

### **The impact of 3D virtual environment models on asynchronous E-learning**

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The growing need for lifelong learning, visualization and integration technologies in the field of e-learning environments has led to the application of virtual reality and the use of integrated virtual environments. This paper presents impact of 3D desktop virtual environments to learning and understanding, defined by user state of feelings. To evaluate the effectiveness of three dimensional viewers in e-learning, a special separate window has been integrated into the Authorware environment. The 2D and 3D Graphics designed have been enhanced to enable the integration and investigation of visualization in various computer Graphics concepts for students. Each Graphic element was designed using a different software development tool. More significantly, some of the tools have been enhanced to the degree where the user can interact and understand independently. This dramatically increases the quality of the tools i.e. patterns of interactions, 2D and 3D views of synthetic models. In general the result shows that these tools could promote the user interacting and enhance a sense of learning and the user understand the Computer Graphic concepts.