Competences for Sustainable Development and Landscape Architecture Education

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From Sustainable Development Goals to Structural Sustainability

UN Communication Material

From Millenium Goals
(2000 – 2015)
to Sustainable Development
Goals (2015-2030)

Millennium Development Goals

1 Eradicate extreme poverty and hunger	2 Achieve universal primary education	3 Promote gender equality and empower women	4 Reduce child mortality
5 Improve maternal health	6 Combat HIV/Aids, malaria and other diseases	7 Ensure environmental sustainability	8 Develop a global partnership for development

Sustainable Development Goals

1 NO POVERTY	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	4 QUALITY EDUCATION	5 GENDER EQUALITY	6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY	8 DECENT WORK AND ECONOMIC GROWTH	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	10 REDUCED INEQUALITIES	11 SUSTAINABLE CITIES AND COMMUNITIES	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION	14 LIFE BELOW WATER	15 LIFE ON LAND	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	17 PARTNERSHIPS FOR THE GOALS	SUSTAINABLE DEVELOPMENT GOALS

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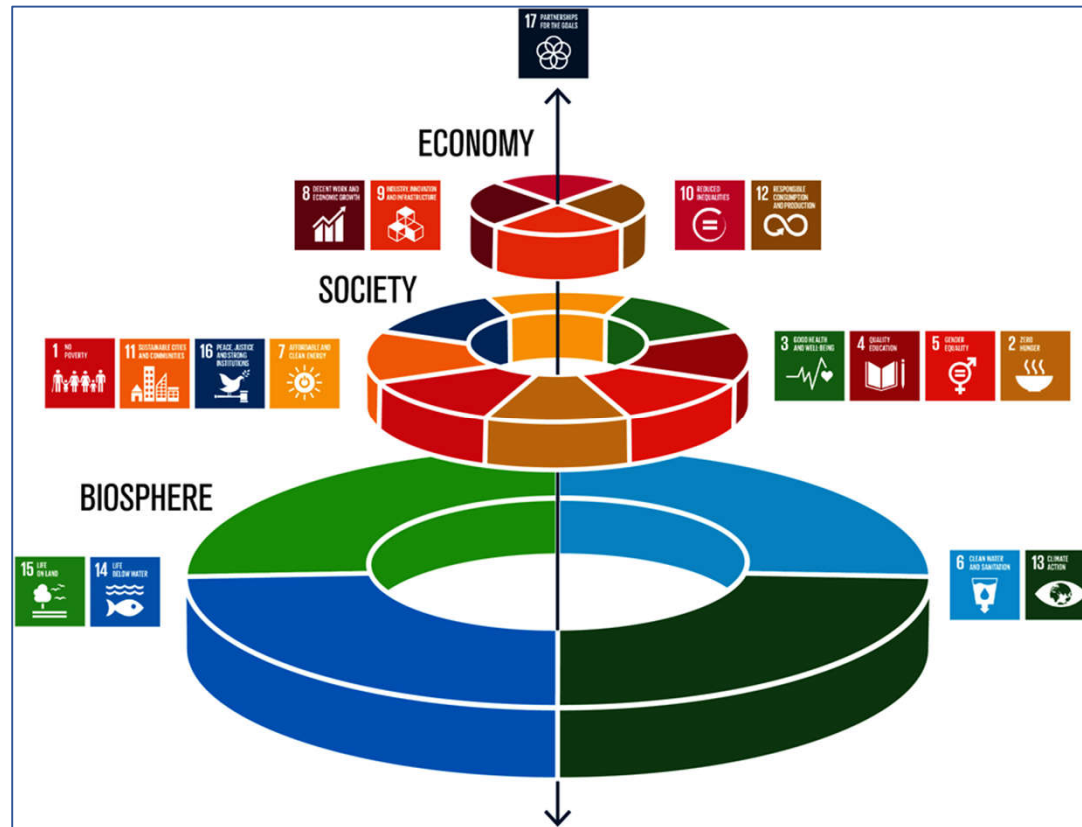Swedish University of Agricultural Sciences

Landscape Architecture Education should relate to the goal for partnerships

*"…. In order to increase reflexivity in dealing with great societal challenges and to re-integrate societal sub-systems, science needs to **transcend** its descriptive analytical functions and **cooperate** with non-academic actors to achieve shared, normative goals…."*

Uwe Schneidewind, Mandy Singer-Brodowski, Karoline Augenstein, Franziska Stelzer: Pledge for a Transformative Science: A Conceptual Framework Wuppertal Paper Nr. 191, Juli 2016

17 PARTNERSHIPS FOR THE GOALS

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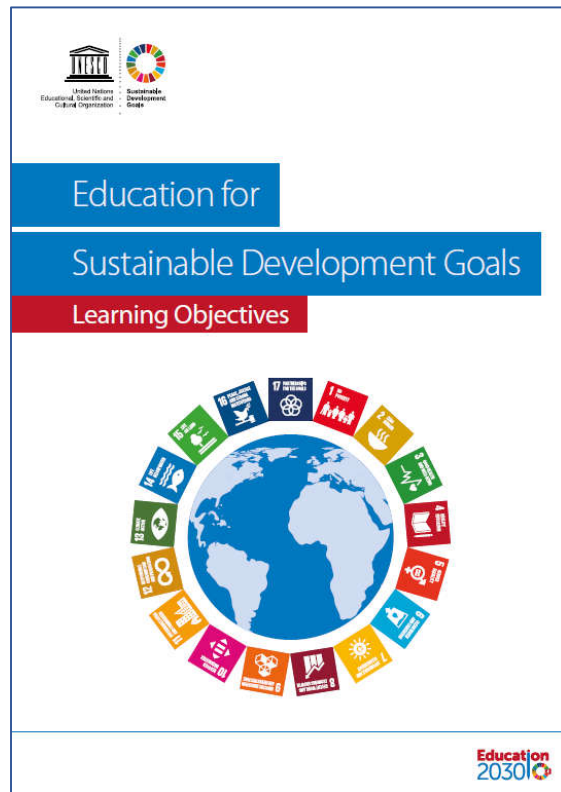Swedish University of Agricultural Sciences

The SDGs relate to environmental, social and economic domains

Landscape Architecture is primarily concerned with securing the **foundations of human live on earth**.

Source: Stockholm Resilience Centre (2016), Contributions to Agenda 2030 – How Stockholm Resilience Centre (SRC) contributed to the 2016 Swedish Agenda 2030 HLPF report, https://www.stockholmresilience.org/SDG2016.

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Education for Sustainable Development (ESD)

Education for Sustainable Development Goals
Learning Objectives

Education 2030

Since 1992 UNESCO promotes Education for Sustainable Development (ESD)
It led the UN Decade for ESD from 2005 to 2014
Now spearheading its follow-up, the **Global Action Programme (GAP)** on ESD.

Education is both a goal in itself and a means and key enabler for attaining all the other SDGs.
So education represents an essential strategy in the pursuit of the SDGs.

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General Competence Framework for Sustainable Development

Systems Thinking
The ability to analyse sustainability problems cutting across different domains (or sectors) and scales (i.e. from local to global)

Collaboration
The ability to initiate, facilitate and support different types of collaboration, including teamwork and stakeholder engagement

Futures Thinking
The ability to anticipate how sustainability problems might evolve or occur over time (scenarios), and to create and craft sustainable and desirable future visions

Sustainable Development **COMPETENCES**

Strategic Thinking
The ability to develop and test systemic interventions, transformational actions and transition strategies...to develop plans and to create synergies and parternships

Values Thinking
The ability to specify, compare, apply, reconcile and negotiate sustainability values, principles, goals and targets, informed by concepts of justice, fairness and responsibility.

Visualiation based on the paper by Wiek, A., Bernstein, M., Foley, R., Cohen, M., Forrest, N., Kuzdas, C., Kay, B., & Withycombe Keeler, L. (2015). **Operationalising competencies in higher education for sustainable development.** In: Barth, M., Michelsen, G., Rieckmann, M., Thomas, I. (Eds.) (2015). Handbook of Higher Education for Sustainable Development. Routledge, London. pp. 241-260. | graphic based on freepik.com layout

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Competences elaborated by UNESCO

Transformative competences for landscape architecture: the abilities to:	
Systems thinking competency	recognize and understand relationships; to analyse complex systems; to think of how systems are embedded within different domains and different scales; and to deal with uncertainty.
Anticipatory competency	understand and evaluate multiple futures – possible, probable, and desirable; to create one's own visions for the future; to apply the precautionary principle; to assess the consequences of actions; and to deal with risks and changes.
Normative competency	understand and reflect on the norms and values that underlie one's actions; and to negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions.
Strategic competency	collectively develop and implement innovative actions that further sustainability at the local level and further afield.
Collaboration competency	learn from others; to understand and respect the needs, perspectives, and actions of others (empathy); to understand, relate to and be sensitive to others (empathic leadership); to deal with conflicts in a group; and to facilitate collaborative and participatory problem solving.
Critical thinking competency	question norms, practices, and opinions; to reflect on own one's values, perceptions, and actions; and to take a position in the sustainability discourse.
Self-awareness competency	reflect on one's own role in the local community and (global) society; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires.
Integrated problem-solving competency	apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive, and equitable solution options that promote sustainable development, integrating the abovementioned competences.

UNESCO, 2017. Education for Sustainable Development Goals: Learning Objectives. UNESCO Education Department. Paris. ISBN 978-92-3-100209-0

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Systems thinking competency

recognize and understand relationships; to analyse complex systems; to think of how systems are embedded within different domains and different scales; and to deal with uncertainty

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Anticipatory competency

understand and evaluate multiple futures – possible, probable, and desirable; to create one's own visions for the future; to apply the precautionary principle; to assess the consequences of actions; and to deal with risks and changes

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Normative competency

understand and reflect on the norms and values that underlie one's actions; and to negotiate sustainability values, principles, goals, and targets, in a context of conflicts of interests and trade-offs, uncertain knowledge and contradictions

Strategic competency

collectively develop and implement innovative
actions that further sustainability at the local level
and further afield

Collaboration competency

learn from others; to understand and respect the
needs, perspectives, and actions of others
(empathy); to understand, relate to and be sensitive
to others (empathic leadership); to deal with
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Critical thinking competency

question norms, practices, and opinions; to reflect on own one's values, perceptions, and actions; and to take a position in the sustainability discourse.

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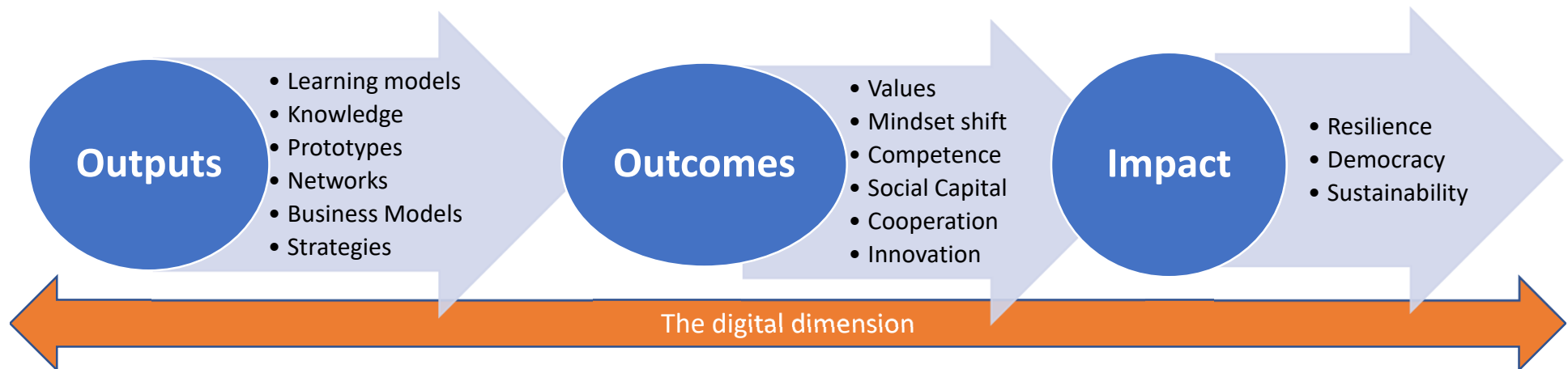Swedish University of Agricultural Sciences

Self-awareness competency

reflect on one's own role in the local community and (global) society; to continually evaluate and further motivate one's actions; and to deal with one's feelings and desires

Integrated problem-solving competency

apply different problem-solving frameworks to complex sustainability problems and develop viable, inclusive, and equitable solution options that promote sustainable development, integrating the abovementioned competences

Sustainability can only be measured with regard to **impact**. The pathway is long and windy.

Outputs
- Learning models
- Knowledge
- Prototypes
- Networks
- Business Models
- Strategies

Outcomes
- Values
- Mindset shift
- Competence
- Social Capital
- Cooperation
- Innovation

Impact
- Resilience
- Democracy
- Sustainability

The digital dimension

Education and research need to go **together** on this pathway.

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So how to integrate this into LA Education?

Including it in the Common Training Framework for Landscape Architecture

Define in the update of the ECLAS Guidance how to integrate this in learning activities

Developing an assessment strategy for this

Discussion on the learning process

Need that learners really internalise their contribution to SDGs

Selecting learning strategies that integrate working on the SDGs, such as participatory action research, living labs, community projects, studio work relating the SDG goals

Programmes need to relate the transformative competences to phases or modules: e.g. by a matrix for learning and assessment.

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Discussion on the learning process

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Universities + their Community Environment

What we do
- Connecting
- Understanding
- Visioning
- Prototyping
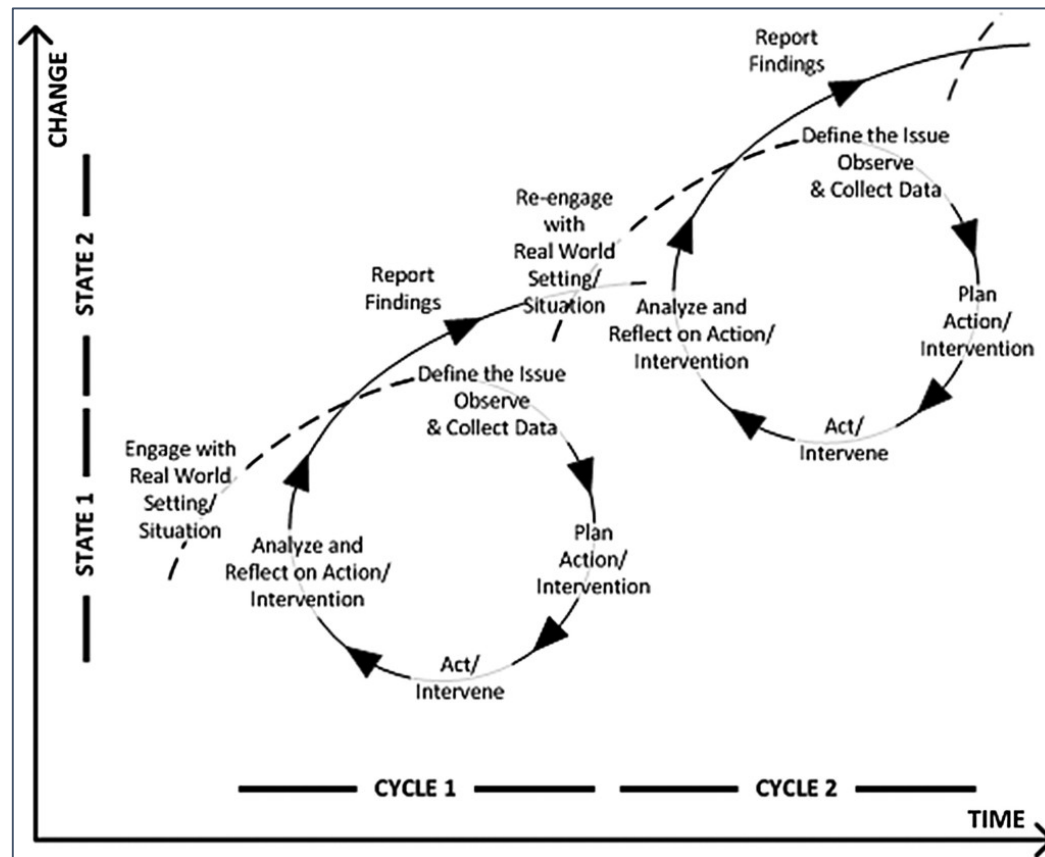- Coordinating
- Trusting
- Coaching

What we need
- Committment
- Empathy
- Partnership
- Methods
- Communication
- Knowledge Management
- Curriculum Design

NGOs

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Adapted by Tommelein, I. from www.brighthub.com; quoted by http://p2sl.berkeley.edu/glossary/a/; retrieved: 03.10.2020.

Change is Research

Action Research

"…a respect for people and for the knowledge and experience they bring to the research process, a belief in the ability of democratic processes to achieve positive social change, and a commitment to action"

Brydon-Miller, Greenwood, Maguire, 2003, p. 15.

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Local Living Labs: Multiple forms of co-creation

Identifying local challenges
Nürtingen Living Lab Kick-off

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Discussion on the learning process

Learners need to be develop self-awareness of their values and principles: e.g by logs

Learners can evaluate their own progress in the form of assignments for self reflection on acquiring the competences in their log.

Assessors can evaluate the progress of students based on the log, a presentation that can be part of an oral examination.

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Next steps, Question and Answers

In the context of the InnoLAND project the partners will work on an educational strategy for this.

What is your experience with teaching for sustainability

Do you have any advice for future implementation and development?

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