

Integrating Construction Management Education: Impact on Architecture Graduate Readiness at CHED Autonomous Universities in Manila University Belt

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Abstract- *This study examines the impact of integrating Construction Management (CM) courses into architecture programs at CHED-Autonomous universities within Manila's University Belt. The research addresses the persistent gap between design-oriented architectural education and the practical competencies required in construction execution, project coordination, and site management. Anchored on Human Capital Theory, Situated Learning Theory, and Institutional Theory, the study employed a sequential mixed-methods approach combining qualitative interviews with faculty members, industry practitioners, and architecture graduates, followed by a quantitative quasi-experimental assessment. The findings indicate that integrating CM courses significantly enhances graduate readiness by improving technical proficiency, project coordination competence, and industry integration readiness. The study further identifies institutional barriers affecting curriculum implementation and proposes a competency-based curriculum framework that strengthens collaboration between higher education institutions and the construction industry. The research provides evidence supporting curriculum enhancement initiatives that prepare architecture graduates for the evolving demands of the Philippine construction sector.*

Index Terms- *Architecture Education, Construction Management, Curriculum Integration, Graduate Readiness, Industry Integration*

I. INTRODUCTION

Architecture education in the Philippines has traditionally emphasized conceptual design, creativity, and architectural visualization. While these competencies remain fundamental, the growing complexity of construction projects has exposed a persistent gap between academic preparation and professional practice. Architecture graduates frequently encounter difficulties in site coordination,

project scheduling, cost management, and compliance with construction regulations during their transition into the workforce.

The Philippine construction industry continues to expand as a significant contributor to national economic growth, increasing the demand for professionals capable of bridging design and construction execution. Despite this demand, employers consistently report competency deficiencies among newly hired architects, particularly in project governance, technical documentation, and interdisciplinary collaboration. This study investigates how integrating Construction Management courses into architecture curricula at CHED-Autonomous universities within Manila's University Belt can enhance graduate readiness and facilitate smoother industry integration.

II. IDENTIFY, RESEARCH AND COLLECT IDEA

The research originated from the observed disconnect between design-focused education and industry expectations across CHED-Autonomous universities in Manila's University Belt, specifically:

- 1) University of Santo Tomas (UST)
- 2) Far Eastern University-Manila (FEU-Manila)
- 3) Technological Institute of the Philippines-Manila (TIP Manila)
- 4) Adamson University
- 5) National University (NU)

These institutions possess curricular autonomy, making them appropriate settings for evaluating construction management integration and curriculum innovation.

The study sought to answer five research questions concerning competency gaps, instructional strategies, career outcomes, institutional barriers, and policy recommendations for curriculum standardization.

III. WRITE DOWN YOUR STUDIES AND FINDINGS

A. Theoretical Foundation

The study is grounded on three complementary theories:

- Human Capital Theory (Becker, 1993) – Education functions as an investment that increases professional productivity and employability.
- Situated Learning Theory (Lave & Wenger, 1991) – Learning becomes more effective when students engage in authentic, real-world construction experiences.
- Institutional Theory (DiMaggio & Powell, 1983) – Curriculum development is influenced by regulatory requirements, professional standards, and institutional pressures.

Together, these theories position Construction Management courses as the bridge connecting academic learning with industry practice.

B. Research Methodology

The study employed a sequential mixed-methods research design consisting of two phases:

1. Qualitative Phase – Interviews with faculty members, program coordinators, and industry practitioners identified curriculum gaps and competency requirements.
2. Quantitative Phase – A quasi-experimental comparison measured the effects of Construction Management exposure on graduate competencies.

The research focused on architecture practitioners and construction professionals within Metro Manila while evaluating pilot curriculum implementation over one academic semester.

C. Major Findings

The study identified several significant outcomes. Construction Management knowledge gaps remain evident among architecture graduates, particularly in

project controls, site coordination, and compliance with technical standards.

Experiential instructional strategies, including site-based learning, project simulations, and industry mentorship, were found to contribute substantially to improved graduate readiness.

Construction Management integration demonstrated measurable improvements in technical proficiency, project coordination competence, and industry integration readiness.

The study also identified institutional barriers, including limited faculty specialization, resource constraints, and inconsistent curriculum implementation.

Finally, the research proposed a Competency-Based Curriculum Framework that strengthens collaboration between universities and industry through structured Construction Management courses, advisory boards, and experiential learning activities.

IV. GET PEER REVIEWED

The findings demonstrate that stronger integration of Construction Management education produces graduates with improved technical capabilities and greater confidence in professional construction environments.

Key improvements include:

- enhanced project coordination skills;
- stronger site supervision competencies;
- improved understanding of construction documentation;
- greater readiness for multidisciplinary collaboration; and
- better alignment between academic preparation and employer expectations.

The study further highlights that universities adopting project-based learning and industry-linked instructional approaches produce graduates better prepared for contemporary construction practice.

These findings align with international developments emphasizing Integrated Project Delivery, Building Information Modeling (BIM), and experiential learning as essential components of modern architectural education.

V. IMPROVEMENT AS PER REVIEWER COMMENTS

The study recommends several curriculum improvements to strengthen Construction Management education:

- standardize Construction Management competencies across CHED-Autonomous architecture programs;
- increase industry-based simulations and site immersion activities;
- strengthen university-industry partnerships;
- establish Architecture-Construction Industry Advisory Boards;
- integrate BIM-based project management throughout design studios; and
- implement continuous curriculum assessment using graduate readiness indicators.

VI. CONCLUSION

The integration of Construction Management education represents a necessary evolution in architectural education within the Philippines. By combining technical management competencies with traditional design instruction, universities can produce graduates who are better equipped to transition from conceptual design to successful construction execution. The proposed curriculum framework provides a practical pathway toward strengthening graduate readiness, improving industry integration, and supporting future policy development for architecture education.

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