Guidelines for using color blending in data visualization

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http://danielgoncalves.info/research/will_it_blend

Context

Visualization is a powerful way to convey data.

However, visually **merging different classes of information** poses several challenges.

Color has a great potential for **labeling** and **categorizing** information.

So, it may be the solution for **representing multiple data properties**.

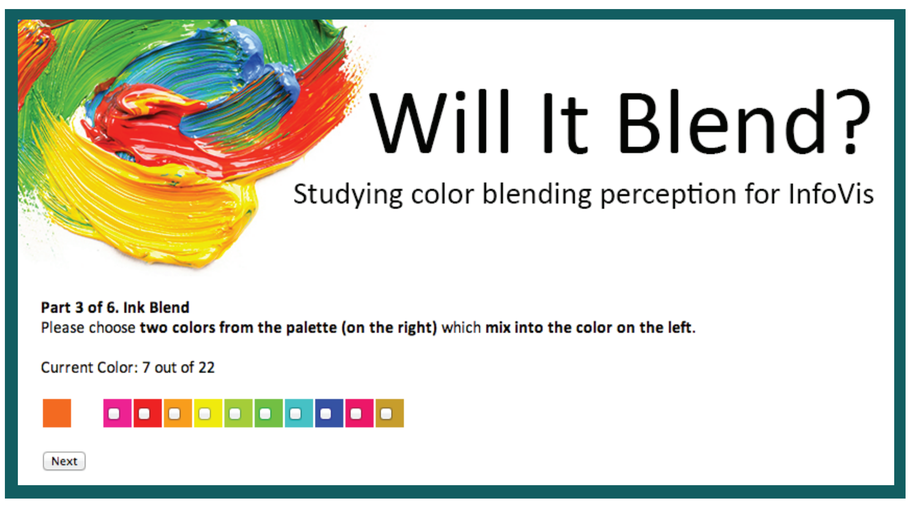
Studying color blending

Main goals:

Understanding **human perception** of color blending;

Finding out **which color model is more natural** to people regarding color blending;

Knowing **which pairs of colors blend well**.



Color samples:

Considering 4 main colors , the combinations of 2 and 3 elements among them.
Total: 16 colors.

Protocol: Online questionnaire: (1) Profile questions; (2) Color blindness test;
(3) Color blending questions; (4) Color model preference questions (HSV; CIE-LCh; CMYK);
(5) Satisfaction questionnaire.

Main results

Perceiving **color blending** is not very natural, especially with more than 2 colors.

Since it relates to early childhood activities, the **CMYK model** may be relevant.
Best combinations:

yellow+green
yellow+red
red+blue
green+blue.

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