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From Demonstration to Retention: Teaching Complex Technical Workflows in Digital Art Education

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Abstract

This paper examines a recurring problem in teaching a digital arts production course: students can complete a technical workflow by following a tutorial, but still struggle to repeat that workflow independently. In other words, workflow completion does not always equal workflow retention.

Using a university motion capture animation course as a case study, this paper reflects on the challenge of teaching software-dependent production processes such as skeleton characterization, retargeting, animation editing, and motion export. The course is not designed as software training, but students must still learn tools such as Autodesk MotionBuilder in order to understand how to prepare, edit, and transfer motion capture data through a production pipeline.

An earlier version of the course introduced topics through lecture and live demonstration, followed by video tutorials that students used to complete homework outside of class. Over time, this model revealed a gap between guided completion and independent understanding. In response, the course shifted toward a flipped workflow model in which students review training videos before class and then use class time for supported practice, one-on-one help, small-group review, and low-stakes recall checks.

The paper argues that complex digital production workflows should be taught as repeatable production processes rather than isolated software demonstrations. The goal is not simply for students to finish an assignment, but for them to retain, reconstruct, troubleshoot, and apply the workflow independently.

Keywords: Digital Art Education Workflow Retention Experiential Learning Retrieval Practice Flipped Classroom Technical Workflow Instruction