

Implementing 3D Printing for 3D Digital Modeling in the Classroom

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Abstract : 3D printing fabrication has empowered many artists in many fields. Artists who work in stop motion, 3D modeling, toy design, product design, sculpture, and fine arts become one-stop shop operations—where they can design, prototype, and distribute their designs for commercial or fine art purposes. The author has developed a digital sculpting course that fosters digital software, peripheral hardware, and 3D printing with traditional sculpting concept techniques to address the complexities of this multifaceted process, allowing the students to produce complex 3d-printed work. The author will detail the preparation and planning for pre- to post-process 3D printing elements, including software, materials, space, equipment, tools, and schedule consideration for small to medium figurine design statues in a semester-long class. In addition, the author provides insight into teaching challenges in the non-studio space that requires students to work intensively on post-printed models to assemble parts, finish, and refine the 3D printed surface. Even though this paper focuses on the 3D printing processes and techniques for small to medium design statue projects for the Digital Media program, the author hopes the paper will benefit other fields of study such as craft practices, product design, and fine-arts programs. Other schools that might implement 3D printing and fabrication in their programs will find helpful information in this paper, such as a teaching plan, choices of equipment and materials, adaptation for non-studio spaces, and putting together a complete and well-resolved project for students.

Keywords : 3D digital modeling, 3D digital sculpting, 3D modeling, 3D printing, 3D digital fabrication

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