

# Review of: "Fostering Sustainable Development Goal-4 Through Culturo-Techno-Contextual-Approach in Innovative Steam Education: A Policy Assessment"

Peter Glavic<sup>1</sup>

<sup>1</sup> University of Maribor

Potential competing interests: No potential competing interests to declare.

The article addresses integration of a Cultural-Technological-Contextual Approach (CTCA) in innovative Science, Technology, Engineering, Arts (Humanities, and Cultural Sensitivity are mentioned, too), and Mathematics (STEAM) education. CTCA can significantly contribute to the achievement of Sustainable Development Goal 4 (SDG-4, Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all). STEAM focuses on sparking imagination and creativity through the arts in ways that naturally align with STEM learning.[1] The authors' approach emphasizes the importance of CTC considerations in designing educational policies and practices. Some CTC items in STEAM education are mentioned, such as integrating indigenous strategies, maker spaces (maker-spaces are designed to challenge students to create and learn through hands-on, personalized experiences throughout elementary, middle, and high school[2]), immersive technology, project-based learning, and collaborative platforms.

The authors do not state whether they are dealing with K-12, secondary, or tertiary education. Some references are presented in groups without being specified in further discussion. The results are not based on research activity; they originate from literature review, critical thinking, and logic, leading to general conclusions. There are no concrete suggestions for what and how to include in STEAM education – educational ministries should develop assessment methods that align with the principles of the CTC approach.

The abbreviation MDGs means Millennium Development Goals. Vygotsky's and Ausubel's theories are mentioned several times in the text and in Fig. 2, but no reference to them is given neither in the text nor in References. There are some unnecessary repetitions in the text. Page and chapter numbering are missing in the article. Figures are mentioned in the text after they are presented (the Qeios journal webpage does not contain any guide for authors).

[1] The STEM vs. STEAM Debate, 2024, National Inventors Hall of Fame.<https://www.invent.org/blog/trends-stem/steam-defined>.

[2] What are the Benefits of a Makerspace? 2024, National Inventors Hall of Fame.<https://www.invent.org/blog/trends-stem/benefits-makerspace>.