

Competencies in relation to sustainability: a critical review from 2002 to 2022

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Introduction

Societal choices and actions implemented in the next decade will determine the extent to which a sustainability transformation is achievable (IPCC, 2022). Values, beliefs, worldviews and associated competencies are considered a significant leverage point for transformation, as they define our relationships (with ourselves, others, our work, the environment and future generations) and influence our being, thinking, and acting towards sustainability (Wamsler, Osberg, Osika, Herndersson & Mundaca, 2021).

There is a long-standing debate to identify which sustainability competencies learners need to foster a sustainability transformation (Wiek, Withycombe & Redman, 2011) and which education for sustainability (ESD) competencies educators need to support the development of learners' sustainability competencies (Corres, Rieckmann, Espasa & Ruiz-Mallén, 2020).

Objective

To identify the most significant studies addressing frameworks of competencies in relation to sustainability, for both educators and learners, irrespective of the learning environment (formal, non-formal, informal) and the education level (primary, secondary, tertiary and adult education).

Methodology

Review type: critical review

Information sources:

- Databases: Eric, Scopus and Education Source;
- Web: CEDEFOP, UNESCO, ILO, OECD, EC JRC Publication Repository;
- Summit: Inner Development Goals;
- Backward reference searching.

Eligibility criteria:

- doctype article;
- method empirical (quantitative, qualitative or mixed methods);
- language english;
- pub-year 2002 (Declaration of the UN Decade of ESD) to 2022.

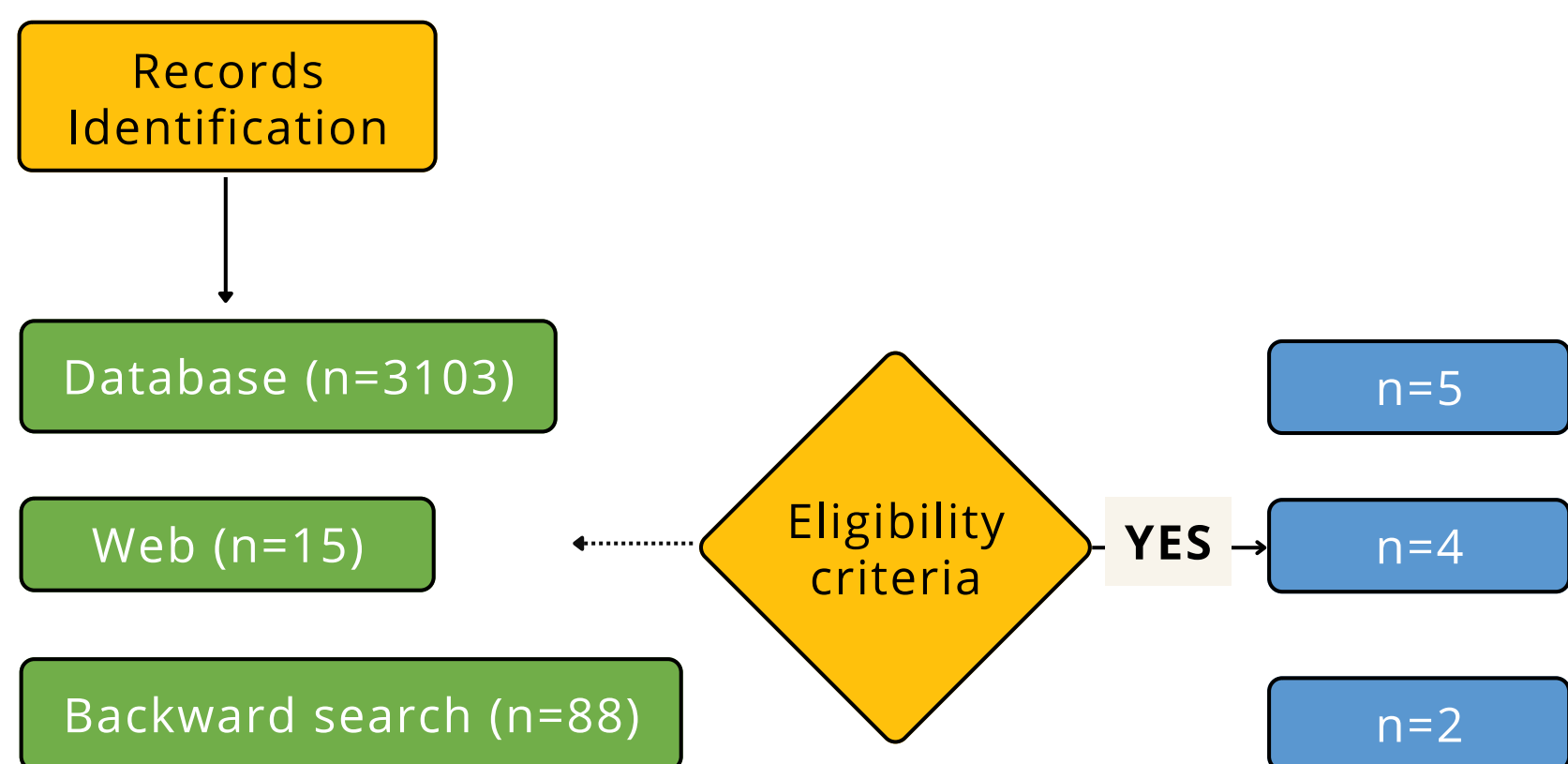
Selection process: Screening of titles, then abstracts and then full-texts using the tool Zotero.

Data collection: extracting the variables (citation details, studies objective, population focus, learning environment, education level, studies' outcomes) and exporting on an Excel table.

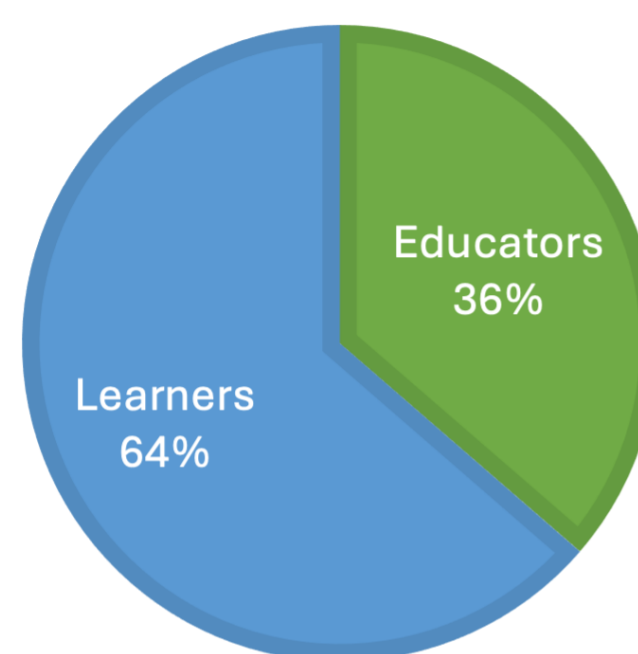
Data Analysis: descriptive statistics and thematic analysis.

Risk of bias: only one reviewer screened and assessed the studies.

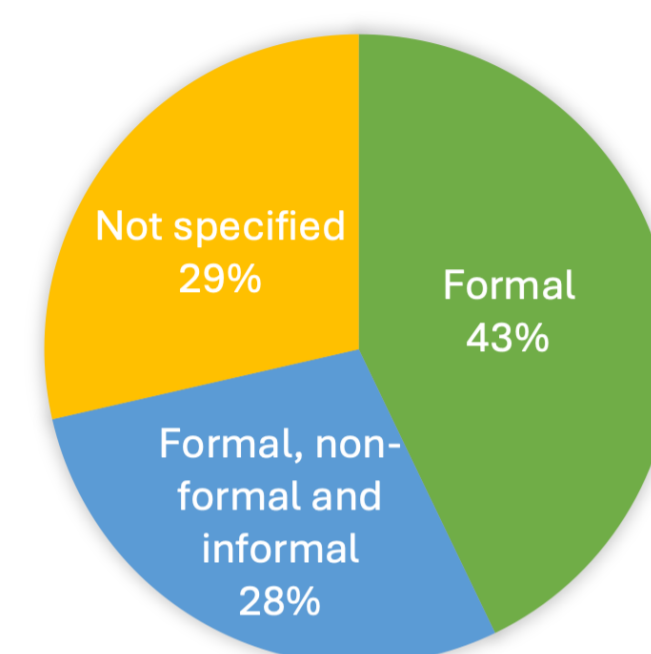
Results



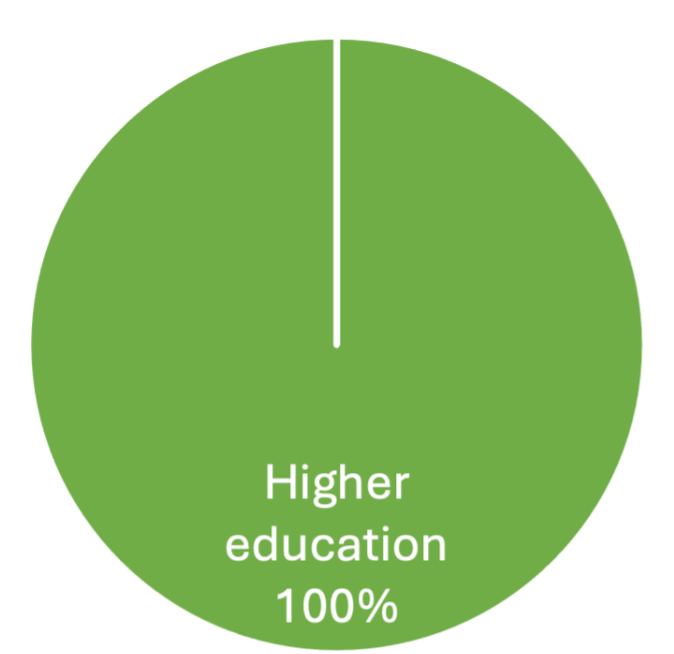
Population focus



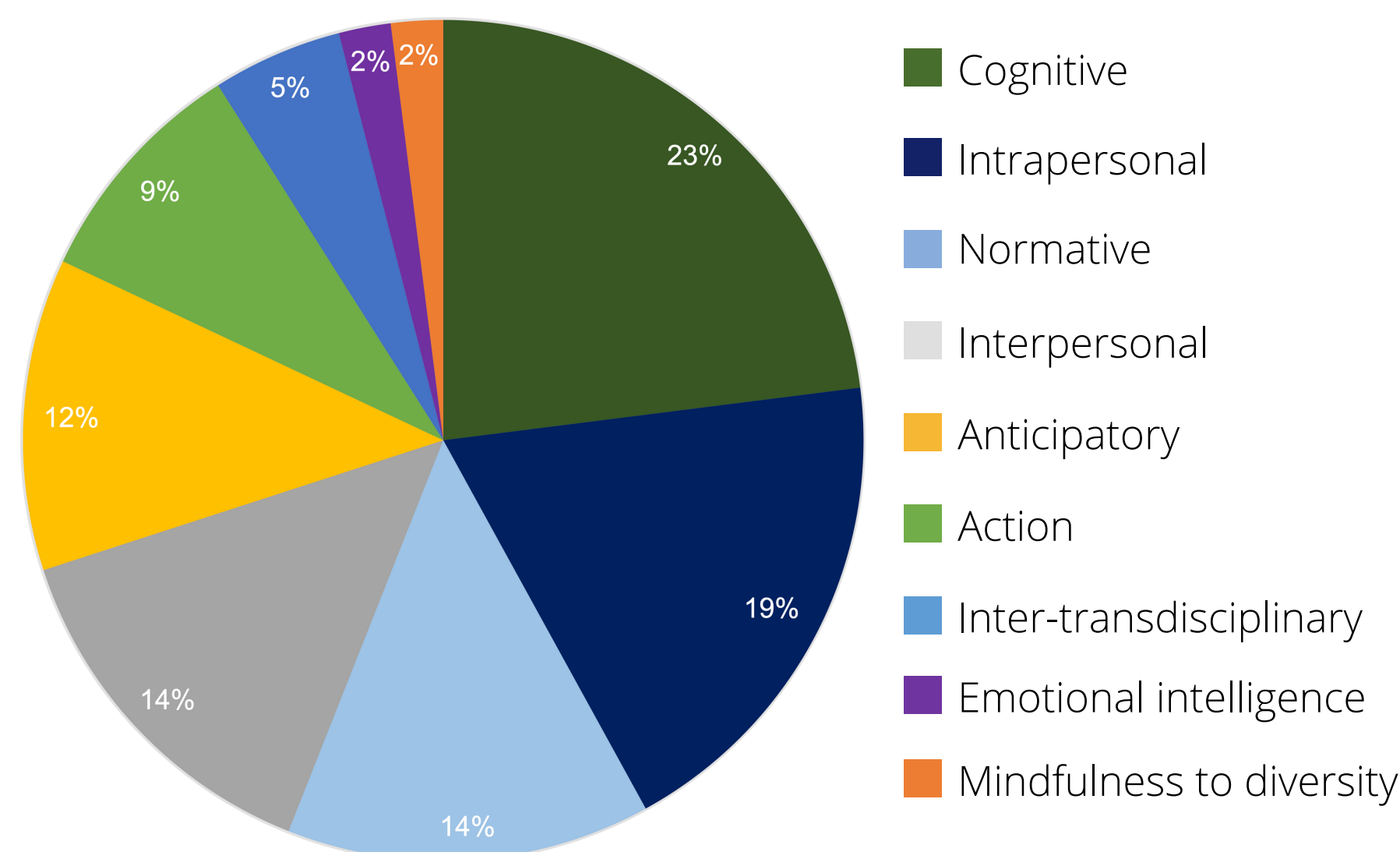
Learning environment



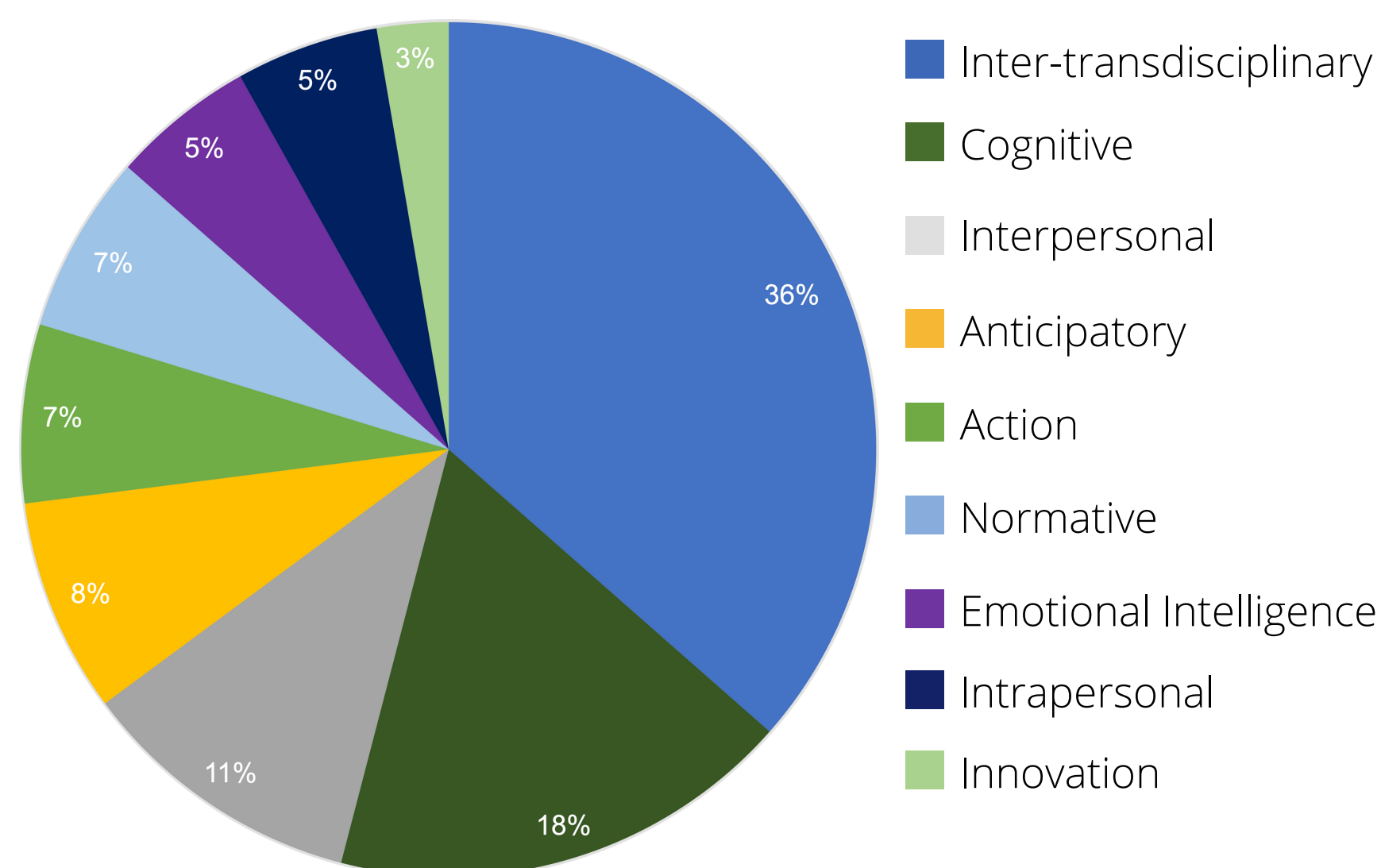
Education level



Learners' competencies



Educators' competencies



Discussion

Further research is needed on competencies frameworks addressing:

- ESD competencies needed by educators (Rauch & Steiner, 2013);
- non-formal and informal learning environments (Imara & Altinay, 2021);
- early childhood, primary, secondary and adult education (Vare, Lausset & Rieckmann (2022).

Conclusion

The 2 thematic syntheses of competencies in frameworks of competencies in relation to sustainability for both learners and educators represent a launch pad for a new phase of empirical validation and testing.

References

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- Rauch, F., & Steiner, R. (2013). Competences for Education for Sustainable Development in Teacher Education. *Kompetence Za Poučevanje Za Trajnostni Razvoj Na Področju Izobraževanja Učiteljev*, 3(1), 9–24. Education Source.
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- Wamsler, C., Osberg, G., Osika, W., Herndersson, H., & Mundaca, L. (2021). Linking internal and external transformation for sustainability and climate action: Towards a new research and policy agenda. *Global Environmental Change*, 71, 102373.
- Wiek, A., Withycombe, L., & Redman, C. L. (2011). Key competencies in sustainability: a reference framework for academic program development. *Sustainability science*, 6(2), 203-218.

Limitations

Scarce number of empirical studies.

