other areas of nursing though further consideration is needed of desired outcomes and factors that influence how nurses use their human capital.

Some weaknesses are seen with this theory though these weaknesses may be attributed to the fact that the theory was developed in 2008. One weakness is the need for further empirical testing of the theory to drive research of NIC as it is unclear whether organizational investment in developing the skills and knowledge of nurses truly benefits patient and organizational outcomes (Covell, 2009).

The nursing theory of intellectual capital is explanatory as it provides operational and concept definitions with descriptions of the important interrelationships among these concepts. This theory places emphasis of the complex nature of healthcare organizations and importance of the work environments is realized through the relationship of human and structural capital to nursing knowledge development. With more empirical studies of NIC theory a determination can be made of its value for guiding research (Covell, 2008). With further research, in the future NIC may become a predictive or prescriptive theory.

One area where NIC can be applied to nursing leadership is facilitating staff development. Nurse leaders can allocate resources for ongoing education and professional development. Financial support to reimburse nurses for classes to advance their nursing degree or nursing specialty certification can increase satisfaction, retention and improve patient care when evidence-based research is applied to practice. Internal educational opportunities for nurses provided from within the organization can minimize costs and increase nurse participation. In addition, hiring nurses with specialized experience reduces the costs of training less experienced nurses (Covell, 2009).

 More work must be done to research and study the concepts of the theory of nursing intellectual capital and its impact on patient and organizational outcomes. There are few studies that have looked at the benefits of continuing professional development and the cost effectiveness. In addition to determining if CPD for nurses positively impacts patient and organizational outcomes, another question to be answered is whether the benefits are greater than the costs of providing CPD (Covell, 2009).

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