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Bridging academia and practice: Early childhood education students' perspectives on industry-based learning

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Abstract

This study explored students' insights on Industry-Based Learning (IBL) experiences in the context of a Bachelor of Early Childhood Education (ECE) program. The study, conducted at a private international university in Malaysia, utilized a qualitative case study approach where the research examined students' reflections and experiences during their IBL placements across five core knowledge areas of the ECE framework, namely, Child Development, Curriculum and Learning Environment, Administration and Management, Family and Community, and Professional Development. Data collected through reflective journals and focus group interviews with participating students offered insights into the challenges and learning outcomes that emerged during their time in industry settings. Findings indicate that IBL significantly enhanced students' ability to apply theoretical knowledge in real-world contexts, while fostering key professional competencies such as critical thinking, adaptability, collaboration, and empathy. Students reported increased awareness of child-centred practices, improved communication skills with families, and a deeper appreciation for the responsibilities of administration and leadership in early childhood settings. Despite initial challenges, such as adjusting to workplace expectations and managing diverse family backgrounds, students demonstrated significant growth in both confidence and ability. The study concluded that IBL serves as a valuable bridge between academic preparation and professional readiness, highlighting the need for stronger and more structured collaboration between universities and ECE service providers. It recommends ongoing support for mentoring, the integration of reflective practice, and ongoing curriculum enhancement to ensure alignment with current industry needs and expectations.

Keywords: Academic-industry partnership, Early childhood education, Industry-based learning (IBL).

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1. Introduction

Academic-industry partnerships have emerged as a transformative approach to addressing societal challenges, fostering innovation, and improving workforce readiness. In the field of early childhood education (ECE), these collaborations hold promise for bridging the gap between academic research and practical implementation. By integrating industry-based learning practices into educational frameworks, universities and industry stakeholders can jointly address critical issues such as workforce readiness, curriculum relevance, and access to high-quality early childhood education (ECE) programs [1].

In recent years, there has been a growing emphasis on improving the quality and relevance of higher education through stronger collaboration between academic institutions and industry stakeholders. This is particularly important in professional fields such as Early Childhood Education (ECE), where practical experience and contextual understanding are critical in shaping competent and reflective educators. One such initiative that bridges the gap between theory and practice is Industry-Based Learning (IBL), which offers students hands-on experience in real-world educational settings. IBL not only enriches students' learning experiences but also strengthens employability skills, professional readiness, and the ability to adapt to the dynamic demands of the early childhood education environment [2].

In the context of ECE, effective university-industry partnerships ensure that pre-service teachers are exposed to authentic teaching and learning scenarios. Through IBL, they will be directly mentored by experienced practitioners who play a mentoring role in the field. These partnerships also enable the ECE industry, such as childcare centres, kindergartens, and early learning hubs, to contribute meaningfully to curriculum development and the professional growth of future educators. Despite the recognized benefits, the implementation of IBL in many institutions remains inconsistent, with challenges related to coordination, shared expectations, quality of supervision, and assessment standards [3].

Although academic-industry partnerships are widely acknowledged as crucial to enhancing the quality of early childhood education (ECE) in Malaysia, there remains a notable and persistent gap in their implementation and impact. Many ECE graduates continue to enter the workforce underprepared, lacking not only the practical skills but also the professional disposition and confidence necessary for effective classroom engagement [4]. This disjunction between academic preparation and workplace realities often stems from weak or fragmented collaboration between higher education institutions and early childhood industry stakeholders [5].

The current landscape is marked by misaligned expectations, insufficient integration of industry insights into curricula, and minimal opportunities for students to engage meaningfully in authentic work-based learning environments [6]. Furthermore, internship placements are frequently seen as procedural rather than transformative, with limited supervision and feedback from industry mentors [7]. These issues are compounded by a lack of structured communication channels and strategic frameworks to ensure mutual benefit and long-term engagement between academia and industry. As a result, the potential of industry-based learning (IBL) to bridge the gap between theory and practice is significantly undermined. Without a concerted effort to institutionalize these partnerships through co-designed curricula, industry-led workshops, and continuous dialogue, Malaysia risks producing ECE graduates who are academically qualified but professionally disconnected. Strengthening these partnerships is thus imperative to cultivating high-quality, practice-ready educators who can meet the complex demands of contemporary early childhood settings [6, 8].

1.1. Research Aim and Significance

This study aims to critically examine the experiences of Bachelor of Early Childhood Education students at a Malaysian university in relation to an Industry-Based Learning (IBL) initiative, with the goal of identifying the practices, challenges, and opportunities inherent in such academic-industry collaborations. Using a qualitative case study approach, the research investigates how IBL is implemented and perceived by pre-service teachers, and how it contributes to bridging the gap between academic preparation and professional practice in early childhood education.

The significance of this study lies in its potential to inform the development of a strategic framework for enhancing academic-industry partnerships in the field of early childhood education. By capturing student insights, the study provides a grounded understanding of how IBL initiatives function in practice, offering evidence-based recommendations to strengthen collaboration between universities and industry stakeholders.

This research holds particular value for multiple stakeholders. For higher education institutions, the findings offer guidance on how to establish more structured, sustainable, and mutually beneficial partnerships with early childhood service providers. These insights can support improvements in curriculum design, practicum planning, and the alignment of graduate competencies with industry needs. For the ECE industry, the study underscores its crucial role in shaping the professional readiness of future educators through active participation in training programs and competency development.

Moreover, policymakers and curriculum developers may utilize the findings to inform the creation of institutional or national frameworks that support the effective integration of IBL in teacher education. This includes advocating for quality assurance mechanisms, establishing clear channels of communication, and fostering shared accountability between academic and industry partners.

Finally, for pre-service ECE students, this research highlights the importance of authentic, industry-based experiences in building practical skills, professional confidence, and employability. By identifying best practices and recurring challenges, the study seeks to enhance the relevance and impact of teacher training programs, ultimately contributing to a more competent and context-aware ECE workforce.

2. Methodology

2.1. Research Design

This study employed qualitative methods to explore how Industry-Based Learning (IBL) is implemented in the Bachelor of Early Childhood Education (ECE) program and to understand the lived experiences of students during their placements. A qualitative approach was deemed appropriate because it enabled the researcher to investigate real-life issues and collect detailed data from a specific group of participants [9, 10], namely ECE students who had undergone IBL. The aim was not to generalize the findings but to gain deeper insights into how IBL bridges the gap between academic learning and professional practice in the early childhood field in Malaysia.

2.2. Terms of Reference

In this study, the terms 'Industry-Based Learning (IBL)' and 'industry placement' will be used interchangeably. With either term used, the intended meaning will remain the same, referring to structured, practical learning experiences undertaken by ECE students in an early childhood education industry environment as part of their academic program.

2.3. Context

The context of this study is the Bachelor of Early Childhood Education program offered at a private international university in Malaysia. The selected program had recently implemented Industry-Based Learning (IBL) for at least one full semester and collaborates with a variety of industry partners, including childcare centres, preschools, and non-governmental organizations (NGOs) that offer early childhood services. These partnerships are designed to provide students with practical, real-world teaching experiences that align with their academic studies. The IBL experience is integrated into the curriculum, allowing students to apply theoretical knowledge in professional settings while gaining insight into the administrative, pedagogical, and interpersonal aspects of early childhood education.

2.4. Participants and Data Collection

Participants in this study were selected using purposive sampling to ensure relevance and alignment with the study's objectives. Purposive sampling was employed to deliberately select participants who were final-year students, as they were the only group mandated to engage in inquiry-based learning (IBL), making their perspectives most relevant to the research objectives [11]. Participants were recruited on a voluntary basis, and all ethical protocols were observed, including the acquisition of informed consent in accordance with established research standards [10]. Data were collected using two primary methods, namely, semi-structured focus group interviews and written reflective documents that students submitted as part of their academic coursework. The focus group discussions created a collaborative environment where participants could express their shared experiences, while the reflective writings provided more personal and introspective accounts of their learning journeys. Employing both data sources enabled method triangulation, which enhanced the depth, validity, and trustworthiness of the findings [11].

Research Instruments

2.5. Data Analysis

To analyze the data from the focus group interviews and reflection documents, thematic analysis was employed following the six-phase framework outlined by Braun and Clarke [12]. This method allowed for the identification of key themes, patterns, and categories related to students' learning experiences, perceived challenges, and reflections on the value of Industry-Based Learning (IBL) aligned with the five core knowledge areas of the Early Childhood Education (ECE) framework, namely, Child Development, Curriculum and Learning Environment, Administration and Management, Family and Community, and Professional Development. Transcripts from the discussions were coded and grouped into major themes. These themes were reviewed and refined to ensure internal consistency and distinctiveness. To enhance the credibility of the findings, peer debriefing and expert validation [10] were conducted by two early childhood education lecturers experienced in qualitative analysis. This process helped confirm the accuracy of the interpretation of the themes and improved the overall reliability of the analysis [9, 10].

3. Results and Discussion

The results are discussed based on the five core knowledge areas outlined in the Early Childhood Education (ECE) framework. Figure 1 illustrates the five themes developed.



Figure 1.
Themes developed from data analysis.

Theme 1: Child Development

All (100%) participants reported a deeper and more applied understanding of child development theories through their direct interactions with children from a variety of backgrounds and developmental stages. Participants shared that observing and engaging with children in natural settings helped them connect theoretical concepts, such as developmental milestones, individual differences, and socio-emotional growth, to real-world classroom behaviors.

Table 1.
Student Experiences and Reflections on Child Development.

Participants	Student Experiences in Industry-Based Learning (IBL) in Child Development
S1	"I only memorized Piaget's and Erikson's stages, but during IBL, I could actually see the differences in the way 3-year-olds and 5-year-olds learned and expressed themselves."
S2	"During my IBL placement, I observed how children with different temperaments responded to transitions such as snack time or nap time. It made me realize how important it is to understand emotional development when planning daily routines. Some children need more time and reassurance, while others adjust quickly."
S3	"One of the most impactful moments for me was working with children who were slow to speak. With guidance from my mentor, I used simple communication strategies like picture cards and storytelling. Seeing the gradual improvement over a few weeks really showed me how targeted support can make a difference in a child's development."
S4	"In college, we learned about cognitive development stages, but I never fully understood them until I saw children trying to solve problems. Watching a 4-year-old solve a puzzle versus a 6-year-old explains how their thought processes differ and why we need to tailor activities to their developmental stages."
S5	"I was amazed at how much children learn through play. A simple block-building activity turned into a lesson in collaboration, spatial awareness, and even early math skills. It made me appreciate how play supports multiple areas of development at once and why it's so important in early childhood education."

Students' reflections during their Industry-Based Learning (IBL) experiences highlighted how direct interaction with children significantly deepened their understanding of child development. Parallel to the findings of McCoy et al. [13], this study also observed that through real-life observations and guided practice, participants became more aware of individual differences in children's developmental progress, particularly in areas such as emotion regulation, language, and problem-solving skills. Students discovered the importance of using a personalized approach and developmentally appropriate practices, especially when supporting children with special needs. Practical exposure increased their understanding of developmental theory and fostered critical, responsive, and empathetic thinking [7]. In addition, students recognized the central role of play in promoting cognitive, social, and emotional growth, and began to see how developmental domains are interconnected in everyday classroom behavior, an understanding that resonates with the findings of an earlier study by Singh and Ngadni [14] who highlighted the holistic impact of play-based learning in early childhood education. These insights underscore the value of structured and guided field experiences in ECE programs to ensure that preservice teachers are theoretically knowledgeable, developmentally aligned, reflective, and responsive practitioners.

Theme 2: Curriculum Planning and Learning Environment

Student reflections revealed valuable insights into how Industry-Based Learning (IBL) enhanced their practical understanding of curriculum planning and the creation of effective learning environments. One of the most shared

experiences was the challenge of translating theoretical knowledge into real-world practice. While students were familiar with curriculum frameworks and thematic planning from coursework, implementing them in a dynamic classroom setting required adaptability and critical thinking. For many, the process of aligning learning objectives with age-appropriate and engaging activities became a meaningful learning experience that emphasized the importance of planning, creativity, and flexibility.

Table 2.
Students' Experiences and Reflections on Curriculum Planning and Learning Environment.

Participants	Student Experiences in Industry-Based Learning (IBL) in Curriculum and Learning Environment
S1	"Planning themed lessons was harder than I expected. I had to align activities with learning objectives while keeping them fun and age-appropriate for the children. After a few trial-and-error sessions, I learned how to balance creativity with curriculum standards."
S2	"I realized how important the learning environment is. When a classroom is too cluttered or noisy, children can easily become distracted. I learned how small changes like rearranging learning corners or using visual cues can make a big difference in keeping children engaged."
S3	"My mentor showed me how to adapt the curriculum on the spot. One day, a child was fidgeting during a group activity, so she switched to movement games related to the same topic. It taught me that flexibility is a significant part of effective teaching."
S4	"Creating materials using recycled items helped me understand how to be resourceful. Budget constraints at the center meant we couldn't always use store-bought resources, but we still managed to create meaningful activities using what we had."
S5	"Initially, I struggled with classroom management during activities. Some children would lose interest halfway through. After observing my mentor and reflecting on my own practice, I learned how to scaffold learning and give clear, simple instructions to keep the lesson flowing."

Students' reflections during their IBL placements indicated meaningful growth in their ability to effectively plan and implement early childhood curriculum. They faced initial challenges in translating theory into practice, particularly in designing age-appropriate and engaging lessons aligned with learning objectives. However, through practical experience and mentor support, similar to that pointed out by Bolton-King [15] on the concept of mentoring, students developed greater confidence in planning, adapting, and delivering curriculum content.

Students also recognized the critical role of the physical learning environment in supporting children's engagement and behavior. They learned that even small adjustments, such as rearranging classroom space or using visual aids, can significantly improve learning outcomes. In addition, the challenges with classroom management and maintaining children's attention helped them develop more responsive teaching strategies and stronger communication skills. The findings hence coincide with those of Barrett et al. [16] who found that well-designed classroom environments by teachers positively influence children's engagement, behavior, and overall academic performance. All participants (100%) reflected that their IBL experience also fostered creativity and resourcefulness, particularly in creating meaningful activities with limited materials, resonating with Walsh et al. [17] on the importance of experiential learning environments in promoting innovative thinking and adaptive teaching practices in early childhood settings. Overall, the IBL experience helped bridge the gap between curriculum theory and classroom application, strengthening students' capacity to design developmentally appropriate and engaging learning environments.

Table 3.
Students' Experiences and Reflections on Administration and Management.

Participants	Student Experiences in Industry-Based Learning (IBL) in Administration and Management
S1	"I never realized how much administrative work goes into running a preschool. I'm involved in daily attendance, health screenings, and preparing monthly reports. It opened my eyes to the importance of organization and documentation in maintaining a quality centre."
S2	"One challenge I faced was learning how to effectively manage my time during busy periods, especially in the mornings and before dismissal. With so many tasks happening at once, coordinating children, talking to parents, and setting up activities, I learned to prioritize and multitask effectively."
S3	"I was surprised to learn how staff schedules, safety protocols, and resource management are handled behind the scenes. My mentor explained how well-planned these aspects are, and they are essential to ensuring smooth daily operations. It gave me a new respect for the role of leadership in a preschool."
S4	"At first, I struggled to understand how to apply center policies, especially when handling minor conflicts or hygiene practices. After shadowing a supervisor, I learned the importance of consistency and professionalism when enforcing rules and routines."
S5	"One valuable lesson I learned was the importance of teamwork in administration. I observed the way teachers and support staff worked together to plan events, maintain records, and manage emergencies. It taught me that effective management is not about one person; it is a collaborative effort."

Theme 3: Administration and Management

Students' reflections during their IBL experiences highlighted the often overlooked but critical role of administration and management in early childhood settings. Many enter placements focused primarily on teaching but quickly realize that effective centre operations are highly dependent on strong administrative systems and leadership practices.

The students' experiences during IBL revealed that administrative and management tasks play a crucial role in the smooth operation of an early childhood centre. Initially focused on teaching, the students quickly realized the importance of tasks such as attendance tracking, health monitoring, and documentation. This finding aligns with the observations of Cahyati and Saputra [18], who emphasized that administrative duties are a critical component of professional competence in early childhood settings, contributing to the development of well-rounded educators.

A key challenge reported by all participants was managing time effectively during peak periods, which helped them develop multitasking and prioritization skills. Observations of supervisors and staff also provided them with insight into leadership responsibilities, including policy enforcement, staff coordination, and safety management.

Most importantly, the participants learned that effective administration depends on collaboration and communication among all staff. The experience broadened their perspective on early childhood education, highlighting that administrative competence is essential for high-quality teaching and centre operations. These findings are consistent with the study by OECD [19], which emphasized that effective administrative practices in early childhood settings significantly enhance pedagogical quality and organizational sustainability.

Theme 4: Family and Community

Students' reflections during their IBL experiences indicated a growing appreciation for the role of families and the wider community in supporting children's learning and development. This finding coincides with Singh and Nagarajah [20], who found that active parental engagement significantly enhances home-school collaboration and supports children's academic growth in early childhood settings.

Based on findings, initially, many students felt hesitant or uncertain about how to interact with parents, especially during daily interactions. However, through repeated exposure and mentor guidance, they began to see how everyday conversations provided valuable opportunities to build trust and gain insight into each child's home environment.

Table 4.
Students' Experiences and Reflections on Family and Community.

Participants	Student Experiences in Industry-Based Learning (IBL) in Family and Community
S1	"At first, I was nervous about talking to parents during drop-off and pick-up. But over time, I learned how important those short conversations are to building trust and understanding each child's background and needs."
S2	"I participated in a parent-teacher conference and was surprised by the collaboration. I expected it to be formal, but it turned out to be a meaningful exchange where teachers and parents worked together to support the child's development."
S3	"A significant challenge for me was communicating with parents from different cultural backgrounds. I had to learn how to be respectful and sensitive while still conveying important information about their child's learning and behavior."
S4	"I helped organize community field trips to the local fire station. It showed me how real-world experiences can connect learning to the community and get kids excited about topics like safety, teamwork, and the role of the community."
S5	"I used to think family engagement was just about sending out newsletters or updates. But after seeing how teachers involve families in classroom activities and celebrations, I realized how beneficial it is when parents are truly part of the learning process."

Through IBL, participants were exposed to engaging with their families and communities in a valuable and transformative experience. They learn to build trusting relationships with parents through informal and formal communication and discover how family involvement positively impacts children's learning. The challenges associated with cultural diversity help them grow in sensitivity and adaptability [21].

Furthermore, by participating in activities involving community members and local institutions, students saw how real-world connections enrich the curriculum. Ultimately, the experience enhances their understanding of the role of educators as bridges between school, home, and the broader community, similar to that pointed out by Singh and Ngadni [14], reinforcing the importance of collaboration, cultural respect, and strong communication.

Theme 5: Professionalism and Professional Development

Reflections from students during IBL highlighted how the experience played a significant role in shaping their understanding of what it means to be a professional early childhood educator. One of the most obvious learnings was the realization that professionalism extends beyond the content of instruction, meaning it includes communication, appearance, punctuality, and interactions with children, families, and colleagues. This experience fostered a stronger sense of self-awareness and responsibility.

Table 5.
Student's Reflection on Experiences on Professionalism and Professional Development.

Participants	Student Experiences in Industry-Based Learning (IBL) in Professional Development
S1	"During IBL, I learned that being a professional isn't just about teaching; it's also about how we speak, dress, and interact with others. I became more aware of my tone and body language, especially around parents and colleagues."
S2	"One challenge I faced was receiving feedback from my mentor. At first, I felt discouraged, but then I realized that constructive feedback helps me grow. It pushes me to reflect on my teaching and make improvements."
S3	"I had the opportunity to attend staff meetings, and it gave me insight into how teachers work together, solve problems, and share ideas. It showed me that professional development also happens through teamwork and shared experiences."
S4	"I learned the importance of continuous learning. Seeing how my mentors are constantly updated with new teaching strategies and attending workshops inspired me to continue learning even after graduation."
S5	"Keeping a reflective journal during my IBL helped me track my progress. Writing down what went well and what I could improve on made me more self-aware and helped me take ownership of my professional growth."

The students' IBL experience revealed that professional development extends beyond classroom instruction and training, similar to the ideas pointed out by Rashid et al. [22] on the forms of professional development among early childhood education teachers. Participants in this study, through IBL, learned to accept feedback, reflect on their growth, and practice professional attitudes in communication and behavior. Challenges such as accepting criticism and adjusting to workplace expectations become valuable learning moments [23].

Working with peers and observational mentors emphasized the importance of teamwork and lifelong learning. Reflective journals further helped students track their progress and gain confidence. Overall, the experience gained in IBL, like other studies Farrell [24] and Rashid et al. [22] strengthened their readiness for the teaching profession and fostered a mindset of ongoing personal and professional growth.

4. Conclusion and Suggestion

Findings from this research highlight the significant impact of Industry-Based Learning (IBL) on students' professional and personal development across five core knowledge areas of early childhood education. Students reported enriched learning experiences through direct interaction with children, active involvement in curriculum planning, direct exposure to centre management, meaningful engagement with families and communities, and a deeper understanding of professional behaviors. The reflections collected demonstrate that IBL bridges the gap between theoretical knowledge and real-world application, fostering reflective, competent, and responsive early childhood educators.

However, the research also reveals some of the challenges students face during their placements, such as communication barriers with parents, time management issues during peak periods, and initial difficulties in receiving and using feedback. Despite these challenges, the overall learning outcomes are very positive, with students developing greater self-confidence, empathy, adaptability, and problem-solving skills. These competencies are essential to the demands of the evolving early childhood education sector, particularly in preparing future educators to respond effectively to a variety of classroom and community contexts.

Based on these findings, it is recommended that universities strengthen partnerships with early childhood centres by establishing clearer communication channels, providing structured mentoring training for industry supervisors (Mentors), and integrating more reflective and collaborative learning tools into the IBL curriculum. Additionally, early exposure to real-world practice through micro-practicums or simulation activities can further prepare students before their full IBL placement. Finally, feedback loops between universities, students, and industry partners should be further enhanced to ensure that IBL remains relevant, effective, and aligned with current industry needs and expectations.

In conclusion, students' experiences during Industry-Based Learning contribute significantly to their understanding and practical application of the five core knowledge areas in Early Childhood Education. The direct exposure enriches their theoretical knowledge, fosters essential professional skills, and deepens their awareness of the multifaceted role of an early childhood educator. These findings highlight the importance of structured and reflective IBL as an essential component of teacher education programs, offering students authentic learning opportunities that bridge the gap between theory and practice.

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