**Child Behavior And Learning Through Colours:**

**Source- color-meanings.com (Jacob Olesen is the founder of this website. This website is about color symbolism and design. He is a world-renowned color expert and a recognized leader in understanding how colors affect human emotion and behavior.)**

Colour is a part of the electromagnetic spectrum. It is an energy having wavelength and frequency. Colour affects the mood in adults and more so in children. Colour psychology and its impact on a child’s learning abilities and behavior is a much researched subject.

**Colour psychology: Child learning patterns**

Colour can help connect the neural pathways in the brain. When the correct colour is found for a person’s problem subject, then that subject actually becomes a lot easier for the child; the student actually experiences joy of learning. Children wearing colored goggles who were made to complete pegboard tests were found to solve the tests much faster when wearing goggles of their favorite colour.

A study conducted in 1993 by Boyatzis & Varghese followed by subsequent studies in 2001 and 2003 showed a relationship between colour preferences and student’s performance.Colour has 3 basic attributes: hue, value and saturation. Colour is also classified based on its temperature. Human eyes on the other hand have rods and cones that help differentiate different colors. When colour passes through the retinal cells in the eyes, the receptor cells absorb the hues and send a signal to the brain where the colours are deciphered. These brain impulses also fall on the hormone regulating endocrine glands which then evoke emotional and psychological responses.

Scientific studies have now shown that students with learning disabilities and ADHD often experience distorted colour discrimination. Therefore, many institutional situations require a calming environment. In the University of Alberta, the colour environment of 14 severely handicapped and behaviorally challenged 8 year old kids was altered dramatically. From a white fluorescent lit classroom with orange carpets and orange, yellow and white walls and shelves, it was changed to full spectrum fluorescent lighting and brown and blue walls and shelves. The children’s aggressive behavior decreased and they also showed a notable drop in blood pressure. When the environment was changed again to the way it was, the aggressive behavior and blood pressure changed to previous levels.

**Colour and physical reactions in children**

Children also react to colours on a physical level. The explanation behind this is that the light enters the Hypothalamus which controls the nerve centers, as well as the heart rate and respiration. The wavelength and energy of each colour varies and affects children differently. Even newborns react to light, a fact highlighted by infant jaundice being treated with blue light.

Colour brings about a vascular reflex action by increasing perspiration, the eye blinking rate and also stimulating a noticeable muscular reaction. Blue colour, as shown by the above experiment, reduces blood pressure. Reactions to orange, red and yellow are the same and reaction to violet colour is the same as that to blue. The reactions to temperature of the colour are another matter; warm colours can calm one child but they may excite others. Likewise cool colours might stimulate one and relax another.

One shade of pink can be calming, another can be stimulating. Blue violet may be a mystical and spiritual colour, but to some groups of college students, Blue violet induced feelings of fatigue and sadness. These students also found a shade called “cool green” as angering and confusing.

**How the different colors impact learning**

Let us now study how different colours can impact learning and memory in kids.

* **Blue**– Blue enhances creativity and stimulates a cool and relaxing environment. It should not be used in excess as it can also depress or invoke feelings of sorrow.
* **Red**– Red is the colour of passion and strong feelings of threat, love, or excess stimulus. In school rooms it can be used in combination with other colours as it can help in detail oriented or repetitive tasks.
* **Yellow**– This is indeed the colour of happiness and sunshine for children. Yellow stimulates intelligence and is ideal for use in kids’ rooms, study rooms and play areas. It should not be overdone as it can make children feel stressed.
* **Green**– The colour of abundance can relax and contribute to better health in kids.
* **Pink**– This is a calming colour. It can lower heart rate.
* **Purple**– This colour is ideal for kids as it is attention grabbing.
* **Orange**– Many educational institutes use this colour as it enhances critical thinking and memory. Test rooms in this colour are known to enhance performance in exams.

**Guidelines for educational institutes**

Here are some guidelines from Frank H. Mahnke from his book Colour, Environment and Human Response for choosing colours based on age of kids especially for Academic environments

* **Pre-school and elementary school**– Warm and bright colour schemes are ideal.
* **Upper grade and secondary**– Cool colours are recommended to enhance concentration
* **Hallways**– Wide range of colours can be used to impart a distinctive personality.
* **Libraries**– These do well with cool green or pale/light green for enhancing quietness and concentration.

**In conclusion**

Children, like adults, are very aware of colour. Colour psychologists have linked colour with brain development, decreased absenteeism, enhanced productivity and even transition from childhood to adulthood. Naturally, one needs to take a more academic and research oriented approach in the aspect of colour psychology in children rather than simply providing colorful environments through decoration, school signs and paint availability.