



Lyles School of Civil and
Construction Engineering

The Impact of CBEL on Leadership Development

OVERVIEW

This study examined the impact of curriculum-based experiential learning (CBEL) on the development of leadership competencies among construction engineering students at Purdue University. Using a quantitative correlational design, the research explored the relationship between Purdue's construction engineering CBEL experiences and key leadership skills, as perceived by industry leaders. Findings reveal a strong correlation between CBEL and critical competencies such as technical expertise, problem-solving, communication, team building, business acumen, ethical leadership, and more. The study underscores the importance of CBEL in preparing construction engineering graduates with the leadership skills needed for success in the construction industry. Further research is needed to assess the long-term impact of CBEL on career outcomes and organizational performance.



PURPOSE

Investigating the relationship between CBEL experiences and leadership development in construction engineering graduates with an aim to improve the curriculum.

PROBLEM STATEMENT

Lack of empirical research on the direct impact of CBEL on leadership development in construction engineering and 50-year history of integrating experiential learning into its curriculum but limited quantitative evidence of its impact on leadership skills.

RESULTS



OBJECTIVES

To analyze the relation between CBEL and critical leadership skills:

- Technical Expertise
- Problem-Solving & Decision-Making
- Communication & Interpersonal Skills
- Team Building & Collaboration
- Business Acumen & Financial Management
- Change Management
- Ethical Leadership

METHODOLOGY

Design: Quantitative correlational research.

Participants: Survey administered to construction engineering industry advisory board members.

Data Collection: Survey assessing leadership competencies conducted upon IRB approval.

Analysis: Correlation analysis to identify relationships between CBEL experiences and leadership skills.

CONCLUSIONS

The study shows that CBEL enhances key leadership skills for construction engineering students, playing a vital role in preparing them for leadership in the evolving industry.

Limitations of the study include a small sample size (21 industry board members), potential response bias from self-reported data, and the inability to establish causality due to the correlational design. The study also focuses on industry leaders' perceptions, missing insights from graduates themselves.

Despite these limitations, the study offers valuable insights and highlights the potential to further refine the curriculum by emphasizing areas such as business acumen, change management, ethical leadership, and sustainable construction thinking. Future research could expand the sample, incorporate multiple methods, and conduct longitudinal studies.



KEY FINDINGS

Integration of CBEL into construction engineering curricula significantly enhances leadership preparedness.

Strong positive correlation between CBEL experiences and technical expertise, team building, communication skills.

Moderate positive correlation between CBEL experiences and problem-solving, ethical leadership.

Weak correlation between CBEL experiences and change management, business acumen.

ACTION ITEMS

Enhancing Curriculum Integration

Action Item #1: Expand CBEL Opportunities in the Curriculum

How: Develop more projects and case studies involving construction management, sustainability challenges, business operation and emerging technologies. Encourage partnerships with industry leaders to provide hands-on projects or in-depth case study.

Action Item #2: Curriculum Update Based on Leadership Competencies

How: Regularly review and update the curriculum to ensure it covers the competencies identified in the study, such as strategic thinking, emotional intelligence, time management, and ethical leadership. Embed these elements into existing experiential learning courses.

Enhance Support for Leadership Development

Action Item: Leadership Development Workshops and Training

How: Curate and organize leadership trainings/workshops focused on decision-making, ethical leadership, team dynamics, and communication skills. These workshops could be held as part of the curriculum or as co-curricular offerings.

PI : Rabita Rajkarnikar, MURP, MSCMT, AICP
Senior Internship Program Manager & Lecturer