Body and Mind: Incorporating Soma Design Principles in Educational Design

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ABSTRACT

This position paper proposes that in order to improve educational quality and foster learners' well-being, educational designers should apply the ideas of soma design to their work. Soma design is a holistic method that takes into account how the body, mind, and emotions are integrated into the design process. We believe that educational designers can develop learning environments and experiences that go beyond conventional forms of education, encourage well-being, and raise the bar of education for more students by using soma design as a lens. We address possible implementations of soma design in education, emphasising diversity, meaningful learning opportunities, and enhanced learner wellbeing.

KEYWORDS

Soma design, K-12 education, educational design, project-based learning, emotion

INTRODUCTION

Soma design is a relatively new and emerging field that focuses on the integration of somatics-body, mind, emotion, empathy, intersubjectivity-in design [7]. Soma design can guide the development of products, settings, and experiences that nurture wellbeing and improve quality of life by taking into account the user's full experience. Somatic design has been used in a number of areas recently, including virtual reality [4, 14], somatic awareness [8, 12], and women's health [2, 5, 11]. But soma design's potential in education hasn't been completely explored [15].

We argue that soma design should be used as a lens by educational designers. Educational designers must take learners' physical, emotional, and psychological experiences into account in order to improve the quality of education. Educational designers can develop educational experiences that go beyond traditional forms of education and engage students in a more meaningful way by embracing soma design principles.

The following sections will explore how soma principles can be applied to educational design, how soma design can inform K-12 project-based education, and how soma design can improve emotional and social awareness in the classroom.

SOMA DESIGN AND EDUCATIONAL DESIGN

The systematic and deliberate process of developing educational experiences, environments, and resources that support and promote learning is known as educational design. Designing learning activities, assessment activities, learning environments, and educational technologies are all part of this process. We can design learning environments that are more inclusive, embodied, and that allow students to take more agency over their learning by incorporating somatic design principles into educational design. Somatic design focuses on the body and its relationship to technology, environment and the wider world. Educational design can benefit from this perspective by considering how technology and the physical environment impact students' physical, emotional and cognitive well-being, and design accordingly to enhance the learning experience.

Inclusively. Somatic design considers the variety of body types, abilities, and life experiences. By developing adaptable and accessible learning environments that meet the requirements of all students, including those with disabilities and those from different cultural backgrounds, educational designers can apply this principle.

Embodied learning. The somatic design emphasises the significance of the body. Students can engage their bodies and senses through movement, touch, or other hands-on experiences by using this approach in educational design.

Agency. The aim of somatic design is to enable the individual to fully appreciate their experience. This idea can be put into practise in educational design by developing learning opportunities that enable students to take charge of their education and make decisions in line with their own feelings, perceptions, and values.

SOMA DESIGN IN PROJECT-BASED LEARNING

In many countries of the OECD, K-12 education is slowly moving away from its traditional, teacher-centric past and towards one that is more open and student-centered. Different types of project-based education have been implemented, such as design-based learning (DBL) and maker education (ME) [16].

DBL and ME often involve solving problems through hands-on activities and experimentation, requiring students to apply concepts in a tangible way. This physical engagement with problems can help students understand the connections between abstract concepts and real-world applications. By incorporating soma design in DBL, students could gain hands-on experience and develop a deeper understanding of how to design and develop technology that interacts with and enhances the human body. Some examples of possible projects that we imagine could be implemented in K-12 education:

Wearable technology projects. Students could work in teams to design and create their own wearables or e-textile projects, learning about the technical and design aspects of these technologies along the way.

Biodata sensing. Students could learn about how to collect and analyze data from biodata sensing devices, such as wearables, and use this data to design and prototype solutions that improve human well-being [10] or create artistic expression [9].

Soft robots. Students can design and build their own soft robots using materials such as flexible polymers, silicone, or fabrics [17]. This can teach them about the principles of robotics and the potential of soft materials.

Body mapping & soma trajectories. Students can create a visual representation of their own body to understand their physical sensations and emotions [1] or create soma trajectories that allows them to showcase somatic experiences over time [13]. This can help students to reflect on their body and develop body awareness.

Emotional landscapes. Students can design an emotional landscape that reflects their current emotional state [3]. This can include physical representations of emotions or emotional experiences, such as drawings or sculptures, or sensory experiences that help to evoke specific emotions.

Soma-Reflective Tools. Students can design tools that promote self-reflection and awareness of the body and emotions. For example, they could design a journal or app that helps students reflect on their physical and emotional experiences [6].

Emotional dance. Students can explore movement and dance as a means of expressing emotions and promoting well-being. They can create original dance pieces that express their emotions and showcase their understanding of the relationship between movement and emotions.

Soma design is also a multidisciplinary field with the potential for real-world applications, drawing on expertise from numerous fields. Students may have the chance to collaborate across disciplines on projects that are valuable to them thanks to project-based learning that includes soma design. Additionally, it might entail educating students about the intersectionality of many identities and how this can influence how they interact with technology.

SOMA DESIGN AND EMOTIONAL/SOCIAL AWARENESS

We can design learning experiences that encourage emotional and social awareness, empathy, and wellbeing while also better meeting the needs of all students by bringing soma design concepts into K–12 education.

Learning Experiences. The use of somatic design into educational tasks and lessons can improve students' emotional and social development. Activities that promote empathy, compassion, and social awareness as well as those that inspire pupils to consider their own feelings and experiences should be designed.

Sensory Environments. Soma design can inform the design of sensory environments that promote relaxation, stress relief, and emotional regulation [12]. This can be achieved, for instance, through the use of sensory materials, lighting, and soundscapes that can evoke positive emotions and support the regulation of emotions.

Mindfulness Practices. Students can develop greater self-awareness by adding mindfulness techniques into their educational experiences. Activities like breathing exercises, meditation, or yoga that are guided by soma design informed technologies [8, 12] can help to develop mindfulness and emotional regulation.

CONCLUSION

The quality of education and the wellbeing of students may both be improved by incorporating soma design principles into educational design. By taking into account the body, mind, and emotions of learners, it is possible to design learning environments that are more engaging, meaningful, and supportive of well-being. To create educational experiences that assist the whole student, educational designers should engage in collaboration with other experts and take into account the possibilities of soma design as a lens for their work. This would enable them to contribute to the development of a more holistic, embodied, and well-rounded approach to education.

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