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УНИВЕРЗИТЕТ У БЕОГРАДУ
ФАКУЛТЕТ ОРГАНИЗАЦИОНИХ НАУКА

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Debate in Education for Sustainable Development

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There is no doubt that higher education should contribute significantly to education for sustainable development. Given the need to develop new approaches to improve students' environmental awareness, knowledge and understanding of environmental issues and sustainability topics, the implementation of debating in classrooms has been presented in this paper, as an additional educational tool, at the course of Environmental Management at the Faculty of Organizational Sciences.

Keywords: debate, education, sustainable development, education for sustainable development

1. Introduction

"It is not the strongest of the species that survives, or the most intelligent, but the one most responsive to change."

Charles Darwin

Industrialization and population growth cause pollution, erosion, habitat fragmentation, and wasteful consumption, consequently endangering the integrity of global ecosystems. Ecosystem management programs that focus on patches or categories, such as forestry management and wildlife management, are not enough to counter the growing damage inflicted upon our finite natural resources.

Sustainable development was developed to fulfil that need. Sustainable development is a global development management philosophy that aims to conserve the integrity of the Earth's ecosystems while supporting economic growth and social welfare. It was developed by the Brundtland Commission during the World Commission on Environment and Development in 1987 (WCED, 1987). Its primary purpose was to reduce the resistance to the conservation of the environment while raising awareness of the importance of the Earth's natural resources, both for those who need them today and those who will need them tomorrow.

Sustainable Development has become a popular management philosophy in many countries throughout the world. Its popularity can be partially attributed to reports of global climate change and the declining stability of global ecosystems. However, its initiation can also be attributed to the efforts of the United Nations (UN), which has encouraged all countries to develop their own national sustainable development strategies. Today, countries on all five continents have developed and are in the process of implementing national sustainable development strategies.

Further on, sustainability is defined as "development that meets the needs and aspirations of the present without compromising the ability of future generations to meet their own needs" (West, 2008) and, therefore, is generally linked to ongoing economic growth and development (Petrović et al, 2011).

2. The prism of sustainability

The Prism of Sustainability (Fig. 1) is an extension of The Three Pillars of Sustainability Theory with the addition of institutions. Otherwise The Three pillars of Sustainability is a very common depiction of sustainable development. Represented are the three primary pillars upholding three essential elements of sustainable development: economic development, social development, and environmental conservation (UN, 2002).

Institutions are large organizations that are influential in a community such as Government Organizations, Non-Government Organizations, *Universities*, and Hospitals. The development of institutions is not enough; achieving enough cooperation and coordination to successfully implement sustainable development requires institutional, social, and financial strength. Strong institutions are necessary to develop, implement, enforce, and evaluate policies and regulations. Social vigour is also important, meaning that the society has the *knowledge*, technical, and social capacity to adhere to rules and regulations and to participate in new initiatives. Support from the lowest levels of society is essential for the success of sustainable development (Ghai & Vivian, 1995).

However, for the lowest levels of society to provide support from the bottom up they must first obtain livelihood security (food, water, and basic necessities) to make sustainable choices as well as the financial power to pay for them. Without these components, sustainable development, as defined by the Brundtland Commission, cannot be achieved (WCED, 1987).

Education and public outreach programs, like Agenda 21 (1992) have been developed to increase the local public understanding and support of the concept of sustainability.

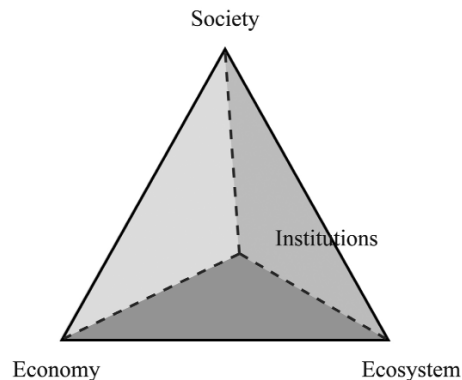


Figure 1: The Prism of Sustainability

3. Education for sustainable development

The United Nations Decade of Education for Sustainable Development (DESD, 2005-2015), offers an opportunity to rethink the manner in which we approach global environmental and sustainable challenges (DESD, 2009). Apart from the regional and national launches, progress has been achieved in both institutional and programmatic areas at international, regional and national levels. The Decade of Education for Sustainable Development comes at a time when the economic, social, environmental and cultural realms of global society are faced with daunting challenges. The obligation of higher education is work in a way of mobilizing further political support in countries where Education for Sustainable Development (ESD) is not yet a priority. Today, more than ever before, the need for a holistic approach to learning and teaching becomes both vital and urgent. If its potential to contribute to the paradigm shift in thinking, learning and teaching for a sustainable world is to be realized, Education for Sustainable Development has to move to the political centre-stage.

Sustainable development needs to be added to an already overcrowded curriculum of foundation subjects that must teach the basics of reading, writing and arithmetic (UNCED, 1992). At the same time it can be seen as an integrative, cross-curricular theme that can bring together many of the single issues that schools are already expected to address. Education for Sustainable Development learning goals include: acting with respect for others, acting with responsibility locally and globally, critical thinking, understanding complexity, the capacity to imagine the future, understanding inter-disciplinary relations, responsible behaviour and the ability to identify and clarify environmental values (DESD, 2009).

The main thrusts of Education for Sustainable Development, originally identified in Chapter 36 of Agenda 21, have been expanded upon in the Work Programme of the UN Commission of Sustainable Development – CSD, reports of the major UN Conferences of the 1990's:

1. *Public understanding of the principles behind sustainability.* ESD has a major role in furthering the discussion of sustainability itself and the evolution of the concept from a vision to its practical application in culturally appropriate and locally relevant forms.
2. *Mainstreaming ESD.* This social process needs to be mainstreamed into all sectors including business, agriculture, tourism, natural resource management, local government and mass media, adding value to program development and implementation.
3. *Lifelong learning for all.* The quality life – long education and learning opportunities are required for all people regardless of their occupation or circumstances.
4. *ESD is relevant to all nations.* The realization that it is our most highly educated countries that create some of the greatest threats to a sustainable future for the planet, the reorienting of existing education programs in all nations to address the social, environmental, and economic knowledge, skills, perspectives, and values inherent in sustainability is also a major thrust of ESD.
5. *Specialized Training Programs.* The development of specialized training programs to ensure that all sectors of society have the skills necessary to perform their world in a sustainable manner (UNCED, 1992).

The nature of Education for Sustainable Development demands new perspectives on matters such as curriculum, teaching and learning. Education for Sustainable Development and Education Sustainable Development tend to focus on connections, feedback loops, relationships and interaction. Yet the dominant educational structures are based on fragmentation rather than on connections and synergy. Another observation is that the search for a more sustainable world requires the full and democratic involvement of all members of society which should also have implications for teaching and learning (Petrović et al, 2011b).

Education for Sustainable Development calls for new kinds of learning that are not so much of a transmissive nature (i.e. learning as reproduction) but rather of a transformative nature (i.e. learning as change) (DESD, 2009).

This kind of education implies four descriptors - educational policy and practice which is sustaining, tenable, healthy and durable:

- *Sustaining:* it helps sustain people, communities and ecosystems.
- *Tenable:* it is ethically defensible, working with integrity, justice, respect and inclusiveness.
- *Healthy:* it is itself a viable system, embodying and nurturing healthy relationships and emergence at different system levels.
- *Durable:* it works well enough in practice to be able to keep doing it.

4. Effective teaching environmental topics and sustainable issues

Education for Sustainable Development allows every human being to acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future. Education for Sustainable Development means including key sustainable development issues into teaching and learning; for example, climate change, disaster risk reduction, biodiversity, poverty reduction, and sustainable consumption. It also requires participatory teaching and learning methods that motivate and empower learners to change their behaviours and take action for sustainable development. Education for Sustainable Development consequently promotes competencies like *critical thinking*, imagining future scenarios and making decisions in a collaborative way. Education for Sustainable Development requires far-reaching changes in the way education is often practiced today (UNESCO, 2012).

Strategies to teach environmental and sustainable topics, particularly controversial ones, without coming up against affective barriers to learning are:

- *Teaching the science first:* presenting the science objectively, using data and relevant examples; next, discussing issues related to this topic. By setting the stage deliberately, learners are more likely to be receptive to the information.
- *Teaching with data:* presenting the topic without emotional statements and consequent emotional responses in learners.
- *Using active learning techniques:* learners learn better when they can learn for themselves. Environmental issues lend themselves to teaching techniques like using local examples, gathering data from the field, using role-playing or *debates*, or participating in environmental projects.
- *Leading by example:* the goal is to promote environmentally-favourable behaviour in learners, consider a hands-on project that will challenge them to consider the environmental impacts of their own actions.

5. Debate

A debate is an equitably structured communication event about some topic of interest, with opposing advocates alternating before a decision-making body (Snider & Schnurer, 2006).

This definition implies a number of principles for a debate. A debate should be equitably designed. All designated “sides” should be given an equal opportunity to present their views. A debate should be structured, with established communication periods and patterns with a beginning and an end. This structure allows for preparation and strategy.

A debate is a communication event where the mode of operation is oral or written communication (a text debate) and serves as performance as well as a method of transmitting ideas and arguments. Every debate has a topic, allowing the debate process to be more directed than a normal conversation. The topic itself should be of some importance and interest to the participants and any audience that may observe the debate. A debate is composed of two or more sides of an issue where the advocacy positions are identified in advance.

For example, a debate might be held on the issue of creating a national death penalty for certain crimes, one side is in favour of death penalty (thus they may be called “pro,” “affirmative,” “proposition,” or “government”; in this text we favour affirmative) and one side will be against death penalty (thus they may be called “con,” “negative,” or “opposition”; we favour negative). This sense of “opposing sides” is critical to the probing analysis of the topic to be debated because debaters will bring the strongest arguments to back their side and be prepared to challenge the ideas of the other side. Presentations in a debate should alternate between the sides, creating a pulse of critical communication in opposition to previous and subsequent pulses.

During the debate the advocates will be asking other participants and observers to agree with their point of view and, in the end, call for a “decision” by those present, either publicly or privately (Snider & Schnurer, 2006).

Participation in academic debating creates numerous benefits for the students:

- *Data analysis* is an essential debating tool. Debaters must learn how to find the relevant information on the topic when they are researching possible motions for a tournament analysis and save or remember their results. After debating for some time, debaters collect a lot of information, but they will always encounter new topics, where they will have to quickly utilize the data they know in a new problem.
- *Presentation of knowledge* is required from debaters in a limited time frame. Debaters learn how to present vast amounts of knowledge briefly, effectively and to the point.
- *Critical thinking* is forced onto debaters, and debaters quickly adopt it. Sides are randomly assigned in a debate, therefore debaters must know how to argue, analyze and assess opposing sides of any argument.
- *Knowledge of the world problems* is necessary in the international debating scene, as the topics must be drawn from a pool of issues which are equally important to all the countries that are participating.
- *Finding the right information* is important because facts count in debate. Most global debates have competing schools of thought, often with competing information. Debaters need to know how to weigh authorities, how to compare sources and spot when information is biased.
- *Intercultural communication* is developed and trained in debate, as judges come from different cultural backgrounds, as well as the opposition teams. That means debaters train to be understood, as well as to understand.
- *Persuasion* is a peripheral skill for debaters. In theory, debates should be judged by completely objective judges. As this cannot be the case, advance debating classes cover persuasion methods as a manner of gaining that last bit of competitive edge (Snider, 2011).

6. Introduction of the concepts of academic educational debating in environmental management course – case study

On the other hand, a number of courses in higher environmental education and a number of initiatives to integrate environmental issues into university curricula have been launched in the past decade worldwide. However, to satisfy the specific needs of this kind of education implementing, innovative methods of delivering such knowledge for sustainability are needed (Petrović et al, 2011b).

Higher environmental education has to be learner-centered, providing learners with opportunities to construct their own understandings through hands-on, minds on investigations (Petrović & Milićević, 2006; Petrović & Milićević, 2007; Kostova, 1998). Having this in mind, we selected Environmental management course, because it is based on a wide range of scientific and practical knowledge of environmental science and sustainable development. Thus this course represents a good benchmark for an adequate improvement of students' environmental awareness and knowledge about sustainability.

In the spring semester of 2012 school year, just over 200 students enrolled the Environmental Management course at their third year of study at University of Belgrade, Faculty of Organizational Sciences. The course classes consisted of two hours of lectures and two hours of exercise each week during a 13-week semester. The course has sections on ecology, environmental issues and protection, conservation of natural resources, environmental management and sustainable development. The course program is based on a strong methodology, requiring participants to turn their environmental and management knowledge and understanding into appropriate environmental actions.

The introduction of educational innovations in the classroom develops the students' independence and gives them the capacity to be self-confident as well as self-reliable in striving to fulfil their goals and aspirations (Kostova & Atasoy, 2008). Having that in mind, we wanted to work on students' analytical skills through their participation in contemporary environmental debates.

A framework for the introduction of the concepts of academic educational debating in Environmental Management course development consisted of:

- *Introduction and overview of the course content.* A review of major environmental topics and sustainable issues, and the role of various actors in addressing environmental problems.
- *About environmental debates.* Identifying major themes in environmental discourse. E.g. Anthropocentrism vs. Biocentrism, Sovereignty vs. Global Commons, Resource use/Development vs. Conservation.
- *Motion 1 - The Climate Change Debate.*
- *Motion 2 - Alternative Energy Sources.*
- *Motion 3 - Nuclear energy*
- *Motion 4 - Animal rights*
- *Motion 5 - Environmental protection Vs. Economic growth*
- *Motion 6 - Energy consumption limits*
- *Motion 7 – Zero growth*
- *Motion 8 – Vegetarianism*

Students enrolled at the course were introduced to and familiarized with the concepts of academic educational debating. Students, encouraged to voluntarily participate in debating, worked on their skills in: organization, research, delivery, refutation, and argumentation. These students were trained to participate in classroom practice environmental debates.

Assignment values were as follows: participation, practice speech (5 extra credits), practice debates (10 extra credits), winning tournament (20 extra credits).

Each practice debate simulated the British parliamentary format of debating. This format is one of the most commonly and widely used debate formats currently. Students were divided into 4 teams, each team consisting of 2 members hence all of the practice debates had 8 students actively participating. When the debate was done, group discussion and an elaborate feedback from the educator followed.

After the students successfully completed the course and were graded, the students who participated in the debates took part in a short preliminary research. The research was conducted at the University of Belgrade, Faculty of Organizational Sciences. The number of students that participated in it was 51. When these students were asked whether or not participating in the debates helped them evaluate specific environmental problems - 27 of them strongly agreed and 21 of them partially agreed that it helped. That gives us the total of 94.12% of analysed students that strongly or partially believe that the debate helped them when approaching specific environmental problems, while only 5.88% partially disagreed with that statement.

When the same group was asked to express their attitude towards the statement "the debate helped me critically analyse all sides of the given environmental problem", 90.19% strongly or partially agreed, while 9.2% partially disagreed with it.

Conclusion

The introduction of debate in higher education helps students articulate and appreciate alternative arguments about critical environmental issues even if they disagree with some of them. Understanding and articulating opposing points of view are a hallmark of a strong advocacy and good literature, because respectful, informed, responsible discourse is necessary to address difficult environmental topics and sustainable issues. Further, critical examination of major environmental problems reveals numberless competing interests, priorities and perspectives.

Likewise, by using debate, Environmental Management course utilized these additional teaching methods:

1. *Lectures about debating and debate theory.* In this way, students are introduced with information about debate concepts, practices, and vocabulary.
2. *Class discussions.* Class discussions provided environmental topics for debating, argumentative concepts, and on various debate methods and practices.
3. *Practice speeches.* Students had a task to give short, unprepared speeches about ideas in order to gain training in delivery, organization, and argumentative concepts.
4. *Practice debates.* Students were engaged in debates against each other in teams. These debates were supplemented by research done by students as well as by additional material supplied by the educator.
5. *Debate tournaments.* Students were engaged in debates against each other. They would simulate all the elements that are present at the university debate tournaments held in British parliamentary format. That would include motion analysis, data preparing, organizing, structuring and labelling their speeches and speech delivery.
6. *Research.* Students were engaged in primary research on given environmental topic which was the motion and the theme of the debate.

The preliminary research given in this paper and high percentages of students satisfied with debates at the course of Environmental Management have encouraged us to proceed with this method and this research, and to involve other environmental courses at the faculty.

Based on this, we would highly recommend others to explore the use of debating in classrooms as a supplement to traditional learning. Our data suggest that students would use debating as a good tool not only for a broader engagement in the process of learning but also as a way to develop a way of critical thinking and engaging in environmental transparency.

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