Title	日本の専門学校におけるCG教育のスキルギャップ軽減に向けた三段階フレームワークの提案と実証
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Proposal and Empirical Demonstration of a Three-Stage Framework to Bridge the Skill Gap in CG Education at Japanese Vocational Schools

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This dissertation proposes a three-stage educational framework designed to bridge the skills gap in computer graphics (CG) education at Japanese vocational schools in the fields of games, animation, and visual effects (VFX). The proposed framework is comprised of three stages: (1) the development of fundamental skills for observation and analysis, (2) the Salad Bowl Framework to support career development, and (3) a graduation production process to foster creativity and enable students to apply their skills comprehensively.

The framework's implementation occurred in a three-year technical college's computer graphics design department, where it underwent a preliminary trial. In the initial stage, reverse engineering was employed to enhance visual insight, utilizing artificial intelligence (AI) through analysis with the Philosophical Observation Decomposition Table and the Concept Decomposition Chart. Subsequently, in the career support stage, a mentoring system and internships were introduced to cultivate adaptability to diverse corporate cultures, thereby enhancing early employment rates and mitigating the shortage of practical instructors. In the final stage, creativity development, reverse engineering, mind mapping, and project management methods were integrated with AI to enhance students' originality, communication, and teamwork skills.

The proposed framework was empirically evaluated through a comprehensive analysis. The evaluation results demonstrated the efficacy of these three stages, both individually and collectively, in developing a comprehensive skill set deemed essential for industry readiness. This study's findings, including the integration of AI-based idea generation and collaborative methods, provide a tangible pathway for the reform of CG education in Japan.

Keywords: Computer Graphics Education, Skills Gap, Reverse Engineering, Artificial Intelligence Integration, Vocational School.