

AN INVESTIGATION OF PRESCHOOLER'S COGNITIVE STYLES ON THEIR PLAY
BEHAVIOR

By

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ABSTRACT

An Investigation of Preschoolers' Cognitive Styles on Their Play Behavior

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This study is an investigation of the effects of cognitive styles on preschoolers play behaviors. The study was based on previous research by Saracho N. Olivia, who indicates that cognitive styles direct the play behaviors. The methodologies used were the Play Rating Scale (PRS), and the Modified Group Embedded Figure Test (GEFT). The findings from this study showed that there is no significant relationship between cognitive styles and play behaviors. Cognitive styles do not necessarily determined the play behaviors of a child during play activities. There are significant relationship between cognitive styles and age and also between play behaviors and age. The findings also showed that there are exist differences between field dependent (FD) and field independent (FI) aged 4-, 5- and 6-year-old children's play behaviors in the *physical, block, manipulative* and *dramatic play*. Based on this study, I could conclude that cognitive styles and age are related in a way that different ages have varied types of cognitive styles. The field dependent (FD) and field independent (FI) showed different strong quality in certain play forms. Children engaged in play forms which are familiar to them and therefore this could be seen during play activities.

ABSTRAK

Kajian Terhadap Bentuk Gaya Kognisi di Kalangan Kanak-kanak Pra- sekolah dan Tingkahlaku Mereka Semasa Bermain

Elvinna Devi A/P Parimal

Projek ini merupakan kajian mengenai kesan gaya kognisi seorang kanak-kanak pra-sekolah terhadap bentuk tingkahlaku yang ditonjolkan semasa bermain. Kajian sebelum ini telah dilakukan oleh Saracho N. Olivia yang menyatakan bahawa gaya kognisi mempengaruhi tingkahlaku yang ditunjukkan semasa bermain. Metodologi yang digunakan dalam kajian ini adalah Play Rating Scale (PRS) dan Modified Group Embedded Figure Test (GEFT). Keputusan yang diperolehi daripada kajian menunjukkan bahawa tidak terdapat perhubungan yang signifikan diantara gaya kognisi dan tingkahlaku semasa bermain. Ini menunjukkan bahawa gaya kognisi tidak semestinya mempengaruhi tingkahlaku semasa bermain. Terdapat perhubungan yang signifikan diantara gaya kognisi dengan umur dan perhubungan diantara umur dengan tingkahlaku semasa bermain. Keputusan juga menunjukkan bahawa terdapat perbezaan tingkahlaku semasa bermain diantara individu yang bergantung kepada konteks latarbelakang dengan individu yang tidak bergantung kepada konteks latarbelakang yang berlainan umur di dalam 4 jenis permainan tadi. Berdasarkan kepada kajian ini, saya membuat kesimpulan bahawa gaya kognisi dan umur adalah berkaitan diantara satu sama lain iaitu umur yang berlainan mempunyai gaya kognisi yang berbeza. Individu yang bergantung kepada konteks latarbelakang dan individu yang tidak bergantung kepada konteks latarbelakang juga menunjukkan ciri-ciri yang berbeza di dalam sesetengah jenis permainan. Dapat disimpulkan bahawa kanak-kanak lebih cenderung untuk bermain di dalam permainan yang bukan asing bagi mereka.

CHAPTER 1

INTRODUCTION

1.0 Introduction

Parents send their children to preschools when their children are between three years old to six years old. Apart from having someone to care for the children while they are at work, parents send their children to preschools for the purpose of giving them education and as well as to prepare them for school life. When children are in preschools, they will be occupied with different kind of activities, which varies from academic activities to physical activities. The topic to be studied is '*An Investigation of Preschoolers' Cognitive Styles on Their Play Behavior*'. During play activities, children solve problems and explore their creativity with the toys that they have. It is believed that children all over the world have their own individual variation in modes of perceiving, remembering and thinking or distinctive ways of taking in, storing, transforming, utilizing information and solving problems. The cognitive styles of children are visible when the children engage in play activities. Children either become active or passive during playtime depending on their cognitive styles. Therefore, it is appropriate to determine preschoolers' cognitive styles through the identification of play behaviors during play activities.

1.1 Background of study

Play is an activity that takes place every day in a child's life no matter where they are, whether at home or in school. Play activities have become part of children's routine activities in a way that it occupies children's free time and are also important in their learning process. Children are able to engage in play activities either by themselves or in the presence of other children. The

best way to observe the play behavior among young children is by looking at the age group between four years old to six years old as compared to primary school children. This is because learning syllabuses in preschools are more flexible and not restricted to what they are supposed to learn but rather what they can learn. Preschoolers spend most of their time playing and socializing with others apart from learning their lessons in classrooms.

Researchers in child development define play as a tool to evaluate the child's cognitive development. Play is said to integrate the children's cognitive, creative, language, social, and physical development (Saracho, 1986). Play permits children to practice their competencies and acquire skills in a relaxed, pleasurable way (Piaget, 1962). Play is a flexible type of activity that can occur when the child is alone or in the company of other children. Play is always related to the children's social development and how they apply their social skills while playing. Their social skills are visible when they start to interact with other children during playtime and it is predominantly viewed as a natural and intrinsic means through which these young children learn.

Cognitive style has been described as an individual's characteristic and consistent approach to organizing and processing information (Tennent, 1988). Cognitive styles among children are different from one individual to another. Based on their cognitive styles, children will tend to display their personality, degree of perceptual and intellectual experiences in a problem situation. Cognitive styles can be categorized as field independent (FI) cognitive styles or field dependent (FD) cognitive styles. Therefore, in determining a child's characteristic behaviors during playtime, it can help us learn simultaneously about their cognitive styles and why they react the way they do during play activities.

1.2 Problem Statement

The problem to be investigated in this study is whether cognitive styles among preschoolers affect their play behavior during playtime? What relationship or differences exist between Field independent (FI) person and Field dependent (FD) person based on their play behaviors? A previous study has been made in a few preschools in the United State of America and the result has showed that children's cognitive styles affect their play behavior. My study will be an investigation on how true this statement is by applying the research method to preschoolers in a preschool in Kuching, Sarawak.

1.3 Research Objectives

This study is divided into two objectives. They are the general objective and specific objective.

1.3.1 General objective

The objective of this study is to look at the effect of cognitive styles to the play behavior of children in preschools.

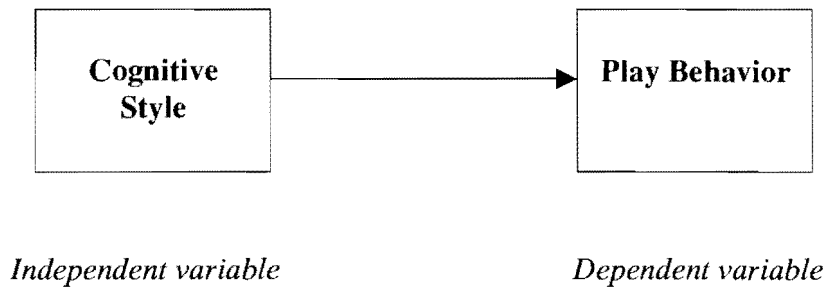
1.3.2 Specific objectives

- (i) To identify what type of play form will Field independent (FI) persons and Field dependent (FD) persons prefer during play activities.
- (ii) To identify the type of play that children between ages 4, 5 and 6 years old commonly like to play with.

1.4 Conceptual Framework

The variables involved in this study are independent variable and dependent variable. The independent variables are the children *cognitive styles* while the dependent variables are the children's *play behavior*. From the previous study, Saracho N. Olivia (1987) stated that children's cognitive style directs their play behavior. The conceptual framework is stated as below:

Table 1: Conceptual framework of Cognitive Style and Play Behavior



1.5 Hypotheses

H₀₁ = There is no significant correlation between preschooler's cognitive styles and their play behaviors in physical play.

H₀₂ = There is no significant correlation between preschooler's cognitive styles and their play behaviors in block play.

H₀₃ = There is no significant correlation between preschooler's cognitive styles and their play behaviors in manipulative play.

H₀₄ = There is no significant correlation between preschooler's cognitive styles and their play behaviors in dramatic play.

H₀₅ = There is no significant correlation between preschooler's cognitive styles and age.

1.6 Importance of the Study

Generally, people are not aware of how knowledge of their own differences, such as field dependent or field independent, could affect the ways in which they learn, according to Jones (1993). It is important to determine a person's cognitive style in order to design instructional environments that could be adapted to accommodate individual differences. Determining cognitive styles in young children can help in matching these information to teaching environments that may be important as in enhancing preschoolers' learning potential.

Cognitive styles among children vary from one individual to another. This study is important in distinguishing a child's cognitive styles and the type of play that they are interested in. By doing this, teachers or practitioners are able to create a more productive play activities for their preschoolers to stimulate the individual's cognitive styles. Play activities are one of the most important elements that determine the learning development of a person and therefore it is important to use it as a tool to stimulate a person's cognitive styles that could accommodate individual differences. It helps in contributing knowledge to the social orientation of cognitive styles, which is between Field dependent (FI) and Field independent (FD) person.

Styles are not something that can be changed, thus motivations or positive environments that is encouraging for a better learning process can only improve it. According to Saracho (1995), as research indicates that field dependent (FD) persons are more socially orientated, it was expected that field dependent (FD) children would display more social play behaviors than field independent (FI) children. Therefore, by identifying the cognitive styles of children, teachers can also help to motivate children who are categorized as field independent (FI) to be more socializing so that they

are able to improve their social skills. Both field dependent (FD) and field independent (FI) person need motivation in their learning process and it varies in both categories. Based on previous research, motivation can be in the form of verbal praise, through external rewards for example giving prizes or stickers, through grades through competition or through freedom to design their own structure.

By observing the play activities among the preschoolers, we are also able to identify a child's frequency of play in each form of play, the children's creativity and ability to communicate ideas, their social levels of participation and the children's capability to provide leadership in the different play areas. This will help teachers in identifying potential children and a child who needs more attention and motivation to stimulates their cognitive abilities.

1.7 Definitions of Terms

The definitions of the terms used in this study are as follows:

1.7.1 Cognitive styles

Conceptual Definitions:

Specific categories, which describe the ways in which individuals process information such as field dependence/independence, visual, and reflexivity or impulsivity (Messick, 1984).

Operational Definitions:

Modes of functioning that describe stable attitudes, preferences and habitual strategies in task such as solving problems, perceiving, remembering and thinking.

1.7.2 Field Independent Dependent (FDI)

Conceptual Definitions:

The degree to which an individual's processing of information is affected by the contextual field (Witkin 1977).

Operational Definitions:

A field of study that distinguished a person's ability in processing information whether globally or analytically.

1.7.3 Field Dependent (FD)

Conceptual Definitions:

Individuals who tend to organize information into clustered 'wholes' (Witkin & Goodenough, 1962).

Operational Definitions:

An individual who need external referents to aid in the processing of information and are affected by the approval or disapproval of superiors. They are more socially oriented and have global functioning where they perceive globally without considering any small details.

1.7.4 Field Independent (FI)

Conceptual Definitions:

Individuals who tend to organize information into conceptual groupings (Witkin & Goodenough, 1962).

Operational Definitions:

Individuals who are more capable of developing their own internal referents and are more capable of restructuring their knowledge. They do not require an external structure to process their experiences and are not easily influenced by others. They are socially detached and have analytical functioning where they consider every background details while perceiving information.

1.7.5 Embedded Figure

Conceptual Definitions:

Figures that are placed on a complex background and need to be identified using visual perception (Witkin, Ottman, Raskin & Karp, 1971).

Operational Definitions:

Identifying a specific characteristic that are buried inside another picture which could not be seen clearly because the characteristic is hidden by the background image.

1.7.6 Learning Styles

Conceptual Definitions:

An individual's preference for a particular environmental characteristic such as amount of light or quietness (Bettina, 1988).

Operational Definitions:

The ways people prefer to learn in order to have a better understanding of the subject matter for example by using senses such as visual, auditory or tactile (touch).

1.7.7 Play Behavior

Conceptual Definitions:

A variety of behaviors, which have an impact on cognitive, physical, and psychosocial development (Saracho, 1984).

Operational Definitions:

Behaviors that are shown during play activities, which include levels of social interaction, ability to show leadership quality, creativity and ability to communicate ideas.

1.7.8 Physical play

Conceptual Definitions:

Children use large actions (for example; running, jumping, riding a tricycle) both outdoors and indoors (Saracho, 1984).

Operational Definitions:

Body movement using physical actions such as running or jumping. A variety of equipment can be available to encourage this type of physical movement for example rocking horse or tricycle.

1.7.9 Block play:

Conceptual Definitions:

Children built structures with small or large blocks. Structures usually:

- a) depicted abstract forms, buildings or geographic areas and
- b) included block accessories (for example; miniature wooden or rubber people, toy cars, trucks, boats, airplanes, traffic signs) (Saracho, 1984).

Operational Definitions:

Building of structures using small or large blocks and the use of other toys like trucks, or rubber people that are appropriate with the environment of the structures they have built. Children's block structures could be a simple construction to elaborate structures, which indicate dramatic content.

1.7.10 Manipulative play

Conceptual Definitions:

Children worked with small pieces of equipment, including puzzles, cuisenaire rods and pegboards (Saracho, 1984).

Operational Definitions:

Manipulating small pieces of equipment, which is more technical compared to other toys for example, manipulating jigsaw puzzles or LEGO. Children need to concentrate in fixing the puzzles at the correct place. The action tends to be self-contained where there is no interaction with other play activities.

1.7.11 Dramatic play

Conceptual Definitions:

Children used props to enact roles about their own life experiences (Saracho, 1984).

Operational Definitions:

Role-playing where children portray roles from real-life situations or stories. They will tend to act out the characters based on their understanding of the characters through experiences or through observing others.

1.7.12 Solitary

Conceptual Definitions:

The child plays alone and independently with toys which are different from those used by the children within speaking distance and makes no effort to get close to other children. He or she pursues his or her own activity without reference to what others are doing (Saracho, 1984).

Operational Definitions:

Children playing alone without participating in any activities with other children and they are a bit isolated from the rest of the children.

1.7.13 Onlooker

Conceptual Definitions:

The child spends most of his or her time watching the other children play. He or she often talks to the children whom he or she is observing, asks questions or give suggestions, but does not overtly enter into the play himself or herself (Saracho, 1984).

Operational Definitions:

Children who prefer to observe others playing but did not have any initiative to join the children playing.

1.7.14 Parallel

Conceptual Definitions:

The child plays independently, but the activity she or he chooses naturally brings him or her among other children. She or he plays with toys that are like those which the children around him or her are using, but she or he plays with the toy as he or she sees fit, and does not try to influence or modify

the activity of the children near him or her. There is no attempt to control the coming or going in the group (Saracho, 1984).

Operational Definitions:

Children who play by themselves but in the presence of other children around them using the same toys those other children are playing.

1.7.15 Associative

Conceptual Definitions:

Associative play is group play in which there is an overt recognition by the group members of their common activity, interests and personal associations (Saracho, 1984).

Operational Definitions:

Children play side-by-side with other children and participate in the same activity but they are not attached to one particular group of children.

1.7.16 Cooperative

Conceptual Definitions:

Cooperative play is the most highly organized group activity in which appear the elements of division of labor, group censorship, centralization of control in the hands of one or two members, and the subordination of individual desire to that of the group (Saracho, 1984).

Operational Definitions:

Children play together as a group and cooperate with each other to obtain the goal or objectives of the play activity.

1.8 Limitations of the Study

The limitation of this study is to have the same environment for play activities to be conducted for each age group. Environment can be a factor that influenced my observation because it could affect the mood of a person and cause distractions to the play activities. Since the preschool that I have chosen does not have a specific room for me to do the observation, therefore I had to create my own working space to observe the play behavior. The places that I have used to conduct my observations are in the classrooms, the hall and the car porch. Since the places provide different atmosphere for the children that is outdoors and indoors atmosphere, therefore it is difficult to determine whether the child participate in the form of play based on their cognitive styles or they are influenced by the space of the room or the distraction of the outside environment.

The original instrument to identify children's cognitive styles is the *Articulation of Body Concept (ABC) scale*. Since the scale is only available in the book '*Psychological differentiation: Studies of development*' written by Witkin, H.A. (1962)', therefore I am not able to retrieve the book for the purpose of my research. In this study, I have managed to locate a similar instrument that could determine a person's cognitive styles which was also developed by Witkin. The instrument is Group Embedded Figure Test (GEFT) (Witkin, Ottman, Raskin & Karp, 1971). Since I am not able to get the manual for this test, therefore I have modified the test based on the objectives and procedures from previous research study.

CHAPTER 2

REVIEW OF RELATED LITERATURE

2.0 Introduction

Individuals have different ways of processing information. Each individual has multiple concepts that enable him or her to represent his or her individuality based on both cognitive and non-cognitive variables. The effects of internal drive and external stimuli have to be considered when attempting to change behavior through the learning process (Dwyer, 1978). The most important theory that are related to understanding individual differences is Field Dependence Independence (FDI) which concerned with individual differences and the way people acquire and process information (Faterson & Karp, 1974; Goodenough & Witkin, 1974, 1977; Moore & Cox, 1977; Goodenough, 1976).

2.1 Definitions of Play

Researchers have tried to come up with a definition of "play" and it seemed to be an impossible task, because the term changes depending upon who was referring to it and their purposes in doing so. This could be seen in the diverse literature on play, for example, research concerned with therapeutic, educational, social, cognitive and language development, which described play from many different perspectives.

According to Isenberg (1997), play includes decision-making, investigating, exploring, predicting, classifying and the development of conceptual understanding. Early philosophers, such

as Rousseau (1931), defined play by its qualities and by its intrinsic relationships to childhood. Some theorists define play by what it is not for example; not work, not serious, and not coerced. School children see play as self-selected, desirable, and pleasurable. Teachers' view play as a way to distinguish between teacher-directed and child-initiated activities (Isenberg & Jalongo, 1997, p. 127-128). Play is the work of childhood, the way a child develops his mind and his muscles, and finds out what he is and what he can do about it according to Range, Layton, & Roubinek (1980, p.58). In addition, many professionals working with children have asserted that children represent their thoughts, feelings and experiences through play (Reynolds & Jones, 1997).

Categorizing play behaviors are very important in order for us to learn about the capabilities of children during play activities. There have been controversies among researchers regarding the definitions and the purpose of play on learning. An ethnologist, Konrad Lorenz (1950), who studied the behaviors of animals through the evolutionary process, had suggested that play activity is an integral part of the human being's development as a species. According to Lorenz, he believed that the functions of play include the refinement and sharpening of cognitive capacities. Therefore, play had been used widely over the years as a very important learning tool to enhance and stimulate human cognitive capacities.

Play is intrinsically motivated, freely chosen, pleasurable, and nonliteral and also involves active engagement according to Hughes (1995). Play activities are not restricted to only children but also in adults because it is something enjoyable that usually elicits positive effect. Nevertheless, observing play activities among young children are more important than in adults as it gives information on their cognitive development and are therefore important for their educational