Implementing Unconventional Virtual Environments for Enhancing Creativity in Architecture Pedagogy

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ABSTRACT

What can be extracted as a common definition amongst near 100 different definitions of creativity according to different disciplines is: Creativity is a new combination of what you have in your inventory of experiences + intuition. It can be considered that expanding the inventory of experiences can gradually help in novel combination of experiences and intuition. To support and promote such an expansion, experiencing a virtual environment (VE) with unconventional spatial characteristics offers to be an interesting case. VE’s can help in detaching one self from the real-world as regards the sense of time, matter and physical constraints, thus enabling a designer to embody and expand into a new palette of inventory. The authors thus hypothesize from a cognitive point of view that extensiveness extensiveness of experience gained by surfing in unconventional virtual environments can positively be re-related to both creative performance (enhance interactivity, lateral thinking, idea generation and creativity-supporting cognitive processes (retrieval of unconventional knowledge, recruitment of ideas from unconfined virtual environment for creative idea expansion). The authors also believe that creating a new perception of spatial environment as the first step of architecture pedagogy can be of vital impetus in expanding the educator’s ideas. As a practical suggestion the authors suggest conducting praxis based workshops besides the main academic curriculum in which designers can design, surf, play, manipulate unconventional virtual environment, totally free of any constrains in an immersive, interactive virtual environment.

Keywords: Architecture Pedagogy, Cognitive Point of View, Creative Performance, Creativity Pedagogy, Experience, Virtual Environment

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INTRODUCTION

Many architects confess that, very gradually and unconsciously they accumulate conventional design approaches, because slowly confinements in construction and conventional stereotypes impose on them, dominate them and sub-consciously prevent them to think innovatively. It is seemingly logical that if given a chance to experience and explore innovative spatial propositions in virtual environments, totally free of any conventional limitations, one can experience a conceptual expansion, since irrelevant pictures are added to old design approaches. This will help in enhancing the process of creative thinking by shedding confinements and stereotypes, thus helping designers to expand their conceptual boundaries and thus eventually help them to enhance their creativity.

Creativity on the other hand is a vague term, and its definition is totally pertaining to the context of study and the discipline. As far back as 1959, Taylor surveyed about 100 definitions in his attempt to clarify the creative process (Taylor, 1959). The definitions vary significantly by the content and complexity. Nevertheless, there are two commonly “universal” attributes of creativity: novelty and appropriateness. For the purpose of this paper, we will consider creativity as a cognitive process that generates new concepts, which are novel and unconventional.

This study accentuates the experience. Identifying its way of operation and pointing out its existence and relevance. Experiences indirectly affect creativity. The more inventory of experiences, the more and better combination of ideas are possible.

Being in varied or diverse environments can train individuals to encode information in multiple ways, building a myriad of associations between concepts. For example, bilinguals, who have been exposed to two languages, are more creative than monolinguals (Nemeth & Kwan, 1987; Simonton, 1999). Creativity is found at relatively high rates for individuals who are first or second generation immigrants and for individuals who are ethnically diverse or ethnically marginalized (Lambert, Tucker, & d’Anglejan, 1973; Simonton, 1997, 1999). At the group level, creativity is facilitated within collaborative groups that contain diverse members (Guimerà et al., 2005; Levine & Moreland, 2004) and in groups in which heterogeneous opinions are expressed (Nemeth & Wachtler, 1983; Simonton, 2003). Even at the societal level, creativity increases after civilizations open themselves to outside influences and when geographic areas are politically fragmented and relatively diverse (Simonton, 1997).

Considering the brief introduction on creativity and role of experience and diversity, the authors propose designers, surfing in virtual environment to gain novel experiences, and broaden their perception of environment to

Figure 1. Virtual Environment as a real-time interactive and fully immersive virtual 3d environment. Courtesy of Marcos Novak-V4D_Visio4D.
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