

Why Do Highly Interactive Virtual Environments Work Better?

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Why?

While much of the literature demonstrates that HIVEs are more effective than most traditional approaches, it is unclear *why* that is the case. Clark Aldrich, in his book *Learning Online with Games, Simulations, and Virtual Worlds*, puts forward 3 main arguments as to why it may be the case:

Argument #1: Games as Learning Tools

According to Aldrich, "Games are a more natural way to learn than traditional classrooms. Not only have humans been learning by playing games since the beginning of our species, but intelligent animals have as well."

Chris Crawford, in his book *The Art of Computer Game Design* (1984), suggests that games are the original educational technology and that they are a completely natural way of learning. Becoming engrossed and completely submerged in a game makes the game experiential and submersive. Ask any game player who completely loses track of time while immersed in a game and you will begin to understand what psychologist Mihaly Csikszentmihalyi referred to as being in "flow."

Argument #2: Context and Emotional Involvement

A context for learning can be provided by a gaming environment and we know that knowledge is useful only in a proper context. The context can be specific or abstract and can also be emotional. Aldrich says that "Only if we have an emotional stake in the content does our brain release the chemicals in the amygdala and hippocampus necessary for memory. ... This is why we remember a good novel better than a bad textbook. And in school, we best remember content when there is the fear of an impending test." He goes on to explain that "combining the context and emotional arguments, many have argued that failure is necessary to learn. Experimenting in environments where failure is acceptable is therefore necessary to learn and ultimately to develop cognitive resiliency."

Argument #3: Participation

The process of converting any type of experiential expertise into some sort of linear progression of written or visual material of necessity must discard much of the valuable content in order to convert to the target medium. What is stripped out is any relationship to real experience. The learner, therefore, is relegated to hearing stories of the experiences of others, but is prevented from gaining his or her own experience to provide a context for the target content. As the saying goes, you can't learn to ride a bicycle from a great lecture. By the same token, it would be difficult to learn the art of negotiation, management, or persuasion without gaining some type of tangible experience to meld the theoretical with the practical.