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A Study of Stimulating Versus Non-Stimulating Visuals in a Preschool Classroom

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Abstract

The purpose of this research was to determine if there was a correlation between a child’s behavior and visual stimulation in the classroom. This was a qualitative observational study that involved young children ages two and half to four. The study’s purpose was designed to draw a quasi-conclusion that determines whether visual stimuli affect this age range’s behavior and attention span. This study will help teachers and parents recognize how visual stimulation in the classroom modifies a child’s activity. Based on previous investigations, visual stimulation can either have a negative or positive affect on children’s learning and behavior in the classroom. In this experiment, a two week observational period took place; one week included a natural setting classroom and the second week provided a classroom filled with an abundance of visual stimuli. Decorations in the classroom included bulletin boards, arrangement of furniture, and ceiling and wall decorations. Results found that the change in classroom stimuli does have a strong impact on a child’s behavior.
Introduction

Almost 11 million children under the age of five in the United States have attended some type of child care arrangement weekly (Child Care Aware, 2012). Young children have been placed either in preschools or daycares around the world due to the rise of parents who need to work to support the family. This change in the work force led to about 42% of these children under the age of five to spend approximately 35 hours a week in daycare. The amount of hours a child stays in the daycare can fluctuate depending on the amount of hours a parent spends at work (Capizzano & Main, 2005).

These young children spend most of their week in a daycare facility, and their behavior may be changed according to how the classroom has been designed. There are multiple factors that can be contributed to a child’s behavior and mood in the classroom. This research experiment has chosen to focus on one aspect of the environment in the facility. Visual stimulation was the aspect that was focused on. There are two approaches to this study that need to be taken into consideration: non-stimulating versus stimulating visuals in a classroom setting.

The design and decorations of the student’s environment may have either a direct or indirect effect on a child’s behavior in and out of the classroom. Children spend a large amount of time in a daycare and their behavior can be modified by classroom stimulations or the lack thereof. The attention span of children can be affected by the numerous stimuli that the child views on a daily basis (Colbert, 2013).

Visual Perception
Children are developing their visual perception within the first eight years of their life. In these eight years the stimulant in classroom will have a major effect on the brain and the attention span of a child (Isbell, 2008). Children absorb visual stimulations from a combination of colors, textures, and materials on the walls, floors, and ceiling. Children who have been placed in a highly structured classroom are noticeably more engaged in task involvement and positive peer interaction. In a well-structured classroom, children are usually more helpful, attentive, and friendly. Children in an unstructured classroom tend to have more aggressive behavior and lower-attention span, which created chaos in the classroom (Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008).

**Color Visuals Defined**

Colors have continuously been a primary stimulant when it comes to young children. Children are very observant of the classroom and the environment around them. Teachers and parents are unaware of how too much visual stimulant can alter a child’s behavior pattern. All colors in some fashion have had an impact on children’s behavior whether they are major changes or minor changes. Color psychology should be taken into consideration when buying classroom visual stimulants. Blue has been recorded as having the most effect on children under the age of five (Read & Upington, 2009). Warm colors such as red, orange, and yellow energize the body and mind and were considered the best colors if decorated in moderation. Cool colors such as blue, green, and purple have had the opposite effect on the body. These colors have been reported to cause a relaxing and calming atmosphere (Lascurain, 2013).
Purpose

The purpose of the research was to determine if there was a correlation between a child’s behavior and visual stimulation in the classroom. This was an observational, qualitative study that involved twelve young children in their daycare facility during a two-week process. This study will help aid other researchers seek more information on how visual stimulants in the classroom have an effect on the behavior of children. The purpose of this study also took into consideration the color affect that certain stimulants produce.

Research Hypotheses

Two research hypotheses will guide this study:

1. An abundance of visual stimulants in a classroom will have a strong effect on a child’s behavior.

2. Certain colors will induce specific behaviors in most children
   a. Winter board will provide calming effects on a child’s behavior.
   b. Fall board will produce energy in a calming manner on a child’s behavior.
   c. Chaotic board will cause disruption and chaotic behavior.

Method

Participants

The observational group consisted of twelve children currently enrolled at Kiddie Kampus, a private Christian daycare facility. The same twelve children were observed for both weeks of the study. The ratio of the children was eight male to four female. The age range of the children included two and a half to four years of age. The ethnicity of the children included white, black, and other. Participants were read the consent form and asked if they wanted to be
included in the research by circling a happy face to participate or sad face representing that they
did not want to partake. All children gave their consent to be involved with the observational
research study before the beginning of the experiment. Prior knowledge to this research
experiment was given to parents of the children in advance. No parents objected to their child
being involved in the research process.

Materials

The researchers prepared three trifold display boards to operate as additional classroom
decorations. Each of the trifold boards were designed to evoke certain emotions and behavior in
the children. Board one, Winter, was designed with the intentions of having a calm and relaxing
feel. This board incorporated an organized approach with cool colors—blue and white. The
display board was a royal blue color with snowflakes falling from the sky and snow on the
ground. The materials included a 3-D crinkled paper tree that protruded from the board. White
construction paper was used to make various sizes of snowflakes. The snow was made out of
white bulletin paper. All items were placed deliberately on the board by a researcher.

The second board, Fall, was designed to have a positive control on the child’s energy
level. On this board, researchers used an organized approach with a mixture of warm and cool
colors. A brown tree was placed in the middle of an orange board. Tiny, colorful leaves were
spread out on the bottom in green construction paper grass. A cut out of a boy was climbing the
tree. He was made out of construction paper and the art was all one-dimensional.

The third board, Chaos, was designed to create a disordered feel in the classroom. The
final trifold had an unorganized arrangement mixed with warm colors that were meant to excite
the children and induce negative behavior in the classroom. This board was hot pink with the various warm colors thrown on the display. The researchers took a variety of textures and randomly placed the material on the board. Materials included pipe cleaners, glitter, construction paper, words, sponge paper, tissue paper, and die cuts. Some of the material on the board was 3-D and others were one-dimensional.

**Procedure**

The researchers conducted this research experiment over a two-week process. The first week involved observational notes of children’s behavior in their natural setting. Minimal decoration of the facility was taken into noticed. The second week involved the researchers adding an abundant amount of decorations that the class previously lacked. Included in these decorations were the three specific display boards that were designed to arouse certain kinds of emotions and behavior in the children based off of prior research. The three boards were strategically placed around the room. The children in each area were observed for any changes in behavior regarding the boards. The researchers decided to switch the locations of the trifold displays to document if any change would transpire depending on the location of the stimulants.

**Results**

**Observations**

During the two-week observation period, there were noticeable changes within the behaviors of the children in this study. The first week was spent gathering data on each child and their behavior patterns in the non-stimulating classroom setting. Throughout week one, the researcher observed each child’s behavior pattern. In this classroom, multiple personalities of
the children were observed and recorded. The behaviors of some of the children ranged from aggressive behaviors to others who had passive and calming natures. These points were taken into consideration for the design of the three major display boards that were to be added to the classroom along with other stimulants, such as posters, window clings, and toy decorations that were located in the daycares facility storage room.

After the first week of observations, the researcher came to the assumption that as a whole, the class behaved with a calm demeanor. There were three altercations in the first week which involved a child ending up in tears and two children flicking and pinching each other. The third incident involved a child being put on timeout. Out of those three incidents, the same child was involved in each altercation. At worship time, most of the children sat still and focused on the teacher and the lesson for that day. There was minimal fidgeting of the children, and they kept their hands to themselves. During free play most of the children played together well, and one child sat off in a corner and played alone. This child did not interact at all with any of the other children during this first week of observations nor did the child speak much.

The second week there was a drastic change in the behavior of the child when the boards were introduced to the classroom. The three boards were scattered in the classroom in three key locations—general area, worship/block area, and the reading area. All children upon entering the classroom gravitated to board three—Chaos. This board was originally placed in the worship/block area. The teachers gave instructions for the children not to touch any of the boards. About 50% of the class followed the instructions for the first day. When the teacher was not looking, multiple children would attempt to touch the board without getting caught. One
child continuously touched the Chaos board, even after the child was reprimanded numerous times.

The first day of observations after the introduction of the boards appeared different from the first day of the previous week’s observation. The class as a whole appeared more lively and energized due to the visual stimulants that were strategically placed in the classroom. About 67% percent of the students traveled from board to board exploring the new additions to the classroom. When it was time for their morning worship, most of the children attempted to sit next to the Chaos board. The children fidgeted more in one day than the previous week combined when there were no extra stimuli placed in the classroom.

In the second week, the altercations between children rose from three altercations—during the previous week—to ten. Flicking, pinching, and spitting became a problem in the classroom when the children tried to play together. This happened more in the area of the Chaotic and Fall displays. On the other hand, the children were affected by the boards and did not depend on where the boards were located. Winter—calm and relaxing—was initially placed in the reading area. The children who gravitated to the reading corner were quiet and stretched out more than usual. When this trifold was switched to the block area and the Chaos board moved to the reading area, there was a noticeable change in these areas. In the worship/block area where Chaos had previously been, the Winter board caused children to play more calmly in this area and they laid down to play with blocks and cars instead of their energized state of constantly moving. In the reading area, one child who was documented as sitting still and
looking at books had a behavior change and suddenly this child constantly grabbed new books or got into arguments with other children around.

One child (whose behavior was classified as aggressive) was observed closely with his interactions between the boards. When this child interacted in the area of the Winter trifold, his behavior completely changed throughout the week. This child was less involved with other students and had a more calming behavior pattern. With this same Winter board another child had a negative attitude towards this visual stimulation in particular. Every chance the child got to tamper with the display he did. Multiple times he tried to destroy it or close it up. This child did not try to destroy or tamper with any of the other decorations, only this specific board.

Only two of the children’s behavior patterns did not change at all during the course of the observations. For the other ten children, their behavior either changed to the opposite of which they started, or their original behavior was magnified. The visual stimulants did have an impact on the behavior of the children.

Based on this observational research, visual stimulants have had different effects on children and cannot always be categorized as a visual stimulant being positive or negative. But both of the hypotheses that the researchers stated were proved true over the course of the two week period. The abundance of visual stimuli had a strong effect on most of the children participating in the experiment and also the colors that were predetermined had the effect of changing a child’s behavioral pattern.

**Discussion**

**Research Limitations**
Kiddie Kampus, a private Christian daycare facility, was selected as the location for the research topic. Only one daycare facility was selected for the research due to time constraints of the experiment process. Conducting this experiment with only a few children in one location did not give the researchers enough data to represent a significant amount of children in daycare facilities. No parents, students, or staff interviews were collected due to scheduling conflict. The ages of the children affected their ability to have a formal interview conducted with them. Information from the teachers would have helped to document changes that the researchers may not have been able to collect while conducting the experiment. Observations were only logged during the morning period in a specific time window. The effect of the visual stimuli at various times throughout the day would have enhanced the outcome. The results should be taken into consideration and similar research experiment should be performed at other daycare facilities to compare children and their behaviors on a wider spectrum.

Conclusion

As previously noted, the researchers’ hypotheses in the course of the two week experiment proved to be accurate. Many early childhood classrooms have attempted to fill learning centers with too many visual stimuli. Researchers have come to the conclusion that too much visual stimuli can be overwhelming to young children. A non-stimulating classroom could have the opposite effect on a child’s behavior (Isbell, 2008).

Teachers, caregivers, and parents should consider finding a happy medium that provides enough visual stimulants without the excessive decorations that alter a child’s behavior pattern in a negative way to provide the best for the children. The presence of an abundance of visual stimuli affected each child differently. All factors of visual stimuli—colors, textures,
materials—should be taken into account to provide the best environment for children who have to spend much of the time in daycare facilities or school settings.
References


Appendix A

Classroom Decoration in Kiddie Kampus

Miss Monic and Miss Stephanie are concerned that classroom decorations change the behavior of young children. Our intent is to log students and their behavior in the classroom in both stimulating and non-stimulating environments to see if there is a correlation.

Consent Form

I, ________________________________ have listened to the above information and have been informed of the nature of the study. I am willing to be observed by Miss Stephanie and Miss Monic for their research study. By circling the happy face I give my consent. By circling the sad face I do not give consent. I understand that:

- All information will be kept confidential
- I will not be identified in any way in the report
- This information is solely for academic purposes

Signed: _______________________________________

Date: ____________________

Yes

No
Appendix B

Board 1 - Winter

Board 2 - Fall

Board 3 - Chaos