

# The Relation Between Environmental Affordances in Play Settings and the Level of Social Development Among Children

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## Abstract

Children shape developmental skills through their environments. According to Bandura's Social Learning Theory, environment is one of the main factors that support social development. From an ecological approach, this study is conducted from both an analytical and theoretical viewpoint, using Gibson's concept of Affordance Theory. Affordances explain how the environment may influence children's social behaviors. A literature review was conducted using keywords to define interrelated categories. Previous literature guides the design considerations for the social affordances used in the study. This article analyzes the affordance characteristics of different outdoor play settings related to social skills and it provides a guideline and suggests design solutions offered for each affordance. These design solutions support the four social skills revealed in this study: 1) environmental awareness, 2) cooperation, 3) interaction and communication, and 4) confidence and self-esteem. This study explores certain play settings characteristics offered by the physical outdoor environments that are important for encouraging and inspiring children's social play.

## Purpose of the Study

The aim of this study is to apply the theory of affordances in an outdoor environment to explain children's level of social development. The research question is: What is the relation between social affordances in play settings and the level of social development among children?

Playground Design Settings

Social Affordances

Children's Social Skills

## Introduction

Personal and social skills and competencies are important to children's development. Studies show that outdoor play has an effect on children's health and wellbeing (C. Becker et al., 2017), environmental awareness (Scrutton, Beames, 2015), cooperation (Scrutton, Beames, 2015), interaction and communication (C. Becker et al., 2017), and confidence and self-esteem (Björger, 2016, Galanaki & Vassilopoulou, 2007, C. Becker et al., 2017, Cooley et al., 2016, Maynard & Waters, 2007, Dillon, 2013). For a child to play, he or she needs to interact with the surrounding. To build this interaction, the development of personal and social skills becomes crucial. Children's developmental skills form through the environments they are exposed to and interact with. In the context of play, children spend most of their time indoors (Hofferth & Sandberg, 2001) usually exposed to toys or video games. Some children's interior of spaces are designed with toxic chemical products including toys which can create a polluted environment (M. Becker, Edwards, & Massey, 2010). Also, video games isolate children from physical interaction.

## Method

A literature review was conducted using the keywords to define interrelated categories. These keywords were "Children in literature," "social isolation," "loneliness," "physical design," "children's learning development," "affordances," "social environment," "outdoor learning," "natural play," and "built environment." Databases were used in the keyword search. The databases used were Academic Search Complete, ProQuest, Elsevier, Google Scholar, JSTOR, Education Research Complete, and Texas Tech University Libraries. Potential studies were identified from the review of articles. The studies include and provide empirical validation on the impact of different play settings and natural play on developing social affordances for children. Twenty-six peer reviewed articles and journals were identified as meeting the criteria.

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## Affordances Guidelines for Each Social Domain



### Environmental Awareness

Design solutions for offering environmental awareness in a playground can be based on these affordances:

- Ability to communicate with the environment
- Ability to explore water pumping
- Ability to observe the surroundings
- Ability to learn properties of natural materials.
- Ability to educate children about the environment
- Ability to engage senses
- Ability to navigate through the spaces and zones
- Ability to mimic some animals' environment
- Ability to increase diversity of play and learning opportunities



### Cooperation

Design solutions for offering cooperation in a playground can be based on these affordances:

- Ability to assemble hands-on-elements
- Ability to seek and find others
- Ability to encourage teamwork
- Ability to offer opportunities for collaborative social interaction
- Ability to take turns
- Ability to construct (Hogan, 1974)
- Ability to pretend play, music /act /dance play
- Ability to problem solve



### Interaction & Communication

Design solutions for offering cooperation in a playground can be based on these affordances:

- Ability to assemble hands-on-elements
- Ability to seek and find others
- Ability to encourage teamwork
- Ability to offer opportunities for collaborative social interaction
- Ability to take turns
- Ability to construct (Hogan, 1974)
- Ability to pretend play, music /act /dance play
- Ability to problem solve



### Confidence & Self-esteem

Design solutions for offering cooperation in a playground can be based on these affordances:

- Ability to assemble hands-on-elements
- Ability to seek and find others
- Ability to encourage teamwork
- Ability to offer opportunities for collaborative social interaction
- Ability to take turns
- Ability to construct (Hogan, 1974)
- Ability to pretend play, music /act /dance play
- Ability to problem solve

## Play Setting Recommendations

### Biking & Running Track

- Ability to communicate with the environment
- Ability to observe the surroundings
- Ability to engage senses
- Ability to navigate through the spaces and zones
- Ability to communicate with peers and parents/adults
- Ability to communicate through signage
- Ability to engage in a conversation

### Team Play

- Ability to encourage teamwork
- Ability to stimulate self-expression

### Performance Area

- Ability to encourage teamwork
- Ability to stimulate self-expression
- Ability to pretend play, music /act /dance play
- Ability to have a sense of control
- Ability to engage in a conversation

### Imaginative Play

- Ability to engage in a conversation
- Ability to have a sense of control
- Ability to construct (Hogan, 1974)
- Ability to assemble hands-on-elements
- Ability to problem solve
- Ability to face challenges
- Ability to pretend play

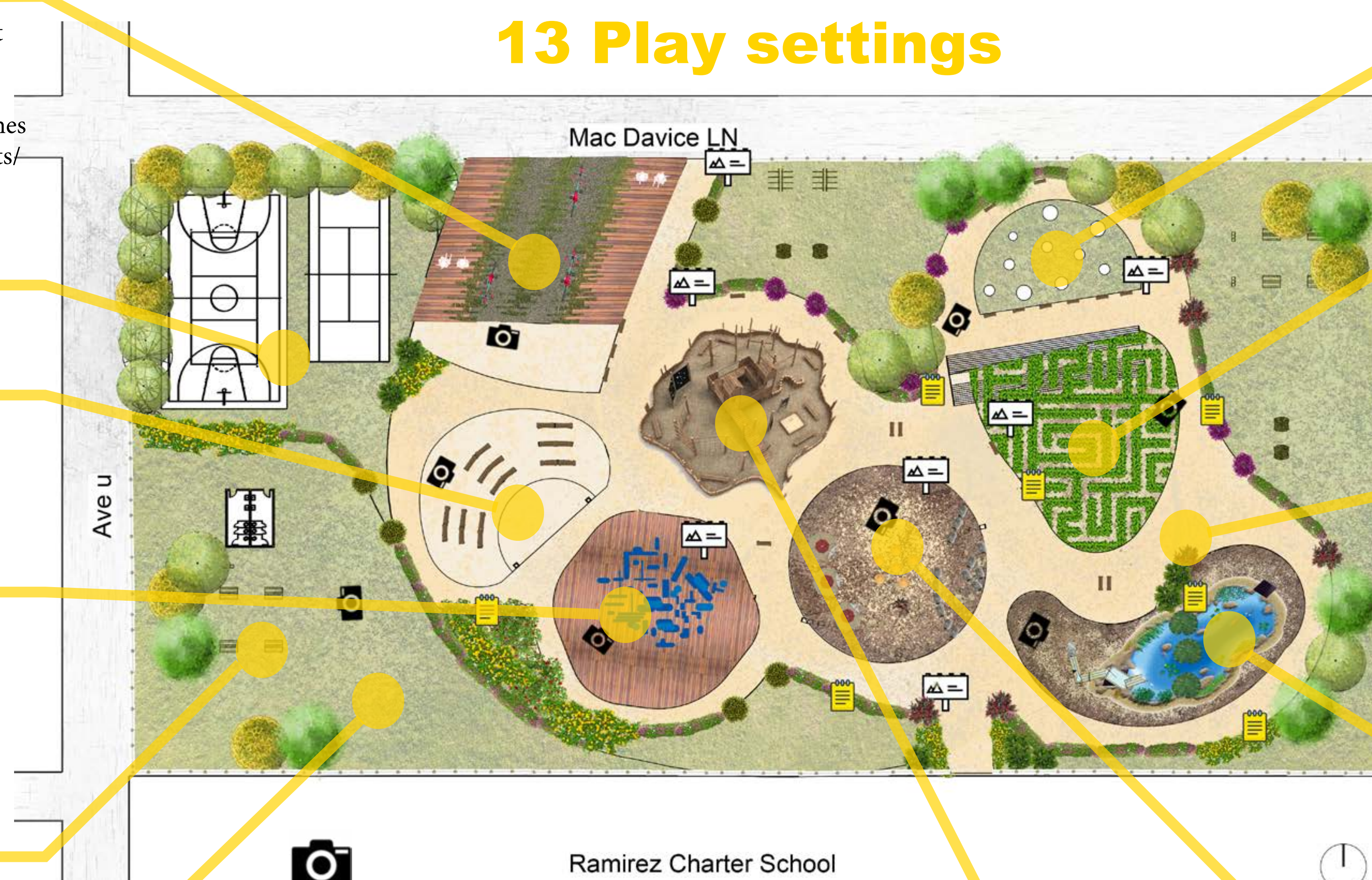
### Gathering Areas

- Ability to offer opportunities for collaborative social interaction
- Ability to communicate with peers and parents/adults

### Multipurpose Lawns

- Ability to offer opportunities for collaborative social interaction
- Ability to observe the surroundings
- Ability to offer opportunities for collaborative social interaction
- Ability to support informal games and large group physical activity
- Ability to participate in races
- Ability to encourage teamwork

## 13 Play settings



### Prairie Dog Hiding Zone

- Ability to mimic some animals' environment
- Ability to engage in a conversation
- Ability to hide and seek
- Ability to have a sense of control

### Grass Maze

- Ability to problem solve
- Ability to learn properties of natural materials.
- Ability to educate children about the environment
- Ability to increase diversity of play and learning opportunities
- Ability to face challenges

### Pathways

- Ability to communicate with the environment
- Ability to observe the surroundings
- Ability to engage senses
- Ability to navigate through the spaces and zones
- Ability to communicate with peers and parents/adults
- Ability to communicate through signage
- Ability to engage in a conversation

### Water Play

- Ability to offer opportunities for collaborative social interaction
- Ability to communicate with the environment
- Ability to problem solve
- Ability to face challenges
- Ability to balance oneself
- Ability to explore water pumping
- Ability to mimic some animals' environment (frog)
- Ability to wade through water

### Media Sharing Moments

- Ability to share experience through social media
- Ability to observe the surroundings
- Ability to offer opportunities for collaborative social interaction

### Natural Construction Play

- Ability to increase diversity of play and learning opportunities
- Ability to take turns
- Ability to problem solve
- Ability to engage in a conversation

### Loose Part Play

- Ability to problem solve
- Ability to face challenges
- Ability to construct (Hogan, 1974)
- Ability to assemble hands-on-elements
- Ability to engage senses
- Ability to communicate with the environment

