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“It is necessary to imagine what needs to be discovered before discovery can be made.”

PLAY AS AN ACTIVE LEARNING MEDIUM

CSM FACULTY LOUNGE

FRESNO STATE

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Homo ludens (Man the Player)

“civilization arises and unfolds in and as play”

-Johan Huizinga, *Homo Ludens* (1950, first published 1938), ix.

Characteristics of Play -Doris Pronin Fromberg and Doris Bergen, ed., *Play from Birth to Twelve: Contexts, Perspectives, and Meanings*, 2nd ed. (2006).

- ***Internal Control-*** *e.g., players can choose an activity*
- ***Internal Motivation-*** *e.g., they actively engage in it*
- ***Internal Reality-*** *e.g., they can shape the activity to fit their experiences*
- ***It must be enjoyable. If it is not fun it is not play!***

In contrast If:

- ***External Control***-e.g., others control all aspects of the activity
- ***External Motivation***-e.g., the choice of engaging rests with others
- ***External Reality***- e.g., the activity must be executed in a completely “realistic” way as defined by others
- Then we have none of the qualities of play.

Young children, when interviewed, use criteria such as these when differentiating between PLAY and WORK

→ Nancy W. Wiltz and Greta G. Fein, “Play as Children See It,” in *Play from Birth to Twelve: Contexts, Perspectives, and Meanings*, 2nd ed., ed. Doris Pronin Fromberg and Doris Bergen (2006), 127–40; Nancy R. King, “The Impact of Context on the Play of Young Children,” in *Reconceptualizing the Early Childhood Curriculum: Beginning the Dialogue*, ed. Shirley A. Kessler and Beth B. Swadener (1992), 42–81.

From Scientific American Guest Blog (May 2011) by Lynda Sharpe:

- ... it was play that had the biggest impact; in fact, the more a young rat played, the more rapidly its brain **grew**. Ferchmin, P. A. & Eterovic, V. A. 1982. Play stimulated by environmental complexity alters the brain and improves learning abilities in rodents, primates and possibly humans. *Behavioral and Brain Sciences*, 5, 164-165.
- ... play-deprived rats either succumb to rat-rage or scarper, quaking, to a corner. And the lack of play *is* responsible, because if you let an isolated rat fool around for just one hour daily, it turns into a normal chilled dude. Potegal, M. & Einon, D. 1989. Aggressive behaviors in adult rats deprived of playfighting experience as juveniles. *Developmental Psychobiology*, 22, 159-172.
- ... there's also evidence that primates (including humans) behave in the same way.

Pellis S., Pellis V. 2009. *The Playful Brain: Ventures to the Limits of Neuroscience*. Oxford, UK: Oneworld Press.

Saunders, I., Sayer, M. & Goodale, A. 1999. The relationship between playfulness and coping in preschool children: a pilot study. *American Journal of Occupational Therapy*, 53, 221-226.



Some take-aways from *Play as the Learning Medium for Future Scientists, Mathematicians and Engineers*

from Bergen, D. *American Journal of Play*, v1 n4 p413-428 Spr 2009:

The Need for Play and Playfulness in Present Scientific Fields

- ... the Renaissance was an especially playful period “when scientific thought and method showed unmistakable play characteristics.” Huizinga, *Homo Ludens*, 204.
- ... “All human beings are active seekers of knowledge, and play is an integral facet of this ongoing quest. The pedagogical value of play does not lie in its use as a way to teach children a specific set of skills through structured activities called ‘play.’ Rather, play is valuable for children primarily because it is a *medium* for development and learning.” Doris Bergen, *Play as a Medium for Learning and Development* (1988), 9.

Bergen, D. *American Journal of Play*, v1 n4 p413-428 Spr 2009:

1. Play serves as a channel of communication for children who are not always articulate in other ways.
2. Play enables them to examine materials and try techniques in artistic and creative endeavors.
3. Play helps them convey ideas and accomplish goals before their language skills are fully developed.
4. Play “substance” provides a filter that allows them to take risks without concern for world realities.
5. Play allows them to feel powerful in transmitting forceful ideas and producing exciting effects.
6. Play promotes an optimum learning environment within which they can function and flourish naturally.

Magic Math Blocks: Step 1 - Read Instruction Manual.

One way to think of these blocks is as some kind of system you are trying to figure out. What is going on with them?

- FYI – The black blocks are a different game than the colored blocks ... but are they related?
- Any idea about the identity of the Z-block?