HOW TO APPROACH SUSTAINABILITY IN HIGHER EDUCATION – THE NEED FOR SUSTAINABILITY ECONOMICS

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Abstract: Sustainability as a concept is challenging our way of life and permanently testing our behavioural patterns. At the same time it is encouraging research within and without research institution, as well as teaching and learning at all levels of education. Being in its early phase, teaching of sustainability is a sign of the advent of education revolution. The concept of sustainability has been constantly evolving. Because of that the courses need to be regularly up-dated. Students in higher education confront very complex nature of sustainability. By trans- and interdisciplinary approach in teaching and researching the outcomes for bridging the gap between theory and practice are possible. They should include the latest investigation findings. In that way students can gain perspectives and values, besides knowledge and skills.

Claiming for educational reform, recently, special attention has been put to the sustainability economics, which is related to economic sustainability and closely linked to environmental and social sustainability. Economic behaviour has not only economic impact, but environmental and social impact as well. Conventional economics neglects limits and is a typical anthropocentric science discipline. By confronting economic and sustainability principles it is evident that new understanding of basic economic categories, new concepts and views on human activity /behaviour are needed.

In the paper we discuss the properties of sustainability economics, how, in which extent it differs from conventional economics and from environmental, ecological economics and resource economics. Learned upon teaching experiences on both economic and special environmental programs, the roles of teachers and students, extended learning field, plural toolkit and other educational initiatives are emphasised.

Key words: conventional economics, education reform, graduate programs, postgraduate programs, sustainability, sustainability economics

KAKO PRISTOPITI K TRAJNOSTI NA PODROČJU VISOKEGA ŠOLSTVA - POTREBA PO TRAJNOSTNI EKONOMIKI


Prizadevanje za izobraževalno reformo je nedavno usmerilo posebno pozornost na trajnostno ekonomiko, ki se nanaša na ekonomsko trajnost in je tesno povezana z okoljsko in družbeno trajnostjo. Ekonomsko ravnanje nima samo ekonomskega vpliva, ampak tudi okoljskega in družbenega. Običajna (konvencionalna, tradicionalna) ekonomika zanika meje in je tipična znanstvena disciplina, osredotočena na človeka. Soočanje načel ekonomike in trajnosti pokaže, da so potrebni novo razumevanje temeljnih ekonomskih kategorij, novi koncepti in pogledi na človeško ravnanje.

V prispevku razpravljamo o lastnostih trajnosti – o tem, kako in v koliki meri se razlikuje od običajne ekonomike, od okoljske ekonomike in ekonomike virov. Na osnovi pedagoških izkušenj v ekonomskih in v specijalnih okoljskih programih poudarjamo vloge učiteljev in študentov, razširjeno učno polje, raznolike pripomočke in druge izobraževalne pobude.

Ključne besede: konvencionalna ekonomika, izobraževalna reforma, podiplomski programi, trajnost, trajnostna ekonomika

1 Introduction
Because of dynamic processes with drastic changes in everyday life new thinking and behaving is urgently needed. Huge frictions make some wide-spread postulates in economic education unrealistic and thus irrelevant. Severe
criticism is addressed to the economics in general, both by critical public, business, financial sphere, and academia. E.g. for the students of economics teaching of economics has become too dogmatic (Ormerod 2003). The economic theory emphasises the role of rational maximization. The students don’t see it as realistic. Instead of it the theory of bounded rationality is much more acceptable. Severe criticism puts in question also other theories and concepts, e.g. the nature of enterprise as an economic entity and especially the concept of Homo economicus. An enterprise is very complex, being at the same time natural and social subsystem. From all three perspectives (economic, environmental and social) it is dynamic and evolving entity. Conscious enterprise is striving to approach the sustainable enterprise (Knez-Riedl 2008a).

The concept of Homo economicus has been also the subject of debate, accompanied with sceptical and critical views (e.g. Atkinson 2002, Dueck 2008). Is such completely rational person like Homo economicus real or mythical? Could be such individual who is unemotional and coolly calculating (Lunati 1997) an idol? Persky (1995) understands the concept of Homo economicus as “human rationality which today is centrally important to economic decision-making” Following the criticism several antecedents of homo economicus appear, just to mention Homo reciprocans (Gintis 2000), Homo socioeconomics (O’Boyle) besides several other alternative names for human species. While Homo economicus is motivated by self interest, Homo reciprocans as an altruistic human being who wants to improve environment. Human beings are complex creatures, acting in different roles (as allocator, accumulator, supporter, and co-operator), but not always and equally optimal. Additionally, relationship between input and output cannot be understood only in a narrow economic sense, without broader view (Dueck 2008) and moral sense. Thus the concept of Homo ethicus is gaining increasing attention. It presents an ideal type of man oriented to the ethics, in his thinking and acting in accordance with universally accepted principles, as humanity, harmony and universal network. In this debate and criticisms regarding economics the distinctions between orthodox and heterodox economics is evident. While orthodox is understood as something usual, conventional and traditional, heterodox means just the opposite. Generally it is an opinion, which declines from accepted beliefs and standards or breaks with convention and tradition (Webster Dictionary). The integrating of heterodox theories into the economics curriculum could be seen as an opportunity to expand the domain of economics (Barone 1991). It enables that relation of economics to other aspects of human life, which are normally excluded from conventional economic analysis (e.g. culture) can be taken into account. By experiment at his college Barone (Ibidem) noticed intellectual development, sophistication of argument, and understanding of things, driving students towards higher levels of achievement, particularly in their critical thinking. A number of students find that hearing two sides of an argument is beneficial. Some students also believe that their ability to construct arguments has improved. In comparison with the orthodox economics the heterodox economics puts more attention to elementary economic categories, those of scarcity and needs. Further, heterodox economics is no value-free discipline. It emphasises also the importance of ecological literacy and connects it with economic processes. All these are necessary to comprehend the essence of sustainability and the need for economics which contributes to the sustainability as an essential goal of the whole society.

2 Sustainability
Sustainability has been a subject of debate long ago; the first notes originate from antique. Later the relationships between humans and nature were pointed out explicitly in rural environment, in times of great shortage and problems caused by drastically increasing scarcity, also because of damaged, even perverted relationships within society. The impacts of industrialization and urbanization on natural and societal environment have been especially negative, besides some positive ones (Knez-Riedl 2010).

From numerous definitions of sustainability its multifaceted character is obvious. Mostly it is understood in the sense of definition set by Bruntland Report (1987) aiming to the balance among the economic, social, and ecological dimensions of life. The confrontation of present and future needs is essential, the ways how to solve the conflicts in meeting the needs of present without endanger the needs in the future (especially of future generations) is a crucial issue. Sustainability could be understood as a synonym for ecology, economy and social justice. It is closely linked to the thinking about our behaviour and awareness of the future consequences of present choices. Striving for sustainability means deciding for creative and responsible action (Knez-Riedl 2012). At the same time, being sustainable becomes a desirable property of various systems, phenomena and processes. Generally three kinds of sustainability are distinguished. Ecological sustainability (sometimes called also environmental sustainability) is oriented toward sustainable ecosystem, conserving its functional ability and quality. Economic sustainability tends to the conservation of natural capital, but together with economic growth. Social sustainability concentrates on human existence, health protection, conserving of social potential and development, abilities for education, employment, conserving of social potential, and access to information and trading.

1 More about environmental literacy in Knez-Riedl (2011).
(Promberger et al. 2006, Knez-Riedl 2010). Some other notions appeared, as well, e.g. cultural, organizational, human and biological sustainability. Sustainability has been sometimes treated in a very narrow sense as technical solution, but mostly much wider (e.g. as culture, ethics, moral value, and last but not least, as guidance for progressive changes). For Crowther and Aras (2008) sustainability is one of the basic principles of social responsibility.

There is no doubt that sustainability requires a new way of thinking or at least thorough rethinking. In this context the renewal of teaching and learning, many attempts, persistence and above all responsible collaboration are needed. To comprehend sustainability both the formal and informal learning are indispensable, both as lifelong learning processes. The role of educators is therefore extremely important and demanding. Including sustainability issues into curricula tackles established concepts of a number of academic disciplines and requires new educational methods and tools. Some concepts need redefinition and space for new findings in changed circumstances (environmental, economic and societal). Obsolete and too abstract models and methods should be replaced by more realistic ones. Some economic models lean upon simplifying assumptions, e.g. perfect competition, perfect information, perfect markets (Godwin 2010). In such a changing world the assumption ceteris paribus is losing its relevance. On the other hand, anticipated needs and expected living circumstances become critical. Thus on all levels of education the reorientation of curricula is needed. We speak about educational reform. A Decade of Education for Sustainable Development (2005–2015) declared by UN (2000) is only one document demanding changes and signalling exigent educational reform.

In the case of conventional economic science it is also very evident that principles of sustainability 1) environmental protection, 2) ecosystem conservation, 3) waste-free output and 4) social equity (described by Natural Step) are ignored. Thus the renaissance of economics is indispensable. Sustainability theories open new dimension of human responsibility, at the same time to the nature and to the future of humankind.

3 Sustainability economics

In conventional economics, as a science about allocating resources, the presumptions regarding scarcity and needs are limited and at the same time optimistic (availability of resources, unlimited growth). E.g. resources, like air and water, are supposed to be sufficient and clean. On the other hand, more attention is given to negative externalities and less to positive ones. Human values are ignored.

There is no perfect harmony among the various schools of heterodox, or alternative, economics. Ecological economists emphasize the ecological sustainability, socio-economists and others the individual well-being, often within a communitarian context, radical economists the social justice (Godwin 2010).

Concentrating solely on the economic dimension of sustainability without being aware of other two dimensions (environmental and social) is not enough and consequent. In this context the concept of the Triple Bottom Line (Elkington 1997), where all three dimensions are equally important in assessing performance, is relevant.

For Baumgärtner and Quaas (2009) the subject matter of sustainability economics are human-nature systems in which scarce natural resources, as well as their human-made substitutes and complements, are being employed over a long time and under uncertainty. Accordingly, the basic question of sustainability economics is the way we understand and manage them over the long run. Authors (Ibidem) also expose efficient use for the satisfaction of human needs and wants, in a just manner. Two years later Baumgärtner et al. (2010) emphasised justice (intergenerational and intragenerational) and efficiency as the aims of sustainability economics.

Writing about an alternative economics for sustainability, Söderman (2008) suggests new criteria in decision-making, namely the sustainability assessment, where he prefers positional analysis. It takes into account both time and justice.

There are plenty arguments for sustainability through a new economic paradigm for the 21st century and vivid debate about what kind of sustainability economics we need (e.g. Ozkaynak 2011). But some opposite opinions are also evident. E.g. Geisendorf (2011) doubts that sustainability economics presents useful alternative to ecological or environmental economics. She sees nothing new besides new naming in comparison with ecological economics. As a matter of fact, courses on sustainability economics comprise wide range of different topics, with various emphasises, e.g. biosphere, complexity and systems, entropy and thermodynamics, core concepts in ecological economics, triple bottom-line, valuing natural capital, cost-benefits analysis, public goods, property rights, etc. The pedagogical processes should engage students and support them to approach the issues from a holistic perspective. But it means that there are many fragments that should be scientifically explored and then put into the whole.
4 Some practical experiences in teaching sustainability

Some faculties and other educational institutions in Slovenia enrich their curricula with content tackling sustainability, mainly implicitly, less explicitly. The enthusiasm of individual teachers is essential. The Bologna reform opened the door for new courses, possibilities to renew curriculum were better. Similarly than in other universities and higher education institutions the environmental dimension has been predominantly put equal to the process of so-called greening of universities and faculties. But the courses have still been mainly elective only, on the undergraduate study programmes. Let’s take example of an economic faculty with two relevant courses, Environmental economics and Environmental economics and environmental management. They emphasise environmental dimension of sustainability, but in a broader sustainability context. The courses are placed in the second study year which means that students already have the basic knowledge about conventional economics. Thus they can, on one hand, notice the important difference between environmental and conventional economics more easily. On other hand, they are somehow confused about the facts, which were not taken into account a year before, so to say, being ignored only a year earlier. Till now no course on sustainability appeared in the postgraduate programme. Some intentions, like sustainable accounting, were suggested, but not realized. There are no clear reasons why so. Possibly, new courses demand huge investment of time in preparing the course, but additionally the preparedness of teachers for intensive continuous learning.

In the doctoral programme students at the same economic faculty can elect a seminar where the issue of sustainability has been tackled by some topics, e.g. of responsible entrepreneurship. In this context the lectures, consultations and seminar works are oriented towards the scheme of environmental entrepreneurship, social entrepreneurship and sustainable entrepreneurship. Because the population of students is heterogeneous, not all of them have solid knowledge about neither economics nor sustainability. An increasing number of students has poor professional experiences. Not all students have mature views on contemporary issues. Their motives for doctoral studies are different, their expectations not always determined. The goal of doctoral studies and the profile of doctoral student should be thoroughly rethought.

The third case is the masters’ programme at the specific educational institution for environmental protection, where the students can elect the course of Environmental economics and management. The population of postgraduate students is various; they have different background regarding professional education and more practical expectations regarding their jobs and careers. Economists are a minority. Heterogeneous student population enriches the discussion; the problems are approached from different disciplines (e.g. chemistry, biology, sociology, forestry, tourism, economy). Majority of students do not care about narrowness of conventional economics, they are not very much aware of it. Generally they are interested into solutions offered by environmental management theory. They are confronted by interconnectedness of environmental economics and environmental management. Environmental economics is treated as theoretical basis for environmental management.

Having knowledge about economics or not, students sooner or later come to some economic aspects and issues linked to sustainability. They realize that teaching and learning cannot be limited just to one dimension of sustainability, forgetting the other two dimensions. They find out that economic, environmental and social activities depend on each other. Students are deepening the knowledge which they will use in their professional life, e.g. as managers, consultants, experts, etc. Nowadays on such positions the solid economic knowledge is generally expected, but solid elementary and specific knowledge about sustainability, as well.

The toolkit for lectures, especially outside the classroom, has not be well developed (e.g. for field studies, field research, for preoperational and postfield research phase) till now. Team-project based-learning is in very initial phase, too. The mobility of students within such projects (especially in international projects) is hampered. Generally, the main obstacles are the financial ones, accompanied also by the preferred form of individual learning. Last but not least, obsolete mindset is among the reasons of rigidity of curricula and of methodological toolkit in sustainability courses. But videos, case studies and interviews certainly are popular among students. Not only to watch, analyse and discuss them, but also prepared for seminar works by students themselves. They are innovative and ambitious to present what they are capable to do also from the viewpoint of presenting and communicating the selected issue. They prefer visualization as more convincing than verbal persuasion.

5 Conclusions
In the circumstances of criticism and scepticism especially against neoclassical economics, but also against sustainable development and sustainability, there are some signs, raising optimism. We can approach several concepts and topics related to the sustainability, sharing theoretical knowledge as well as best practice. From the viewpoint of economics the mindset of educators and students should be renewed. Sustainability economics contributes to the knowledge about sustainability from various aspects. Covering broad range of topics, it puts attention to selected issues related to all three dimensions of sustainability. While the environmental dimension of sustainability is predominantly emphasised also in the educational programmes, the social dimension needs much more attention. There are not so many courses dealing with social issues such as equality, social inclusion, justice, poverty, starvation, sustainable jobs, and the question of ecological and social refugees, the issues of megacities, to mention only some of them. Differences between universities and other educational institutions in their curricula regarding sustainability are normal. They are signalling in which phase of awareness they are. Therefore they are more or less attractive for the students interested in sustainability. But differences in the role of educational institutions as stakeholders (especially in relationship to the students, employers, community) will be additionally decisive for their credibility and viability.

References
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