Competencies in sustainability

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Some background on competencies

Competence* = a functionally linked complex of knowledge, skills, and attitudes that enable successful task performance and problem solving (Wiek et al. 2011)

Different interpretations of competence:

- Competence as something that the student/graduate can do (and perform) in practice. These are often measurable.
- Competence as personality development. Slow process that cannot be directly observed or measured.

Transformative competencies for 2030 of the OECD (2019) and sustainability competencies are connected to both interpretations.

Alternative way of defining what ought to be learned: knowing, doing, being

*Competence and competency have differing meanings see e.g. Mäkinen & Annala (2010) and Schaffar (2021)

Key competencies for sustainability

Competence framework developed by Wiek et al. (2011 and 2016):

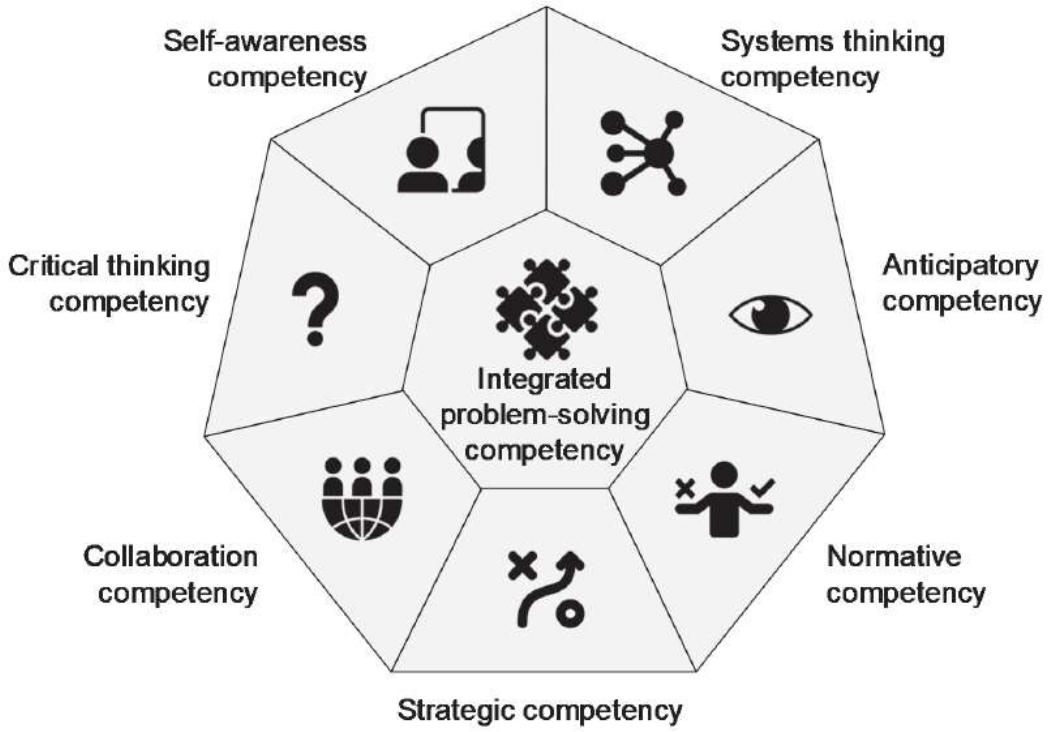
- **Most referenced** sustainability competence framework
- Based on an ***integrated sustainability research and problem-solving framework***
- Focus on competencies that are needed for **"change agents"** or **"transition managers"** (Wiek et al. 2011)
- **Interlinked and interdependent:** each competence plays a part in the problem-solving process
- **In order to be *sustainability* competencies, topical knowledge on sustainability is essential.**
- Further developed by Brundiers et al (2021): **intrapersonal and implementation competences**

UNESCO key competencies for sustainability

Awareness of one's own emotions, desires, thoughts, behaviors, and personality
- **Self reflection**
- **Feelings, desires**

Critical use and evaluation of information

Collaborate in each step of the problem-solving process
- **Inter-/transdisciplinary collaboration**
- **Leadership, empathy**



Develop sustainability transition strategies
- **Intentions, action**
- **Success factors, obstacles**

Analyse complex problem in current state and its history
- **Structures, subsystems,**
- **Feedback loops, cause-effect**

Craft future sustainability visions, create non-intervention scenarios
- **Possible/desirable futures**
- **Path dependencies**
- **Scenarios**

Map, specify, apply, reconcile and negotiate sustainability values
- **Justice, fairness,**
- **Risk, trade-offs, ethical**

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(Wiek et al 2011; UNESCO 2017; Rosén et al 2019, Brundiers et al 2021)

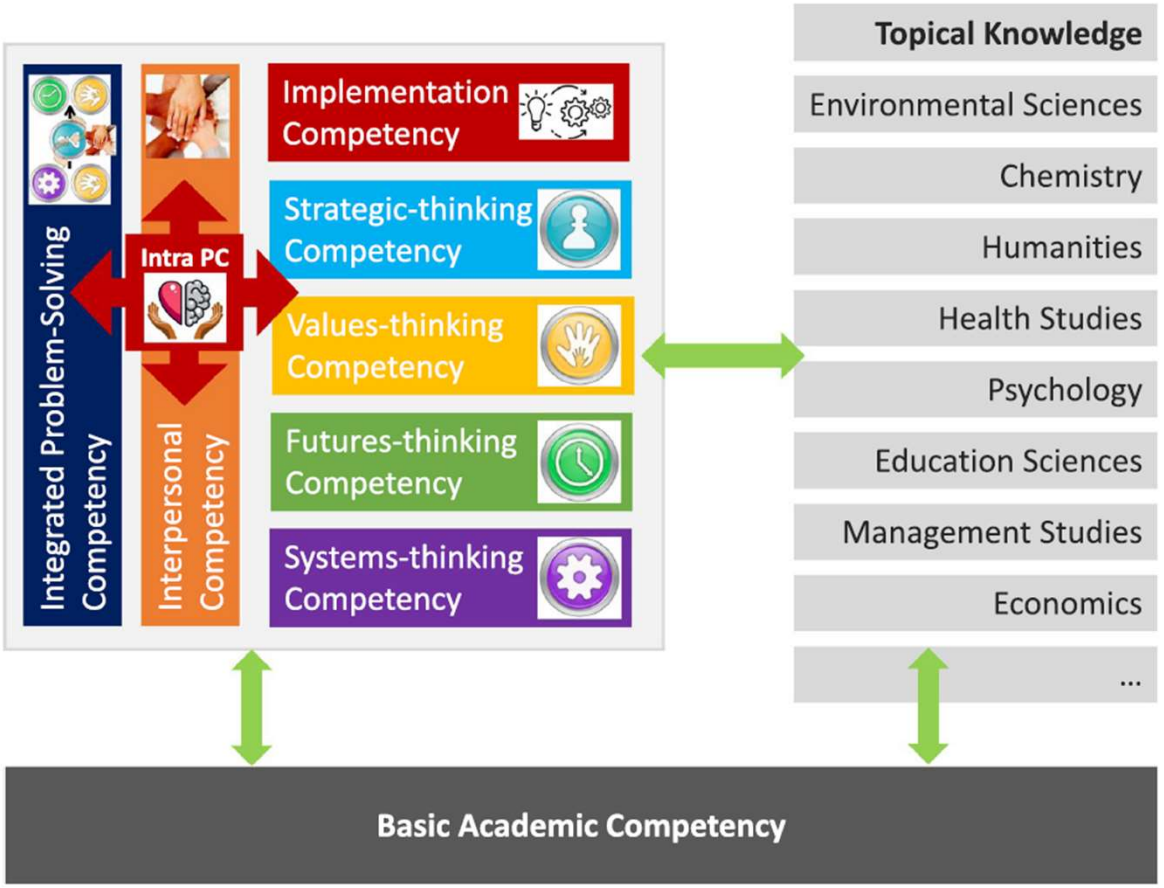
Key competencies, topical knowledge and academic skills

Academic skills
Basic capacities in critical thinking, communication, pluralistic thinking, research, data management, also self-regulated learning and generic problem-solving skills

Topical knowledge
Substance and task specific knowledge and skills

Sustainability key competencies
Interdependent: each contribute to the integrated problem-solving process

Brundiers et al. (2021)



A fictional example of a graduate working for a global reinsurer in its 'Department of Sustainability, Emerging and Political Risk Management'. Brundiers et al. (2021)