

## Application of Causal Inference and Discovery in Curriculum Evaluation and Continuous Improvement

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**Abstract :** The undergraduate graduation project is a vital part of the higher education curriculum, crucial for engineering accreditation. Current evaluations often summarize data without identifying underlying issues. This study applies the Peter-Clark algorithm to analyze causal relationships within the graduation project data of an Electronics and Information Engineering program, creating a causal model. Structural equation modeling confirmed the model's validity. The analysis reveals key teaching stages affecting project success, uncovering problems in the process. Introducing causal discovery and inference into project evaluation helps identify issues and propose targeted improvement measures. The effectiveness of these measures is validated by comparing the learning outcomes of two student cohorts, stratified by confounding factors, leading to improved teaching quality.

**Keywords :** causal discovery, causal inference, continuous improvement, Peter-Cark (PC) algorithm, structural equation modeling(SEM)

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