

Chapter 16

EDUCATION FOR NURSES IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT

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ABSTRACT

The aim of this research is to improve education for nurses in line with ESD by implementing the ecological approach in nursing studies. The objectives of the research are these: 1) to define and assess the theoretical basis of the ecological approach; 2) to assess the possibility of implementing the ecological approach; 3) to work out and approbate the course An Ecological Approach in Patient Care. “Basic Principles of Deep Ecology” by Arne Naess and George Sessions, “The Ecology of Human Development” by Urie Bronfenbrenner, and the five ESD pillars of *learning to know, learning to be, learning to live together, learning to do, and learning to transform oneself and society* constitute the theoretical basis of the ecological approach. The ecological approach also draws on Florence Nightingale’s observations about the significance of the care environment and theories of nursing related to the environment (e.g. Leininger & McFarland, 2006; Neuman, 1990; Rogers, 1990; Roy & Zahn, 2005). The environment of nursing education and practice should be regarded as a complex system of learning, socialization, and culture that consists of subsystems which affect sustainable development. In that context, the observations of theoreticians of nursing studies on the effect of the environment on human health, a person’s autonomy in the care process, human experience regarding health and illness, as well as the union of art and craft in patient care, are significant. In assessing the possibility of implementing the ecological approach in nursing studies, the need to incorporate its principles in all courses of the study program and to work out a special course, An Ecological Approach in Patient Care, was evident. It would also be useful to work out and implement a professional development course for faculty members of colleges. The theoretical basis of the ecological approach, as well as the ecological competence model developed by the author and the study course An Ecological Approach to Patient Care, has been improved and approbated in the College of Medicine since 2009. The course is worth 3 credit points (according to the European Credit Transfer System – ECTS). Four groups of students and 180 students have taken this course. As a result, the ecological competence of nurses is being formed and developed. That, in turn, promotes the positive development of education for nurses and a healthy environment, as well as a holistic, patient-centered care and a subject-subject relationship in the care process.

Keywords: nursing, nurses’ education, education for sustainable development.

1. INTRODUCTION

In the contemporary education environment with its dynamic development, the unification of education system can leave a negative impact on sustainability/sustainable development. The only opportunity to ensure a sustainable development in education is creating such an education system that would be rooted in diversity. This refers to the integration of the ecological approach into nursing education and health care practice with an ensured complementary development of different fields.

Parallel to further research and implementation of education for sustainable development that directly relates to transformative teaching and learning by realizing the

ecological approach in education, there is an ongoing development process of education ecology, the origins of which go back to U. Bronfenbrenner's ecology of human development (Bronfenbrenner, 1976, 1979, 2005).

Education and health care have been rightly considered as a continuous process of further development and improvement of nurses. This process directly influences wellness and life quality of individuals and society as a whole. The importance of sustainable education, its further development and meaningful content provide the basis for developing an ability and motivation for learning to learn and by adopting systems thinking, nurses can understand and take part in resolving the 21st century local and global health care issues characteristic of the multi-dimensional contemporary environment.

Change in nursing education and health care practice has not always been welcome. However, change is real and accelerating and it is favoured by education for sustainable development and sustainability trends in the health care globalization process. Varied aspects and dimensions of globalization have been explained and different arguments have been put forward in reference to globalization processes and how they should be viewed – as a “good thing” or a “bad thing”. All of these processes also refer to different issues of nursing education and health care practice.

In the 21st century, numerous complex challenges in nursing education and health care have come to the fore, among them: 1) how to create and implement nursing study programmes in line with education trends for sustainable development and the process of formation and development of the ecological competence of nurses; 2) how to implement the ecological approach in the nursing education process and health care practice;

Aim of the study: to improve nursing education according to the Education for Sustainable Development (ESD), by means of implementing the ecological approach in nursing studies.

Objectives of research: identification and assessment of the theoretical basis for ecological approach; evaluation of implementation possibilities of ecological approach; development and approbation of the study course *Ecological approach in the patient care*.

The theoretical and scientific framework of the research on the principles of ecological competence and the development of ecological competence of nurses has been developed round three basic building blocks: 1) *sustainability/ sustainable development* in social, education and health care environment; 2) U. Bronfenbrenner's *ecology of human development* and a process-person-context-time system; 3) the ideas of *ecosophy, or deep ecology*, developed by A. Naess.

The principles of the ecological approach and the development process of the ecological competence of nurses constitute the theoretical basis for the ecological approach in nursing education and health care.

2. SUSTAINABILITY/SUSTAINABLE DEVELOPMENT

The definition of the concept of sustainable development emphasizes *a high level of education and good health care*. To achieve these goals, it is important to develop an informed society and highlight the importance and value of education. Another important aspect is to increase society involvement and participation in social processes and decision-making. The explanation of sustainability principle draws attention to such concepts as *change of attitude, environmental consciousness, behaviour, responsibility/ commitment and values* – all of these concepts are components of the principles of the ecological approach in nursing. In order to understand the complex change in the environment systems for sustainability/ sustainable development in nursing education and

health care, the whole process of nursing education has to be reviewed and reassessed and areas for change should be identified.

Education for sustainable development in nursing education should not be considered as a study course, but rather an area and scope of activities aimed at collecting and processing knowledge obtained in different study courses. Thus, education for sustainable development (EDS) cannot substitute study courses, but in many ways it is based on previously acquired knowledge which is expanded, refined and applied in creating new context.

S. Sterling describes sustainable education as a systemic change of education culture in which theory and practice of sustainability keeps developing by applying critical thinking in a knowledgeable way. This could lead to transformative teaching and learning that provide understanding about the value of knowledge, develop resilience and embrace human potential. It relates to the necessity of reaching and sustaining social, economic and ecological wellbeing and the deep interdependence of these processes (Sterling, 2005).

Education for sustainable development encourages individuals to get involved and participate in the processes of unsustainable development in order to follow sustainability criteria in their personal life and join others to initiate sustainable development processes both on a local, regional or global scale. This makes nursing education for sustainable education a significant component of health care sustainability.

Sustainability/sustainable development in nursing and health care should be perceived in relation to globalisation and global processes that have been characterised as a process as well as a condition, a system, power and age at the basis of which lie changing forms of human communication. M. Steger calls globalisation a dynamic process that is best described by such concepts as *development or formation according to a certain model* that corresponds to the development and formation process of the principles of the ecological approach and the ecological competence (Steger, 2009).

By analysing nursing theories/ models and health care practice in different countries, it can be concluded that the personal and professional global communication of nurses, the transformation of their knowledge and skills have developed in a historical context. The statistical data and research in many countries of the world show that the aging process of the society is accelerating. It is perceived as a logical global process and, as a result, the number and severity of diseases are also inevitably increasing. There are several new global challenges in nursing education and health care:

- how to create safe and positive environment in education and health care;
- how to provide viability and wellness to patients/clients;
- how to extend longevity of senior citizens and patients/clients with chronic diseases;
- how to improve life quality that would allow people to fulfill their potential by cooperating with and participating in power and social institutions.

In order to implement education for sustainable development, the primary task of educational managers and leaders is to redirect and restructure education programmes in such a way that they would be clearly aimed at sustainability and sustainable development and the formation and development of the related knowledge, skills, perspectives and values.

Ecological wisdom (*ecosophy*) in nursing education promotes sustainable education and, as an outcome of a learning process, provides students with ecological knowledge and ecological skills, develops and shapes ecological consciousness to highlight morality and spirituality characteristic only of humans. To change an anthropocentric ecological consciousness to an ecocentric ecological consciousness, cardinal changes are necessary in every human and society as a whole. In this context, the pillars of education for sustainable

development *learning to live together* and *learning to transform oneself and society* become particularly significant.

In this research on education for sustainable development “Education for Sustainability: Education in change”, Sterling (2005) has outlined 31 basic propositions. Some of those propositions have been highlighted and transformed and they have become significant and topical in the development of sustainable education in nursing. They have also been applied as a basis for research and building an argument in favour of an urgent necessity to integrate the ecological approach in nursing education.

2.1. Education for sustainable development: suggestions/propositions and statements in nursing

- Nursing studies complemented with ecological knowledge and skills in nursing education form a professional, culture and society developing system.
- Larger socio-cultural paradigms influence nursing education and health care as a whole.
- In nursing education, the paradigm change from fundamentally mechanistic to an ecological paradigm is itself a learning process.
- The ecological paradigm in nursing education is a manifestation of holistic and systemic thinking.
- The existing paradigm in nursing education is fundamentally mechanistic, dualist and frequently shows reductionist signs.
- In recent years, nursing education has been dominated by a strong instrumental and managerialist orientation which has been largely unfavourable to education for sustainable development and the ecological approach in education and health care.
- There is incoherence between the dominant mechanistic paradigm and the experience of increasing complexity in nursing education and health care, and their interdependence. Knowledge of education ecology and the ecological approach can help us perceive the world clearly, describe it adequately and act wisely.
- Systems thinking and the ecological paradigm in nursing education and health care practice have a philosophical basis (ontology + methodology + epistemology + axiology). Systems thinking should be viewed as an integrative approach that brings together and unites rather than denies.
- Systems thinking offers a transformative education model in nursing highlighting the essence of transformative teaching and learning.
- To introduce and implement education for sustainable development and education ecology in nursing education, holistic teachers play an important role in educating and inspiring students who do the learning.

(Source: Sterling, 2003)

3. ECOLOGY OF HUMAN DEVELOPMENT AND NURSING EDUCATION

As complementary sources, Urie Bronfenbrenner’s Ecology of Human Development perspective, Education for Sustainable Development pillars, ecology of education, kā arī European Qualifications Framework (EQF) have been applied in this research.

Urie Bronfenbrenner (1917-2005) has defined the ecology of human development: *The ecology of human development involves the scientific study of the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by*

the relations between these settings, and by the larger contexts in which the settings are embedded (Bronfenbrenner, 1979).

At the heart of the theory of Ecology of Human Development is systems approach which analyzes immediate and more distant contexts or environments/settings that influence the nature of a human life from a development perspective. In the context of environment, human development is composed of several building blocks that are well-known concepts in behavioural and social sciences: molar activity, dyads, roles, setting, social network, institutions, subculture, and culture. There are three main ways of interaction between a developing human and the ecological environment or setting:

- 1) a human being is changing and adapting to the environment/ setting, but the setting remains unchanged;
- 2) a human being is changing the environment/ or setting, but he himself remains unchanged;
- 3) there is an interaction, change ability and development between a human and the setting / or environment.

Initially the research emphasized the interaction between immediate settings of a nurse or a nursing student - study environment/ setting, health care setting and their interaction, as well as their interaction/ relation with larger context settings.

Three levels that directly or indirectly affect the development of nurse's ecology of education and ecology approach in health care: 1) local level of the nursing education program and health care; 2) European level – *European Qualifications Framework*; 3) global level – *Education for Sustainable Development* (ESD).

Bronfenbrenner and his followers have improved the ecological theory of human development. In addition to ecosystem also endosystem and chronosystem have been included, and the importance of a process in human development has been stressed. The bio-ecological theories of human development (Bronfenbrenner & Morris, 2006) and Process-Person-Context-Time System have been established (Tudge, Mokrova, Hatfield, & Karnik, 2009).

In view of the fact that process plays a leading role in a nurse's development, studies were conducted on using the didactic principles of transformative education and constructivism.

Nursing education and health care are characterized by teamwork that is interdisciplinary and oriented toward resolving complicated problems of health and living. It deals with an individual's development both in the environment as a living organism characterized by viability, quality of life, and development in a multi-dimensional environment amid changing circumstances and as a self-respecting, self-developing and participating being.

Research studies in the ecology of education are not characterized by reference to linear variables, but analyses are conducted in terms of systems: meso-, exo- and macro-system. Beginning at the innermost level of the ecological schema, one of the basic units of analysis is a dyad, or two-person system; triads, tetrads, and larger interpersonal structures are used in articulating the process of human socialization, all of which are a key to understanding the ecology of education (Bronfenbrenner, 1976, 1979, 1989, 2005; Bronfenbrenner & Morris, 2006).

The European Qualifications Framework (EQF) defines learning outcomes in terms of knowledge, skills, and competencies (Official Journal of the European Union, 2008). The outcomes of education are stressed. Thus, it is important to pay due attention to both process and outcome. The five pillars of ESD – *learning to know, learning to be, learning to live together, learning to do, and learning transform oneself and society* – are significant in the

context of education for sustainable development. Our research revealed that nurses have an inadequate understanding of their importance. That is especially true with regard to the pillar *learning to transform oneself and society*. The opportunities to implement this pillar on a daily basis are greater in informal learning situations than in educational institutions that offer formal or non-formal education.

In future research studies, it would be useful to link the pillar of *learning to transform oneself and society* with Education for Global Responsibility (EGR) (Kaivola & Melén-Paaso, 2007). The objective of EGR is to open nurses' eyes and minds to the need for global understanding, especially within the framework of sustainable development.

4. ECOSOPHY OR DEEP ECOLOGY

The ecological approach shows evolution from a holistic view to a deep ecology view forming the core, asking deeper questions and acknowledging the fundamental interconnectedness of all phenomena. In addition, the construction of the core of deep ecology is found in the new Complexity Integration Nursing theory as the time has come when the global community of nurses has to acknowledge and embrace the deep ecology paradigm (Van Sell & Kalofissudis, 2001).

Deep ecology or ecosophy is the philosophical framework of the ecological competence model in nursing education and health care.

Ecological science, concerned with facts and logic alone, cannot answer ethical questions about how we should live. For this we need ecological wisdom. Deep ecology seeks to develop this by focusing on deep experience, deep questioning and deep commitment. These constitute an interconnected system. Each gives rise to and supports the other, whilst the entire system is what Naess would call an ecosophy: an evolving but consistent philosophy of being, thinking and acting in the world that embodies ecological wisdom and harmony (Naess, 1973).

Ecosophy is based on the eight-point platform of Arne Naess (1912-2009) and G. Sessions. In the context of this research, three points which are especially relevant to the education of nurses and professional ethics problems are highlighted. The first point declares that *the well-being and flourishing of human and non-human life on Earth have value in themselves (synonyms: intrinsic value, inherent worth). These values are independent of the usefulness of the non-human world for human purposes*. The seventh and eight point declares that *ideological change will be mainly that of appreciating life quality (dwelling in situations of inherent value) rather than adhering to an increasingly higher standard of living. There will be a profound awareness of the difference between bigness and greatness, and those who subscribe to the foregoing points have an obligation directly or indirectly to try to implement the necessary changes* (Sessions, 1995).

The realization of the necessity for changes in nursing education and health care is born from the knowledge about the accurate and precise content of nature. The eight-point platform developed by A. Naess and G. Sessions could become a beginning for new ethics in nursing education and health care practice. G. Sessions has repeatedly pointed out the importance of the ecological realism of deep ecology as a 21st century philosophical basis for new environment protection as opposed to social constructivism (Sessions, 1995).

An ideological transformation should take place in the process of nursing education and health care. Science achievements and new technologies must serve to enhance human wellness as an ecocentric value, as a result of which researchers and teachers must take not only intellectual, but also moral responsibility for the outcomes of their research.

5. IMPLEMENTING THE ECOLOGICAL APPROACH IN NURSING STUDIES

During evaluation of the possibility of implementing the ecological approach, it was established that its principles have to be observed in all courses of the study program, and a separate study course has to be created. It would be useful to develop and implement a professional development course for college teaching staff.

Based on the theoretical background, as well as the author's ecological competence model for nurses, a study course *The Ecological Approach in Nursing Education and Health Care Practice* was created, and since 2009 it has been approbated and improved at different medical colleges. The study course is worth 3 credit points (ECTS). It has been implemented in 4 groups and taken by 180 students.

The aim of the study course is to develop the ecological consciousness of nurses and build up their ecological competence that is characterised by an ongoing continuous life-long development process of personality growth and transformation from I – Ego towards I – Eco in an ecological environment by complementary linking their personal, theoretical and professional knowledge and skills with their knowledge in ecology. This course also develops a systemic view of the components of the professional competence on a level of an ecosystem in a holistic perspective by implementing the ecological approach in the social, educational and health care environment.

In order to replace the anthropocentric consciousness with ecocentric ecological consciousness, profound changes are necessary in the consciousness of every human being and society as a whole. Thus the two pillars of sustainable education - *learning to live together and learning to transform oneself and society* – acquire a special significance in the context of the contemporary society.

During the study process, students have an opportunity to assess benefits and gains in their own personal development, professional growth and usefulness for sustainable development of health care.

As a result of the course studies, ecological competence is being created and developed in prospective nurses. That facilitates development of a positive environment for nursing education and practice, as well as holistic patient-centered care and a subject-subject relationship during the health care process.

6. CONCLUSION

As a result of the research study, a course on An Ecological Approach in Patient Care has been created and is being approbated. Its aim is to improve education for nurses according to recommendations in Education for Sustainable Development by implementing the ecological approach in nursing studies. As a result of this course, ecological competence is being created and developed in prospective nurses. The course also facilitates development of a positive environment for nursing education and practice, as well as holistic, patient-centered care and a subject-subject relationship during the education and health care process environment.

A task for future research studies is assessing the possibility of implementing in nursing education the principles outlined in Education for Global Responsibility.

REFERENCES

- Bronfenbrenner, U. (1976). The experimental ecology of education. *Educational Researcher*, 5(9), 5-15.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U. (1989). Ecological systems theory. In R. Vasta (Ed.), *Annals of child development* (Vol. 6, pp. 187-251). Greenwich, CT: JAI Press.
- Bronfenbrenner, U. (Ed.). (2005). *Making human beings human: Bioecological perspectives on human development*. Thousand Oaks, CA: Sage Publications.
- Bronfenbrenner, U., & Morris, P. A. (2006). The Bioecological Model of human development. In W. Damon, & R. M. Lerner (Eds.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (6th ed., pp. 793-828). New York, NY: Wiley.
- Kaivola, T., & Melén-Paaso, M. (Eds.) (2007). *Education for global responsibility – Finnish perspectives* (Publications of the Ministry of Education 2007:31). Helsinki, Finland: Helsinki University Press. Retrieved March 19, 2013, from <http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2007/liitteet/opm31.pdf>
- Leininger, M. M., & McFarland, M. R. (2006). *Culture care diversity and universality: A worldwide nursing theory* (2nd ed.). Boston, MA: Jones and Bartlett Learning.
- Naess, A. (1973). The shallow and the deep, long-range ecology movement: A summary. *Inquiry*, 16(1), 95-100.
- Neuman, B. M. (1990). The Neuman Systems Model: A theory for practice. In M. E. Parker (Ed.), *Nursing theories in practice* (pp. 241-261). New York, NY: Jones & Bartlett Learning.
- Official Journal of the European Union. (2008). *Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning*. Retrieved March 19, 2013, from <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:111:0001:0007:EN:PDF>
- Rogers, M. E. (1990). Nursing: A science of unitary, irreducible human beings. In E. A. M. Barrett (Ed.), *Visions of Rogers' science based nursing* (pp. 5-11). New York, NY: National League for Nursing.
- Roy, S. C., & Zahn, L. (2005). Sister Callista Roy's Adaptation Model and its applications. In M. E. Parker (Ed.), *Nursing theories and nursing practice* (2nd ed., pp. 268-280). Philadelphia, PA: F. A. Davis Company.
- Sessions, G. (1995). Ecocentrism and the anthropocentric detour. In G. Sessions (Ed.), *Deep ecology for the 21st Century: Readings on the philosophy and practice of the new environmentalism* (pp. 156-183). Boston, MA: Shambhala Publications.
- Steger, M. (2009). *Globalization: A very short introduction* (2nd ed.). Oxford, UK: Oxford University Press.
- Sterling, S. (2003). *Whole systems thinking as a basis for paradigm change in education: Explorations in the context of sustainability* (Doctoral dissertation, University of Bath, Bath, UK). Retrieved March 19, 2012, from <http://www.bath.ac.uk/cree/sterling/sterlingtitle.pdf>
- Sterling, S. (2005). *Unit 7 Study Guide: Education for sustainability - Education in change*. London, UK: Distance Learning Centre, South Bank University.
- Tudge, J. R. H., Mokrova I., Hatfield, B. E., & Karnik, R. B. (2009). Uses and misuses of Bronfenbrenner's bioecological theory of human development. *Journal of Family Theory & Review*, 1(4), 198-210. doi: 10.1111/j.1756-2589.2009.00026.x
- Van Sell, S., & Kalofissudis, I. (2001). The evolving essence of the science of nursing: A complexity integration nursing theory. *ICUs and Nursing Web Journal*, 8(2001-2002).

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