Teaching Project Management Through a Campus Sustainability Project

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Abstract. Understanding the intricacies of project management is essential for today's business students. This paper describes the design and execution of a sustainability project conducted by management students in collaboration with the Residence Halls and Facilities Center at a university. The project provided students with practical experience in planning and executing real-world projects, emphasizing the use of Microsoft Project for project management. The impacts of such projects are highlighted through student feedback and the successful completion of recycling awareness campaigns. The course design could be easily replicated by other instructors teaching project management.

Keywords: project management, sustainability, senior projects, service learning.

1. Introduction

1.1. Experiential Learning in Project Management Education

Teaching project management through experiential learning has been shown to be highly effective by providing the students with practical experience in project lifecycle management, team collaboration, and problem-solving, which are critical for their professional development (Abernethy *et al.* 2007). Experiential learning not only enhances student motivation and understanding of theoretical concepts but also develops essential skills needed to tackle real-world challenges (Car *et al.* 2007).

Various experiential learning approaches been employed, such as servicelearning projects, simulation-based games, and team-based client projects. For instance, Dixon (2011) discusses service learning projects that integrate collaborative project management, while Dantas *et al.* (2004) explore the use of simulation-based games for experiential learning in project management.

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Any enquiries, please contact the Publishing Editor, Peter Neilson pneilson@neilsonjournals.com © NeilsonJournals Publishing 2024. Additionally, Cook and Olson (2006) introduced a hands-on activity called "The Sky's the Limit", where students construct structures with limited resources, simulating real-world project constraints and teaching core project management principles. Innovative approaches have extended the teaching of project management to younger audiences, as seen in Delle-Vergini *et al.* (2023), where project management principles are introduced to primary school children through gamification and real-life projects. These strategies provide students with real-world experience, enhance their understanding of project management concepts, and develop essential skills such as teamwork and client interaction (Hicks 1996; Hussein & Nyseth 2005).

1.2. Teaching Project Management Across Disciplines

Project management education varies across disciplines, with distinct approaches tailored to engineering, IT, and business students. Rojas, McGill, and Depickere (2006) examined the application of project management practices among IT students, finding that while students are generally aware of project management principles, they often struggle with applying these practices effectively throughout their projects. Munns (2001) describes how engineering students use project management to manage their own learning, focusing on technical and managerial skills within a structured framework. Car, Pripui, and Belani (2010) describe a comprehensive approach where electrical engineering and computing graduate students engage in clientoriented projects closely related to their field of study. This method allows students to apply theoretical knowledge in real-world contexts, fostering both technical and managerial skills. In IT, Venkatagiri (2011) highlights the integration of Agile methodologies, demonstrating how IT students apply these techniques to manage software development projects. Trautwein, Morais, and Kubota (2024) provide a case study of a Junior Enterprise operated by mechanical engineering students, illustrating how the shift to agile practices improved both project outcomes and student learning experiences.

1.3. Teaching Project Management to Different Students

The complexity of project management education often depends on the level of students. Carreiro, Maccari, and Scafuto (2023) highlight the importance of tailoring educational approaches to the specific needs of each group, noting that graduate students often require a more complex and dynamic learning environment that bridges the gap between theory and practice. They also emphasize the importance of experiential learning for both levels, but with a greater focus on developing advanced skills and knowledge for graduate students. Graduate programs typically involve more advanced tools and methodologies. For example, Reif and Mitri (2005) incorporated Microsoft Project in a course for graduate students of electrical engineering and computing, allowing them to gain practical experience in project scheduling,