



Improving sustainability concept in developing countries

Educational Methods Instruct Outdoor Design Principles: Contributing to a Better Environment

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Abstract

Several educational methods are used in building up children; each has different settings accordingly different requirements. The research focuses on Montessori Method that presented innovation in the field of outdoor learning. Here comes a question 'Does the educational system instruct the design of outdoor spaces?'

Accordingly, the research introduces Montessori principle 'exploring surrounding environment', comparing studies on children; finding out how educational system could achieve its objectives through its own settings' requirements in outdoor spaces' design. If so; spaces' design principles should be for each educational system individually in order to reach maximum benefits of the educational process.

Keywords; Montessori; outdoor spaces; design principles; educational method; natural environment; child requirements

1. Introduction

Education as a domain prepares children for their outcomes, building up their mentality and personality. The design of the physical environment -in accordance with the role assigned to it by educational principles- is one of the means that can be used to transform the educational idea into reality. The translation of educational objectives into operative design concepts is a complex task; it requires consideration of society's goals, of the developmental process and of the particular characteristics of the time and place (Sebba R, and Churchman A, 1986). The starting point for the definition of general design patterns for educational spaces should be directed accordingly to the educational method/system, tools required in each space, and the knowledge required reaching students. The research is asking a direct question 'Does the educational system instructs the design of outdoor spaces?', if the answer is 'YES' then designers should stand on the educational system itself and its objectives -before going to the design process and putting sketches leading to the 'trial and error' process- were the design of the outdoor space should fulfil its requirements.

The research worked on finding out the answer of the question through taking Montessori system as an example to educational methods, selecting an objective for teaching ‘exploring natural environment’ where the urban space and its design play a great role, then assessing small aged children –as they are clearly affected by different educational methods- , and then comparing results between children exposed to Montessori method and others who do not, in order to obtain physical results showing how could the urban space –through its design and components- affect child’s exploration, attitude, and personality.

2. Montessori; an introduction

Maria Montessori (1870-1952) is a legend in education, her own professional history being the first woman in Italy to earn a medical degree exemplifies her need to develop observational skills. Her life as an educator brought her to be a traveller all over the world moving out of her native Italy to establish a home in India and finally Holland. She encountered many children who would gain liberty through her new educational methods, disbelieving teachers who habits of the “old school” made them immune or dismissive of her innovations and educational institutions that were reluctant to endorse her credo while recognizing its originality (Montessori M, 2013).

2.1 Montessori method in teaching

The teaching role is ambivalent –while helping children to develop it can also entail limiting their development, by restricting the liberty of exploration. Observing the ways in which teachers intervene in children’s efforts to explore the environment and make the environment open to children’s exploration- is the basis for her innovation. The constant contrast between the ‘old school teachers’ and the ones who take over Montessori methods indicate the locus of intervention needed-in the layer between the developing person (child) and ‘the society’- exemplified by other persons (teachers) enacting specific social roles in their guidance of children (Montessori M, 2013).

The concept of ‘active’ learning was further developed through the work of Jean Piaget, then Maria Montessori, and later by Carl Rogers whose work focused on the effective components, describing significantly having quality of personal involvement (Ritchie C, 2015). Montessori had personal mission; liberation of the developing mind through observation and support for humanity. The whole educational method is a dialogue between observation and action, especially regarding the ways in which the two ways of relating become mutually coordinated (Montessori M, 2013).

2.2 Montessori and Natural environment

The feeling of nature grows with exercise, like everything else; it is certainly not strengthened by us through descriptions or exhortations made pedantically to a child who is listless and bored being shut within walls and who is accustomed to see and hear the cruelty towards animals in a necessity of life (Montessori M, 2004). A focus on nature has a double significance. First, it addresses the emerging sedentary lifestyle health crisis. Children are not spending enough time outdoors, neither moving their bodies in sustained moderate – to- vigorous physical activity for sufficient periods of time, nor interacting with their surroundings and each other in ways that insure their proper physiological, and social development. Lack of movement means insufficient energy expenditure to metabolize food intake, which, as we know, has increased substantially over the last several years. Second, of direct relevance to Montessorians is the potential of a carefully and deliberately designed and prepared naturalized outdoor environment for engaging teachers and learns across curriculum (Moore R, and Cosco N, 2007).

Maria Montessori in her book ‘The Discovery of the child’ said; “*it would be premature to say: Set the children free, let them have fair play, let them run out when it is raining, take off their shoe when they find pools of water, and when the grass of the meadows is damp with dew let them run about with bare feet and trample on it; let them rest quietly when the tree invites them to sleep in its shade; let them shout and laugh when the sun wakes them up in the morning, as it wakes up every other living creatures*” (Montessori M, 2004).

The previous paragraph concludes natural interactions aimed by the teaching method, from where designer should translate these requirements to be as instructions for the outdoor space’s design. As an example, a) selecting materials integrating with the objectives of the teaching method (sand and grass), b) creating semi-shaded area for children to sleep in it safely surrounded by the nature.etc.

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