

Exploring the Limits of Knowing and Discovering Reverence: The Shift from STEAM to CREATIVE Learning

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We live in an era of ecological emergency that is the inevitable consequence of our alienation from the Earth, and Sea. We feel that an axiological shift that challenges our existing and collective relationship to the environment can help facilitate a movement towards ecological reverence. In this presentation, Shane, Robyn and Megan theorize, conceptualize and operationalize reverence as an essential element in science education. It is our intention through our presentation to shift the narrative in science education from Science, Technology, Engineering, Art and Math (STEAM) to CREATIVE, an acronym of science teaching and learning that includes all the elements of STEAM (with Calculation being used as a substitute for math. We feel that Calculation might be more inclusive as it incorporates abstract math concepts while also allowing for the application of these concepts in areas such as risk calculation (Kvalnes & Sandseter, 2023) in education contexts that promote risk taking) but also opens up a space for Reverence, Innovation, and the Environment (Calculation, Reverence, Environment, Art, Technology, Innovation, Values, and Engineering).

References

- Ashley, R. (2022). Constructing perspectives of child-nature relationships in early learning curriculum frameworks. [Unpublished master's thesis]. Mount Saint Vincent University.
- Kovac, J. (2013). Reverence and Ethics in Science. *Science and Engineering Ethics*, 19(3), 745–756. https://doi.org/10.1007/s11948-012-9397-0
- Packer, M. J. (2011). The science of qualitative research. Cambridge University Press.
- Solomon, R. C. (2002). Spirituality for the Skeptic: The Thoughtful Love of Life (1st ed.).

 Oxford University Press, Incorporated.

 https://doi.org/10.1093/0195134672.001.0001
- Wilson, S. (2008). Research is Ceremony: Indigenous research methods. Fernwood Pub.
 Woodruff, P. (1997). Reverence: Renewing a Forgotten Virtue (1st ed.). Oxford
 University Press.