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Possibilities and Practices of Competences for Sustainable Development in Teacher Education at Yanka Kupala State University of Grodno

Abstract. The article discusses problems connected with effective learning in teacher education for sustainable development. The authors analyze educational goals, approaches to teaching, basic organizing ideas and the main constructs of an innovative model in teacher education for sustainable development. Basic strategies of learning are outlined, dominant methods and criteria for evaluation of educational results are briefly characterized. Students' activities are organized along a five-component structured model integrating knowledge, values, ethics, skills and evaluation.

Keywords: education of sustainable development, higher education, teacher education, competences

1. Introduction

The United Nations Decade of Education for Sustainable Development (2005-2014) requests that sustainable development issues be incorporated into education in a holistic and trans-disciplinary manner. This involves the embedding of sustainable development (SD) competencies into existing education programs.

The promotion of education for sustainable development (ESD) in higher education is, "considered crucial to building a sustainable future and to placing young people at the center of development" [Wals 2013: 5]. This responsibility and importance of ESD is shared by UNESCO [2005] and the United Nations Economic Commission for Europe (UNECE). Furthermore, the Lüneburg

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Declaration of 2001 reinforced the emphasis made within Chapter 36 of Agenda 21 (1992), that Higher Education should play a crucial role in supporting education's ability to address sustainable development challenges. The Declaration invites universities to sign the Declaration and commit to reorienting education towards sustainable development.

The implementation of an ESD strategy at the national and international level will allow setting goals and common objectives in the process of establishing ESD that can be agreed at the international level; propose innovative approaches and ways to achieve progress in the implementation of this international instrument. All this will allow introducing the subject of sustainable development and ESD into the public/political agenda.

Successful implementation of the strategy allows each country to ensure the transition from the simple transfer of knowledge and skills necessary for existence in modern society, readiness to act and live in rapidly changing conditions.

At the same time, for the success of the implementation of the ideas and methodology of ESD, such education must be continuous and take into account the needs, interests, values of all age and social groups.

In the Republic of Belarus, the task of developing education becomes more relevant in the context of the need to implement a national strategy for sustainable socio-economic development of the Republic of Belarus for the period up to 2030.

Trying to solve this problem we formulated several questions: in a swiftly changing world, how should the educational process be organized so that students can learn successfully throughout their lives for sustainable development? What pedagogical and social factors affect successful learning in teacher education? How should learning be evaluated? These questions build up the core of a successful society tomorrow. With these challenges in mind, we attempted to find some solutions.

2. Defining competences for SD

Competence-based and competence-oriented education is understood as a specific scientific management approach based on the foundations of the resource approach. It is consistent with the approaches of a higher hierarchical level: with the systemic philosophical and interdisciplinary general scientific approaches, as well as with the personal-activity concrete-scientific approach.

Consideration of the competence-based approach as an instrumental and managerial resource for the development of education makes it possible to combine in a common space the requirements for ensuring its continuity and manu-

facturability. The meaningful use of the competence approach as a resource of technologization and quality management of ESD allows to bridge the gap between education and non-educational social spheres by “leaving” representatives of the education sector to a reflexive, managerial position in relation to the mission, strategy, processes, structures in vocational education in a social context.

ESD in many countries transforms consistently in a connecting interdisciplinary notion, which combines natural, scientific and social aspects of teaching. In consequence this process set conditions for a necessity to revise old normative, legal, educational, methodical and didactic materials of educational process and work out new ones. This process negatively influenced a teacher’s education as it is the most closely connected with tutorials. By the way, for a system of teacher training in Belarus a process of entering a new attitude to ESD turned out to be complicated and long.

For the educational system of Belarus, the introduction of SD as a necessary component of teaching in schools and institutes of higher education became a problem. During several years it was concentrated mainly in curricula on biology and geography in the form of separate topics, which had random spacing. 80% of information on SD themes still has a descriptive character and provides students shock data about an adverse state of the environment instead of purposeful forming of ecological consciousness and responsibility. The same problems are also mirrored in teaching practical work in institutes of higher education.

Based on our analysis, we can assert that at the end of the 2000s – to the beginning of the 2010s, ESD in Belarus schools was not integrated enough in the concept of general education and in practice it often revealed only ecological problems in teaching of separate subjects. Cognitive, natural-science, social, artistic and aesthetic aspects of ESD were also put aside. Humans are social beings and they should learn to live peacefully in their environment. For that they need to be able to analyse conflicts, consider their ways for solution, and weigh an opportunity of compromises and perspectives of further development.

A traditional paradigm of ecological education assumed destroyed, damaged or situated under threat environment as a basis for the whole scientific data. Then a new paradigm of ESD is based on the fact that the given environment is although an essential part but only a part of general project for sustainable development. In this connection educational aims also have changed, including Belarus. Education for sustainable development proceeds from a broader range of notions. It started, first of all, from the fact that humans are social beings and they should learn to live peacefully in their environment.

Now we can see an active process of discussing of competencies for SD as a value of sustainable development. Such authors as Wiek [2011], de Haan [2006], Reichmann [2012] have their opinion on the competences. We think that a model of De Haan is now one of the most importance models for education

for sustainable development (ESD). De Haan developed the concept of “formal competence” (*Gestaltungskompetenz*), which combines an integrated thinking, interdisciplinary approaches, the ability to solidarity. Environmental knowledge, the ability to act, a reflection of individual and cultural values are important in this concept too. The author emphasizes the need for “integrity” of education.

3. Sustainability for 21st education’s needs at Yanka Kupala State University of Grodno

Yanka Kupala State University of Grodno takes part in the national and the European educational space. Yanka Kupala State University of Grodno is one of the top universities in Belarus, whose alumni work in all sectors of the economy; it has competitive study programs and tries to be in line with modern requirements for higher education. GrGU lecturers are involved in many educational programs, international exchanges, and leadership scholarships, constantly improving their own expertise and trying to emulate the Western European system of education.

Through its initiatives “Agenda 21” and through the Department of Ecology, Yanka Kupala State University of Grodno has been among the first Belarusian universities to view the institution as a whole and to attempt to initiate processes in all areas to foster the integration of sustainability.

Yanka Kupala State University collaborates actively in the framework of the Baltic University Program. Priority areas of this cooperation are such issues as: environmental protection; development studies and democratic transformations in the region through educational initiatives; strengthening the role of universities in society.

The staff is the University’s most essential resource, and the personnel policy contributes to the goal of being one of the leading universities in our country.

The personnel policy is characterized by creating creative pedagogical teams capable of responding to the demands of modern times to solve the problems of personality formation based on culture, ideas of humanization, technologization and informatization of the learning process.

The content of education is intended to provide preparation for social, cultural, spiritual activities, to form a worldview, a system of values and ideals, which determine a certain position in the world and a system of relations with the world. The peculiarity of the educational process consists in applying, along with traditional forms, interactive learning technologies. These forms allow increasing the efficiency and quality of training, providing motivation for independent cognitive activity, contributing to the deepening of interdisciplinary connections through the integration of information and subject training.

4. Approaches to education for sustainable development and further possibilities to strengthen competences for SD at Yanka Kupala State University of Grodno

Education for sustainable development is an important part of teacher education. It is evident that any authentic education, by definition, works on sustainable development. Interpretation of education in the sphere of sustainable development as a chance to preserve (restore) traditional values of education as a part of universal culture gives an opportunity to introduce at the same time something new in this sphere. Accordingly, changes in the system of education at all levels which are recognized today in UNO (United Nations Organization) commissions need fundamental changes in the system of teacher training in institutes of higher education as well. First of all, it should secure a forming of high ecological culture of teachers to be and this ecological culture will allow him/her to influence efficiently on individual development of students.

Relevant aims and tasks of sustainable development demand a qualitative renovation of the contents of teacher training education. It should be accepted a priori that ESD penetrates mass consciousness more assertively, it gains mental character. That is why SD should be an important constituent of teacher training.

Skills development activity is extremely important. At the university students prepare a bibliography on the problem to be studied, make tables and graphs, photo essays, construct maps, visualize the significance, propose alternative strategies, preserve the collected information on CD. Every working team prepares a PowerPoint presentation, then the groups debate their solutions, refine them, construct meanings to the concepts and reach conclusions by consensus.

The obtained results help students arrive at meaningful decisions. This was the way to achieve competence to monitor the state of the environment. Students construct arguments to support their decisions. The last stage is pedagogical monitoring. Students assess each other and themselves and the teachers assess everybody. Each group is also assessed by the teacher.

“Different studies have been looking at competences for SD from: (a) a general point of view, leading towards sets of general key competences for SD, to be applied in all higher education study programs; and (b) a narrow perspective, i.e. without connecting these competences for SD with other competence concepts already developed in higher education” [Lambrechts 2016: 129]. At the university we specifically discuss the possibilities to connect competences for SD with other competence concepts.

The application of ideas of sustainable development in the educational process of the university is a global civilizational project. Studying sustainable devel-

opment can contribute to reaching its key goals: fostering the thirst for knowledge, developing intellectual skills, mastering the new knowledge tailored for individual capacities of the student and so on. Schools teaching practice for future teachers based on educational modeling contributes to two main directions of sustainable development: on the one hand, it helps to individualize the process of education, to adjust it to the capacities, and on the other hand – helps to cultivate educational independence through the skills of building models of new concepts. In the context of sustainable development, the experience of modelling is a valuable skill opening for the child the possibilities of independent cognition and continuing the education for life.

Over the past years, the university has integrated sustainability into their education, research, outreach, and operations. In accordance with this, in the current socio-economic conditions, the University sets itself the task of training specialists of a new type, possessing not only erudition and the necessary knowledge, but also the ability to solve organizational problems, production tasks in professional activities, possession of modern approaches to work, ability to manage innovation.

5. Conclusion

Education, in addition to being a human right, is also one of the prerequisites for achieving sustainable development ideas and an essential tool for effective management and sound decision-making. The vision of a strategy for ESD is a vision for the future. This is a vision of a region committed to the same values of solidarity, equality and mutual respect between people, countries and generations. Only in this case the sustainable development of the region is possible.

Yanka Kupala State University of Grodno is a base for training teachers and scholars in various specialties, focusing primarily on the needs of the labor market for highly qualified specialists and adhering to the path of sustainable development. The university has numerous contacts in the region with educational institutions of all levels, is the leader of teacher education in the region. The activity of the university is not limited to the borders of the Republic of Belarus; today, relations with universities in Poland, Lithuania, Latvia, Russia, and Germany are actively developing. The University was one of the first to successfully modernize its educational programs, providing the necessary changes to the curricula provided by the Bologna Agreement.

The university acts as a cluster of innovative development of educational and social spheres of the region. This was the beginning of a new stage in the development of education for sustainable development in the region, when a single

educational space is coordinated and managed by leading experts in the field of SD, while it is planned to create a dynamic base of education for sustainable development.

The main goal of the university's work in this direction is the promotion of knowledge in the interests of SD and the formation of ecological thinking of the population of the Republic of Belarus through the development of cooperation in education and education for sustainable development between various institutions, associations and structures operating in the region, as well as the active dissemination of best practices ESD strategies in the region.

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Możliwości i rozwój kompetencji nauczycieli w zakresie nauczania zrównoważonego rozwoju – przykład Grodzieńskiego Uniwersytetu Państwowego im. Janki Kupały

Streszczenie. W artykule omówiono cele edukacyjne, podejście do nauczania, podstawowe idee organizacyjne oraz konstrukcję innowacyjnego modelu kształcenia nauczycieli na rzecz zrównoważonego rozwoju. Przedstawiono także główne strategie uczenia się i metody dominacji, a także kryteria oceny wyników edukacyjnych. Zajęcia studentów są zorganizowane według pięcioelementowego modelu integrującego wiedzę, wartości, etykę, umiejętności i ocenę.

Słowa kluczowe: edukacja na rzecz zrównoważonego rozwoju, wykształcenie wyższe, kształcenie nauczycieli, kompetencje