

# How Can Context-Aware Learning (CAL) Increase Children's Environmental Awareness?

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## **ABSTRACT**

Smart cities that are environmentally sustainable have an appropriate use of natural resources, protection of biodiversity, adequate waste management and low energy consumption by environmentally aware citizens. This research aims at studying how to use context-aware learning to increase the environmental awareness of children as crucial stakeholders. Smart Learning Environment is a context-aware, adaptive and personalized technology ideal to learn about the natural environment. The main question addressed in this research is: how to increase children's (age 10-14) environmental awareness using context-aware learning through geo-games (CAL)? A teaching method using CAL for environmental education of biodiversity and sustainability will be developed. The method will be supported by a mobile game application guided by child computer interaction research. This will be empirically tested to measure its effectiveness in terms of engagement, motivation and change in environmental knowledge, in attitude towards the environment and in pro-environmental behavior.

## **Author Keywords**

Environmental awareness; context-aware; children; technology; sustainability; environmental education.

## **ACM Classification Keywords**

H.5.2. User Interfaces; H.5.m Miscellaneous.

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