



Resources used by leaders of sustainable development projects. What can be learned for environmental education?

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Abstract

In our day and age, leaders involved in ingenious sustainable development projects plan spaces and implement practices that are beneficial to the environment. These initiatives represent a fertile source of information on the competences linked to environmental design that we should nurture in our students. In view of improving our understanding of the competences that should be developed in environmental education (EE), this study sought to identify the resources specific to an environmentally friendly design used by leaders who participated in five sustainable development projects (in sustainable urban planning and forestry). The analysis of documents and data from individual clarification interviews revealed that the main resources (cognitive, social, and affective) used by the leaders interviewed, depended not only on problem solving, but also on creative, complex, flexible, longitudinal, adapted, patient, collaborative, humanistic, and environmental planning. Finally, this study, of which we present the effects on environmental education, shows that leaders use resources which are associated with creative individuals.

Keywords: sustainability, environmental design, competences, planning, leaders, environmental education

Oggi i responsabili di progetti innovativi sullo sviluppo sostenibile organizzano spazi e implementano pratiche che siano di beneficio per l'ambiente. Queste iniziative rappresentano una fertile fonte di informazioni sulle competenze legate a progetti ambientali che noi dovremmo instillare nei nostri studenti. Nell'ottica di migliorare la nostra comprensione delle competenze che dovrebbero essere sviluppate attraverso l'educazione ambientale (EE), questo studio cerca di identificare le risorse specifiche per un progetto environmentally friendly utilizzate dai responsabili durante cinque progetti di sviluppo sostenibile (nell'ambito della pianificazione sostenibile

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delle aree urbane e forestali). L'analisi dei dati e dei documenti provenienti da interviste individuali rivela che le principali risorse (cognitive, sociali e affettive) usate dai responsabili intervistati non dipende solo dalla soluzione dei problemi, ma anche da una pianificazione creativa, complessa, flessibile, longitudinale, adattata, paziente, collaborativa, umanistica e ambientale. Il presente studio, di cui presentiamo gli effetti in educazione ambientale, mostra come i responsabili dei progetti utilizzino risorse associate con la creatività individuale.

Parole chiave: *sostenibilità, progettazione ambientale, competenze, pianificazione, leader, educazione ambientale*

1. Introduction

In 1977, UNESCO published a list of five main objectives for EE: awareness, knowledge, attitude, competences and participation. Here, the category of objectives that interests us most is competences: “to help social groups and individuals acquire the skills for identifying and solving environmental problems” (UNESCO-UNEP, 1977, p. 30). This category, relative to individuals’ capacity to commit, mainly consisted in developing citizens’ ability to collectively resolve local problems. However, the nature of “the competences for identifying and solving environmental problems” was not fully defined, making this category of objective difficult to apply among learners. Luckily, thanks to research carried out in the past decades, this category of objectives for EE could be described in more details regarding environmental problem-solving skills and could be widened to encompass other competences. In fact, as part of a broad definition of the concept of *competence*—viewed as a set of cognitive and metacognitive resources (knowledge, know-how, knowing how to act; knowing how to observe, control, and improve one’s cognitive strategies); conative (motivation to act); physical, social (calling on an expert); spatial (efficient use of space); temporal (relevant organization of time); material (use of a book or tool); and affective (Joannert, Barrette, Boufrah, & Masciotra, 2004)—this category could now include new competences to attain and use. Researchers now suggest using other competences to solve problems: clarifying one’s relationship to the environment (Sauvé, 2009a), futures thinking (Godet, 2001), linking thinking (Sterling & Maiteny, 2005), decision-making (Utzschneider & Pruneau, 2010), and critical thinking (Mogensen, 1997). In addition, when Sauvé (2009b) talks about the competences necessary for “living together on Earth and carrying out environmental projects together” (p. 14; loose translation), she is introducing