
PROBLEM-BASED LEARNING AND DEVELOPMENT OF CORE SKILLS IN NUMERICAL METHODS

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ABSTRACT

In mathematics courses, it is common practice to assign students problems that align with the mathematical concepts and competencies they are expected to acquire. This research explores the connection between two core skills, teamwork and entrepreneurship, within the context of problem-based learning. In the Numerical Methods course for Industrial Engineering students, problem-solving is a core component. While many students have prior experience working in teams, fewer have been exposed to developing entrepreneurial skills. Teamwork involves the ability to interact, collaborate, and cooperate effectively with others, recognizing the unique value of each individual. This core skill is rooted in self-awareness and understanding others through shared experiences. The entrepreneurial skill addresses contemporary challenges and is increasingly valued in higher education. Entrepreneurs are driven by the desire to address real-world problems and find creative solutions. Problem-based learning involves small groups of students working collaboratively to solve complex problems. This peer-to-peer learning approach fosters knowledge sharing and critical thinking. This study analyzes the relationship among problem-solving in Numerical methods course and the development of two specific core skills such as teamwork and entrepreneurship.

Keywords Problem-based learning · core skills · teamwork · entrepreneurship

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