

How and Why Do We Measure Impact in Sustainability and Climate Change Education?

IMP>ACT (Impact Assessment for Action Competence)

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IMPACT



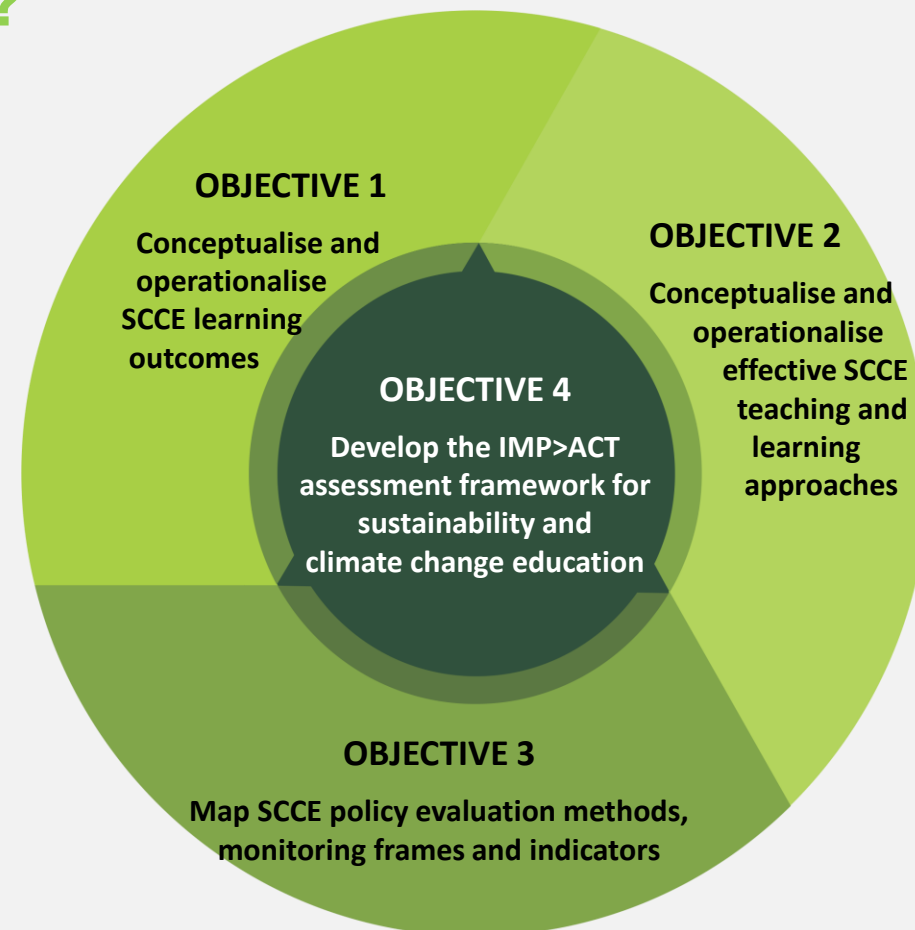
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Why IMP>ACT Assessment?

- A global increase in Sustainability and Climate Change Education (SCCE) policies and practices around the world, but there is a lack of empirical evidence to support their impact (UNESCO, 2015).
- For an effective SCCE policy and practices, including the development and revision of curricula and programmes, it is crucial to assess and monitor the impact.
- IMP>ACT project aims to better understand and provide recommendations on **how to measure what learners actually learn** and how this influences mindsets and actions on sustainability at the individual and collective level.

WHAT IS IMP>ACT PROJECT ABOUT?



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Improving the evidence base regarding the impact of sustainability and climate change education and related learning outcomes

Key Concepts

Learning outcome



(Olsson, et al., 2025; Sass et al., 2020)

Teaching and Learning Approach



(Karaarslan-Semiz et al., 2026; Sinakou et al., 2019)

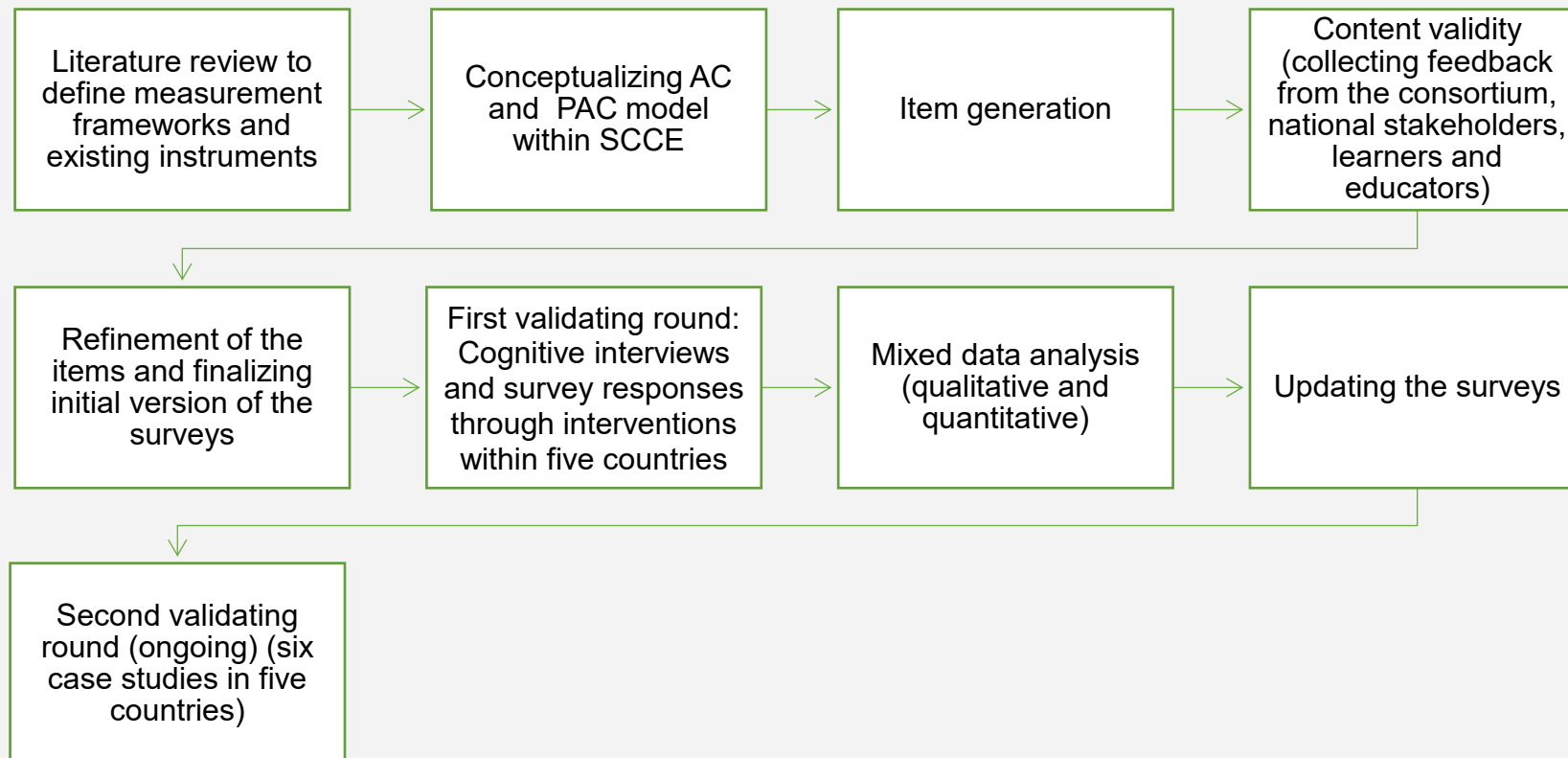


How do we measure IMP>ACT?

- Impact assessment methodology focuses on how to design and perform an impact assessment of SCCE that meets the specific needs of organization carrying on assessment.
- It is designed and developed from users' centered perspective.
- We elaborate key learning outcomes of SCCE (action competence), key teaching and learning approaches in SCCE (action-oriented education) and relevant educators' professional competencies.

IMPACT

- Developing self-assessment tools
- Action Competence for sustainability (Acs) Survey for learners (age 10-14 and >14)
- Professional Action Competence for SCCE (PACscce) Survey (surveys for Educators in Higher Education, Teachers and Non-formal Educators)
- Data collection: Sweden, Germany, Belgium, Czech Republic, and Serbia





Questions

- Do you experience a need for doing impact assessment of Sustainability Education and/or Climate Change Education in your program or institution? Why (not)?
- IMP>ACT focuses on action competence as a learning outcome (*knowledge, confidence and willingness*) and action-oriented education (*action taking part of learning process*) as a quality of teaching. What aspects of action competence and/or action orientation do you recognize in your Sustainability Education and/or Climate Change Education practices?

References

- Baumert, J., & Kunter, M. (2013). The COACTIV model of teachers' Professional competence. In M. Kunter, J. Baumert, W. Blum, U. Klusmann, S. Krauss, & M. Neubrand (Eds.), *Cognitive activation in the mathematics classroom and Professional competence of teachers: Results from the COACTIV project* (pp. 25-48). Springer.
- Bertschy, F., Künzli, C. & Lehmann, M. (2013). Teachers' competencies for the implementation of educational offers in the field of education for sustainable development. *Sustainability*, 5 (12), 5067–5080. <https://doi.org/10.3390/su5125067>.
- Karaarslan Semiz, G., Rieckmann, M., van Harskamp, M., Gericke, N., Činčera, J., Knippels, M. C., Olsson, D., & Pauw, J. (2026). *Action-oriented environmental and sustainability education: A framework of pedagogical principles* [Preprint]. SocArXiv
- Olsson, D., Berglund, T., Boeve-de Pauw, J., Gericke, N., & Olsson, D. (2025). A systematic review of self-assessment scales on action competence in environmental and sustainability education: current limitations and development opportunities. *Environmental Education Research*, 1-28.
- Sass, W., Boeve-de Pauw, J., Olsson, D., Gericke, N., De Maeyer, S., & Van Petegem, P. (2020). Redefining action competence: The case of sustainable development. *The Journal of Environmental Education*, 51(4), 292–305. doi:10.1080/00958964.2020.1765132.
- Sinakou, E., Boeve-de Pauw, J., & Van Petegem, P. (2019). Designing powerful learning environments in education for sustainable development: A conceptual framework. *Sustainability*, 11, 5994. <https://doi.org/10.3390/su11215994>



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