



Competences for Sustainable Development and Landscape Architecture Education

Authors and contributors:



IFLA EUROPE
INTERNATIONAL FEDERATION
OF LANDSCAPE ARCHITECTS

Jeroen de Vries LE:NOTRE Institute the Netherlands
Ellen Fetzer Hochschule für Wirtschaft und Umwelt Nürtingen Geislingen Germany
Gintaras Stauskis Vilnius Tech Lithuania
Roxana Triboi LE:NOTRE Institute Netherlands
Attila Tóth Slovak Agricultural University in Nitra Slovakia
Emilia Weckman Aalto University School of Science and Technology Finland
Albert Fekete Hungarian University for Agriculture and Life Sciences Hungary
István Valánszki Hungarian University for Agriculture and Life Sciences
Maria da Conceição Freire University of Evora Portugal
Maria Beatrice Andreucci Sapienza University of Rome Italy



ECLAS Conference 2021



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences



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



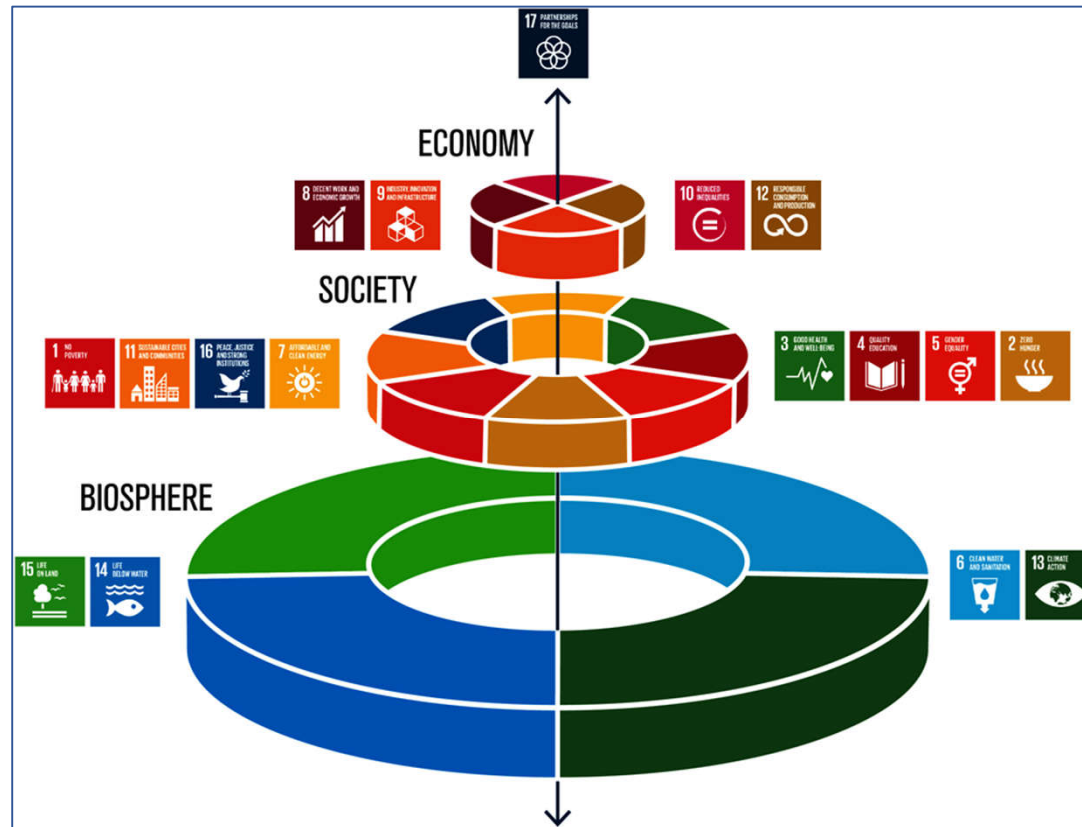
From Sustainable Development Goals to Structural Sustainability

SUSTAINABLE DEVELOPMENT GOALS



UN Communication Material

The SDGs relate to environmental, social and economic domains



Landscape Architecture is primarily concerned with securing the foundations of human life 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>.

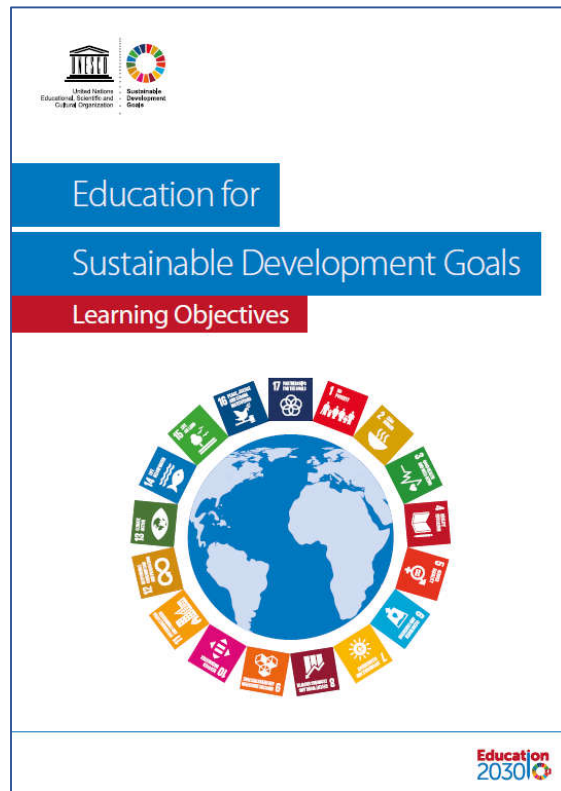
Landscape Architecture Education should relate to the goal for partnerships

*“... 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



Education for Sustainable Development (ESD)



<https://unesdoc.unesco.org/ark:/48223/pf0000247444>

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.

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

Strategic Thinking

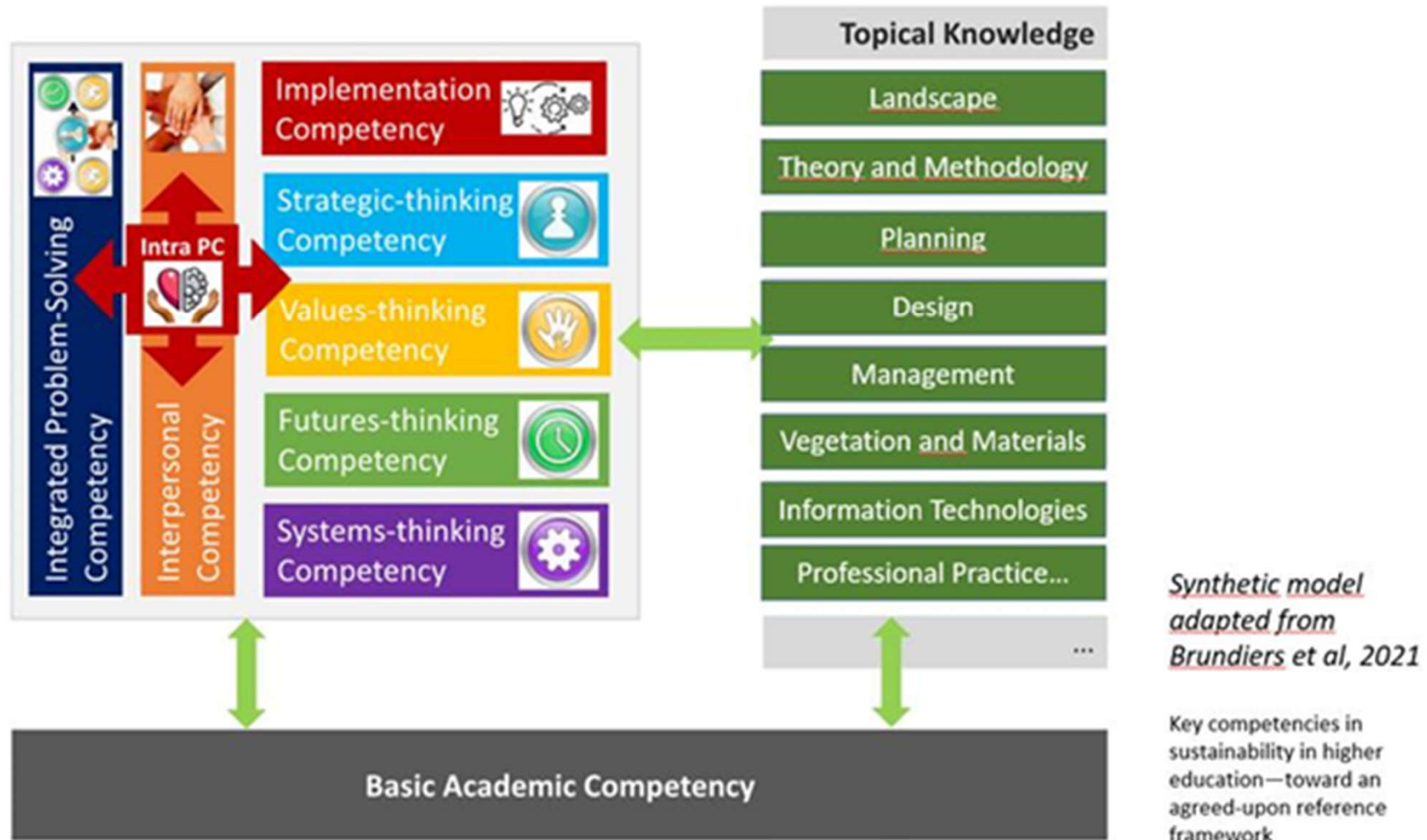
The ability to develop and test systemic interventions, transformational actions and transition strategies...to develop plans and to create synergies and partnerships

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.

Visualisation 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

Transformative = Transversal competences relating to LA-knowledge



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



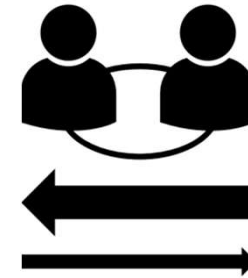
ECLAS Conference 2021



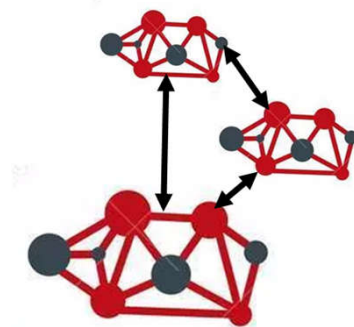
Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

Systems thinking competency

recognize and understand
relationships



to analyse **complex systems**
to think of how systems are
embedded within different
domains and different scales;

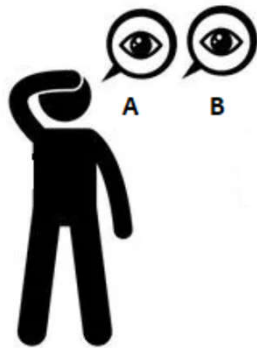


and to deal with **uncertainty**



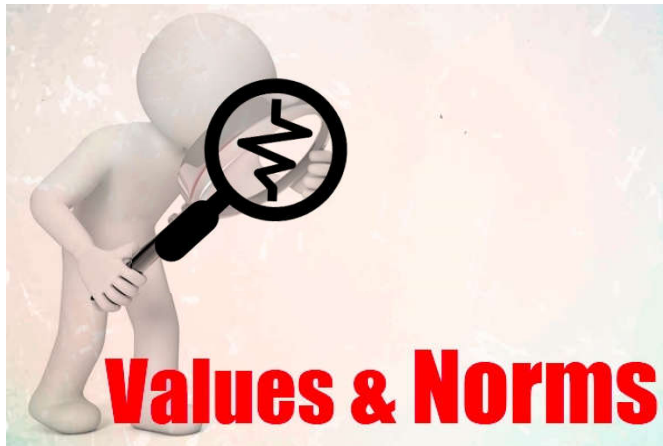
Anticipatory competency

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**



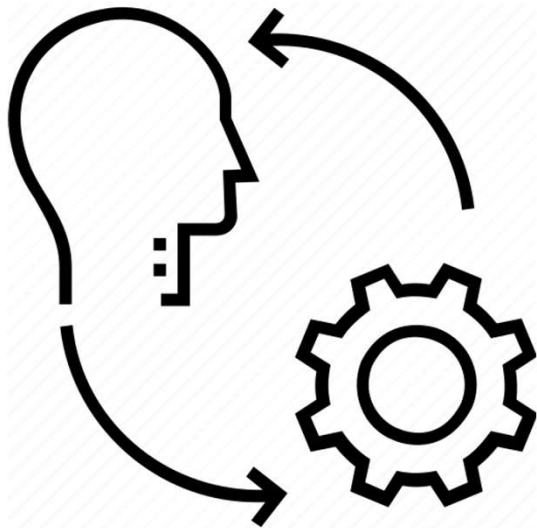
Normative competency

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



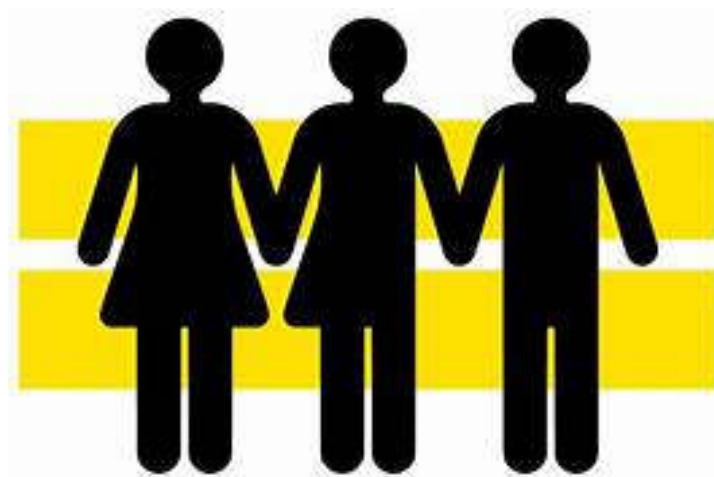
Critical thinking competency

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



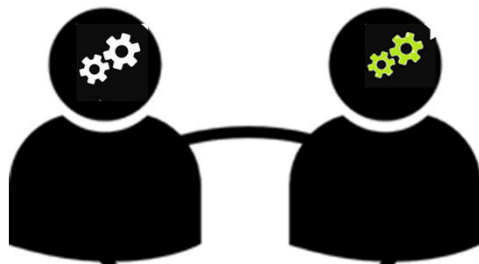
Self-awareness competency

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**

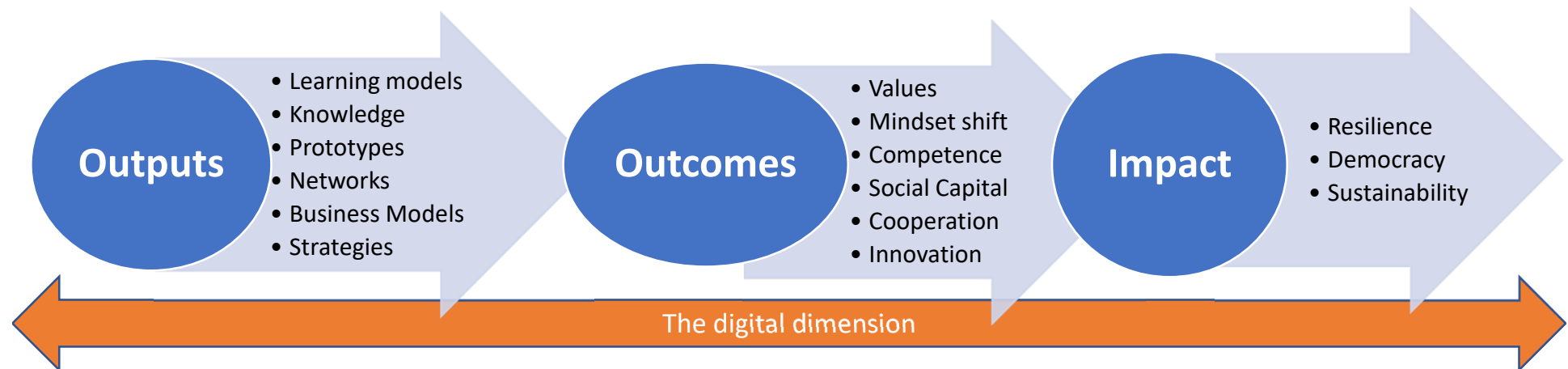


Integrated problem-solving competency

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**



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



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

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.

Universities + their Community Environment



What we do

- Connecting
- Understanding
- Visioning
- Prototyping
- Coordinating
- Trusting
- Coaching

What we need

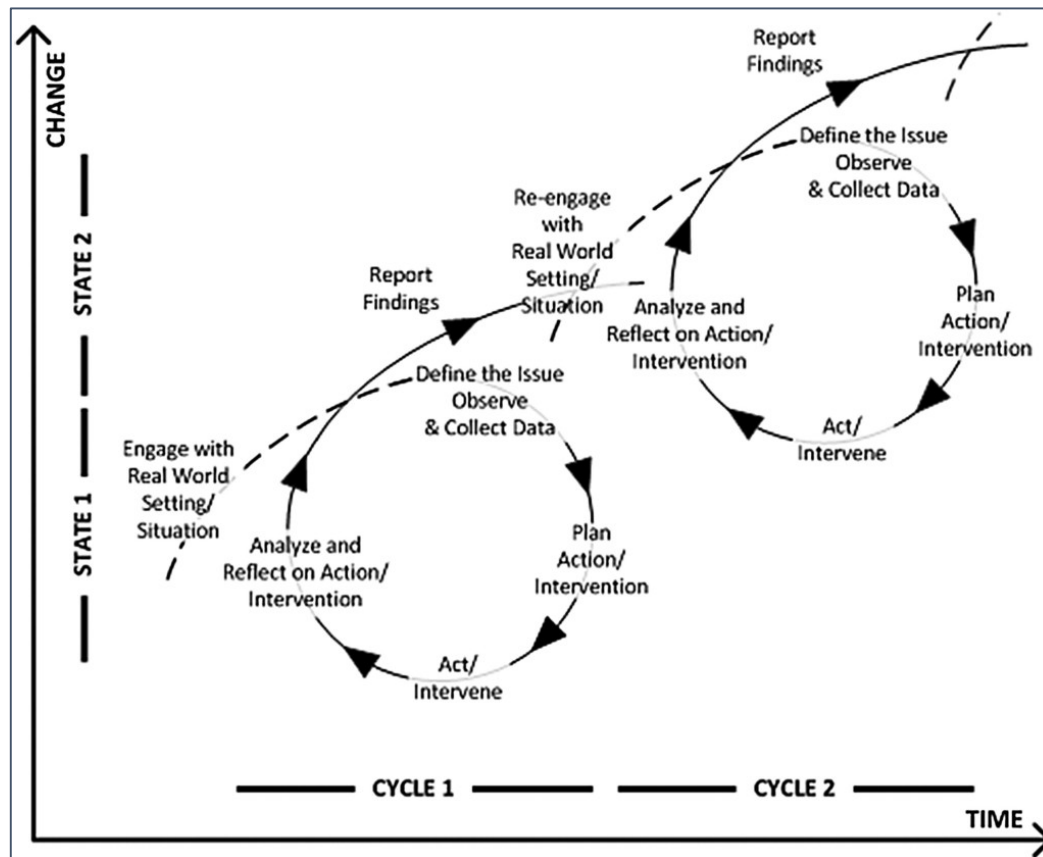
- Commitment
- Empathy
- Partnership
- Methods
- Communication
- Knowledge Management
- Curriculum Design

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.



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

Local Living Labs: Multiple forms of co-creation



Identifying local challenges
Nürtingen Living Lab Kick-off

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.

References

Fetzer, E., 2021 (in preparation) Landscape Architecture Education: From a European towards a global perspective, in Bruns et al, **The Routledge Handbook of Landscape Architecture Education**.

Rieckmann, M. 2012. Future-oriented higher education: Which key competencies should be fostered through university teaching and learning? **Futures**, Vol. 44, No. 2, pp. 127–135

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

Wiek, A., Withycombe, L., Redman, C.L. 2011. Key competencies in sustainability: a reference framework for academic program development. **Sustainability Science**, Vol. 6, No. 2, pp. 203–218

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

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



ECLAS Conference 2021

ECLAS
EUROPEAN COUNCIL OF
LANDSCAPE ARCHITECTURE
SCHOOLS



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

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?

Competences for Sustainable Development and Landscape Architecture Education



IFLA EUROPE
INTERNATIONAL FEDERATION
OF LANDSCAPE ARCHITECTS

Thank you for your attention
We welcome questions and like
to discuss:

- a. how you would integrate these competences in education
- b. how to assess the students



ECLAS Conference 2021



Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences