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## Whole Institution Approach for Sustainability and Transdisciplinarity



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## Introduction

Renowned Chilean scientists Humberto Maturana and Francisco Varela said, “living is a learning process” and proposed the theory of autopoiesis to explain how living beings emerged which led to their Santiago Theory of Cognition (Maturana and Varela, 1998). They affirmed that learning is associated with the creative process that leads to the emergence of living beings. As living beings, we are constantly learning through our interaction with the environment, and through this interaction and learning we self-organize and self-create (autopoiesis). It is through this constant learning that living beings, after thousands or even millions of years, evolved the best traits like eyesight, teeth or roots best adapted to their environment. Although Maturana and Varela’s theory focused on the learning process of the emergence of life forms, academics (Gutiérrez and Prado, 2004; Assmann, 2002) have also used these ideas to understand the holistic nature of the learning process. It is a realization that we are constantly learning from what we perceive, in this sense, students and staff are learning, consciously or unconsciously, from the way a classroom is set up, the attitudes and cultural norms of students and staff, how bathrooms are set up, the food offered and so on. If we understand living as a learning experience, we can realize that education (formal, nonformal or informal) has a fundamental role in influencing learning, therefore, in our living experience, the way we perceive the world, and how to make sense of

situations and our values and ethical principles.

In this context of understanding the holistic nature of learning, the concept of “whole institution approach” emerged and is considered by UNESCO as the recommended strategy to implement education for sustainable development (ESD) (Kohl, et al., 2021). ESD is an education agenda that can be traced back to Agenda 21 (the resulting programme from the United Nations Earth Summit held in Rio de Janeiro, 1992) and consists of a series of ongoing efforts to transform education practices and systems to better address the world’s complex sustainability issues. It recognizes that education is central to the quest for sustainability, but not any type of education; it is an education that leads to personal and social transformation (UNESCO, 2012). This entails that is not an education “about” sustainable development, but “for” sustainable development, that is, going beyond sharing information to enable actions that lead to the practice of sustainability. This requires a transformation of the education practice “to enable learners to live what they learn and learn what they live” (UNESCO, 2020), and the whole institution approach for sustainability is considered a good strategy to achieve this transformation. In the latest policy document of ESD: “Education for sustainable development. A Roadmap” (UNESCO, 2020), the whole institution approach is highlighted as a



strategy to implement the objectives of Priority Action Area 2: Transforming Learning Environments.

In this article, I intend to explore the concept of whole institution approach (WIA) for sustainability as a way to enhance quality education, bring perspectives from transdisciplinary research and how this can contribute to clarifying the path to implement WIA.

Transdisciplinarity is a response to a different way of building scientific knowledge that best fits to the sustainability crisis in which we are living. It is a realization that fragmenting and compartmentalizing knowledge will perpetuate our ongoing crisis. Also, realizing that western scientific knowledge is not the only valid source of knowledge, there are other perspectives and types of knowledge that together can bring about the necessary solutions to the complex issues we are facing.



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## What is Whole Institution Approach for Sustainability?

The whole institution approach (WIA) is a strategy to mainstream sustainability into all aspects of the learning environment [Holst, 2021], or to “walk the talk” in terms of sustainability commitments. The word “mainstream” refers to a complex process of integrating sustainability in all areas of education practice. What are these areas? Although different authors express these in different ways, the following contains the main aspects that are consistently referred to in different publications [UNESCO, 2012; Wals, 2012; UNESCO, 2014; Jiménez, 2019; Kohl et al, 2021; Holst, 2023].

- Content [Curriculum]
- Pedagogy [Methodologies]
- Infrastructure [classrooms, gardens] and Operations [environmental management]
- Interaction with surrounding community
- Student life and institutional culture
- Institutional policies and governance
- Special events
- Capacity building
- Research

WIA can be considered as the organizational manifestation of an integrative view on sustainability in education [Sterling 2003, in Holst 2023].



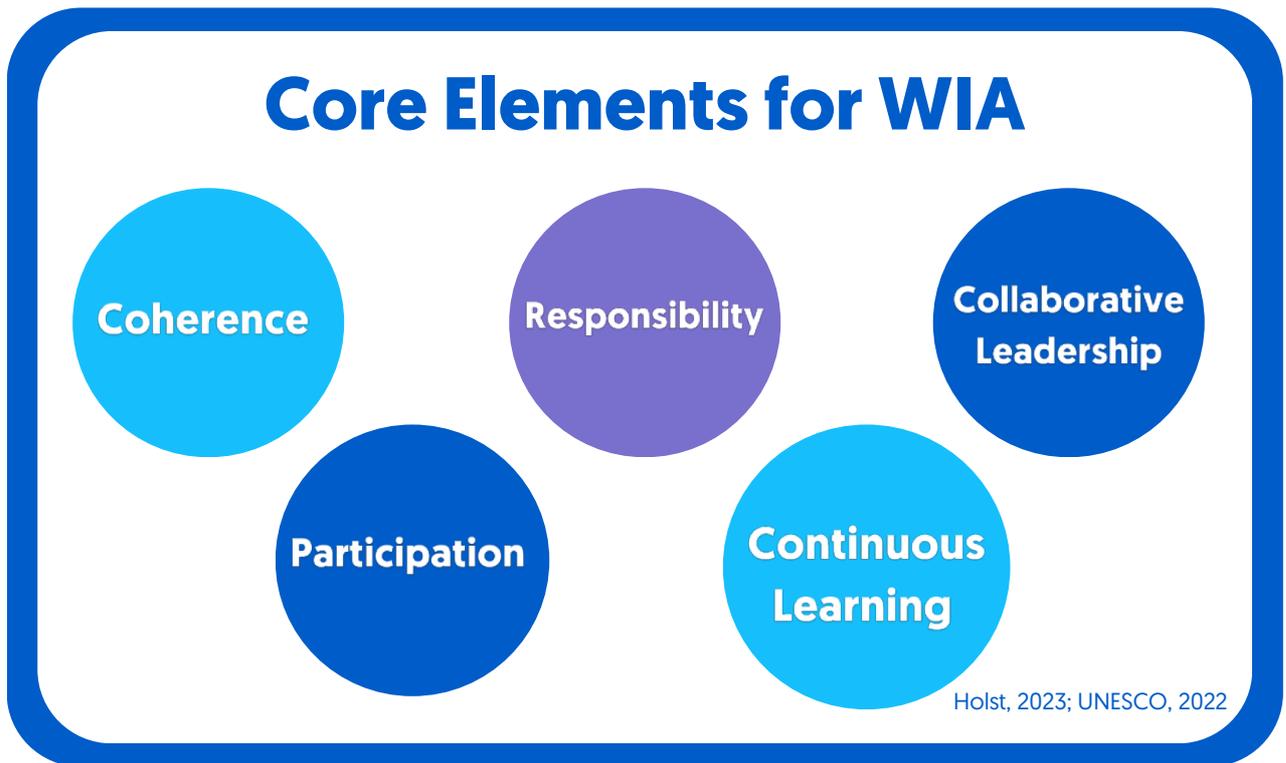
The implementation of WIA seeks coherence between what is taught and what is lived and done in the education institution with respect to sustainable development. This coherence involves the participation of the educational community, where students, staff, parents and the community know about the purposes of the school and its commitments to sustainability and are involved in the actions that are generated for the practice of sustainability, in a contextualized and reflective way [Mogren, et al., 2019].

The aspiration is that all members should feel responsible for the needs of the school community and have an active role, participating in continuous and cyclical learning processes of improvement that lead to identifying and addressing the needs of the school community. The role of the organization's authorities is key in exercising collaborative leadership, opening spaces for participation and listening to the educational community.

Implementing WIA should result in the emergence of a sustainability culture or ethos in the institution. For this to happen, it is important to integrate the values, principles, knowledge, skills and vision of sustainability in all areas of action in the institution, which include the formal education process but also the informal or hidden curriculum, through a permanent school planning and [self] evaluation [UNESCO, 2012, 2014].



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## What Steps can be taken to Implement a WIA?

A holistic strategy using WIA for sustainability is not linear; therefore, there is no standard method of utilization. There are some widely applicable methods, but each process is unique based on the context of the institution. Some institutions may start at the governance level, generating commitments to sustainability from the authorities, writing policy documents in a participatory manner and incorporating a diverse group of stakeholders; this would then be communicated with all the education community. Collaborative and decentralized leadership (in the form of committees or working groups) may be most useful in an institution where dialogue spaces are open to generate favourable conditions for collective action. Dialogue,

as Wals et al. (2012) affirm, is a catalyst for individual and social transformation of worldviews, behaviour and social organization.

Sustainability actions in the areas of operations (environmental management) and infrastructure could be good starting points for some institutions. These include tangible steps like reducing the ecological footprint, decreasing pollution and improving the well-being of the education community which could include creating gardens and relaxation areas. For WIA the key aspect is to connect these efforts done at the infrastructure and management level with the curriculum (UNESCO, 2022; Holst, 2023), so students can learn sustainability in a practical way, getting involved with the



efforts that the institution takes and moreover, proposing actions to improve what is done. In addition, students and professors can reflect on the sustainability actions of the institution in the classroom and generate a more complex view about what they see in practice.

The curricula and pedagogy should reflect knowledge, skills, perspectives and values related to sustainability in a crosscutting way in all subjects, practicing inter- and transdisciplinarity. Both what is taught and how it is taught are equally important. Curriculum planning should reflect the systemic view required to understand sustainability, a viewpoint that considers the interrelation between the social, economic and environmental aspects (UNESCO, 2022; Holst, 2023). This is an important challenge for any education institution, as this is the biggest transformation of the conventional education system, shifting away from a strict disciplinary and fragmented perspective to a more systemic one.

Project-based learning based on real world problems is a good way to start the process of incorporating a more systemic perspective in the curriculum and to practice interdisciplinarity. Moreover, if these projects incorporate and engage students and professors, but also local community members and other stakeholders and are framed as transdisciplinary research projects, then opportunities to practice WIA are increased. In this sense, transdisciplinary

research and teaching is a gateway for WIA. It can make WIA more tangible for the education community, providing a framework to collaborate with external stakeholders and enabling the education institution to foster transformation towards sustainability beyond the institution's walls.

Practicing WIA for sustainability will impact the institutional culture or ethos, from events and festivals to normal daily routines, the presence of values and ethical principles associated with sustainability can be perceived even by visitors outside the institution, who could have a transformative learning experience just by visiting the institution.

## **Transdisciplinary Research and its Contributions to WIA**

From the early attempts to define what ESD is [e.g Chapter 36 of Agenda 21; Tilbury et al, 2002], it was conceived of as a transdisciplinary effort:

To move forward (in reorienting education towards sustainability), leaders and individuals from traditional disciplines need to develop ESD in a transdisciplinary manner. These leaders and skilled professionals should work collaboratively with other sectors including various ministries and NGOs to develop activities ranging from policy to community-based projects. However, each discipline involved in ESD should continue to develop



its own discipline and subject areas, each with its own perspectives, strengths and skills. The strength of ESD will come through diverse disciplinary contributions woven together to accomplish a shared vision of sustainability. (Hopkins and McKeown, in Tilbury 2002 p.18)

Nonetheless, the wording of transdisciplinarity is not prevalent in the way ESD practitioners present their work, nor in the conceptualization of WIA.

Transdisciplinary research, as Bergmann et al. [2021] affirm, aims to contribute to understanding and solving complex real-world problems through collaborative and participatory processes that bring together not only scholars from various disciplines, but also other non-academic stakeholders. It is a research approach that transcends discipline boundaries, integrates different perspectives and validates different types of knowledge, to generate something new, context-based and appropriate.

Conducting transdisciplinary research can be considered to be an education process that promotes the type of competencies associated with ESD. Bergmann et al. [2021], referring to Schöpke et al. 2018, mention that the type of collaboration needed to generate transdisciplinary research implies the development of certain individual and social competencies such as anticipatory, normative or system thinking competencies, as well as dialogue, empathy and listening skills that could be strengthened when students get involved with experiential transdisciplinary research projects.

Through systematizing transdisciplinary projects happening in Germany and Austria, Schäfer et al. [2021], identified positive results due to the projects' participatory approaches. Most successful projects were those that were able to institutionalize the recommendations set forth, form platforms, alliances and committees that would take over the work after the project completion. For example, they mentioned the development of mutual understanding as an important factor to the integration of knowledge from different disciplines; this understanding comes from developing interpersonal relations first. An aim of many transdisciplinary projects is building trust which is key to forming formal or informal networks; this also may include bringing together stakeholders who normally would not interact. Generating dialogue and having common ethical principles as a foundation is instrumental as well.

Participatory approaches can be brought to curriculum design in both basic and higher education. Holst [2021] refers to examples where curriculum was co-designed with learners, non-teaching staff and even community partners, making the curriculum more relevant to the learners with higher possibilities to contribute to societal change. Project-based learning is another way to develop sustainability competencies. Transdisciplinary projects in higher education and possibly in basic education bring about the conditions to generate these types of learning opportunities.



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## WIA and Institutional Ethos

WIA can transform an organization's culture towards sustainability by institutionalizing this in different forms like institutional policy, committees and networks. The Earth Charter can serve as an important tool to accelerate this process of building the culture of sustainability in an education institution, because less time will be lost in identifying what values and ethical principles are associated with sustainability that the institution can integrate. The Earth Charter offers a framework or first step to avoid starting the conversation from scratch, having a set of values and ethical principles for the institution, through internal and participatory dialogue processes, can identify which of those values are more pertinent and how to contextualize them.

Generating capacity building with the Earth Charter also opens opportunities to strengthen emotional competencies in learners and educators, which, according to Holst [2021], are fundamental to facilitate

a motivational and empowering institutional climate and are competencies associated with ESD.

## Motivating Change Towards WIA

Educational institutions that aim at generating transdisciplinary research on sustainability could enhance the quality of education they provide if their inner practices are coherent with the sustainability principles and actions, also engaging in a more meaningful way with societal actors. That is, if they “walk the talk,” that could ease the way to open dialogue spaces and build trusting relations. And, when the culture and practices of the education center are coherent with sustainability, this could make them be transformative forces in their communities towards sustainability.

Organizations that follow WIA foster visibility and transparency of SD activities; internally and externally [Holst, 2021], this



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helps to foster participation and engagement in the long term.

In addition, understanding that living is a learning experience and a holistic process, generating a WIA process in the education institution will most likely improve the institution's quality of education.

Even though the actions to implement WIA will be context-specific, it can be helpful to review case studies of educational institutions that have attempted to practice WIA. The “Education for Sustainable Development: Theoretical aspects and experiences in Central America” lists examples of schools that are practicing WIA (Jimenez et al, 2021). It contains 18 case studies of schools in Central America using WIA and also methodological information on how they are implementing this. Two universities stand out as examples of using WIA: Methodist University in Brazil (see the article of Waverli Neuberger in this Magazine) and Leuphana University in Lüneburg, Germany (Adomßent, M. & Michelsen, G, 2016; and Adomßent, M., 2022).

The invitation is for education institutions to take bold steps in contributing to the transition towards more sustainable, just, and peaceful societies through practicing a whole institution approach towards sustainability.



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