

Beyond the Green Screen: Aligning Film Curriculum with Industry Practice Through Virtual Production

The film industry is rapidly moving beyond traditional green screen techniques, embracing virtual production methods that blur the boundary between physical and digital environments. Advances in real-time rendering, LED volume stages, and game-engine–driven visualization now allow filmmakers to capture immersive, photorealistic scenes in-camera rather than compositing backgrounds in post-production. This shift is especially influential in academic environments, where institutions are adopting virtual production studios to better reflect contemporary industry practice. By integrating spatial tracking, real-time lighting, and interactive digital sets, students can experience workflows used in professional film, television, and immersive media production. These technologies reduce production time, increase creative flexibility, and encourage interdisciplinary collaboration among film, architecture, engineering, and computer science programs. As virtual production becomes an industry standard, academic settings are evolving from green screen–based instruction toward experiential, technology-rich environments that prepare students for emerging roles in media production. This transition signals a broader pedagogical shift toward simulation-driven learning and industry-aligned education in the cinematic arts.

Learning outcomes - How virtual production benefit student learning:

Virtual production benefits student learning by transforming media education from a theory-heavy, post-production–driven model into an experiential, industry-aligned practice. Key benefits include:

1. Hands-on, Real-Time Learning

Students see final-quality results in camera, helping them immediately understand how lighting, camera movement, and set design interact. This real-time feedback accelerates learning and reduces the trial-and-error gap common with green screen workflows.

2. Industry-Relevant Skills

Virtual production mirrors professional film, television, and streaming workflows, exposing students to tools such as game engines, camera tracking, and LED volumes—skills increasingly expected by employers.

3. Interdisciplinary Collaboration

Projects naturally bring together students from film, animation, game design, architecture, engineering, and computer science, reflecting real-world creative pipelines and strengthening teamwork skills.

4. Cost and Time Efficiency

Complex environments can be created digitally without travel or large physical builds, allowing institutions to support ambitious projects within academic budgets and schedules.

5. Creative Empowerment

By lowering technical barriers and allowing rapid iteration, virtual production encourages experimentation, storytelling innovation, and deeper engagement.

Overall, virtual production enhances learning by aligning education with contemporary industry practice while fostering creativity, collaboration, and technical fluency.

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