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TSESESD scale
- Teachers Self-Efficacy Scale for Education for Sustainable Development -

The scale is part of the following study and can be cited as follows:

Malandrakis, G., Papadopoulou, P., Gavrilakis, C. & Mogias, A., (2019). An education for sustainable development self-efficacy scale for primary pre-service teachers: construction and validation. *Journal of Environmental Education, 50*(1), 23-36. *https://www.tandfonline.com/doi/full/10.1080/00958964.2018.1492366*

***Malandrakis, G.**, Papadopoulou, P., Gavrilakis, C. & Mogias, A. (2019). An education for sustainable development self-efficacy scale for primary pre-service teachers: construction and validation. Journal of Environmental Education, 50*(1), 23-36.

APPENDIX A

TSESESD scale (Teachers Self-Efficacy Scale for Education for Sustainable Development)

Part A. The self-efficacy scale

Domains	Factors
As of today, how confident are you that you can:	
VALUES & ETHICS	
1. develop students' VALUES related to sustainable development (e.g., equity, justice, democracy, solidarity, respect to difference)	1 *(6 items)*
2. develop students' ETHICS related to sustainable development	
3. develop students' ability to DISTINGUISH the right from the wrong behavior	
4. develop students' ability to express their OWN OPINION about sustainable development	
5. develop students' positive ATTITUDES towards sustainable development	
6. develop students' ability to make HYPOTHESIS about problems and possible solutions related to sustainable development	
SYSTEMS THINKING	
7. develop students' SYSTEMS THINKING	2 *(5 items)*
8. develop students' ability to consider an issue through MULTIPLE PERSPECTIVES	
9. develop students' ability to realize the INTERRELATIONS among different factors or issues	
10. develop students' ability to think using MODELS (e.g., ecosystems model, water cycle, etc.)	
11. develop students' ability to act in a SYSTEMATIC WAY in order to achieve the goals they have set (e.g., the implementation of an action, etc.)	
EMOTIONS, FEELINGS & EMPATHY	
12. develop students' ability to understand their OWN feelings about the various problems in school and the community they live in	3 *(3 items)*
13. develop students' ability to understand the feelings of OTHERS about the various problems in school and the community they live in	
14. develop students' ability to use their feelings in a creative way, by helping in the improvement of the school and the community they live in	
ACTION	
15. make your students realize that the path to sustainable development includes CONTRADICTORY INTERESTS	4 *(10 items)*
16. make your students realize that the path to sustainable development includes a high degree of UNCERTAINTY	
17. develop students' ability to examine alternatives and PROPOSE ACTIONS about sustainable development	
18. develop students' ability to take part in ACTIONS about sustainable development as INDIVIDUALS	
19. develop students' ability to take part in actions about sustainable development as a MEMBER OF A GROUP	
20. develop students' ability to take part in LOCAL ACTIONS for sustainable development (e.g., for their school, neighborhood, community, etc.)	
21. develop students' ability to take part in GLOBAL ACTIONS for sustainable development (e.g., participation in international environmental organizations, boycott of products, etc.)	
22. develop students' ability to discuss possible CHANGES in their suggested actions	
23. develop students' ability to REFLECT upon their actions	
24. develop students' ability to EVALUATE their actions	

Range of answers:
1 *= Not at all confident,* ***2****,* ***3*** *= A little confident,* ***4****,* ***5*** *= Adequately/Enough confident,* ***6****, 7 = Absolutely confident*

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Part B. – The perceived Knowledge scale	
To what extent do you think that you have the scientific knowledge related to the following concepts?	**Sub-domains**
1. The natural greenhouse effect 2. The man-made (anthropogenic) greenhouse effect 3. Climate change 4. Ozone layer depletion 5. Acid rain 6. Energy footprint 7. Ecological footprint 8. Sustainable development 9. Education for sustainability / education for sustainable development 10. Biodiversity and species extinction 11. Recycling and waste management issues 12. Water pollution 13. Precautionary principle 14. Intergenerational solidarity (in solidarity with the future generations)	*perceived Content Knowledge (pCK)*
Range of answers: ***1** = Not at all, **2, 3** = In a little extent, **4, 5** = In a fair/adequate extent, **6, 7** = In a great extent*	
As of today, how confident are you that you can: 1. evaluate an environmental education / education for sustainability (EE / ES) project that you have implemented 2. use multiple evaluation methods in EE/ES 3. teach environmental education / education for sustainability (EE / ES) 4. use appropriate teaching methods for EE/ES (e.g., field trips, problem solving, etc.) 5. implement an EE/ES project in your school 6. set educational goals about sustainability considering the characteristics of your students (e.g., conceptual development, prior knowledge, individual differences, etc.) 7. develop dynamic learning environments for the teaching of sustainability issues 8. achieve goals ABOUT the environment 9. achieve goals IN the environment 10. achieve goals FOR the environment 11. reveal the ENVIRONMENTAL aspects of the issue under study 12. reveal the SOCIAL aspects of the issue under study 13. reveal the ECONOMIC aspects of the issue under study 14. reveal the POLITICAL aspects of the issue under study 15. reveal the INTERNATIONAL aspects of the issue under study 16. implement the environmental education / education for sustainability (EE/ES) CURRICULUM (program of studies) 17. make explicit the INTERDISCIPLINARY nature of EE/ES (e.g., interrelations among sciences and social sciences, ICTs, arts, etc.)	*perceived Pedagogical Content Knowledge (pPCK)*
Range of answers: ***1** = Not at all confident, **2, 3** = A little confident, **4, 5** = Adequately/Enough confident, **6, 7** = Absolutely confident*	

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