ASCILITE 2023

People, Partnerships and Pedagogies

Conceptualising the enhancement of professional skills and competencies in information technology students in higher education

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In a constantly evolving industry like IT, one cannot expect things to remain the same in a few years, and the biggest concern in the context of Industry 5.0 is whether technology will replace employment (ISCAN, 2021). Even as IT professionals, every graduate will ask the same question when they enter the industry.

The competency development of IT graduates has been discussed and understood as a necessity in many studies (Alavi et al., 2021; Anicic & Buselic, 2021) and a review of job advertisements online shows the changing nature of required competencies. The emphasis is not only on technical knowledge but also on various skills and competencies of the individual (Mariani et al., 2021). However, industry professionals often state they feel that IT graduates lack professional preparation in terms of skills and competencies (Guneri Sahin & Celikkan, 2020; World Economic Forum, 2023).

IT teaches students how to utilize, protect, manage, and trade technology to meet needs and enhance people's lives (ACM, 2018); as a result, IT practitioners' skills and competencies are more important than ever today. What is required now may differ significantly from what is required in the future (Gartner, 2022; World Economic Forum, 2019). Therefore, future graduates must be adaptable, and the skills and competencies they acquire must be dynamic and responsive to change.

There is a relationship between skill development and pedagogical methods (Virtanen & Tynjälä, 2018). It is increasingly important to link students with industry and allow them to interact in real-life circumstances. Signature Pedagogies (Shulman, 1998), WIL (Lesley et al., 2010), and authentic learning (Herrington & Herrington, 2006) are just a few of the ways that link students to their profession. Group projects, presentations, internships, portfolios, discussions, flipped classrooms, peer review, research, case studies, authentic assessments, and gamification are some of the methods used in classrooms to teach skills such as interpersonal skills, teamwork, ethics, professional responsibility, equity, personal growth, and critical thinking. It is important to investigate whether these methods are the most suitable for developing these dynamic competencies.

This research aims to explore the experiences of IT graduates and lecturers with the pedagogical methods utilized, and to investigate how effective they are in developing dynamic professional skills and competencies. The poster presents the proposal for this study. A case study method has been selected as it allows for an investigation of contemporary phenomena in depth within their real-world context (Yin, 2014). A single case (holistic) design was chosen to investigate how teaching, learning, and assessment methods can be used in IT higher education to develop IT professional skills and competencies which are required by industry. Even though the study will take place in a single setting, diverse participants with diverse experiences will be involved in data collection.

This will inform the higher education sector about industry expectations and methods for developing these dynamic skills and competencies. Furthermore, it will help students understand the value of professional skills for employability, and the function of teaching, learning, and assessment methods in their educational pathways.

Keywords: Higher education, Information Technology, dynamic skills, competencies, teaching, learning, assessment

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