

SUSTAINABILITY IN SCHOOLS IN BRAZIL'S THROUGH ACADEMIC WORK: INTRODUCTORY NOTES

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ABSTRACT

Sustainability has become a challenge in the face of socio-ecological problems, as it has also stood out in the world media. However, this is a little known topic in schools in Brazil, as well as their teaching-learning strategies. Therefore, the aim is to analyze how higher education institutions have been dealing with teaching and learning for sustainability based on the academic works generated in in Brazil's graduate program between 2015 and 2020. The study was based on works defended in the postgraduate. A total of 12 dissertations and theses were included in the analyzes. After the analysis, it was found innovative and dynamic strategies for the teaching-learning of sustainability and, therefore, they are adequate and coherent to the purposes of the study.

Keywords: Sustainability. School. Teaching strategies. Academic works.

INTRODUCTION

Sustainability, originated from the verb sustain, is a very common word, either by deification or by contestation. It entered the Oxford English Dictionary in 1965, but it only gained notoriety after 1970 in view of the United Nations conferences on sustainable development. Searching for that word on Google Scholar, we found about 1,590,000 citations in 0.19 seconds; on the Google browser alone, on the other hand, that total went to over 920 million results in 0.79 seconds.

However, sustainability, in the context of Brazilian education, seems to be neglected and is not even mentioned, many times, in official documents, in curricula and in educational practices (Silva & Pontes, 2020). Therefore, it needs to be integrated into teaching, from children to higher education, through teaching-learning strategies (Bordenave & Pereira, 1991) that lead to thinking, learning and critical and creative action to face challenges such as poverty, environmental degradation, pandemics, etc. In addition, it needs to go beyond the goals of the UN Decade of Education for Sustainable Development, due to failures to recognize the primacy of neoliberalism as a limitation of transitions to genuine sustainability, as stated by Wals (2020).

At the General Assembly of 25 September 2015, the United Nations released a resolution in which a new post-2015 development agenda was adopted to be followed by all Member States, with a view to eradicating poverty, protecting the environment and to improve the quality of life for everyone on the planet, with the prospect that no one will be left behind. The agenda was named "Transforming our world: the 2030 Agenda for Sustainable Development", as it contains 17 Sustainable Development Goals (SDGs) and 169 Goals to be achieved in up to 15 years. However, in 2020, in the face of sustainability crises, it was found that the actions of progress and prosperity did not reach many places and that, for this reason, the United Nations

inaugurates a decade of actions (2020-2030) for the fulfillment of the goals. Among the objectives of 2030 Agenda, we highlight SDG 4, named Quality Education, which aims to ensure access to inclusive, quality and equitable education, and to promote transformative lifelong learning opportunities for all (United Nations, 2015).

Quality education has become a key idea for achieving sustainability, as it is concerned with human complexity, with existential issues and with sustainability challenges (Wals, 2020). Therefore, we seek to analyze how higher education institutions have been dealing with teaching and learning for sustainability based on the academic work generated in postgraduate school between 2015 and 2020.

METHODOLOGY

This is an exploratory, cross-sectional, descriptive study with a qualitative approach (Richardson, 1999; Cresweel, 2014). The study analyzed academic works from different areas of Capes - among the three colleges: Science of Life; Humanities; and Exact, Technological and Multidisciplinary Sciences. In other words, there were master's dissertations (academic or professional) and doctoral theses defended between 2015 and 2020, addressing sustainability at school, which are available at the Brazilian Digital Library of Theses and Dissertations (BDTD) at <http://bdtd.ibict.br/vufind/>.

Academic works, with free and public access, were obtained in institutional digital repositories from BDTD, so we disregard the approval of an Ethics in Research Committee. The analysis was limited to works that presented teaching-learning strategies of "how to teach better without massing or making things more student" (Bordenave & Pereira, 1991, p. 9, emphasis added).

RESULTS AND DISCUSSION

The results showed that, after searching the BDTD, considering all fields (title, author and subject) and the keyword "sustainability at school", 18 academic papers were obtained, including 15 dissertations and 3 university theses: UFRGS, UNB, UFRN, USP, UFC, UFPB, UFPR, UFTM, UNESP and UNIFOR. Of this total, only 12 dissertations and 1 thesis were part of the analysis because they met, in part or in whole, the inclusion criterion: teaching-learning strategies on sustainability at school.

The analyzed works are predominant in the areas of knowledge of Capes, such as Education, Geography, Environmental Sciences, Administration, Biological Sciences, Engineering, among others, which have been concerned, even if in a limited way, with the approach of sustainability in the school, demonstrating social responsibility of these university institutions with the concern of the current socio-ecological challenges and collapses (many still absent from the classroom) and with the 2030 Agenda action plan. Of the academic works analyzed, only 5 of them mentioned the 2030 Agenda, with emphasis on the SDG 4.

The works presented a range of suggestions for innovative and dynamic strategies for teaching and learning about sustainability, such as: use of mind maps; development of ecological corridors; outdoor learning; middle study; creation of green spaces; use of drawings; experiences of integrating indigenous education; reactivating memory workshops; strategies for rationalizing water use; didactic sequence of readings and textual production; elaboration of activities notebook; suggestions for debates; construction of evapotranspiration tanks for the treatment of black water; inclusive pedagogical action for disabled students; music as a

mobilizing axis for sustainability; and didactic guide for the insertion of sustainability. Even with this list of teaching-learning strategies, we found, due to the low number of academic works produced, that this is an approach that is still little present in scientific production and in schools in view of the seriousness of the current sustainability crises.

CONCLUSIONS

The results showed different teaching-learning strategies, through dissertations and theses, which can be used in teaching-learning sustainability at school. The strategies, evidenced by these academic works defended in Brazil, are adequate and consistent with the objective of the study. However, there were gaps in the studies analyzed, such as, for example, the non-citation of active methodologies that can be associated with the sustainability approach, such as: project-based and problem-based learning; and by gamification, important to the formation of critical thinking. In addition, it was also found that the use of Artificial Intelligence (AI) techniques was not mentioned at all, right at a time when online learning gained primacy with the closure of schools by Covid-19, a time when AI enables the innovation of teaching practices and the acceleration of progress towards quality education (Unesco, 2021).

REFERENCES

- Bordenave, J. D. & Pereira, A. M. (1991). *Estratégias de ensino-aprendizagem*. 12. ed. Petrópolis: Vozes.
- Cresweel, J. W. (2014). *Investigação qualitativa e projeto de pesquisa*. 3. ed. Porto Alegre: Penso.
- Richardson, R. J. (1999). *Pesquisa social: métodos e técnicas*. 3. ed. São Paulo: Atlas.
- Silva, V. P. & Pontes, J. C. (2020). Educação para a sustentabilidade em currículos da educação básica: implementação e desafios. *Brazilian Journal of Development*, Curitiba, 6, 5, 30320-30330, May.
- Unesco. (2021). *AI and education: guidance for policymakers*. Paris.
- United Nations. (2015). *Transforming our world: the 2030 Agenda for sustainable development*. UN.
- WALS, AEJ. (2020). Transgressing the hidden curriculum of unsustainability. *Educational Philosophy and Theory*, 52, 8, 825-826.