

The Concept of Sustainability in the Context of the English-speaking Educational Discourse

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Abstract: The study touches upon the issues of a sustainable education targeted at the balance between nature and civilization as well as society and its individuals. The purpose of this paper is to demonstrate that sustainability has become one of the key concepts in transdisciplinary academic discourse carried out in English, and to examine the language with the help of which the concept of sustainability is approached in recent publications on education. It is hypothesized that today's reorientation to sustainable education has necessitated the meeting point of educational and ecological discourses to tackle modern umbrella concepts and issues of sustainable development, its challenges, opportunities, and strategies. The findings about communicative means, tools and strategies preferred for verbalization of the sustainable education concept reveal transformations in modern education processes, its participants, design, conditions, and outcomes. The analysis of academic discourse on sustainable education sheds light on the rhetorical repertoire of sustainability, relevance of future strategies in education implemented to converge ecological and professional competence, social awareness and individuals' experience.


1 INTRODUCTION

The planet-scale changes taking place in the twenty-first century have made the humanity raise for challenge in various aspects of life. Climate change and natural disasters, the COVID-19 pandemic, economic and political unrest, environmental problems are the issues to battle today. Solving these and other contemporary problems calls for radical steps directed at sustainability of life on Earth. However, contemporary society does not simply have to deal with damages and governance, it has to design and integrate a number of complex activities in order to provide a sustainable social development targeted at the balance between nature and civilization as well as the whole society and its individuals. This can be realized by managing the key issues of the modern world: transformation, digitalisation and sustainability (Szelągowska and Pluta-Zaremba, 2021).

The capacity to endure is an ongoing discussion through environmental, technical, economic, political, educational, cultural, and health domains of the post-modern society. Various disciplinary

theories and practices follow ecological models in search for continuous living. Operating within an ecological perspective, they produce a constellation of paradigms in response to contemporary problems. That requires the use of a distinctive language for special purposes in parallel to the environmental parlance favoured for its actuality and clarity. The environmental language has become pervasive in today's discourse due to its ability to integrate specialized knowledge and make it transparent for the audience (Norton, 2002).

The topicality of this research is determined by a set of factors influencing sustainable development. Firstly, sustainable development is connected to ecological balance and social well-being (Massotte and Corsi, 2015). Secondly, sustainability has become synonymous to the integrity of environmental and social aspects of life (Voigt, 2008, p. 36), including education (Corcoran & Wals, 2004) and communication (Weder et al., 2021). Thirdly, sustainability is significant in education for its effectiveness and value in realizing particular initiatives in responding to nowadays requirements (Easter et al., 2021), combining creativity and

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efficiency in implementing new ideas, introducing progressive methods and practices into various disciplines or institutional activities (Cullingford and Blewitt, 2013), providing transition in education towards continuous use of the external source of knowledge and its implementation in educational courses (Corazza, 2020).

The purpose of this paper is manifold. Firstly, it intends to demonstrate that sustainability is one of the key concepts in transdisciplinary academic discourse carried out in English, the global lingua franca. Secondly, the study examines how the concept of sustainability is approached in education and how it is reflected in recent relevant publications in English.

The findings about communicative means, tools and strategies preferred for verbalization of the sustainable education concept will reveal transformation processes in modern education, its participants, design, conditions, and outcomes. The analysis of academic discourse on sustainable education will shed light on the rhetorical repertoire of sustainability, relevance of future strategies in education implemented to converge professional competence, social awareness and individuals' experience.

In retrospect, the studies with a focus on educational discourse were carried out to discover and explain persuasive strategies in education (Edwards et al., 2004); advantages and disadvantages of embedding of a disciplinary discourse, such as a political one, in education for democracy and other courses (Schriewer, 2009); the challenges of interdisciplinary dialogue in academic discourse, specialization codes, interpretation of dominant values, and building a pedagogic metalanguage (Martin, 2020). Another perspective considered selected aspects and functioning of education as a complex, multi-faceted system comprising various disciplines (Surina, 2014) or highlighted various cultural practices and effects of their implementation in education (Luke, 2019). However, most recent studies are trying to look into neoliberal articulation of EU governance and its influence on new modes of regulating educational policies and translating ideas at national levels (Sardoč, 2021).

The new agenda in educational studies is to address the metalanguage of the incentive paradigm shift and to elucidate the ecomodelling in the theory of education and other academic fields.

It is hypothesized that today's reorientation to sustainable education calls for the convergence of educational and ecological discourse to tackle modern umbrella concepts and issues of sustainable development, its challenges, opportunities, and strategies.

The paper is structured as follows. Section 2 deals with the methodology principles, description of material and research procedure. Section 3 demonstrates the actuality and interdisciplinary character of the ecological perspective in contemporary scientific studies. It also discusses the importance of the concept of sustainability to various academic discourses including educational one, describes how the concept of sustainable education is framed and manifests itself.

2 METHODOLOGY AND RESEARCH PROCEDURE

The methodology of this research is based on several principles. The first one is the philosophical principle of alienation between the world, that is the object of cognition, and the human, that is the subject of cognition. Although science is a dynamic system of organized knowledge, it has always proceeded from the unbroken principle of establishing connections between the world or what is known about it, and those who discover knowledge. Since antiquity it has been recognized that the human knower is inseparable from the complex environment that is being cognized, and in which cognizers are important constituents (Salmon, 2005).

The recognition of the complexity of alienation between the subject and object of knowledge has brought to the shift in postmodern science towards interdisciplinarity and involvement of an ecological perspective, rethinking ecology autonomy, appreciating values of nature, hence, revising the environment we live in and try to save in order to sustain. Thus, the second principle of this research is the ecological principle of sustainability.

The third principle is the expressibility principle. It deals with the antinomy between the necessity to transmit the encoded knowledge and the possibility to express it adequately. On the one hand, there is nothing in our thought that cannot be verbalized (Kannetzky, 2002; Searl, 2007). On the other hand, language is to some extent limited in its means of expression. That is why we largely rely upon metaphors to explain some basic ideas (Burbules, 2017; Kazepides, 2010). Assumed that metaphors are significant for scientific reasoning (Jensen, 2006) in general, we suggest that this cognitive tool can be successfully employed in educational discourse.

The fourth principle is the principle of the conceptual dominants, that is various spheres of communication attracting particular concepts, on

which communication is focused. In today's educational discourse, these are represented by such traditional concepts as "Education", "Teacher", "Learner", "Knowledge", etc., as well as by newly introduced concepts of "Intercultural learning" (Kearney, 2015), "Dialogical education" (Bronwyn, Corsan, 2013), "Special education" and "Interdisciplinary team" (Manor-Binyamini, 2014), "Inclusivity" (Rensburg and O'Neill, 2020) to name but a few. In the last decade special significance is given to the concept of "Sustainability" ("Sustainable development", "Sustainable Education" (Sustainable, 2019)). In spite of the novelty of this concept and active polemic on that education and learning should take more account on sustainability, the literature has not discussed the language with the help of which the concept of sustainability is approached. To do it, we designed our research procedure in several stages.

First, the method of sampling was applied to select extracts containing the lexeme *sustainability* and/or its derivatives in the texts relating to educational discourse. The material included 250 textual fragments obtained from monographs, scientific articles, manuals and other works relating to the issues of sustainable education and published in the last decade.

Second, the contextual analysis was applied to distinguish the occurrences of the lexeme *sustainability* and its derivatives in order to find out their semantic features and functions shaped by the immediate environment.

Third, the collected data were systematized according to the type of information they contained about the frame structure of the concept "Sustainable education". The term *frame* is understood as a schematized knowledge, or a knowledge structure including elements from various cognitive domains associated with the linguistic unit/s (Dirven, Frank, and Ilie, 2001, p. 1). In this study, these are the words *sustainability* and *sustainable* combined with *education* or *educational*.

Fourth, structural and distributive analyses were applied to linguistic means that verbalize the concept of sustainable education in contemporary English-speaking discourse. This stage of the research enabled us to reveal the language means preferred to describe the current situation in education, its reanalysis and values.

The metaphoric representations of the concept "Sustainable education" shed light on the indirect means of sustainability interpretation, its encoding in education discourse. Understanding cognitive metaphors of "Sustainable education" will help to explore how firmly this concept is established as a

central topic within educational sphere and how mental-imagery shapes the activation of the concept.

3 RESULTS AND DISCUSSION

3.1 Ecological Approach as the Lead in Postmodern Science

The fact that ecological approach to various issues has become one of the leads in postmodern science is evidenced by the pervasiveness of ecometaphors employed in many spheres of academic communication. Let us provide just a few examples. Business discourse favours, for example, *business ecology*, *ecology of commerce*, or *alien species invasion*. The field of technology is frequented by *environmental information*. Political studies make use of *green ideology* while philosophers speak in terms of *ecological thought*. Ecometaphors have penetrated fashion (*clothing recycling*), social studies (*ecofeminism*), linguistics (*language vitality*), and education (*ecosystem* "curriculum" (Weaver-Hightower, 2008)). It should be mentioned that ecometaphor is not a simple decorative infringement that interferes languages for special purposes in order to strengthen the argumentative and persuasive effects of scholarly debates. Ecometaphor is so noticeable in different academic spheres because it is used as a powerful cognitive tool in approaching today's acute issues.

Ecological metaphor signifies the end of the era of the human dominance and the conquest of nature. It marks a change towards creating an ecologically friendly world, its modernization for better social sustainability and global ecology improvement. The creation and dealing with that new reality from an ecological perspective means developing a dialogue between science and environment, synthesis of nature, society and its individuals through creationism, developing new humanistic attitudes, strengthening of goodness and sustainable lifestyle.

3.2 The Interdisciplinary Character of the Sustainability Concept

An ecological focus raises a question of sustainability in institutionalized discourses. It is widely recognized that the notion of sustainability allows variant interpretations. Across disciplines, *sustainability* has become an umbrella term to refer to development, growth (economical, technological, intellectual, experiential, etc.), or continuous well-being (Caldwell, 1998): "*Our future does not depend on the*

preservation of original nature, but on the preservation of anthropogenic ecosystems ... and productive environment. ... constant constructive interventions, [making] the environment a productive resource ... [that] will enable us to continue on the road of economic growth and to ensure the constant increase of welfare” (Renn, 2012).

The concept of sustainability is well integrated in management education (Amaeshi, 2019), teaching about earth and environment (Gosselin, 2018), food and agriculture fields (Christen, 2010), communication (Godemann and Michelsen, 2011), medicine (Acton, 2013), discussing educational structures and practices (Martin, 2010). Irrespectively of the field, the term *sustainability* is applied to tackle the matters of maximum utility from minimum of resources, interactions of variables, cost-effectiveness, or long-term effectiveness of measures, projects or approaches.

According to the experts, “... it is crucial that education for sustainability leads in a deeply engaged interdisciplinarity, which explicates the skills and practices enabling academics and graduates to work meaningfully with colleagues both within and from other intellectual fields. ... Education for sustainability is undeniably an interdisciplinary field, characterized by many different epistemologies and preferred methods and pedagogies. Equally it has characteristics which may increasingly be described as disciplinary, in terms of how elements function and what they reveal” (Davies, Devlin and Tight, 2010, p. 227).

3.3 The Concept of Sustainable Education

In educational discourse the concept of sustainability is manifested as a manifold notion expressed with the help of word combinations: *sustainable education, education for sustainable development, sustainability education plan, sustainable education model, education for sustainable lifestyle, learning for sustainability*. The absence of the one-word naming proves the complexity of notion and the necessity of longer, hence more elaborate, structures to refer to the concept. The naming is built according to a wide range of patterns: combinations of the adjective *sustainable* with nouns directly or indirectly referring to the concept (*sustainable education, sustainable learning, sustainable teaching, sustainable training*); combinations of nouns with nouns (*sustainability education plan*); prepositional *of*-phrases (*sustainability of education*); prepositional *for*-phrases (*learning for sustainability, education for sustainable lifestyle*). Such a variety of structures

reflects the manifold nature of the conceptualized idea.

The name of the concept consisting of the adjective *sustainable* combined with the noun *education* expresses the qualifying conceptual feature. By establishing subordinative relations between the initial adjectival component and the head noun-member of the language structure, speakers condense the information about the type of “education which is leading to continuous well-being” or “education for continuous well-being”. This type of structure is extremely common in academic prose on education. Although it is difficult to predict the possible re-phrasing, it is always certain that the structure expresses the idea of education leading to the achievement of some goal. Thus, sustainability is conceptualized as a goal encouraging changes to meet increasing environmental changes.

The names composed of noun + noun sequences also represent information densely and rely on the implicit meaning expressed by the premodifying noun and the head. Such is *sustainability education* which can be extended to *sustainability education plan*, etc. by adding head components and shifting the conceptual focus. Nevertheless, the semantic relations between the modifying noun *sustainability* and the noun *education* remains transparent for decoding. In fact, such noun + noun sequence is used to express “purpose” (noun 2 *education* is for the purpose of noun 1 *sustainability*). For instance: “*in their study for sustainability education, Wals and Jickling ..., suggest [that] because decisions about sustainability ultimately rest on different interests and values the concept needs to be openly challenged, negotiated and discussed rather than [avoided by] masking its complexity under a seemingly ‘shallow consensus’*” (Rogers, 2016, p. 221).

The prepositional *of*-phrases (*sustainability of education*) and prepositional *for*-phrases (*education for sustainability*) can be described as the naming with post-modifiers. These types are widely used in academic literature concerning the topic under discussion. Obviously, it is so, because such structures are generally more common in academic prose than corresponding relative clauses. Not only do they allow a very dense packaging of the conceptualized idea. They also represent the identification feature of the concept, make it recognizable for interlocutors. For instance: “... *education for sustainability needs to do more than focus on the cognitive domain of learning and the development of skills or the psychomotor realm – to engage with in particular effective realm*” (ibid.). As is clear from the given context, they are sustainable values, belief, attitudes and behaviours that matter. Thus, the aim of sustainable education is to engage and enable learners to enact tools and

principles for the prospective societal transformation (ibid).

More extended structures manifest other constituents of the concept “Sustainability” as it is framed in educational discourse. For example, the phrase *education for sustainable development* entails subjects (in other terms, actors or participants) of the situation: “Does this form of education for sustainable development ensure a sufficiently radical reappraisal of the function and purpose of schools to help people build a personal and social capability so that, as lifelong learners, they are able to manage the tensions that arise between their own needs, those of others and critically, the needs of the planet?” (Clarke, 2013). This and other contexts, which were selected and analysed in this study, show that the participants involved into the process of sustainability education are to realize their good intentions, respond to conceptual and pedagogical shifts with the purpose of responsible treatment of resources and advancement of sustainable development.

Despite the fact that various structures are applied synonymously, they should be distinguished for their semantic features. The concept encoding has an iconic nature in the sense that a more compact structure carries more informational scope and less content. In contrast, a more extended structure, is opted for less informational scope but more content. For instance, the term *sustainable education* implies the whole paradigm change involving ecological and humanistic values. To the contrary, the term *education for sustainable development* occupies a tiny niche leaving the whole paradigm unchanged (Páll, 2021).

To sum, the frame of sustainability in educational discourse is maintained by the intentional concept including the following constituents: sustainability (purpose/intention); learners, educators (agents); challenge, negotiation, discussion, integration (actions and behaviours to exercise for achieving the goal of continuous well-being); creativity, capability, interest and value (skills and tools employed to achieve the goal of continuous well-being).

As to the evaluative aspect of the sustainability concept, it should be noted that it is highly appreciated in educational discourse and is placed among the discursive values: “*practices we see fundamental to effective sustainability education*” (Hunter, April and Hill, 2018); “*We suggest this [education for sustainability] offers fertile opportunity for students to cultivate the skills, dispositions, and motivation to make change happen*” (ibid.).

The evaluative component reveals how interlocutors make judgements about the concept, to what degree they like or dislike it, how their judgements agree with their expectations and self-esteem. The results of the contextual analysis showed that both adjacent and distanced language units can be used as the evaluation indicators. The proof can be found in the following quote: “... *the role of interdisciplinary knowledge in education for sustainability cannot be overstated; sustainable futures can only be enabled by a concerted engagement across all disciplines, both in terms of response to and amelioration of current challenges. Thus, we will educate for a world in which we are preventative and viable in our social, economic, and ecological arrangement*” (Davies, Devlin and Tight, 2010).

Firstly, the names of the concept, such as *sustainable futures* and *education for sustainability*, occur together resulting in nominative condensation. This tool appears to be efficient in enhancing a positive charge of the concept.

Secondly, the names of the concept occur in speech together with the positively charged vocabulary. Such indicators, which can be regarded as contextual evaluative cues, break into two subgroups. The first subgroup of cues, which are contextually close to the expressions referring to the concept, include words with inherent positive connotations. These cues contain positive semantic elements in their meanings and thus evoke good and approving associations, demonstrating that interlocutors experience good feelings about the idea of sustainability: (*not to overstate* “(not) to describe or interpret something in a way that turns to be more important and serious than it really is”, *concerted* “planned, arranged and performed together for a shared purpose; a kind of an effort that is determined and very serious”, *amelioration* “making bad or unpleasant situation better”, *viable* “able to work as intended or to succeed”).

The second subgroup of cues, which are contextually close to the names of the concept, include words with adherent positive connotations. These cues do not explicate positive associations, they rather imply them. It happens due to the fact that words with adherent positive colouring acquire it through the context. In other words, they are neutral lexical units which may become positively charged in speech depending on the communicative situation and linguistic environments in which they are used: *preventative* “intended to stop something before it happens” > “intended to stop something harmful before it happens”, *engagement* “the fact of being

involved” > “the fact of being interested”, *challenge* “a situation that needs a great mental or physical effort in order to be done successfully” > “enjoyable difficulty”, response “an answer; something said or *representing positive attitudes toward the environment*” (Karrow and DiGiuseppe, 2020).

Sustainability of education is in the same rank as the key human values of postmodernity: “*sustainable happiness... contributes to individual, community, or global well-being...and the environment*” (ibid.), “*sustainable development ... as an ethic of solidarity, equality, and mutual respect among people, countries, cultures, and generations ... in harmony*” (ibid.).

3.4 Metaphoric Representation of Sustainability in Education Discourse

It is important to discuss conceptual metaphors that manifest the concept of sustainability in educational discourse, because they serve as a bridge to understanding educational context that is shaped by particular social environment in which they evolve. In addition to that, conceptual metaphors are expressed by means of language units employed both in their direct and indirect meanings, hence provide information on the rhetorical value of the discourse engaging the concept.

Unexpectedly, conceptual metaphors engaged in educational discourse to represent the concept of sustainability are very few. We suggest that it might be attributed to the complexity of the environmental nature of the concept, that is its alienation with so many things that raise the concept to the level of abstraction (the conditions that humans exist, live and work in, as well as influence to improve them and act more effectively).

According to the results of our research, the key conceptual metaphor employed to manifest the concept is the metaphor of the container. It is a kind of ontological metaphor based on spatial relations of “having the inside and the outside of something”. The container metaphor is recognised by cognitive linguists as one of the most significant and deeply engraved metaphors (Alejo, 2010).

The metaphorical thought of speakers is embodied in expressions realizing orientational relations (“*educational dimensions of human nature*” (Kazepides, 2010)):

on – under, where sustainability is represented as a cover of something or the basis for something (“*practices of sustainability and sustainable development on various academic disciplines,*

done as a reaction” > “something said or done as a positive reaction to positive stimuli”).

In the evaluative terms of a new ecological paradigm, sustainability is described as “*A worldview institutional practices, fields of study and methods of enquiry*” (Cullingford and Blewitt, 2013); “*how the concept of change underpins quality ... education by acknowledging the commonplace perceptions of the arts in society ... This leads us to rationale for why an integration of sustainability and ... education makes good educational sense*” (Hunter, April and Hill, 2018);

in – out, where sustainability is represented as a source of something (“*integrated in ... sustainability*” (Weder, Krainer and Karmasin, 2021); “*sustainability learning outcomes*” (Armon, Scoffham and Armon, 2020); “*A future that is big enough for all of us – animals in sustainability education*” (ibid));

from – to, where sustainability is represented as destination (“*learning from traditional wisdom*”, “*sustainability education from an indigenous knowledge*”) (ibid); “*...acquiring knowledge about sustainability – measuring and evaluating the performance to and away from sustainability*” (Rogers, 2013, p. 222).

Another metaphor, used to express the concept of sustainability in education, is linked to the ideas of the container and space. It builds on the orientational image-schema and adds to it. The following example is a vivid evidence to the representation of sustainability as the opening whole: “*a focus on a form of ecological consciousness that unites cognitive affective, imaginative, and spiritual perspectives. While the term “comprehensive sustainability education” is used ... to denote a relational, holistic, participatory, and systemic approach, other terms have evolved to describe related educational practices*” (Armon, Scoffham and Armon, 2020); “*educators co-engage farmers in learning*” (ibid.).

At the same time educational discourse communicates on sustainability as a turning point, a border line, or a transition, conveying the idea of a positive change that leads to the creation of a new personality (“*sustainability education: transition or transformation*” (ibid.)).

This idea is supported by the image of a bridge allowing people an easier change from one state or situation to another: “*... ‘bridge at the edge of the world’ ... that will save humanity... What part will schools play in helping people... take the path towards this bridge?*” (Armon, Scoffham and Armon, 2020), “*integrative approaches to sustainable development*”, “*making the links*” (Filho et al., 2015),

“focus on sustainability but within cross-cultural, national, and geographical borders ... underpinnings of diverse opinions” (ibid., p. 9).

Sustainability in education is actualized as a continuity, a link, or a connecting part. This image prevails in the contexts discussing the relevance of interdisciplinarity, integration, inclusivity and engagement in learning: “to capture students’ views and attitudes towards sustainability issues”, “allowing experiential integration of knowledge”, “... learning for sustainability... students’ ability to engage in the classroom” (ibid., p. 8).

In similar fashion, sustainability in education is discussed in terms of communication, revealing the necessity of interactivity and a dialogue between the agents: “sustainable development, and intercultural dialogue through education, science, culture” (Karrow and DiGiuseppe, 2020), “promote dialogue among cultures and peoples” (ibid., p. 324). We cannot do more, but agree that “nothing will improve our schools and our society more than rich and genuine dialogue” (Kazepides, 2010). The metaphor of connection is realized with the help of metalanguage: *dialogue* “talk between groups, societies, etc.”, *to address* “to give attention or deal with somebody or something; to speak or write to someone”, *voice* “the sound that are made when people speak”, etc.

For instance, “in forward-thinking dialogue about how teachers might best address issues of sustainability in their teaching” (Hunter, April and Hill, 2018); “starting with new voices and diverse insights: better futures begin now” (ibid., p. 80); “but hear the river speaking of a different way of knowledging / being. This vision for sustainability education is riverspeaking...” (Corcoran, Weakland and Wals, 2017).

With the help of conceptual metaphors, our thinking and communication becomes more efficient as we can easier distinguish things from one another, describe our new experience by referring to something that we know well.

4 CONCLUSIONS

The findings supported the hypothesis that the concept of sustainability has developed as a cognitive response of speakers to profound changes in the postmodern era. The challenging circumstances, risks posed by global disasters to human existence, necessitated a revision of our environment and how we deal with it.

For this reason, we are witnessing integration of sciences, theory and practice, needs of nature and civilization, the whole society and its members. In the challenge calling for change, environmental discourse is merging with education to produce an ecometaphor which helps to communicate across various sciences and fields.

The findings about communicative means, tools and strategies preferred for verbalization of the sustainable education revealed transformations in modern education towards interdisciplinary approach, cooperation of individuals, creativity, critical thinking and exchange of knowledge. Doing so, we provide the higher standards of continuous existence, maximize environmental and humanistic values, approaching the new standards of continuous well-being.

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