

The Sustainable backpack - implementation of Education for Sustainable Development in Norwegian schools

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Abstract

This paper reports on how The Sustainable backpack (Den naturlige skolesekken¹) has succeeded in implementing Education for Sustainable Development (ESD) in Norwegian schools. The Sustainable backpack was initiated in 2008 in response to UNESCO's International Implementation Scheme for the Decade of ESD and the Norwegian Strategy plan for the ESD 2005-2010, which was revised and expanded for the period 2012-2015. Initiated by the Ministry of Education and Research and the Ministry of Climate and Environment, the Sustainable backpack is an ongoing priority. The aims of the Sustainable backpack are to influence attitudes toward, reconstruct ideas about and improve proficiency in issues related to sustainable development among teachers and students in primary and secondary school. In the Sustainable backpack, ESD is supported in numerous ways, such as networking between teachers, schools and science education experts, Teacher Professional Development (TPD) courses and economic support to school projects.

The aims of this study are to investigate how participation in the Sustainable backpack influenced teachers' engagement in and teaching for sustainable development. These issues have been examined through teacher questionnaires. The teachers report that participation in the Sustainable backpack has a positive impact on their engagement and understanding of sustainable development. They also report increased use of the schools' local environment when teaching. Less positive is that half of the teachers report that assessment is not incorporated in their ESD, despite this is a requirement for projects in the Sustainable backpack. However, the teachers call for good assessment practices of competencies for ESD.

Key Words: Education for Sustainable Development, engagement, understanding, teaching

Introduction

Since the beginning of the Decade on Education for Sustainable Development in 2005 (UNESCO, 2005), the growing scientific knowledge on increased average temperature on earth has demonstrated that the challenges facing environmental protection and sustainable development have become more urgent. However in a national survey from 2011, only 9% of the school leaders in Norway replied that they had been inspired by the Decade on Education for Sustainable Development to change their teaching (Vibe, 2012). While 58% of the school leaders answered they were interested in issues relating to sustainable development only 27% responded that they had the sufficient competencies on ESD at their school (ibid.). This finding corresponds with the Norwegian Strategy for Education for Sustainable Development (Kunnskapsdepartementet, 2012) to follow up the DESD stating that there is a need to educate

¹ <http://www.natursekken.no/>

teachers in ESD. The Norwegian program, the Sustainable backpack (Den naturlige skolesekken, DNS²), was launched in 2008 in response to UNESCO's International Implementation Scheme for the Decade of ESD and the Norwegian Strategy plan for the ESD 2005-2010 and the revised strategy for 2012-2015 (ibid.). Initiated by the Ministry of Education and Research and the Ministry of Climate and Environment, the Sustainable backpack is an ongoing priority. The aim of the Sustainable backpack is to increase awareness, understanding and competencies in and for sustainable development to teachers and students in primary and secondary education. The Directorate for Education and Training and The Norwegian Environment Agency are given the responsibility of implementing the Sustainable backpack in concert with the Norwegian Center for Science Education. The Norwegian Centre for Science Education collaborates with a resource group consisting of six science teacher educators whose main objective is to follow up and guide schools in the Sustainable backpack. By attending the Sustainable backpack program and its "learning networks" of schools, teachers might meet each other both physically and virtually at least three times a year to share experiences and ideas. These network meetings also include scientific (relevant science topics) and pedagogical content training. In this study the impact on the teachers from participation in the Sustainable backpack is examined. The following research questions are explored: 1) How does participating in the Sustainable backpack, impact on teachers' engagement and implementation of Education for Sustainable Development in Norwegian schools?

Method

This study builds on questionnaire data. The questionnaires were answered online by primary and secondary teachers who participated in the Sustainable backpack in 2012 and in 2013. In addition, teachers' reflection notes were analyzed.

Results

23% of the teachers in 2012 and 30% of the teachers in 2013, reported that participation in DNS had strengthened their understanding of ESD to a large extent (on average 28 % in the period 2012-2013), and an additional 60% (2012) and 56% (2013) responded that it had strengthened their understanding to some extent (on average 57%). When asked about how participation in DNS has affected their commitment for ESD, 38% of the teachers in 2013 reported that it had increased to a large extent and additional 49% to some extent. More than 70% of the teachers reported that working with ESD in the Sustainable backpack had increased their use of the school's local environment. In 2013 53% of the teachers report that they had developed assessment criteria for ESD and a higher percentage of the teachers had applied different forms of oral assessments than written assessments. The most common form of oral assessment was oral assessment of groups of students (56%), while the most common form of written assessment was written self-assessment (31%). The most desired topics for teacher professional development (TPD) courses were sustainable development (52%), inquiry-based science teaching (50%) and assessments (42%).

Discussion and conclusions

The findings from both 2012 and 2013 suggest that the Sustainable backpack enhances teachers' engagement of sustainable development. The fact that teachers report increased use of the local environment in their teaching for sustainable development is in line with the ESD strategy; "act locally, think globally". However, a large amount of the teachers report that assessment is not practiced in the projects. The consequence is that it therefore is difficult to say whether students benefit from these schools ESD, and hence to consider the success of the

² <http://www.natursekken.no/>

projects. The reason might be that many teachers lack of competencies to assess ESD competencies, an assumption which is supported by the teachers who report a desire for teacher professional development within assessment practices of competencies for ESD in addition to ESD in practice and inquiry-based science teaching. These results indicate that the Sustainable backpack has been a constructive measure on the way to enhance awareness and competencies to teachers in primary and secondary education. However, in order to succeed with Norway's strategy for ESD, it is essential that school projects in Sustainable backpack incorporate good assessment practices. The results from this study are central for understanding how to support teachers to implement ESD and of for future development of Sustainable backpack and how to succeed with ESD.

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6. References

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