Proceedings of the International Conference on Education, Vol. 11, Issue 1, 2025, pp.275-291

ISSN 2424-6700 online
DOI: https://doi.org/10.17501/24246700.2025.11120

FROM CLASSROOM TO CAREER: STUDENT PERCEPTIONS OF WORKPLACE SIMULATION IN IT EDUCATION

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Abstract Project-based learning (PBL), a methodology used in experiential learning, is a common approach to sustainable education intended to deliver quality education. PBL is a student-centred pedagogical approach that has shown effectiveness in addressing challenges found in traditional teacher-centric environments. In IT, students are often engaged with real-world problems that require a diverse set of competencies beyond foundational knowledge. Due to this reason, PBL has been practised in IT education mainly through final-year capstone projects. These capstone courses are based on projects that offer valuable real-world experience but often lack sufficient time for students to fully solidify their knowledge and skills. This is because these courses are typically offered in the final year of the degree programme. To overcome this challenge, we use a series of courses called "Studio" that immerse students in a simulated work environment from their first year. These courses gradually introduce students to real-world practices and technologies, allowing sufficient time to consolidate their learning. This study aimed to investigate the experiences and perceptions of the students towards this model. A semi-structured online survey was used to collect data from students enrolled in Studio courses. The sample consists of forty-five students enrolled as international students in the BIT programme. Descriptive and exploratory data analysis techniques were primarily applied to analyse their feedback while open-ended questions were examined to identify the emerging themes related to the student experience. While this study is still a work in progress students generally view the Studio courses positively and value the skills they have gained over time. Feedback highlights the importance of providing time for knowledge consolidation and shows that students appreciate the gradual exposure to technical topics. Integration of soft and technical skills over time seemed to have increased students' confidence in managing real-world projects.

Keywords: workplace simulation, project-based learning, IT undergraduates, IT curricula, scaffolded learning

Introduction

Project-Based Learning (PBL), a methodology used in experiential learning, can be considered a pedagogical approach developed to replace the traditional teacher-centric learning environment (Piccolo et al., 2023). Particularly, in Information Technology (IT), students are required to have a broad range of competencies to think critically and solve real-world problems, which cannot be acquired by gaining content knowledge in isolation (McManus & Costello, 2019). Hence, many researchers and educators in IT have been exploring PBL for decades (Gupta, 2022; Rahman et al., 2023; Sanger & Ziyatdinova, 2014). While many contemporary IT curricula have incorporated PBL, it is often limited to capstone projects offered in the final semester or year of the degree programs. One of the main challenges of these capstone projects, usually offered during the later part of a course, is that they may not provide sufficient time for students to consolidate the knowledge and skills essential

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for practical application in real-world professional settings (Rahman et al., 2023). This limited timeframe can hinder students' ability to engage in deeper learning, iterative development, and meaningful reflection, which are critical for developing professional competence and confidence.

Following the recommendation of Allen (Allen, 2022), a series of courses called "Studio" is designed and embedded into the IT undergraduate program to mitigate the limitations of standalone capstone projects as mentioned above. Studio courses engage students in a work-like environment from the beginning of their studies, utilising PBL. In Studio courses, students work in teams to implement projects using different tools, techniques and processes while the lecturers role-play managers or product owners based on the scenario. The evaluation of Studio courses focuses on performance and development reviews to simulate real-world professional scenarios. The primary objective of Studio courses is to facilitate a smooth transition for undergraduates into their first industry role by gradually introducing them to a simulated working environment.

This article reflects on our collective experience in delivering Studio courses, highlighting the lessons learned throughout the process. Further, we have conducted a feedback survey from current students and recent graduates (graduates from the last three years) to gather their perspectives on this learning model, further strengthening our insights. While this article does not provide a comprehensive guide for adopting the full course series, we hope that the insights provided will assist lecturers and instructors who are currently implementing or planning to implement PBL courses as workplace simulations.

Based on the objective described above the following research question is developed to gain an understanding of how IT undergraduates perceive the Studio model.

RQ: *How do IT undergraduates perceive the newly developed Studio course series?*

The remainder of this article is structured as follows. The next section presents an overview of PBL and workplace simulation practices commonly adopted in IT education. Section 3 provides a comprehensive discussion of the study context, followed by a description of the research method in Section 4. Section 5 outlines the findings from the quantitative analysis. The core contribution of this article is detailed in Section 6, where we reflect on our experiences, drawing attention to key lessons learned and their implications for practice. Finally, Section 7 concludes the article by summarising the key findings and offering final insights.

Related Work

This section presents a high-level overview of the literature related to PBL and workplace simulation.

Project-based Learning

PBL, a methodology used in experiential learning (Kolb, 1984), can be considered a pedagogical approach developed to replace the traditional teacher-centric learning environment (Piccolo et al., 2023). PBL has been extensively used in undergraduate studies for its effectiveness in fostering problem-solving skills and critical thinking, particularly in finding solutions for real-world problems.

In this context, students are required to develop a diverse set of competencies to solve real-world problems, which cannot be acquired solely through knowledge acquisition (McManus & Costello, 2019). Hence, researchers and educators in IT have explored the use of PBL in IT education for decades (Gupta, 2022; Rahman et al., 2023; Sanger & Ziyatdinova, 2014).

Mainstream IT curricula (i.e., IEEE/ACM) have adapted PBL, mainly as a compulsory course undertaken in the final year, often in the form of a capstone project (Kumar et al., 2024). The primary objective of such courses is to provide an integrative educational experience that prepares students to become work-ready graduates (Clear et al., 2001). A recent systematic literature review detailed the literature on capstone projects done in Software Engineering (Tenhunen et al., 2023). According to the authors, the majority of the institutes conduct capstone projects that last only for one semester, which interestingly conflicts with the IEEE/ACM (Kumar et al., 2024) curricula recommendation, which proposes having capstone projects lasting one academic year. Further, several reasons have been identified for the adoption of one-semester capstone projects, primarily due to the constraints of fitting a year-long project into the curriculum (Khakurel & Porras, 2020). These projects are also highly labour-intensive for both teaching staff and students (Hadfield & Jensen, 2007; Spichkova, 2019), and the significant time commitment required from students can negatively impact their performance in other courses being taken concurrently (Nguyen et al., 2013). One of the main challenges of such capstone projects is that they do not provide sufficient time for the students to consolidate the knowledge and skills essential for practical application in real-world professional settings (Rahman et al., 2023).

Workplace Simulation

Today's IT industry expects university graduates to be immediately productive without providing extensive training (Gorka et al., 2007; Shin et al., 2013). To meet this expectation, universities must ensure that the students are equipped with sufficient practical skills to adapt to the workplace. While the traditional capstone projects try to achieve this, the students won't have adequate time to develop the skills required to be a work-ready graduate due to the issues discussed above. Although internships and cooperative experiences can be considered effective ways to achieve this, it may not be feasible for all students (Gorka et al., 2007). As a result, various researchers have investigated strategies to address this challenge by integrating real-world work experiences into the classroom environment. Work-Integrated Learning (WIL) is one such main initiative that typically involves three stakeholders: the student, the University, and external partners (Keogh et al., 2007). However, recent studies have discussed issues in this model, such as WIL requiring the students to find their own placements, which is a challenge due to low opportunities (Jha et al., 2021), having quality assessment practices that meet the program standards when collaborating with external parties (Ferns & Zegwaard, 2014), and not having enough time to learn and use emerging technologies in the industry (Jackson, 2015).

Context

The model of Studio - a six-semester long course series was first introduced as a part of the BIT degree program at a Polytechnic in New Zealand (Allen, 2022). This was introduced to complement the

existing project-based courses and replace the pure soft skills courses in the IT program at the time. The model of Studio consists of six courses, one course per semester, conducted over 3 years. This teaching approach relies on scaffolded (Bruner, 1966)experiential learning, introducing students progressively into a work-like environment.

We are a campus of ANONYMIZED Polytechnic, specifically catering to the international students enrolled in the Bachelor of IT degree program. Instead of semesters, we run the program in a block-wise structure where our students study for four blocks (each running through eight weeks) in a year with two courses in each block. Each year, our students are enrolled in two mandatory Studio courses where they are involved in producing a project as a team. Figure 1 explains the approach of our Studio courses as they're being delivered across the three-year degree program.

Studio courses are primarily assessed through a Performance Development Review (PDR), a model similar to an appraisal of a real working environment. The assessment is competency-based, where the students receive a 'pass' or 'fail' depending on whether they meet all the learning outcomes of the course. In addition to PDR, several additional criteria are used to monitor student progress throughout the block, such as lecturer observation, peer evaluation, checkpoint completion, and client feedback (with a lecturer often acting as the client). In mid-block, a practice PDR is conducted to provide the students with formal feedback, giving them insights about their progress and guidance on areas needing improvement to complete the course.

The Studio courses are introduced during their first year, during the third block of the study.

Studio 1 & 2: The first Studio course (Studio 1) introduces our students to their first workplace experience through a simple database implementation project. The primary goal of Studio 1 is to familiarise students with essential workplace skills, such as requirement gathering, analysis, teamwork, verbal and written communication skills and time management, rather than focusing solely on the technical aspects of project development. Hence, the students implement a database while easing into other skills required to work in a real environment. In the same year, the students are introduced to Studio 2, where they delve into a project that simulates the working environment. This experience allows them to collaborate with various tools and processes, such as adopting AGILE, using project management tools and version control. Studio 2 is designed in a way that students can build upon the skills they acquired during Studio 1.

Studio 3 & 4: Studio 3 is the first course the students take in their second year, offering them the opportunity to explore new tools and features not covered in previous Studio courses. For example, the students are introduced to Jira [3], a widely used project management tool in the IT industry that specifically aligns with SCRUM practices and delves deep into GitHub. This course allows students to apply their accumulated skills to develop and deliver a fully completed project. Studio 4 mainly focuses on the deployment aspects of project delivery, incorporating security, privacy and quality aspects into an existing project. Gradually, our students are exposed to various aspects of working in a professional environment up to Studio 4.

Studio 5 & 6: Finally, students are ready to work on real-world projects in their third year using the skills they gained in the previous two years. Some projects are coming from real clients, depending on the available opportunities. Students work on a single project throughout these two courses. Studio 5 is mainly focused on planning and designing phases of the project, whereas Studio 6 is utilised to implement and deliver the project.

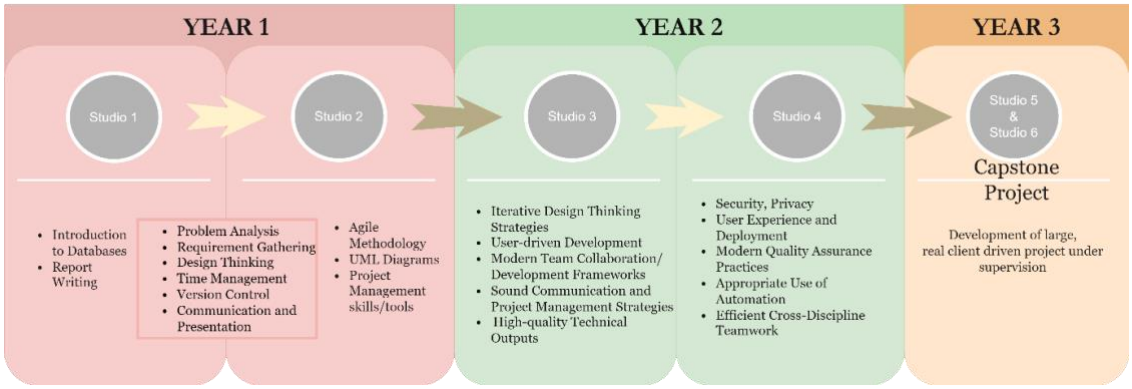

Figure 1: Studio Course Structure from Year 1 to Year 3

As mentioned earlier, the majority of topics covered in the Studio courses are introduced in a scaffolded manner, allowing students to gradually deepen their understanding over time. For example, students are first introduced to GitHub in Studio 1, where they gain a basic understanding of the platform by creating an account and uploading project files. In Studio 2, they build on this foundation by using GitHub for basic version control—regularly pushing, pulling, and committing their work while collaborating with teammates through code integration. By Studio 3, students begin to explore more advanced GitHub features such as code reviews, further reinforcing collaborative development practices. In Studio 4, GitHub becomes an integral part of the full production pipeline, supporting continuous integration and deployment workflows. This scaffolded approach ensures that by the time students reach their final-year capstone project (Studios 5 and 6), they are well-equipped with the necessary GitHub skills to manage real-world projects confidently and effectively.

Method

A semi-structured survey, comprising both closed- and open-ended questions, was employed to collect data from a sample of 45 undergraduate students enrolled in the BIT programme. The survey was distributed electronically via Qualtrics, accompanied by an information sheet outlining the study's purpose, voluntary participation, and ethical considerations.

Section 1 of the questionnaire captured the demographic information of the participants to provide an understanding of the participating students. The remaining sections of the survey were designed to gather general feedback on students' soft skills, technical skills and confidence in using various tools and techniques, using a five-point Likert scale. To gain some further insights a couple of open-ended questions were added to the survey to capture students' perceptions of the Studio courses. Sample questions from the survey are provided in Appendix 1.

Organisational ethics approval was obtained prior to data collection to ensure the research complied with institutional ethical standards. All responses were anonymised to maintain participant confidentiality. The collected dataset was subsequently cleaned and pre-processed using Power Query to address inconsistencies and prepare the data for analysis. Quantitative responses were analysed using descriptive statistics and exploratory data analysis (EDA) techniques to identify patterns and trends. Qualitative responses were examined through thematic analysis, enabling the identification and interpretation of recurring themes and insights from the open-ended responses.

Results

We developed a survey to collect feedback from students currently enrolled in Studio courses, as well as recent graduates. Participants were recruited via the learning management system for current students and through email for recent graduates. A total of 45 students completed the survey. The survey's main objective was to understand how our students perceive this model, which can also act as a strengthening factor for our reflection. A majority of our students (82%), were male, while 18% were female. Only 18% of the students had prior work experience, whereas the remaining 82% did not have any prior work experience. Most students were between the ages of 21-35 (78%), followed by 20% who were 18-20 years old, and a small percentage (2%) were over 35. In terms of language proficiency, 89% of the students did not speak English as their first language. Ethnically, the majority identified as Asian (77%), while 4.5% identified as European, and 18.5% belonged to other ethnicities. This data highlights a diverse learning group, especially in terms of language and ethnicity, with limited prior work experience and a notable gender disparity.

Based on our students' feedback, they generally hold a positive perception of the Studio courses and the knowledge and skills they have acquired. Figure 2 shows the majority of students rated their technical skills, such as requirement gathering and analysis, system design, implementation, documentation and quality and security aspects, as "Good" or higher. Notably, all students demonstrated a strong grasp of requirement gathering and analysis techniques. However, a small number of students assessed their competency level as "Poor" in other categories, suggesting potential space for improvement.

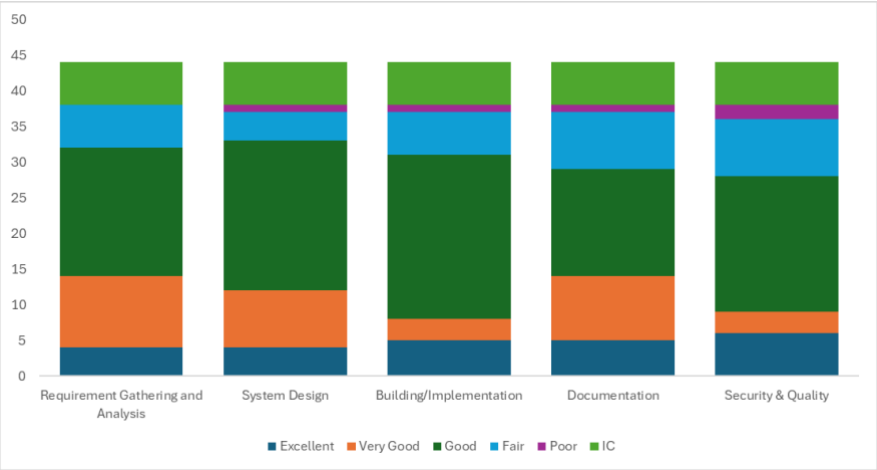

Figure 2: Students' Confidence in their Technical Skills

Students use various tools and techniques for project management, diagramming, version control, etc., throughout the Studio courses. Survey data indicates that students' confidence in using these tools and techniques generally falls within the 'Average' to 'Above Average' range as shown in Figure 3. Notably, the majority of students display a high level of confidence, particularly in their use of communication tools, followed by version control systems.

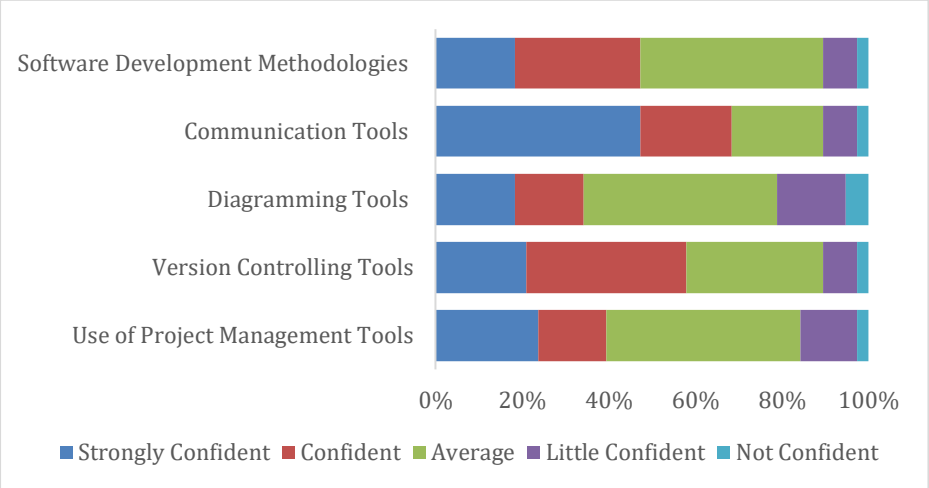

Figure 3: Students' Confidence in Using Tools and Techniques

Figure 4 shows the majority of the students perceive their soft skills, such as time management, communication skills, teamwork ability, leadership and conflict handling skills, to be at a good level, suggesting that the Studio courses are effectively meeting their purpose. However, there are a few students who have still rated themselves as "Poor", indicating that there may still be gaps in skill development for certain individuals.

Figure 4: Students' Level of Confidence on their Soft Skills

Discussion

Key lessons identified in this section emerged from the students' feedback in response to the open-ended questions in the survey. Their experience and shared perspectives are reported as domain summaries (Boyatzis, 1998) supported by direct quotes to provide deeper insights. Additionally, reflections from the lecturers involved in these courses were also considered in identifying the lessons learned, offering a more comprehensive understanding of the areas of improvement and success.

Work-like Environment

One of the main objectives of Studio courses is to simulate a real-world working environment, giving all students early exposure to such settings. This helps address the challenges related to providing internships, at least to a certain extent (Gorka et al., 2007; Jha et al., 2021). To further enhance the industry exposure, we co-teach some of the Studio courses with external lecturers who are IT professionals. Their insights help refine the course delivery, ensuring the tools, practices, and processes stay current with industry trends and needs. This approach helps meet the IT industry's demand for immediate work-ready graduates, reducing the need for extensive post-hire training (Shin et al., 2013). Some participants noted their experience working in a work-like environment:

> *"Lovely courses, good to have the experience from a real work environment."*
>
> *"It was good to gain experience like a real workplace."*
>
> *"Group project and industrial knowledge of it and so many things."*

Teamwork & Communication

Another learning outcome of Studio courses is the ability to work in a team successfully. Teamwork not only simulates a professional working environment but also allows students to develop essential soft skills such as collaboration, coordination and communication. The advantage of our model lies in its ability to foster these skills over a longer period of time, allowing the students to progressively build and refine their skills in communication in a team. This approach is well received by participants as they reflected:

> *"We learn many things particularly how to Work in a team."*

While many students thrived in team environments, there were also participants who had struggled with teamwork and communication, particularly those in their first year. The challenges they faced often revolved around the lack of active participation or support from their team members:

> *"Overall, working with a team is hard, as we do not always get the support we look for in a team." "Lack of participation from team members was a challenge."*

Although several participants who were in their first year struggled with teamwork, participants in more advanced Studio courses noted improvements in their ability to communicate:

> *"I was able to learn from the mistakes in Studio 1-4 and not commit them in the final project, specifically working in a team."*

This is an indication that the progressive scaffolding in the Studio courses has played a role in helping students enhance their capabilities over time. Our findings further support the value of collaborative learning often discussed in PBL (Gupta, 2022; Sanger & Ziyatdinova, 2014). However, our findings suggest that effective teamwork requires more than collaboration and requires conflict resolution and support in improving interpersonal skills –areas that are not often discussed in traditional capstone projects.

This gradual approach could serve as a solution to overcome common and specific challenges often discussed in capstone projects, such as valuing individual work over group work or the inability to collaborate with work allocation (Bastarrica et al., 2017; Moster, 2022). However, exploring additional mechanisms that can support students in building these teamwork skills earlier in their journey is important to ensure they are better equipped to thrive in team environments from the outset.

Time management

Many participants highlighted time management as a significant challenge, often referring to the difficulties related to team collaboration:

> *"Lack of participation from team members makes it hard to manage the time."*

This aligns with the findings of (Pereira & Díaz, 2021), who highlighted limited time or unsuccessful management of time as one of the top hurdles to successfully completing IT capstone projects. Time management can become even more difficult when all students are not actively engaged, unfortunately, a recurring issue in PBL.

> *"Sometimes, time management is very hard."*

Despite the challenges, some participants appreciated the practical nature of the course beneficial for developing time management skills:

> *"Studio course is based on practical learning. As an international student, I have learnt time management working as a team."*

Another participant explained how they progressively managed to overcome the issues of managing time by adopting the tools introduced in Studio courses:

> *"Time becomes a tricky thing for me to manage. However, in these past few weeks, I have learned various ways to manage my time much more efficiently than before. I have started using TrelloBoard for my personal use."*

This example demonstrates the importance of self-regulated learning (Harris & Graham, 1999) that emerged from the Studio courses, highlighting one of the positive outcomes of the model.

Tools & Processes

The integration of industry-relevant tools and processes plays a significant role in Studio courses preparing students to be work-ready. Participants acknowledged the value of these tools in their learning experience.

> *"Introduction to everything like the SDLC and other industry-related tools like GitHub and SQL was good. Overall everything is excellent."*

In Studio courses, we embed different tools progressively based on their complexity level to facilitate a better learning experience. For example, In Studio 2, students are introduced to TrelloBoard (https://trello.com/), which can be used as a basic scrum board to manage tasks and workflows. As they advanced to Studio 3, they were introduced to more sophisticated tools like Jira, which provides more features and is commonly used in the industry for project management and agile development. This scaffold use of tools and processes through the Studio courses helped our students develop strong foundational skills. One participant enrolled in Studio 5 (3rd year) noted:

> *"I had repeatedly written User Stories, Use case diagrams, and ERDs and used Github in Studio courses, so I didn't have much trouble with System Analysis and using Github when I started Studio 5."*

Despite these efforts, some participants noted in their feedback that they initially found the use of these tools challenging.

> *"Tools and study materials used were good. But at first, using tools like GitHub or transferring data from Visual Studio to GitHub was a bit complicated."*

This is to be expected when novices are introduced to new technologies which was evident from the survey results as well (as discussed in section 5). The majority of students who had only completed up to Studio 2 rated their confidence in using the tools as ranging from average to not confident. Specifically, the use of GitHub was a recurring theme in the feedback provided by the participants. Such challenges are not uncommon, as researchers have explored and discussed the difficulties of teaching and learning topics around version control and GitHub. Tu et al. (2022) note that one of the main challenges of teaching this topic is that students are students, and they often tend not to follow instructions, a pattern we have consistently observed during Studio courses. In response, we applied one of their suggestions in Studio 2, introducing GitHub for individual work. Adopting this was easy since the students were taking a Programming course simultaneously. Though this change is relatively new, we have already observed that students seem more confident and comfortable using GitHub in team environments after this early exposure.

The findings related to the use of professional tools and processes in our study highlight a meaningful opportunity to bridge the gap between the academic environment and industry expectations. While work-integrated learning serves as a solution to these limitations such as access to placements and the pace of technological change (Jackson, 2015; Jha et al., 2021) reduce their efficacy. In contrast,

structured workplace simulations within a controlled academic setting may offer more equitable and scalable alternatives to use professional tools and processes efficiently.

Knowledge Consolidation

As discussed in related work, one of the main issues in the existing capstone courses was the lack of adequate time for students to consolidate their knowledge and apply it to their projects (Rahman et al., 2023). The Studio courses were designed to address this by providing a scaffolded learning experience for the students. For example, Studio 1 introduces version-control tools like Git and Github. Studio 2 builds on this with hands-on experience in creating and managing its repository with the use of commands such as commits, push, pull, etc. In Studio 3, students explore topics like code reviewing, diving deep into merging and handling merge conflicts. This structured progression allows students to fully develop their skills before their capstone projects in Studios 5 and 6.

> *"I was able to learn from the mistakes in Studio 1-4 and not commit them in the final project".*

> *"Got a lot of practical skills and hands-on experience with workflow and GitHub to apply in the final project."*

Other Skills

One of the primary objectives of introducing Studio courses was to integrate soft skills such as collaboration, communication, conflict resolution, leadership, etc., with technical skills, enabling the students to start their capstone project with more confidence in applying their IT skills in practice. Many participants appreciated the positive impact of this approach, particularly in overcoming issues related to communication. One participant noted:

> *"I faced only one challenge in the beginning, which was presentation but now it's improved."*

According to the survey feedback, it is evident that some students still struggle with improving their soft skills. One participant, for example, shared their struggle with public speaking and communication:

> *"During studio courses, I had challenges speaking in front of everyone and working in a group. I was not that confident to ask questions to my tutor but after having studio 1 and studio 2 I have improved a lot."*

These reflections highlight how Studio courses foster not only technical skills but also the necessary soft skills to develop work-ready graduates.

Conclusion

This article explores the experience of delivering a series of courses called Studio, which were designed to simulate the real workplace. The survey feedback has provided valuable insights into how our students have perceived and experienced this model throughout their studies. This research offers educators guidance on how to effectively integrate workplace simulation into their PBL courses.

One of the key takeaways is that allowing sufficient time for knowledge consolidation would greatly benefit students as it provides them with the flexibility to apply the knowledge and skills they have acquired. This enables deeper understanding and more effective use of their knowledge and skills. Introducing complex concepts and techniques in a scaffolded manner has proven to be highly effective, as it prevents students from feeling overwhelmed by the technical information. Gradual exposure allows them to build a strong foundation, practising what they have learned and progressively moving to advanced concepts and techniques. Ultimately, this gradual approach provides students with a smoother learning experience.

Integrating soft skills with technical skills appears to be an effective approach to enhance both aspects simultaneously. Students' feedback indicates that skills such as teamwork, collaboration, leadership and conflict resolution were challenging but can be improved with time. Working with different team members in each Studio course created a working environment where they could collaborate with peers with diverse personalities, making them recognise the importance of improving their soft skills along with technical skills. However, despite all the efforts, some students continue to struggle with the above-mentioned soft skills, indicating that this remains a work in progress and may require new strategies.

In conclusion, while this article may provide educators with some guidance to implement or enhance their PBL courses, it is important to acknowledge that this approach was applied in relatively small class sizes. It may be worth exploring the adoption of this model with a large student population in the future. Further, this study could be extended into a longitudinal study, monitoring students from their first Studio course to their final one to investigate their experience over time. Alternatively, a cross-institutional comparison could be conducted to check whether external factors affect the current findings.

Acknowledgements

We would like to acknowledge all the participants who volunteered to participate in this study.

Declaration of Interest Statement

The authors declare that they have no conflict of interest.

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Appendix 1

Investigating Workplace Simulation for Experiential Learning

Section 1: Personal Details

1.1 Select your gender.

Male ☐ Female ☐ Other ☐

1.2. What is your ethnicity?

……

1.3. Select your age group.

☐ 18 to 24

☐ 25 to 34

☐ 35 to 44

☐ 45 to 54

☐ 55 or over

1.4. Is English your first language?

Yes ☐ No ☐

1.5. Did you have any previous work experience in the IT sector before starting/during the Studio courses?

Yes ☐ No ☐

1.6. If you selected "Yes" for 1.5., was it helpful for Studio courses?

……

Section 3: Generic Feedback on skills, tools and practices

3.1. To what scale do you believe that you practiced the following soft skills during your Studio courses?"

(5- Excellent, 4- Very Good, 3- Good, 2- Fair, 1- Poor)

Soft Skill	1	2	3	4	5
Time management					
Team working					
Verbal communication in English					

In formal and semi formal written communication in English					
Presentation skills					
Conflict handling					
Leadership					

3.2. How do you rate yourself on the technical skills below?

(5- Excellent, 4- Very Good, 3- Good, 2- Fair, 1- Poor)

Technical Skill	1	2	3	4	5
Requirement gathering and analysis techniques					
System design techniques					
Building /Implementation					
Documentation (ex- technical report, GitHub etc)					
Security and Quality Assurance aspects					

3.3. How confident are you in using the following tools and techniques?

(5- Strongly Confident, 4- Confident, 3- Average, 2- Little Confident, 1- Not Confident)

Tools/Practices	1	2	3	4	5
Use of project management tools (ex- Trello)					
Version control tools (ex-GitHub)					
Diagramming software (ex- Drawio, Miro)					
Communication tools (Ex-MS Teams, email)					
Software development methodologies (Ex-Agile/Waterfall)					

Section 4: Your Experience

4.1. Based on your experience so far what went well during the Studio courses?

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……
……
……

4.2. What are the challenges/issues you have come across during Studio courses?

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