



Proceeding Paper

Students' Action Competence for Sustainability and the Effectiveness of Sustainability Education [†]

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Abstract: Scholarly attention has recently been increasingly focused on the concept of action competence for sustainability and its importance to promote environmental citizenship. Still, knowledge about the effects of sustainability education (SE) as an approach to teaching to foster students' environmental citizenship in terms of action competence for sustainability, where SE could be defined by holism (the approach to the sustainability content) and pluralism (the approach to teaching). The aim of this study is therefore to contribute new knowledge of effects of SE on young people's self-perceived action competence for sustainability (SPACS), through a longitudinal design. Our results show that SE as a teaching approach is effective in fostering environmental citizenship in terms of the important aspect of action competence for sustainability.

Keywords: longitudinal; action competence; environmental citizenship; holism and pluralism



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1. Introduction

Scholarly attention has recently been focused on the concept of action competence for sustainability and its importance to promote environmental citizenship [1]. Still, knowledge about the effects of sustainability education (SE) as an approach to foster students' environmental citizenship in terms of action competence for sustainability, where SE could be defined by holism (the approach to the sustainability content) and pluralism (the approach to teaching) [2]. The aim of this study is, therefore, to contribute new knowledge of the effects of SE on young people's self-perceived action competence for sustainability (SPACS). Through a longitudinal design, we followed students in a school where the teachers participated in a school development project aiming to implement SE. Two questions are posed:

- What is the development of students' SPACS and their experience of the SE teaching?
- What is the effect of SE on SPACS?

2. Methods

Student questionnaire data were collected in three waves (September 2017–June 2019) in accordance with a longitudinal design. In total, 760 Swedish upper secondary students participated in the waves, starting in grade 10 and 11, through grades 11 and 12 in the second and the final wave. Two scales were used, the SPACS-scale ($\alpha = 0.90$) [3] and the ESD, holism, and pluralism scale ($\alpha = 0.80$) [2]. Our data were analyzed using latent growth modeling and structural equation modeling. Measurement invariance between the waves was established using multiple fit indices.

3. Results

The longitudinal results reveal a significant increase for students' experience of holism, but not for their experience of pluralism. This result shows that the students have experienced something in the sustainability teaching, especially in relation to the approach to the content, but not in relation to the pluralistic approach in teaching to the same degree. The results also reveal a significant increase over time regarding students' SPACS. Finally, our SEM analyses show that experiencing the SE dimensions of holism and pluralism at the student level will have a positive effect on their action competence for sustainability (self-perceived) (β between 0.14 and 0.30).

4. Conclusions and Recommendations

Our results show that SE as a teaching approach is effective in fostering environmental citizenship in terms of the important aspect of action competence for sustainability. Moreover, the results shed light on the fact that a SE school development project to some degree can support the development of students' experiences of SE teaching at their school, which then positively influence their self-perceived action competence for sustainability.

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Institutional Review Board Statement: The study follows the ethical guidelines in Sweden and the specific guidelines provided by Karlstad University.

Informed Consent Statement: The participants were informed about the purpose of the project and they all provided active informed consent for participating.

Data Availability Statement: Data supporting the findings of this study are available from the corresponding author upon reasonable request.

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