1 ABSTRACT

All day/all weather outdoor classrooms, known as forest kindergartens, are governed by four educational principles: 1) create opportunities for creativity and curiosity; 2) direct sensorial contact with nature; 3) build self confidence and trust through risk-taking; and 4) provide unstructured play for development of sociality and conflict resolution (Moore and Marcus, 2008, p.164). A 2003 study found that forest kindergarteners performed as well as their conventional peers on fine motor skills and significantly better on tests of gross motor skills, academic achievements, creativity, attention spans, stress levels, and happiness (Grahn et al., 1997; Robertson, 2006 p.4-6; Watkins, 2011, p.1-3). While research evidence has fueled the increase of forest kindergartens throughout the world, especially in Europe, it has done little to encourage their development in the United States.

A survey given to parents and faculty of a childcare center located in Muncie, Indiana, determined the impediments to establishing forest kindergartens. Because of positive survey results, for comparative analysis, a classroom of seventeen three to five year old children were observed. Landscape architecture students conducted behavioral mappings to determine the length of time the children spent at a given space, the activities they engaged in, and the density of the children in each space, in order to establish design principles based on child-reaction to natural settings. Based on the observations, three design principles must be followed to establish forest kindergartens: 1) engagement in a diversity of spatial configuration, dimension and materials; 2) utilization of pathways between nature classrooms as learning spaces; and 3) the facilitation of deep immersion in nature for all day/all weather classrooms.