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Learning in Teams, Thinking Analytically: A TBL Approach to Simulation Education

Team-Based Learning (TBL) has emerged as an effective pedagogical strategy in computer science education, fostering active learning, collaboration, and analytical thinking. Studies increasingly support TBL's role in enhancing knowledge acquisition, teamwork skills, and academic performance among computing students, particularly when applied in practice-based, collaborative environments (Davidson, Major and Michaelsen, 2014; Magana et al., 2024). This paper presents a case study of implementing TBL within a second-year undergraduate modelling and simulation module, involving a cohort of 24 students.

The module was designed to integrate individual accountability with collaborative problem-solving. One week prior to each lab session, students received business scenarios via Brunel's Virtual Learning Environment (VLE). Using tools and techniques introduced in lectures, they developed individual simulation models in response to these scenarios. During lab sessions, students were grouped into teams of no more than four to discuss and critically evaluate their models. Through guided discussion, teams identified strengths and weaknesses in each approach and collaboratively synthesised a single group model. This was submitted at the end of the session, with the most accurate or effective model then selected for presentation to the class. This structure closely mirrored industry-standard iterative workflows, thereby providing students with authentic and professionally relevant experiences (Asadi et al., 2024).

The implementation of TBL facilitated deeper conceptual understanding, improved engagement, and stronger analytical reasoning. Students reported that peer discussions helped clarify ambiguities, exposed them to alternative modelling strategies, and increased their confidence in solving complex problems. The requirement to reach group consensus also fostered negotiation and peer teaching—hallmarks of effective collaborative learning environments (Lasserre, 2009).

Coursework outcomes showed a notable improvement in the quality and rigour of student submissions, with many producing simulation models that demonstrated both technical proficiency and creative problem-solving. Informal feedback gathered during lab sessions further underscored the benefits of peer interaction and collective decision-making, with students expressing appreciation for the opportunity to engage with diverse approaches and refine their own thinking.

This case study suggests that TBL is a valuable approach for modules requiring both technical development and analytical reasoning. Its ability to promote collaboration, deepen understanding, and mirror real-world workflows makes it a promising strategy for enhancing learning outcomes in computer science education.

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Generative AI in Computer Coding Learning: Opportunities and Challenges for Postgraduate Students at Imperial College Business School

Based on postgraduate students' experience of learning computer coding at Imperial College Business School, this research studies comprehensively the features, usage, and concerns of generative artificial intelligence (AI) tools in the context of higher education settings.

This research highlights the rapid adoption of these tools (Baidoo-Anu and Ansah, 2023; Rahman and Watanobe, 2023), their capabilities in providing personalized learning experiences (Dai et al., 2023; Kazemitabaar et al., 2023; Choudhuri et al., 2024), real-time assistance, and fostering