

PSYCHOLOGY

Color Affects Performance

Children in classrooms with walls painted according to modern principles of color engineering show more improvement in performance than those in unpainted rooms, a study showed.

► CHILDREN'S school marks and behavior in class are strongly colored by the colors in their school, contends a leading authority on the effects of hues on humans.

Howard Ketcham, president of Howard Ketcham, Inc., a "color engineering" firm in New York City, described a recent study among three grammar schools which needed repainting.

One school was left unpainted. Another was refinished in conventional colors—light buff walls and white ceilings. The third was painted "in accordance with modern principles of color engineering."

Corridor walls in the third were painted yellow and the doors grey. Classrooms with northern exposures were painted pale rose, and those facing south were given cool shades of blue and green.

To reduce glare, the front walls of classrooms were painted a darker shade than the other three walls and green chalkboards were used.

After a two-year test period, a group of educators and psychologists concluded that students in the "psychologically painted" school showed the greatest improvement in each of seven performance traits studied.

The traits were art and music, health and safety habits, arithmetic, work habits, social studies and science, language arts, and social habits.

Students in the unpainted school showed the least improvement.

(Although conceding that colors do invoke emotional responses, an official of the American Psychological Association headquarters, Washington, D.C., said that in the study cited by Mr. Ketcham, many more significant factors than the colors of the classroom could have played important parts in the results.)

"Far too many schools, in fact the large number, are still being finished by planners who believe that only one color exists—green," Mr. Ketcham told a joint meeting of the American Association of School Administrators and a school committee of the American Institute of Architects in Atlantic City, N.J.

"There is no doubt that green is an excellent hue, used judiciously and in conjunction with other color families. When it dominates an entire building, with perhaps only the addition of certain areas of beige, neutral gray, white or off-white, it becomes unbelievably depressing."

Another common error, he said, is the splashing on of bold, bright colors in the mistaken idea that they are cheerful. Colors he suggested avoiding in school interior decor are:

Raw red, because it overstimulates;

Intense orange, because it increases tension and irritates;

Purple, because it is melancholy and austere;

White, because it is neutral and neither calms nor stimulates.

Mr. Ketchum said tests show that the same sound can seem loudest in white rooms and softest in purple rooms.

A good color combination for any classroom, whether on the sunny or shady side, would be a cream ceiling, medium bluish green upper walls, brownish-grey lower walls, yellow beige woodwork and a blended honey and cedar floor.

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PSYCHOLOGY

Beatles Reaction Puzzles Even Psychologists

► PSYCHOLOGISTS are as puzzled as parents over the explosive effect the Beatles are having on American teen-agers.

There has not been enough serious study on mass adolescent reactions to explain the impact of these four mop-headed British youths on the hearts—and the vocal cords—of a good segment of the younger generation.

But psychologists generally agree that the very fact that adults worry about phenomena like the Beatles makes them extra appealing to many teen-agers.

"The Beatles have an aura of unacceptability to the adult world," one psychologist ventured to explain. Adolescents are going through a strenuous period of emotional and physical growth, he said, and the Beatles play right to the young people's needs.

"There is a need for expressiveness particularly in girls," he added. Screaming and swooning over the Beatles offers "a release of sexual energy." Boys have sports as an outlet for their energies and do not seem to get carried away.

The dead-pan expressions of the Beatles when they perform, it is believed, stand for "alienation." The Beatles display an attitude of suave disdain that appeals to the adolescent who is particularly vulnerable and sensitive at this time of life.

The Beatles follow a line of glamorous figures who aroused passionate cries and deep swoons. Most prominent in the 1940's was Frank Sinatra and in the 1950's Elvis Presley. Their glory passed when they got too old to be teen-agers' idols or when teen-agers got too old to need them.

The same, it is predicted, will happen to the Beatles. In the meantime, there are two ways to handle the situation: either grin and bear it or relax and enjoy it. For the Beatles are inevitable.

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University of California

INSECT LURE—Dr. Harry Shorey, University of California, Riverside, inserts filter paper impregnated with female attractant into a cage of male moths as a part of a study to isolate and synthesize attractant chemicals.

SPACE

Giant 'Bird' Satellites Patrol for Meteoroids

See Front Cover

► ENORMOUS BIRD-SHAPED satellites with "wings" spanning 100 feet are scheduled to take off from Cape Kennedy, Fla., this fall to serve as clay pigeons for meteoroids.

The satellites will ride "piggy-back" aboard the eighth and ninth flights of the Saturn I rocket, the same model that in January hoisted the heaviest man-made object now in orbit in outer space. Seen on this week's front cover is an artist's conception of such a two-ton satellite in earth orbit.

Once in orbit, about 1,000 miles above earth, the new satellites will stretch out their wings accordion-style. This will make them the largest satellites, excepting for the Echo balloons.

The wings will serve as targets for bits of natural space debris. When a piece of such material hits a section of the wing, the satellite will record and radio to earth the force of the impact and the depth of its penetration. The satellite also will keep a running count on the frequency of impacts at various altitudes.

The information is vital in deciding the types of materials that must be used in building future spacecraft.

The National Aeronautics and Space Administration previously had used the ash can-shaped Explorer 16 to study meteoroids. That satellite exposed only 25 square feet of meteoroid-detecting surface. The wings of each of the new satellites offer 2,500 square feet of target.

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