Exploring Problem-Based Learning and University-Industry Collaborations for Fostering Students' Entrepreneurial Skills: A Qualitative Study in a German Urban Setting

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Abstract : This empirical study aims to explore the development of students' entrepreneurial skills through problem-based learning within the context of university-industry collaborations (UICs) in curriculum co-design and co-delivery (CDD). The research question guiding this study is: "How do problem-based learning and university-industry collaborations influence the development of students' entrepreneurial skills in the context of curriculum co-design and co-delivery?" To address this question, the study was conducted in a big city in Germany and involved interviews with stakeholders from various industries, including the private sector, government agencies (govt), and non-governmental organizations (NGOs). These stakeholders had established collaborative partnerships with the targeted university for projects encompassing entrepreneurial development aspects in CDD. The study sought to gain insights into the intricacies and subtleties of UIC dynamics and their impact on fostering entrepreneurial skills. Qualitative content analysis, based on Mayring's guidelines, was employed to analyze the interview transcriptions. Through an iterative process of manual coding, 442 codes were generated, resulting in two main sections: "the role of problem-based learning and UIC in fostering entrepreneurship" and "challenges and requirements of problem-based learning within UIC for systematical entrepreneurship development." The chosen experimental approach of semi-structured interviews was justified by its capacity to provide in-depth perspectives and rich data from stakeholders with firsthand experience in UICs in CDD. By enlisting participants with diverse backgrounds, industries, and company sizes, the study ensured a comprehensive and heterogeneous sample, enhancing the credibility of the findings. The first section of the analysis delved into problem-based learning and entrepreneurial self-confidence to gain a deeper understanding of UIC dynamics from an industry standpoint. It explored factors influencing problem-based learning, alignment of students' learning styles and preferences with the experiential learning approach, specific activities and strategies, and the role of mentorship from industry professionals in fostering entrepreneurial self-confidence. The second section focused on various interactions within UICs, including communication, knowledge exchange, and collaboration. It identified key elements, patterns, and dynamics of interaction, highlighting challenges and limitations. Additionally, the section emphasized success stories and notable outcomes related to UICs' positive impact on students' entrepreneurial journeys. Overall, this research contributes valuable insights into the dynamics of UICs and their role in fostering students' entrepreneurial skills. UICs face challenges in communication and establishing a common language. Transparency, adaptability, and regular communication are vital for successful collaboration. Realistic expectation management and clearly defined frameworks are crucial. Responsible data handling requires data assurance and confidentiality agreements, emphasizing the importance of trust-based relationships when dealing with data sharing and handling issues. The identified key factors and challenges provide a foundation for universities and industrial partners to develop more effective UIC strategies for enhancing students' entrepreneurial capabilities and preparing them for success in today's digital age labor market. The study underscores the significance of collaborative learning and transparent communication in UICs for entrepreneurial development in CDD.