Spatial Predictability Guides Attention

**Psychology**

*Contextual Cueing*

If a shifting visual object (or series of objects) appear in the same location or surrounded by the same visual inputs over time, people will be quicker to locate and attend to it than if it appears at varied locations.


Contextual cuing is thought to reflect implicit learning - suggesting no conscious effort is required in order to enhance attention and comprehension.

**Education**

*The Signaling Principle*

Student comprehension and memorization is improved when attentional cues (such as spatial predictability) are used to highlight relevant information during learning.


Students presented with successive images in the same location performed significantly better on a post-activity exam than students presented with the same images in unpredictable locations.

**Neuroscience**

This brain is viewing images presented at random, unpredictable locations (*Red = Strong Activation*).

This brain is viewing images presented at predictable locations (*Blue = Weak Activation*).

The ability to predict where an image, word, or object will be located in space decreases the amount of neural resources required to identify and process it.

**Classroom Applications**

When utilizing PowerPoint or slides during a lesson, utilize clear and unambiguous formatting to delineate where images, titles, and any text will appear. Use the same format on all slides.

Delineate a clear area on the chalk-board where daily instructions or notes will be placed. Use this same location every day.

Determine how to best organize the desks and materials in your classroom. Maintain this organization throughout the semester.

**Ideas and Future Questions...**

How does spatial predictability relate assigned seating-arrangements?

Is it possible asking students to sit in the same location everyday can ease cognitive burden and enhance learning?