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IC - (20885) - WOODEN ARCHITECTURE BASED ON EMPIRICAL RESEARCH OF THE 'WOODLAND CAMPUS' PROJECT IN JAPAN: BENEFITS OF CONTACT WITH NATURE FOR CHILDREN

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Background and objectives

The importance of forests in preventing climate change has been significantly increasing. Forest area comprises 67 percent of the total land area in Japan. However, most people no longer have any relationship with forests. Contact with nature is necessary for the healthy development of children. The lack of exposure to nature may cause physical and mental problems, referred to as 'nature deficit disorder'. The 'C. W. Nicol Afan Woodland Trust' started a reconstruction project for children's care after the Great East Japan Earthquake in 2011. In collaboration with industries, governments and academia, the project, which was initially aimed at children living in disaster areas, has now developed into a general project applicable to all children. Our research aims to propose architectural design principles that can connect children with nature.

Process and methods (for empirical research)

The process of our empirical research comprised designing and constructing pieces of wooden architecture, holding workshops, and conducting questionnaires, interviews and field surveys. Based on these activities, we established the design principles.

Main results (or main arguments in the case of critical reviews)

1. To appreciate nature, an outdoor observation deck (2014), a sound shelter (2015), and a theatre (2017) in the forests were designed and constructed using wooden dowels instead of metal nails. Horse logging was also adopted for sustainable forest management.
2. Workshops on how to use and maintain the wooden architecture were held. These workshops were effective in getting children and teachers involved in the project.
3. The results of the surveys showed that children became more interested in living beings and felt more attached to nature after experiencing the wooden architecture.

Implications for research and practice/policy | Importance and originality of the contribution

Our design principles, including the materials and devices used, signify unprecedented approaches towards a sustainable future. Our processes, such as design, construction, workshops and surveys, in collaboration with industries, governments and academia, have been fruitful for the environmental education of children and the 'Education for Sustainable Development'.

Palavras-chave : Architecture, Children, Nature, Forests, Collaboration