

## *Original Paper*

# Ecological Competence of Health Care

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### ***Abstract***

*The ecological competence of health care is formed and developed in the process of transformative teaching and learning through developing systemic thinking, critical thinking, reflection and complementing health care knowledge with ecological knowledge. It expands the essence of the professional competence into a systemic view and from a holistic perspective. Skills and abilities developed as a result of acquiring ecological knowledge and adopting the ecological approach in health care practice provide the most complete and profound way to conceptualize and implement the holistic health care model and make it a common practice.*

### ***Keywords***

*transformative teaching and learning, systemic thinking, health care*

## **1. Introduction**

The aim of building and developing ecological competence in health care is to promote the process of deriving theories and models, to extend the role and meaning of the components of professional competence in line with the ecological awareness criteria in the ecosystem and their mutual interaction between the process-personal-contemporary system in the ecological environment, which is consistent with the learning support and knowledge of the Education for Sustainable Development (ESD). For the development of ecological competence in health care, the most powerful incentive is the spiritual, moral source of personality, a sense of responsibility and the creation of professional activity. In health care competence is characterised by the potential that exists in humans, as a characterisation of their knowledge and experience, as conscious and unconscious knowledge, as a form of behaviour in certain situations. Ecological knowledge and ecological approaches and skills in healthcare practice are the

most complete way to conceptualise and practice a holistic healthcare model. Knowledge is a central category in the development and formation of ecological competence, as a form of mental intelligence in a systemic view that describes the wellness in a multidimensional environment of social, educational and health care fields and explains the concept of intrinsic motivation for learning.

The components of ecological competence derive from the components of professional competence in the social, educational and healthcare environment and describe three forms of expression: integrity is inherent in a systemic view, close association, indivisibility and integrity of all systems; complementarity strikes a balance between anthropocentric and ecocentric consciousness; synergy is characterised by systemic thinking, the functioning of all systems; the ecological environment and timely development. The ecological environment of Urie Bronfenbrenner (1917-2005) is described as a unique, nested and interrelated structure of each individual, the deepest structure being the individual itself (Bronfenbrenner, 2005).

## **2. Professional Competence in Health Care**

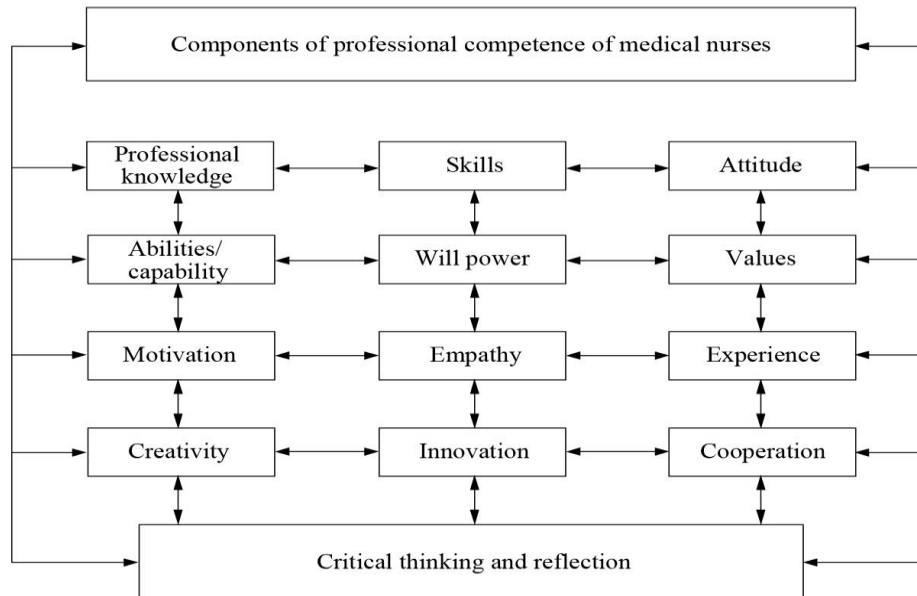
The recommendations of the European Parliament and of the Council on the establishment of a European Qualifications Framework (EQF) for lifelong learning, the knowledge, skills and competence defined in the document at an appropriate level of education are comprehensive, and professional knowledge, skills and competence may be considered to be developed in line with the health care profession (EQF, 2008).

The definition of the concept of competence depends on what aspect is looked at, namely, as a result, process, and characteristics of a personal quality or competence as an ongoing development of the components changing from a global point of view. Education and healthcare are an open process for personal development and development, in which the student, doctors, clinical practice managers, and healthcare team interact in an educational and healthcare environment, in a formal, informal and informal context of lifelong learning.

When referring to professional competence, a number of authors consistently use the concept experience or use it as a synonym, claiming that competence is an individual characteristic that performs exceptionally and includes the knowledge and skill competence and the underlying competences, as well as features and themes (Boam, & Sparrow, 1992; Mitrani et al., 1992; Smith, 1993; Brown & Hartle, 1995).

Professional competence in health care is a combination of cognitive and metacognitive knowledge, skills and understanding, interpersonal, intellectual, practical skills and ethical values. Promoting the process of developing professional competence and professional development is the objective of all health education programmes.

The professional competence includes several connected components that interrelating with critical thinking, reflection and experience highlight the essence of the nursing profession (Figure 1).



**Figure 1. Components of the Professional Competence**

In the context of ecological approach, the foundation for sustainable development as a value-oriented harmonious personality in an ecological environment is characterised by twelve components of their professional competence: 1) two knowledge levels—perception and comprehension of health care; 2) the acquired theoretical knowledge that manifests itself in practical skills in health care; 3) the attitude that is characterised by self-confidence and self-assessment; 4) accomplishments that expand the range of the given natural talents of a nurse; 5) willpower that characterizes the level of professional development; 6) the component of values as an emotional driving force and a virtue; 7) the motivation that includes an emphasis on understanding the need for and the importance of ongoing continuous education; 8) empathy that is an essential professional ability of health care; 9) experience as an ongoing process of development; 10) creativity in the professional activity that is a spiritual process of seeking new non-standard solutions to health care situations; 11) innovation as integration of new ideas and technologies in health care practice; 12) cooperation in a health care that includes team-interacting with the patient/client and their family and relatives taking a supportive and congruent action.

Critical thinking does not refer only to the education process. It is a manifestation of responsible and professional conduct in the health care process. Critical thinking and reflection create the interrelation of different specific components of the professional competence in the health care process.

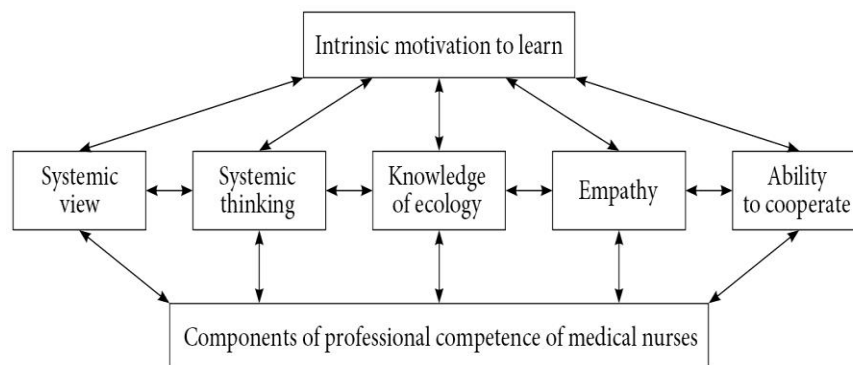
The components of the professional competence and the criteria of an ecological consciousness determine the content of components of the ecological competence and complement the components of the formation and development of ecological competence.

### 3. The Ecological Competence in Health Care

The essence and structure of the ecological competence of nurses are primarily characterised by the criteria of the ecological consciousness and the transformation process from *I-Ego* to *I-Eco* that manifests itself as a change in the perception of the world and not merely as the protection of environment. Purpose of the formation and development of ecological competence is to raise the awareness of the human relation to the environment and an understanding of how the environment influences people and how people affect the environment. It expands the essence of the professional competence into a systemic view and from a holistic perspective. Skills/abilities developed as a result of acquiring ecological knowledge and adopting the ecological approach in health care practice provide the most complete and profound way to conceptualize and implement the holistic health care model and make it a common practice.

The formation and development of the ecological competence reflect an integrated collection of abilities/skills in social, educational and health care environments and a creative process of professional performance as a result of experience. The term *integrated* in the process of the formation and development of the ecological competence should be perceived as a necessity to be complete, well-grounded/founded, one whole consisting of many small parts making one complete whole, entire wholeness and many-sided, comprehensive and proportional (Wilber, 2011).

In the process of the formation and development of the ecological competence in social, educational and health care environment, the components of the professional competence complement and integrate knowledge about sustainable development and sustainable processes in social, educational and health care environment, the ecology of human development and deep ecology and ecosophy. This integration is characterized by five topical components: 1) a systemic view, 2) systemic thinking, 3) knowledge, 4) empathy, 5) an ability to cooperate (Figure 2). Intrinsic motivation to learn is a manifestation of the synergetic approach that reveals systemic thinking and a systemic view in the process of self-development and self-organization in an ecological environment.



**Figure 2. Components of the Ecological Competence of Nurses**

### 3.1 Knowledge of Ecology

In the process of the formation and development of the ecological competence, knowledge is a pivotal category as a manifestation of spiritual intelligence in a systemic view that characterizes wellness in social, educational and health care multidimensional environment and explains the concept of *intrinsic motivation to learn*.

### 3.2 Systemic Thinking and a Systemic View

Systemic thinking and a systemic view as a discipline are not and cannot be the only substantiation of the worldview. However, the ecological worldview is, by all means, systemic and systemic thinking is necessary, but not necessarily sufficient to practice the ecological worldview (Meadows, 1999.).

### 3.3 Emotional Intelligence—Empathy and an Ability to Cooperate

In educational and multidimensional health care environment, empathy in the process of the formation and development of the ecological competence is an ability to understand the emotional fantasies and thoughts of other people, to feel and experience a situation, to sympathize with others and respect their emotional reaction.

The ecological competence is an ability to develop one's personality from I - *Ego* to I - *Eco* during an ongoing continuous transformation process during the lifetime complementarily linking the personal, theoretical and practical knowledge and skills with the knowledge of ecology developing a systemic view of the components of the professional competence on an ecosystem level from a holistic perspective and implementing the ecological approach in social, educational and health care environment.

## 4. Research Results

Self-Evaluation Criteria for the Development of the Ecological Competence describes the criteria that have been built upon the theoretical research and the model of the ecological competence, as well as the results of expert evaluation of the principles of the ecological approach, the action research and the content analysis of student essays.

Among the participants of the expert evaluation, there are 17 lecturers and managers of health care practice, 18 first year students of study programs *Nursing* and *Medicine* who have taken the course of *The Ecological Approach in Patient Care* and 49 second year students of study program *Medicine* who have taken the course of *Pedagogy*.

Self-evaluation criteria for the formation and development of the ecological competence defined for the experts and students have been analysed and grouped accordingly: a process—personality development, education and health care processes; a person—academic staff, managers of health care practice and students; context—social, educational and health care environment; time—in the micro, macro, mezzo time framework.

In the questionnaire of expert evaluation, criteria correspond to the process of the formation and development of the ecological consciousness of the academic staff and managers of clinical practice:

Criterion: *progress in professional performance—student/patient/client-centred*;

Criterion: *mission of the educator*.

In the questionnaire for students, criteria correspond to the process of the formation and development of the ecological consciousness of students:

Criterion: *progress in the process of education—learning to live together and transform oneself and society*;

Criterion: *the sense of mission in the chosen profession*.

The collected responses have been grouped according to the percentage and their significance and analysed in line with the criteria of the ecological consciousness that are characterised by the components of the ecological competence: of little significance—1; with average significance—2; significant—3; very significant—4.

Analysing the obtained results and ratings of expert evaluation of the criteria for the formation of ecological consciousness and the ratings of self-evaluation criteria, there is an obvious statistically significant difference between the highest (3 and 4) and lowest (1 and 2) ratings. Only the evaluation of the criteria *progress in professional performance—student/patient/client-centred* is not unanimous—there is a bimodal distribution of the data,  $A=3$ . This is due to the lowest evaluation given by only one expert.

Corresponding self-evaluation criteria for the formation and development of the ecological competence of the academic staff and managers of clinical practice: 6 (35,3%) respondents consider *progress in professional performance—student/patient/client-centred* as very significant, 7 (41,2%)—as significant, 1 (5,9%)—as of little significance, and 3 (17,6%) experts find it difficult to evaluate. 5 (29,4%) respondents consider *the sense of mission of an educator* as very significant, 6 (35,4%) respondents—as significant, 3 (17,6%)—as of average significance and 3 (17,6%) experts find it difficult to evaluate.

Corresponding self-evaluation criteria for the process of the formation and development of the ecological competence of students: among first year students/physician assistants, 9 (18,4%) respondents consider *progress in the process of education-learning to live together and transform oneself and society* as a very significant self-evaluation criterion, 23 (46,9%) respondents consider it significant; 20 (40,9%) respondents consider *the sense of mission in the chosen profession* as very significant, 25 (51%)—as significant.

Among first year students/physician assistants, 3 (50%) respondents rate *progress in the process of education—learning to live together and transform oneself and society* as a very significant or significant criterion; when rating the self-evolution criterion of *the sense of mission in the chosen profession*, 5 (83, 3%) respondents think it is very significant, 1 (16, 7%) respondent rates it as significant.

Among first year students/nurses, 4 (33,3%) respondents rate *progress in the process of education—learning to live together and transform oneself and society* as very significant, 8 (66,7%)

respondents mark it as significant; 4 (33,3%) respondents consider *the sense of mission in the chosen profession* as very significant, 6 (50%) respondents—as significant.

Analysing the findings of action research on the ratings of self-evaluation criteria, the study course and numerical differences of students show that 23 (46,9%) second year students/physician assistants start being aware of the significance of the move towards *learning to live together and transform oneself and society* as important in their study process and health care practice. Among the first-year students/physician assistants, 3 (50%) respondents consider it as very important or important. Among the first-year students/nurses, 4 (33, 3%) respondents rate this criterion as very significant and 8 (66,7%) respondents think it is significant. That allows authors to conclude that by completing the course of *The Ecological Approach in Patient Care* and acquiring the topics discussed in the course, students receive knowledge about the pillars of education for sustainable development (ESD) and their relation to the process of education.

45 respondents (second year students/physician assistants, six first year students/physician assistants, twelve students/medical nurses among them) out of 49 participants in the survey have rated *the sense of mission in the chosen profession* as very significant and significant criterion that points to a conscious and purposeful choice of the future profession and desire to acquire knowledge and skills that would allow to form and develop the professional competence complementary with the components of ecological competence.

## 5. Conclusion

Personal, theoretical and practical knowledge acquired through a systemic view in the process of education (*lifelong and lifewide learning*) enhances the ability to see the local and global processes and build up the experience in social, cultural and health care environments.

The process provides the construct for the content of the ecological competence and includes the subject-subject relationship of mutual interaction and cooperation in social, educational and health care environment that take place and develop over a period of time and provide the most important mechanism integral to the development of personality.

The process includes the formation and development of the ecological consciousness in an endosystem of a student enhancing his or her intrinsic motivation to learn and promoting systemic thinking in social, educational and health care environment. By increasing the ability to learn during the developmental process of one's lifetime, the person also improves skills for implementing the learning pillars of education for sustainable development (ESD)—*learning to be, learning to live together, learning to transform oneself and society*. Ecological wisdom, which is developed in line with the principles of ecological approach, is the characteristic parameter of emotional intelligence-empathy in social, educational and health care environments.

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