I. EXTENDED ABSTRACT

Architecture, and the consequent individual and social performance it situates within itself, first springs up as a response in the architect’s mind to the design task at hand. Computer aided assistive technologies for design (Bhatt, Borrmann, Amor, and Beetz, 2013) have not only revolutionized the architecture of the contemporary era, but have also totally changed the ways in which architecture is conceived, designed, realized, viewed, and evaluated (Bhatt and Schultz 2015, Bhatt, Schultz, and Huang, 2012). These digital cognitive assistive technologies have enabled the architect to perform many of their tasks easier, for instance, through a variety of tools, assistive technologies present analytical information to inform design decisions and help design and create building documentations of built forms with previously unthinkable sophistication.

Indeed, it is conceivable that in the process of cognitive assistance, assistive technologies in particular, and computer aided design tools in general, have also influenced the creative thinking and analytical problem solving process of designers. More broadly, this also has ramifications on architectural discourse, practice, and aesthetics of contemporary architecture. Indeed, it is conceivable that in the process of cognitive assistance, assistive technologies in particular, and computer aided design tools in general, have also influenced the creative thinking and analytical problem solving process of designers. More broadly, this also has ramifications on architectural discourse, practice, and aesthetics of contemporary architecture.

In this ongoing research, an attempt is made to make an overview of various assistive technologies in architectural design that are employed by students of architecture design school. Furthermore, we also strive to critically evaluate the cognitive impact of these tools on the intuitive creative process as well as logical design thinking. This study uses the fundamental principles of human Visual-Spatial Cognition, Cognitive Science, and Human Computer Interaction, and recent researches reviewed (Eberhard, 2008a, 2008b, 2013) have not only revolutionized the architecture of the contemporary era, but have also totally changed the ways in which architecture is conceived, designed, realized, viewed, and evaluated (Bhatt and Schultz 2015, Bhatt, Schultz, and Huang, 2012). These digital cognitive assistive technologies have enabled the architect to perform many of their tasks easier, for instance, through a variety of tools, assistive technologies present analytical information to inform design decisions and help design and create building documentations of built forms with previously unthinkable sophistication.

Keywords: Assistive Tools in Architecture Design, Cognition in Design Education, Human Centered Design, Human Computer Interaction, Computer Aided Design

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