

Well-Being and STEAM Cohort



Key Question:

How to define well-being and best utilize this concept within the context of equitable ISL STEAM education.

Cohort Members:

- ▶ John Falk (Lead)
- ▶ Hannah Eisla
- ▶ Madeleine Fontenot
- ▶ Rob Gorbet
- ▶ Alexandra Hesse
- ▶ Max Metz, Jr.
- ▶ Jill Stein
- ▶ Karen Stevenson

Key Findings



Definition

- There are currently many ways of defining well-being, though most academics use positive psychological definitions based upon Euro-centric world views.
- We prefer a definition that frames well-being as a never-ending, survival-related phenomenon related to achieving BALANCE with the world, in which the perception of well-being is culturally defined and personally constructed and lived.

Implications

- Since striving for well-being is a fundamental life process, informal STEAM educators need to understand and seek to accommodate learners' pre-activity well-being-related needs and interests.
- Equally, enhanced well-being should also be considered as a primary goal/outcome of any successful and equitable Informal STEAM Learning experience.

Priorities for Future Research



- ▶ Overall, despite increased interest in, and considerable use of the term well-being within the informal STEAM learning community, there is confusion about both the definition of well-being and its use.
- ▶ In general, we could find relatively little research or actual practice explicitly focused on supporting equitable well-being-related outcomes.
- ▶ Most of the well-being-related research and practice that currently exists has primarily focused on the arts rather than STEAM, and in a majority of cases utilized the narrow, Euro-Centric, Positive Psychology definition of well-being that we reject.
- ▶ Clearly, more work in this area is needed.

Case Study 1: 13 Moons: An Informal Environmental Health and Sustainability Curriculum

13 Moons is an NSF-supported project designed to support Swinomish community members and youth in connecting to their cultural knowledge and practices around traditional foods and plants, and to build healthy communities from a cultural lens.

Key Outcomes for Swinomish community members include increased connection to traditional culture and lifeways; opportunities for intergenerational learning; building connection to community, land, and place; increased awareness and understanding of traditional foods and medicine plants; and increased motivation to implement healthy lifestyles, traditional practices and harvesting (holistic well-being).



Case Study 2: Inquiry-Based Learning for Educators

Hands-on learning sessions at Shedd Aquarium's Science Educator Conference engage educators in inquiry-based methods that foster intellectual well-being through curiosity, critical thinking, and problem-solving.

Key Outcomes:

- Educators practice innovative strategies and enhance student engagement using inquiry-based approaches personalized to the needs of learners.
- Participants gain ideas and resources for integrating inquiry science into classroom settings, improving science education equity and meaningfulness for learners.



Case Study 3: Culturally Sustaining STEAM

Culturally Sustaining STEAM is an NSF-supported collaborative, designed-based project involving teams of researchers, practitioners, and evaluators exploring ways of co-creating culturally sustaining, place-based, well-being-enriching experiences for rural families.

Key Outcomes:^{*}

- Centering the values, worldviews, needs, experiences, knowledge, and interests of the participants.
- Building a community where individuals feel a sense of belonging in both the program and informal learning spaces and environments.
- Ensuring that participants leave with a deeper understanding of the broader community, their own communities, each other, and themselves.

^{*} Cid, Siegel, Stein, Bonebrake, Trecha, & Oyenuga (2024)



Some Key Resources

Seligman, M.E.P. (2011). *Flourish: A visionary new understanding of happiness and well-being*. Free Press.

Ryff, C.D. (2014). Psychological well-being revisited: Advances in the science and practice of Eudaimonia. *Psychotherapy & Psychosomatics*, 83(1), 10-28.

These are two particularly notable examples of the numerous articles that define well-being through the Euro-centric lens of Positive Psychology.

Falk, J.H. (2021). *The value of museums: Enhancing societal well-being*. Lanham, MD: Rowman & Littlefield.

Falk, J.H. (2024). Museums and well-being. *Standbein Spielbein*, 121, 19-23.

These are two publications that redefine well-being through a more evolutionary, culturally & ISL-relevant lens – emphasizing the multi-dimensional and situational nature of personal, intellectual, social, and physical well-being.

Donatuto, J., Cambell, L. & Gregory, R. (2016). Developing responsive indicators of indigenous community health. *International J. of Environmental Research and Public Health*, 13, 899-915.

Gustafson, J. (2018). Integrating wellness into STEM education. *Alliance for a Healthier Generation*. <https://www.healthiergeneration.org/articles/integrating-wellness-into-stem-education>

Cull, R. & Cull, D. (2022). *Museums and well-being*. London: Routledge.

These are three examples of the numerous publications that seek to operationally connect well-being to practice – the Donatuto et al. article is exemplary for both its process and rigor. The Gustafson piece is much more of a “show & tell”. The Cull & Cull book is an effort to provide a framework. However, as with most current efforts, there is a tendency to equate well-being with health and wellness, rather than more expansively and inclusive of the wider range of human behaviors our approach to well-being seeks to describe.