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Editorial

Does Sustainability Languish in Education?

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Dear readers and members of Daugavpils University UNESCO Chair Open Network of the Journal of Teacher Education for Sustainability, we offer volume 25, issue 1 (2023) of the Journal of Teacher Education for Sustainability (JTES).

It was another test for the JTES team and the authors whose research was included in this issue of the journal. What will readers take away from this offering, and what will education researchers for sustainable development (ESD) continue to explore in the years to come?

The current Anthropocene Era involves a plethora of unsustainable wicked problems already present and it promises to multiply them with the energy determined at the beginning of the epoch. Will we find solutions to the complex and real-abstract problem of sustainability created by human attitudes, diverse activities and actions in nature? With each issue of JTES, the authors of research papers are becoming more open to the question of educating teachers and university teachers for sustainability. Over time, personally relevant research on various issues in teacher education has also become a driving force in the JTES debate.

The personal experiences of JTES authors are strengthened year after year and research on the nature of sustainability becomes a foundation for the authors' participation in JTES discussions to develop a broader perspective on the nature of sustainability and its role in the implementation of education.

In this issue, 33 authors from 11 countries share their experiences in education research in 10 articles. The common message that more or less emerges in these articles is the authors' conviction and call to seek sustainability through open inquiry learning, practiced in a holistic way in which the teacher's engagement with nature and environmental diversity are important, enabling critical and place-based teacher action. The link to sustainability is seen both in broader perspectives and in the specific issues of school and university education.

We would like to express our gratitude to the authors of the articles in this issue of the journal for their commitment to explaining the goal and results of their research and for daring to put their research in the perspective of the JTES experience. The perspective of the journal is enhanced year after year through each article published in it with new research ideas on the nature of sustainability that emerge in real educational research for sustainability. By thoroughly examining the JTES articles, it is possible to identify issues that confirm conventional ideas about sustainability and help to confront misunderstandings about the nature of sustainability. JTES articles on the search for the essence of sustainability provide an opportunity to see the personally meaningful and holistic nature of the sustainability phenomenon in a living system. In it, all that is personally meaningful is linked to the sustainability of the whole system, which

depends, to a large extent, on the relationship between nature and human beings and the implementation of their understanding in real life activities. In the JTES, optimism is to be found that commits itself to a holistic perspective in educational research. Educational research for ESD and the sustainability of education are influenced by changes in socio-economic conditions and educational policies. In recent decades, such influences have come from the combination of anthropocentrism and egoism in many people's experiences and consciousness, which created the precarious perspective of the Anthropocene and the series of wicked problems characteristic of this era. The resulting situation surprises even people and societies who have created these problems as a consequence of their own activities in the past years.

A difficult task for future cooperation emerged. How will the JTES team and researchers respond in the coming years? What can we learn from the JTES experience?

We are convinced *that the issue of the relationship between nature and human will continue to be relevant for a long time to come*. It is expected to be a challenge to the human species, first of all, to survive in the conditions created by the human species through the incompatibility of consciousness and actions with the evolutionary and ecological processes of nature.

It is clear that the nature-human co-evolutionary relationship and the possibilities of this complex relationship have not been exploited sustainably by the human species. The diverse opportunities that nature has given to the human species have not been exploited, although the potential is still there and renewable.

Metaphorically, this could be expressed in terms of the unsustainable living conditions and environmental influences that humans have created for themselves, which have led to the phenomenon of etiolation, which, for example, in plants and forests, is manifested by the wobbling of the species due to a lack of conditions essential for survival or intense competition in the environment. How will it be with sustainability in education under Anthropocene conditions? Will sustainability languish in education without ecological identity flourishing?

For a long time now, education researchers have been confronted with the realization that education in this century is inapplicable and unsustainable. The JTES debate also points to an important reason for the content of education, which inappropriately emphasizes the biological origin of the human species, its inextricable link to the environment and its dependence on the state of the environment, as well as its belonging to nature and life. We will continue to explore these issues, as there are a number of factors that push the role of consciousness of biological origins and ecological identity in unsustainable education.

Research papers included in volume 25, issue 1 (2023) are available at https://sciendo.com/journal/jtes but the summaries of ten research papers by 33 authors representing 11 countries are provided below.

In the first article, *Effectiveness of Interdisciplinary Instruction in Pre-service Teacher Education for Sustainability: Issues From the Big History and the Study of Climate Changes,* Diego Corrochano Fernández, Alejandro Gómez-Gonçalves and Beatriz Sánchez-Barbero from the University of Salamanca (Spain) analyze the impact of interdisciplinary instruction on the perception, awareness, and knowledge about climate change of 102 Spanish pre-service primary teachers using a pre- and post-test design. The findings demonstrate that pre- to post-test scores significantly increased in all the studied categorizations and that students' academic background influenced score improvement. Data also revealed that there was a positive and significant correlation between teaching capability perception and knowledge, suggesting that knowledge instruction was crucial for teachers' confidence in climate change education. The study also confirmed the opportunity to explore sustainable teacher education from an interdisciplinary perspective, carrying out congruent teaching from different approaches on a complex phenomenon to understand it in a holistic way.

The second paper, *Project-based Learning at a Saudi University: Faculty and Student Feedback*, by Hana Sulaiman AlRasheed and Amani K. Hamdan Alghamdi from Saudi Arabia confirms that education for sustainable development (ESD) flourishes with student-centered learning methods, including project-based learning (PBL). These methods are still new to Saudi Arabian

university students who tend to experience teacher-centered approaches. Saudi Arabia's recent policy decision to shift to a knowledge-based economy that respects sustainability will benefit from PBL-enhanced learning. The authors by small-scale qualitative study investigated faculty and students' feedback on their experience with PBL. Findings affirmed that project-based learning was well received at this Saudi college setting and it was strongly recommended as an important student-centered learning strategy that could prepare Saudi graduates for the 21st century knowledge-based economy.

In the third paper, *The Effect of Environmental Education Open Inquiry Learning Kits on the Environmental Literacy of Pre-service Biology Teachers*, the authors from Indonesia: Rifqi Rasis, Paidi, Suhartini, Heru Kuswanto, and Ratna Dyah Hartanti acknowledge that pre-service biology teachers' environmental literacy is still generally low and share the results of research by improving pre-service teachers' environmental literacy through the innovation of open inquiry learning kits. The results obtained from the research and development are open inquiry learning kits to improve the environmental literacy of students, which as a whole are suitable to use in environmental education lectures based on expert judgment.

In the next paper, *A Conceptual Framework for Sustainable Promotion of a Positive School Climate: Context, Challenges, and Solutions*, the team of authors from Latvia, Italy and the USA – Baiba Martinsone, Sergio Di Sano, Paola D'Elia and Tamika La Salle-Finley – approach sustainability as a dynamic, continuous, and long-term process of consciously and consistently implementing actions, strategies, and values at all levels and in all environments to facilitate and maintain a positive climate in educational settings. This conceptual approach, based on action research in the fields of education and psychology, will help to broaden perspectives on both positive school climates and sustainability to improve the understanding and practices of all stakeholders in education. This article presents a conceptual framework as well as guidelines for the assessment of sustainably promoting a positive school climate.

The fifth paper by Dunja Anđić and Sandra Mažar from Croatia, *Teachers' Connectedness to Nature, Education for Sustainable Development and the Contemporary Teaching of the Subject "Nature and Society" in Croatian Schools*, presents a study that examined teachers' Love and Care for nature as an important component of promotion of ESD and the practice of using modern approaches in teaching of the subject "Nature and Society". The results of the study showed that there was a statistically significant relationship between teachers' Love and Care for nature and modern approaches to learning and teaching the subject "Nature and Society" and the implementation of ESD in primary schools in Croatia. The results of this study are very informative as they highlight the importance of teachers' connectedness to nature, i.e., that there is a significant relationship between teachers' emotions toward nature and their work practices.

In their paper, *Diagnosis of Blue and Sustainable Entrepreneurship in University Education in Spain: A Case Study*, the authors from University of Granada, Fátima Poza-Vilches, and Juan José Arjona-Romero and Juan Jesús Martín-Jaime from the University of Malaga (Spain) claim that university education, in terms of its social and environmental responsibility, plays an important role in promoting local and global sustainability from its fundamental corporate principles: "Mission, Vision and Values". Four dimensions associated with fourteen values related to blue and sustainable entrepreneurship were considered in the study: "Entrepreneurship values", "Personal values", "Social values" and "Environmental values", which enabled the internal correlations that occurred between them to be seen, according to their level of presence in degree qualification syllabi at public universities in the region of Andalusia (Spain). The main conclusion is the importance of prioritizing the "Personal" dimension in university education as an exogenous variable that conditions the social and entrepreneurship values, which also has a direct effect on the values related to the "Environmental" dimension, with the purpose of achieving a balanced and significant presence of values related to blue and sustainable entrepreneurship.

The seventh paper, *Tracing the Sustainability Components in the Indian Tourism Curricula: An Exploratory Study*, by the team of authors – Mahendar Reddy Gavinolla, Bosipoina Golla Suneeth, Simran Kashyap, Jitendra Mohan Mishra, and Sampada Kumar Swain – representing

India, Latvia and Germany – state that tourism for its intrinsic character of people, planet and profit has been an enduring area of research for sustainable policy and practices. Planning and implementing sustainable tourism in India are largely shaped and groomed in the classrooms. Currently, over two hundred universities across the country offer tourism programs. The study aimed to understand the state of the tourism curriculum in relation to sustainability. Findings present a model on the effective integration of sustainable tourism theories and practices into tourism curricula. Study results revealed that the majority of the central universities integrated the sustainability components, while the majority of the state universities did not incorporate them and sector-specific institutes integrated fully the sustainability components.

The eighth paper, *Developing an Environmental Impact Assessment Methodology for Disc Golf Courses*, by the team of authors from Estonia – Marika Kose, Reeda Tuula-Fjodorov, Kristin-Marie Tappo, Tatjana Koor and Kandela Õun – is aimed to address the existing environmental problems with disc golf in Estonia and elaborate on the methodology for assessing the environmental impact of disc golf courses and using it as a teaching tool for rising environmental awareness of the students. Based on existing research, the environmental impact assessment methodology for disc golf areas was developed and tested. The developed methodology is relevant for discovering negative impacts and for minimizing them. It could be used as an assessment tool for service providers and destination managers. Using the methodology as a practical exercise proved to be an effective tool for rising the students' environmental awareness. This study focused on developing and testing the methodology for environmental impact investigation. The social impact was not specifically studied but, at the same time, gathering background information on disc golf courses in Estonia in media publications revealed that there were several cases where disc golf courses had caused environmental as well as social problems.

The ninth paper, *Online Adult Education for Sustainable Development: The Analysis of the Consequences of the Covid-19 Pandemic in Latvia*, by Inga Jekabsone and Ina Gudele aims to analyze how the recent transformation of adult education caused by the pandemic between 2020 and 2022 contributed to the sustainable development of Latvia. In order to achieve the aim, the authors used a scientific literature review to investigate the concepts of sustainable development and online adult education as well as their potential correlation, a survey of adult education institutions in Latvia, and statistical data analysis of adult education indicators. The main findings of the research show that during the pandemic when the in-person teaching process was restricted, the Latvian adult education sector experienced unprecedented digital transformation which positively contributed to the improvement of not only the digital skills of teachers and learners but also to the sustainable development of Latvia by facilitating access to potential learners living in rural areas and regions.

In the final paper, *Social Ecology and Environmental Diversity in Teacher Education*, the authors – David B. Zandvliet and Alisa Paul – from Simon Fraser University (Canada) offer reflections on the development and potential of a transformative teacher education project as one component of the Professional Development Programs (PDPs) at the Faculty of Education of a comprehensive Canadian university. The work of the teacher education program is set in Vancouver and utilizes the lenses of social ecology and environmental diversity (or SEEDs) to examine the roles of teachers in bringing an awareness of local/global sustainability issues to student learning experiences. Using auto-ethnographical methods, the current study reflects on a critical and place-based teacher education agenda highlighting democratic and participatory methods in its approach. The authors conclude that drawing from Bookchin's social ecology, their teacher education practices are based on the conviction that most of our present ecological problems originate with/in deep-seated social problems. It follows, from this view, that ecological problems cannot be understood, let alone solved, without a more careful understanding of our existing society and the irrationalities that often dominate it.

We are very thankful to all the authors who contributed to the development of the *Journal of Teacher Education for Sustainability* and shared the results of their research in volume 25, issue 1, 2023.