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REVIEW AND SYNTHESIS

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The role of work-integrated learning in the European Higher Education Area: A systematic review

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Abstract

This study investigates the role of Work-Integrated Learning (WIL) in addressing the evolving demands of the European Higher Education Area (EHEA) labour market. Amidst global economic shifts, technological advancements, and a persistent skills gap, WIL and integrative learning methods such as Work-Based Learning (WBL) emerge as pivotal frameworks to bridge the gap between academic preparation and workplace requirements. By employing a scoping review methodology and guided by PRISMA protocols, this research identifies recurring themes across 50 studies from 2013 to 2024, focusing on WBL and WIL programme characteristics, competency development and assessment, stakeholders' engagement, stakeholder and university cooperation, and WIL impact on stakeholders, universities and students. The findings reveal that while WBL and WIL promote employability and the acquisition of both hard and soft skills, challenges persist for students in balancing academic and professional responsibilities. The study underscores the critical need for stronger cooperation between universities and organisations, particularly through reflective practices, structured learning agreements, and flexible curricula. These elements are essential to align stakeholder expectations and foster student success. Ultimately, this work highlights the transformative potential of WBL and WIL in

enhancing employability, innovation, and sustainable partnerships between academia and industry, offering valuable insights for future research and practice within the EHEA context.

KEYWORDS
European Higher Education Area, systematic review, Work-Based Learning, Work-Integrated Learning

Context and implications

Rationale for this study: This review analysed non-theoretical studies with WIL and WBL data to identify recurring themes, including these programmes' characteristics, stakeholders, universities and students' perceptions.

Why the new findings matter: WIL and WBL bridge the theory–practice gap, answer misalignment between higher education and labour market needs in the EHEA, and enhance employability.

Implications for policy makers, practitioners and researchers: This study may serve as a guidance for students, higher education institutions and employers involved in WIL and WBL programmes to prioritise co-designed learning contracts and flexible curricula to address implementation challenges. We suggest that these programmes have a reflective pedagogy, structured mentorship and collaboration, and shared assessment frameworks to align academic-professional objectives. Policy-makers should support university-stakeholders partnerships and fund adaptable WIL or WBL models. Future research should pursue longitudinal studies on graduate outcomes and cross-national comparative analyses to strengthen generalisability.

INTRODUCTION

The labour market has undergone profound transformations over the past two decades and is poised to continue evolving (Davey et al., 2018). The globalisation of the economy, rapid advancements in technology, and the shift from industrial to service-based economies—hallmarks of modern knowledge societies (Poutanen, 2022)—have redefined workplace structures and working conditions (Baaken et al., 2015). These changes are characterised by emerging employment patterns, the disappearance of existing roles, and the creation of new ones (Scott, 2015). This dynamic landscape places growing pressure on Higher Education Institutions (HEIs) (Perusso & Wagenaar, 2022). At the same time, employers' are expressing dissatisfaction with graduates' readiness for the workforce, citing a 'skills gap' that highlights the mismatch between academic preparation and the demands of modern employment (Moore & Morton, 2015; Radin et al., 2020).

However, the concept of a 'skills gap' is not without contention. Some scholars argue that the mismatch reflects not only deficiencies in graduate training but also evolving employer expectations, underinvestment in on-the-job training, and structural changes in job definitions. For instance, Adrian (2017) critiques the traditional assumption that the gap stems solely from higher education shortcomings and instead attributes it to a misalignment between student perceptions, employer expectations, and a shifting academic focus

where students are treated as customers. Pujol-Jover et al. (2022) identified four key gaps in graduate-employer alignment, including a misperception of the specific competences required, underdeveloped self-confidence in graduates, and institutional failure to embed labour market needs into curricula. This complexity calls for nuanced educational strategies that consider both supply- and demand-side dynamics of employability.

The 2030 Agenda and the European Skills Agenda for sustainable competitiveness, social justice, and resilience reaffirm the need to bridge the gap between universities and employers. Universities are called upon to embrace transformation to better align with economic demands, ensuring graduates acquire the knowledge and skills required by evolving labour markets through strengthened collaboration between the university and organisations in teaching and learning development (European Commission, 2020). This aligns with the Horizon 2022 Report (EDUCAUSE, 2022), which highlights the diminishing relevance of traditional curricula in addressing labour market changes and emphasises the urgency of preparing future professionals to meet the demands of the labour market.

In response to these structural shifts and the growing concern over graduate employability, pedagogical models grounded in experiential learning have gained renewed attention within higher education. Among these, Kolb's Experiential Learning Cycle (Kolb & Kolb, 2018) stands out for its structured approach to student development through four interlinked stages: concrete experience, reflective observation, abstract conceptualisation, and active experimentation. This cyclical framework is increasingly adopted in European universities as a way to facilitate student-centred learning, soft skills development, and leadership growth, particularly when implemented through structured WIL and WBL programmes (Healey & Jenkins, 2000; Jones-Roberts & Bechtold, 2024; Käpylä & Palvalin, 2023). Such integration aligns closely with the need to close the gap between academic preparation and workplace expectations.

Addressing these challenges requires innovative educational approaches (Radin et al., 2020). In this context, pedagogical models such as WBL and more significantly WIL emerge as critical strategies for aligning higher education with the evolving needs of the labour market. By fostering collaboration between universities and organisations, these frameworks provide a practical pathway towards equipping graduates with the skills, experiences, and competencies demanded in contemporary professional environments (European Commission, 2020).

Academics have defined WBL as a pedagogical structure that provides students with learning experiences oriented to the appreciation of work and practical knowledge. Murtazin et al. (2020) argue that WBL is a teaching and learning method that requires students to undergo practical training. More specifically, undergraduates study theory at the university and apply the acquired academic and technical knowledge in a workplace. Organisations' employers are responsible for providing students with practical skills and evaluating their professional competencies. Nottingham (2016) suggests that WBL creates an environment that stimulates learners to take control of their own learning, fostering intellectual, personal, critical and analytical skills and attitudes that complement the theory being used in practice. Other competencies and learning outcomes expected from WBL include: self-dependent learning, theory–practice transferability (Brodie & Irving, 2007); critical thinking (Raelin, 2016); self-management, problem-solving, communication and collaboration skills, teamwork (Jackson, 2015); and networking skills, acquisition of practical experience, and experience in prospecting career paths (Burns & Chopra, 2016).

At present, WBL in the European Higher Education Area (EHEA) is rather uneven. According to Perusso & Wagenaar (2022), countries like Germany, the Netherlands, and the United Kingdom present a more favourable WBL scenario compared to Poland, Slovenia, Cyprus and Spain. This difference is mainly due to stronger alignment between HEIs and market needs, greater emphasis on developing generic competencies, and closer

collaboration between HEIs and organisations in both the design and the delivery of programmes, underscoring the pivotal role of HEI-organisation partnerships in advancing effective WBL.

On the other hand, WIL, the practice of combining traditional academic study, or formal learning, with student exposure to the world of work in their chosen profession, has the core aim of better preparing undergraduates for joining the workforce. For Jackson et al. (2016), WIL refers to a range of activities that connect industry with education, each one encouraging students to experience authentic work practices, applying skills and knowledge in a real-world context. These authors also explain that 'experiential learning', 'work-based learning', 'professional learning' and 'cooperative education' are used synonymously, and broadly comprise 'placement' and 'non-placement' WIL. As Patrick et al. (2008, p. 9) and Billett (2011) already stated, WIL is used as 'an umbrella term for a range of approaches and strategies that integrate theory with the practice of work within a purposefully designed curriculum.' One of the central objectives of WIL is to bridge the gap between academic theory and industry practice, enabling students to learn within authentic and meaningful contexts that are closely connected to their disciplinary studies (Billett, 2011; Patrick et al., 2008). Employability, professional readiness and smoother school-to-work transitions are frequently reported outcomes of WIL (Jackson et al., 2022; Jackson & Dean, 2023), whose central purpose is fostering deep, discipline-based learning in real-world settings (Jackson, 2015). WIL models often involve close collaboration between educational institutions and industry partners, allowing students to develop the practical skills required by organisations, such as communication, teamwork, and problem-solving (Jackson et al., 2022; Winchester-Seeto et al., 2024).

Despite the increasing implementation of WIL and WBL across EHEA member states, significant disparities remain in how these programmes are institutionalised, funded, and evaluated. In countries with well-established dual systems, such as Germany, France and the Netherlands, WIL is embedded within national qualifications frameworks and supported through legislative instruments. As highlighted by Nuninger & Châtelet (2020), systems with strong quality assurance and national coordination mechanisms tend to integrate digital tools, employer partnerships, students' remuneration and regulatory frameworks more effectively, ensuring consistency and accountability. In contrast, other regions—particularly in southern and eastern Europe—frequently encounter institutional inertia, insufficient policy support, and weak engagement from employers. For instance, Käpylä & Palvalin (2023, p. 584) demonstrate how programmes benefit from structured curricula and close industry collaboration, enabling the development of leadership and reflective competencies: 'students have appreciated the learning methods, the versatility of tasks as well as the balanced workload. Learners have been motivated to work because they have found the tasks meaningful for their learning'. These discrepancies are further evidenced by variations in employer-student interaction and expectations across countries, as reported by Pujol-Jover et al. (2022).

Although distinct in origin and terminology, WIL and WBL are increasingly treated as pedagogically equivalent in European higher education contexts. Both aim to blend academic study with authentic workplace experience, focusing on enhancing students' employability and professional readiness. Onstenk (2017, 2019) illustrates how Dutch higher education uses WBL and WIL within a unified framework of lifelong learning and practical curriculum design. Similarly, recent initiatives across the EHEA emphasise shared objectives—student autonomy, stakeholder engagement, and real-world competence development—regardless of terminology (Eurydice, 2024). As noted by Aprile & Knight (2020)—from the learner's perspective—the structural distinction between WIL and WBL often becomes negligible, since both serve as bridges between academic learning and industry demands. This review, therefore, adopts a conceptual integration of WIL and WBL, reflecting their converging application within the EHEA.

To address the diversity of WIL and WBL implementation across the EHEA, this review synthesises empirical evidence to explore recurring research themes and stakeholder perceptions, as reflected in the following questions:

RQ1. Which recurring themes have been studied which relate to WIL or WBL in higher education in the EHEA and with what research methodologies?

RQ2. How do different stakeholder groups perceive WIL or WBL experiences in higher education?

METHOD

This study follows a qualitative systematic review design, guided by the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) framework (Page et al., 2021). The PRISMA methodology was selected for its transparency, replicability, and systematic structure, which enhances methodological rigour in literature reviews across education and social sciences. In this context, its structured four-phase model—identification, screening, eligibility, and inclusion—was adapted to synthesise heterogeneous research concerning WIL and WBL within the EHEA.

The purpose of this review was to examine empirical studies exploring student-centred learning experiences in professional settings within the EHEA, and to identify recurring research themes and methodological patterns related to WIL and WBL. The review included studies using qualitative, quantitative, or mixed-methods designs, with a focus on real-world integration between higher education and workplace learning.

Search strategy and data sources

An exhaustive search of the databases Web of Science and Scopus was conducted in the last quarter of 2024. To maximise coverage across multilingual contexts, the search strategy employed keywords in English, Spanish and French, including: 'work-based learning', 'work-integrated learning', 'dual training', 'co-education', 'co-op', 'formación dual', and 'formation en alternance'.

Initially, the search criteria in the databases were: (a) empirical studies (qualitative, quantitative, or mixed-methods) that explicitly addressed WIL or WBL, (b) published in peer-reviewed journals between January 2013 and December 2024, (c) written in English, Spanish, or French, and (d) involving HEIs in EHEA member countries. The search, considering the two databases, yielded 1492 records, which were imported into Rayyan, a web-based application for systematic reviews. Rayyan facilitated duplicate detection, blinded screening, and conflict resolution among reviewers. A total of 1068 possible duplicates were identified, of which 561 were deleted and 507 were retained, resulting in 931 unique records eligible for title and abstract screening.

To support the transparency and consistency of the review process, Rayyan was used throughout both screening rounds. This tool enabled structured tagging, conflict logging, and collaborative filtering of large multilingual datasets aligned with PRISMA principles (Johnson & Phillips, 2018; Ouzzani et al., 2016). To ensure the relevance and methodological consistency of the studies included, a set of predefined inclusion and exclusion criteria was established. These criteria were aligned with the research questions and adapted to the scope of the EHEA. The screening was conducted independently by two researchers using Rayyan, allowing for blinded decision-making and resolution of conflicts through discussion.

Inclusion and exclusion criteria

Inclusion and exclusion criteria were organised in two different rounds.

In the first round, 931 articles were screened according to their title and abstract based on the topic and the presence of keywords, and 461 articles were excluded. Also, 118 articles were excluded as they did not focus on HEIs. Additionally, other exclusion criteria in this phase were: book chapters, doctoral theses, and conference papers ($n = 20$); studies conducted outside the EHEA ($n = 62$); and studies concerning corporate training ($n = 23$). After this first screening, 684 articles were discarded, and 247 were included. Subsequently, an accessibility check was performed. Articles that were not accessible were discarded ($n = 99$). Thus, 148 were selected for full-text assessment eligibility.

In the second round, a total of 98 articles were excluded, of which 41 were considered theoretical articles that did not meet the established inclusion criteria. Additionally, five articles were identified where data collection took place before 2013. The lack of workplace participation in a sample was another exclusion criteria which ruled out a further 37 articles. Then, 15 articles were deemed not to deal with any research questions established for the review and were therefore also excluded. At the end, 50 articles were included in this review.

Analysis procedure

Data from the included studies were extracted using a structured coding sheet. Key elements recorded included: publication year, title, authorship, country of focus, study population, research objectives, methodological design, main findings, and conclusions. Additional information was collected where available on the type of WIL or WBL model, duration and structure of university–workplace engagement, and assessment tools.

To ensure the reliability of the results, the articles were distributed in pairs among the three authors who performed an independent review and data extraction, proposing thematic codes. Results were shared at regular meetings to establish a triple consensus on coding and the main findings.

Data extraction

After screening the 1492 papers obtained, 50 articles were eligible and included in the review (see Figure 1). In particular, this review includes studies from the United Kingdom ($n = 22$), Sweden ($n = 7$), Ireland ($n = 5$), Hungary ($n = 4$), Netherlands ($n = 4$), Spain ($n = 4$), Norway ($n = 2$), Belgium ($n = 1$), and Germany ($n = 1$).

The most common reason for excluding papers was the absence of workplace participation in WIL activities, and articles only focused on WIL theory. Most studies included in the review employed qualitative methods ($n = 36$) or mixed methods ($n = 12$), and only those that remained used quantitative methods ($n = 2$). Interviews, questionnaires and focus groups are the most commonly used qualitative research techniques, although some researchers opt for observational sheets and document analysis. Regarding quantitative data, it is gathered using standardised or Likert-built questionnaires.

After reviewing the articles, and to better organise the results, six main topics were identified. The main topics discussed in the articles' review include: WIL characteristics ($n = 26$); competency development and assessment ($n = 29$); organisations' engagement ($n = 14$); cooperation between universities and organisations ($n = 17$); WIL impact on students ($n = 23$); and WIL impact on organisations and universities ($n = 14$). The following

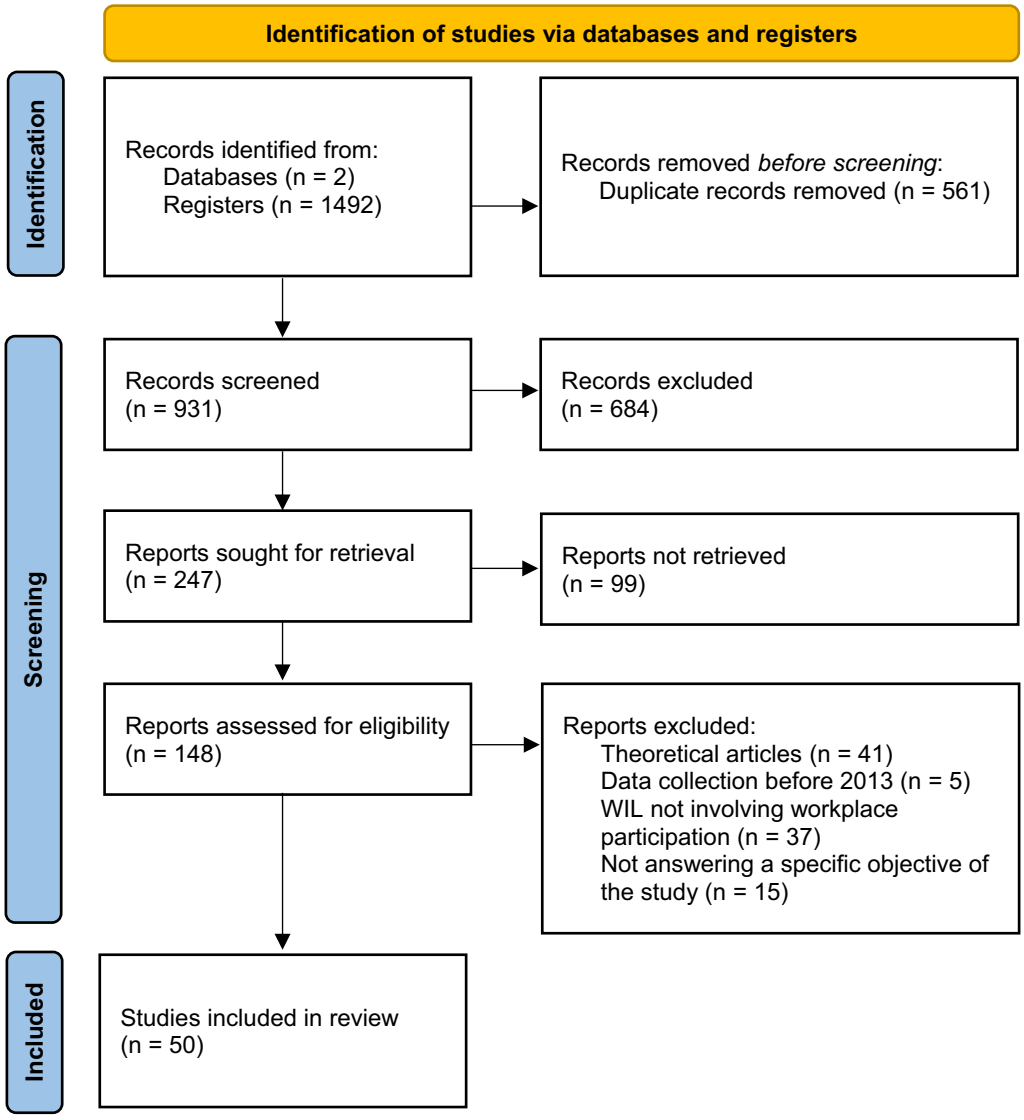

FIGURE 1 PRISMA flow diagram. *From*: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. 2021;372:n71. https://doi.org/10.1136/bmj.n71.

sections further explore the results of the main topics identified during the literature review.

FINDINGS

WIL characteristics

WIL encompasses several key characteristics that define its effectiveness and relevance in higher education, particularly within the EHEA. One fundamental component of WIL programmes is the use of learning contracts (Brook & Corbridge, 2016; Poortman et al., 2014),

which not only formalise the agreement between students, institutions, and employers, but also set out the objectives of the learning experience, the skills and knowledge to be acquired, and the assessment criteria (Janssens et al., 2024; Perusso & Wagenaar, 2024). These contracts are 'live' documents that guide the learner's efforts, ensuring clarity and structure throughout the WIL experience. This clarity aligns with the broader notion that effective WIL programmes foster structured, outcome-focused learning environments (Smith, 2018).

A critical characteristic in WIL is bridging the theory–practice gap, which is central to successful integration of learning. Björck & Johansson (2018), Brook & Corbridge (2016), Coiduras et al. (2014), Jederud (2024), and Roure-Niubó & Boudjaoui (2016) emphasise the importance of connecting explicit academic knowledge with the tacit knowledge gained in workplace settings. By encouraging students to apply theoretical frameworks to practical situations, WIL promotes deeper comprehension and reinforces the relevance of academic learning to real-world professional contexts (Smith, 2018). This theory–practice connection benefits both students and organisations by addressing academic and operational needs simultaneously (Brook & Corbridge, 2016; Kaarby & Lindboe, 2016). Reflective practice within WIL is crucial for linking theoretical knowledge with real-world application, fostering personal and professional growth by enabling students to critically evaluate their experiences, and to integrate academic knowledge within practical skills (Bernhardsson, 2023; Janssens et al., 2024; Konstantinou & Miller, 2021; Lafton & Furu, 2019). Despite its importance, many students struggle to engage meaningfully with reflective activities, often due to inadequate structuring and integration within the WIL framework (Bernhardsson, 2023; Diver, 2021; Taylor-Smith et al., 2023). To cope with this situation, the use of technology (Perusso & Wagenaar, 2024), such as Virtual Learning Environments, could enhance reflective practices by providing platforms for both individual or group reflection and peer support (McCulloch et al., 2024; Quew-Jones, 2024). However, the effectiveness of these tools depends on proper facilitation and the creation of structured opportunities for meaningful peer interaction (Bernhardsson, 2023; Fletcher, 2023).

Even if WIL is intended to develop professional competencies, Smith (2018) highlights that a procedural focus on job-specific skills may limit broader learning. Hence, an integrative approach that emphasises participation within a community of practice may foster a more holistic professional development. In this regard, the expectations and opinions of the stakeholders—student, university, and organisations—are crucial for the development of WIL programmes (Grooters & Zaal, 2023; Sullivan, 2023). This diversity of perspectives underscores the need for alignment between WIL initiatives and stakeholders' expectations, ensuring that programmes are relevant to students, faculty, and employers alike (O'Neill, 2024; Poortman et al., 2014; Thompson, 2017). In this regard, Forsyth & Cowap (2017) found that supervision depends on students' needs. Also, these authors highlight that inadequate supervision can lead to negative student experiences, while high-quality mentorship enhances learning outcomes (McCulloch et al., 2024; Smith, 2018; Thompson, 2017).

Another feature relevant to WIL experiences is students' recruitment. The selection of students for such programmes is crucial to ensuring their success, both academically and professionally. For example, Saville et al. (2020) indicate that students selected through strength-based assessment demonstrate better academic outcomes, with a minimal dropout rate, underscoring the validity of this approach in identifying candidates most likely to thrive in integrated learning environments. Additionally, student motivations are also a driving factor behind their engagement in WIL. Kocsis & Pusztai (2021) and Stone & Worsley (2022) found that many students choose WIL programmes because of their alignment with labour market demands and career advancement opportunities. Understanding these motivations allows universities and organisations to tailor their recruitment strategies to attract candidates who are committed to enhancing their employability through practical experience

(Brook & Corbridge, 2016). In summary, ensuring that recruitment processes align with undergraduates' expectations helps build a cohort of students who are likely to thrive in WIL environments, contributing to the overall success of the programme.

Competency development and assessment

WIL initiatives within the EHEA emphasise the acquisition of both hard and soft skills, promoting one or the other depending on disciplines and institutions. For instance, while universities tend to focus on reflective practices and critical thinking, workplace environments prioritise real-world tasks and practical applications (Coiduras et al., 2014; Kocsis & Pusztai, 2021; Lafton & Furu, 2019; Poortman et al., 2014). The development of technical or hard skills, such as specific industry-related competencies, remains a core element of WIL, particularly in structured professional fields, such as engineering, healthcare, and laboratory settings (Juhasz et al., 2022; Smith, 2018; Velasco et al., 2021). Soft skills such as autonomy, teamwork, communication, and emotional intelligence are widely recognised as critical outcomes of WIL experiences, regardless of the occupational field (Brodsky et al., 2024; Brook & Corbridge, 2016; Kaarby & Lindboe, 2016; Lindqvist et al., 2023; Pogátsnik, 2018). These skills, often cultivated through collaboration with colleagues and mentors (Perusso & Wagenaar, 2024), help students adapt to diverse work environments and manage interpersonal relations more effectively (Lafton & Furu, 2019; Navío-Marco et al., 2023; Poortman et al., 2014; Thompson, 2017). Moreover, students report gains in self-reflection, self-regulation, resilience, and professional adaptability, which are essential for navigating complex, dynamic work settings (Agevall et al., 2018; Diver, 2021; Downs et al., 2023; Konstantinou & Miller, 2021; Sullivan, 2023). Soft skills are particularly valued in sectors requiring constant interaction with clients, where emotional intelligence and the ability to manage relationships play crucial roles in professional success (Agevall et al., 2018; Grooters & Zaal, 2023; Kocsis & Pusztai, 2021; Lindqvist et al., 2023; Sullivan, 2023).

Employability is closely related to both soft and hard skills. As Navío-Marco et al. (2023) suggest, having a balance of these skills enhances an individual's employability by making them adaptable and capable of meeting the diverse demands of the job market. Employers often seek candidates who not only possess the technical expertise required for the job (hard skills) but also the interpersonal and cognitive abilities that enable them to work effectively within a team and contribute to the organisation's goals (soft skills). WIL significantly enhances employability by equipping students with practical skills and professional experiences (Kozma-Tóth et al., 2024). Forsyth & Cowap (2017) and Murray (2024) found that participants believed their work experience improved their curriculum vitae and made them more attractive to employers, a view echoed by Janssens et al. (2024) and Thompson (2017), who noted that students used placements to build social capital and secure references for future employment. The aforementioned hard and soft skills, combined with the professional exposure, foster readiness for job interviews and networking, as Cain et al. (2022) found in their study on WIL graduates. Moreover, the immersion in professional environments enables students to develop a deeper understanding of workplace dynamics and organisational culture. Navío-Marco et al. (2023) emphasised that this experience promotes reflective learning and participation in business practices, preparing students for a smooth transition into the job market. Similarly, Bernhard & Olsson (2023) noted that industrial PhD students valued the practical insights gained through WIL, which complemented their academic knowledge and enhanced their employability. Overall, WIL not only develops essential competencies but also fosters a sense of preparedness and professionalism that directly supports career success.

The evaluation of competencies in WIL programmes within higher education involves assessing both hard and soft skills through various academic and workplace mechanisms. In many cases, assessment frameworks are designed to evaluate technical knowledge and practical abilities. However, it often lacks a unified approach to measure the broader spectrum of skills developed in these contexts (Poortman et al., 2014; Smith, 2018). Traditional academic assessments tend to focus on formal, measurable outcomes such as theoretical knowledge and specific technical competencies (Coiduras et al., 2014; Velasco et al., 2021), while workplace evaluations, performed by mentors or supervisors, emphasise real-world performance, adaptability, and the ability to integrate into social and professional networks (Coiduras et al., 2014; Navío-Marco et al., 2023; Smith, 2018; Velasco et al., 2021). This dual focus highlights the importance of aligning academic criteria with the dynamic nature of workplace skills.

An interesting dimension brought up by Downs et al. (2023), Fletcher (2023), and Juhasz et al. (2022) is the creative assessment approach, which calls for the use of more innovative methods, such as multimedia portfolios, blogs and podcasts, to capture a fuller range of student experiences. These approaches allow students to document their learning journey in a more dynamic way, reflecting both on hard and soft skills, and providing a more holistic view of their competencies' acquisition. These creative forms of assessment are seen as a potential bridge between the more rigid academic evaluations and the fluid, real-world expectations of employers. For instance, Coiduras et al. (2014) note that student competency in teaching was assessed via classroom observations where both university and school tutors provided evaluations, highlighting differences in expectations and contexts. Similarly, Velasco et al. (2021) discuss how portfolios serve as a central tool in evaluating students' technical competencies, focusing on both academic achievements and their application in professional environments. The importance of practical performance is underscored by Smith (2018), who identifies that, while students may excel in completing portfolios, these do not always capture effectively their capability to perform in real-world scenarios, reflecting a gap between academic assessments and actual workplace readiness. To answer this situation, Gerhardt & Montgomery (2024) and Konstantinou & Miller (2021) propose problem-based assessment to bridge the gap between both learning environments' expectations. Similarly, Brook & Corbridge (2016) and O'Neill (2024) highlight the positive impact of establishing learning contracts in which assessment criteria and the results expected from both academia and the workplace are stipulated and known by all parties involved.

Organisations' engagement in WIL programmes

A recurring challenge in WIL programmes is the level of engagement of organisations with the learning programme. Many students benefit from discussing their coursework with employers, but employers often lack access to the academic materials necessary to provide adequate support. This is partly due to university policies that prevent the sharing of students' academic progress, as noted by Siebert & Costley (2013). This dynamic is also reflected in Poortman et al. (2014), Rowe et al. (2017), and Stephens et al. (2014), who observed that workplace mentorship typically centres around managing work tasks rather than academic learning objectives, creating a disconnect between academic and workplace learning. Stephens et al. (2014) and Taylor-Smith et al. (2023) found that employers often prioritise minimal disruption to work schedules and improved employee performance, while universities concentrate on theoretical aspects, causing misalignment. Thus, workplace tasks and theory should be strongly aligned to achieve positive and coherent experiences in WIL, as reported by Björck and Johansson (2018).

Employers often see WIL partnerships as opportunities to enhance their organisational outcomes, such as by upskilling employees or improving performance (Bramford & Eason, 2021; Lester, 2020). As Fabian et al. (2022) and Lindqvist et al. (2023) state, mentors need support mechanisms or specific mentorship training to improve the organisation's learning experience, but also the students' learning experience and engagement in WIL programmes. However, there is frequently a lack of alignment between the expectations of academic institutions and employers, particularly regarding mentorship. Poortman et al. (2014) and Kaarby & Lindboe (2016) noted that workplace mentors rarely follow academic guidelines, and the quality of mentorship varies greatly, leading to inconsistent student experiences. Effective collaboration requires regular feedback sessions to align expectations and address emerging problems during the programme (O'Neill, 2024; Roure-Niubó & Boudjaoui, 2016). Stephens et al. (2014) emphasised the importance of establishing steering groups that include all stakeholders —students, employers, and academic mentors— to guide the WIL process. This approach is critical during the initial stages of a programme when misalignment is most likely to occur. Additionally, Smith (2018) found that the time constraints of workplaces, where productivity often takes precedence over training, further limit the support employers can provide for academic learning. These findings show that organisational culture plays a significant role in shaping the success of WIL programmes.

The review findings point out that employers often expect academic institutions to adjust course content and schedules based on market needs or organisational constraints. Juhasz et al. (2022) reported that employers frequently request changes to programme content in response to evolving industry standards. Similarly, Taylor-Smith et al. (2023) argued that employers' financial contributions to WIL programmes often lead to a demand for increased control over the curriculum. Both studies underscore the need for flexible, collaborative programme design to ensure alignment between workplace demands and educational goals.

Cooperation university–organisation

WIL requires cooperation between the university and the workplace to formally know and recognise each other's logistics and needs, as well as to establish common objectives (Juhasz et al., 2022; Roure-Niubó & Boudjaoui, 2016; Smith, 2018). Universities and organisations have a shared responsibility (Bernhard & Olsson, 2023; Fabian et al., 2022; O'Mahony et al., 2024) to work together to design curricula and robust support mechanisms to ensure the effective management of WIL and the mentoring of students (Quew-Jones & Rowe, 2022; Rowe et al., 2017). Poortman et al. (2014) state that there may be some factors that hinder institutions' cooperation: (1) workplace mentors need more information about their role within the programme, (2) students' workload or possible conflicts of interests while combining work, school and the home situation (Taylor-Smith et al., 2023), and (3) although WIL is known to attend the gap between HE and industry, or between theory and practice (Agevall et al., 2018; Konstantinou & Miller, 2021; Saville et al., 2020), Poortman et al. (2014) state that this could be further attended with job rotations between departments or types of locations.

Institutions' alignment could be favoured with contracts or agreements between students, educational institutions, and workplaces, outlining the roles, duties and responsibilities of each party involved, thus meeting the demands of the learning module and the assessment criteria (Bramford & Eason, 2021; Quew-Jones & Rowe, 2022; Thompson, 2017). There is a need for improvement in this area to gain a shared understanding between these three agents and the common work project (Brook & Corbridge, 2016; Roure-Niubó & Boudjaoui, 2016); ‘there is still some level of disconnect between the qualities that employers value, and the skills regarded as high priority “learning gains” within academia’ (Diver, 2021, p. 22). In the

Juhasz et al. (2022) study, the need to create a common language between universities and businesses is highlighted as a possible outcome. The university must encourage the clarification and the classification of vocabulary, concepts and notions that are being used in industry-university relations. The authors assume that industry partners will appreciate this initiative because clarified competency and skill sets are necessary to recruit the best candidates, hence diminishing the costs and time for their introduction to work.

Finally, the cooperation between universities and organisations opens up new opportunities between research and workplace contexts. As Bernhard & Olsson (2020) and Taylor-Smith et al. (2023) highlight, effective WIL not only benefit students and their learning outcomes, but also employers and universities, creating a synergy exchange-related effect regarding empirical data and new knowledge.

WIL impact on students

WIL programmes offer students a range of benefits. For instance, Pogátsnik (2018) highlights their value providing students with the opportunity to apply academic knowledge in real-world settings. Table 1 summarises other repeated opportunities found in the review. The table presents for each row an opportunity, along with a series of authors who address it, and provides a description of the nature of this opportunity and the ideas included by the mentioned authors.

Considering these WIL opportunities, there is a need to highlight the difficulties and barriers that may hinder their achievement. On the one hand, balancing dual roles in WIL is particularly challenging, as managing both work and academic responsibilities demands high levels of maturity and effective time management (Bernhard & Olsson, 2023; Pogátsnik, 2018). Kocsis & Pusztai (2021) also found that students in WIL programmes often struggle to concentrate on their studies due to work commitments. Feelings of inexperience and stress further complicate their commitment, with students frequently reporting anxiety and dissatisfaction when tasked with unfamiliar responsibilities (Thompson, 2017). In addition, these dual roles might make it difficult to balance work, study, and personal life, often at the cost of WIL students' well-being (Fabian et al., 2022; Stone & Worsley, 2022). As Forsyth and Cowap (2017) observed, the time and travel required for off-campus work experiences are often viewed negatively, since they detract from study time and are time-consuming. On the other hand, WIL often presents students with ethical dilemmas and practical difficulties (Sullivan, 2023). Bernhard & Olsson (2023) note that students acting as ‘insiders’ in organisations face challenges related to data access, publication, anonymity and safety, especially when employed in unique settings. Similarly, Cain et al. (2022) highlight the data-related anxieties students experience, particularly during data analysis, which requires pragmatism and flexibility.

WIL impact on organisations and universities

WIL programmes have a profound impact on both universities and organisations. From the perspective of academia, WIL programmes enhance the practical relevance of university curricula and strengthen ties with industry (Grooters et al., 2023). ‘By integrating hands-on experience that aligns with market demands, WIL ensures that academic programmes remain relevant to students' future career prospects’ (Rowe et al., 2017, p. 192). While employer-driven WIL designs require significant resources, Pogátsnik (2018) & Smith (2018) argue that they ensure that university programmes remain aligned with industry needs, and also help universities maintain their standing in a competitive educational landscape. From

TABLE 1 Opportunities for WIL students.

Opportunities	Authors	Description
Employability and understanding organisational dynamics	Cain et al. (2022) Diver (2021) Forsyth & Cowap (2017) Janssens et al. (2024) Pogátsnik (2018) Thompson (2017) Velasco et al. (2021)	Students emphasise the recognition of the value of WIL in improving employability and achieving 'graduateness'. Key competencies, particularly in communication and management, are deemed crucial. WIL students found their placement experiences vital for career readiness by acquiring knowledge of workplace dynamics (including both written and unwritten rules), preparing them for job interviews, and enhancing their networking skills, their CVs and social capital by interacting with diverse individuals outside the university environment.
Professional and personal development	Bernhard & Olsson (2023) Dempsey et al. (2023) Kozma-Tóth et al. (2024) Navío-Marco et al. (2023) O'Mahony et al. (2024) Quew-Jones (2024)	WIL immerses students in the job market, fostering professional and personal development. This engagement enhances reflective learning, participation, and the acquisition of business skills necessary for a successful transition into the workforce. Also, the sense of legitimation students felt when accepted as part of a team, given more responsibilities, and receiving feedback, shaped their professional identities.
Reinforcing and re-evaluating career aspirations	Agevall et al. (2018) Brodsky et al. (2024) Forsyth & Cowap (2017) Thompson (2017)	WIL experiences can affirm students' career choices or lead them to reconsider their paths by providing a professional perception of their chosen occupational field. They report that these experiences provide valuable insights, allowing them to make informed decisions about their futures. Students' perceptions are initially focused on knowledge and expertise, and later they recognise the importance of continuous education and social skills acquisition.
Dual role and emotional maturity	Cain et al. (2022) Diver (2021) Fabian et al. (2022) Jederud (2024) Lindqvist et al. (2023) Smith (2018)	Students juggle work and study, which enhances their emotional maturity in managing tasks and time, and their readiness for professional environments, by firstly engaging at work as a member of the workplace community, and secondly, by having trainee status, which requires learning new tasks to undertake their professional role.
Income and cost-effectiveness	Stone & Worsley (2022) Perusso & Wagenaar (2024) Pogátsnik (2018) Kocsis & Pusztai (2021)	In certain countries, WIL training is cost-effective, given that students incur no tuition fees, avoid debt, and WIL students are paid by their employers. Also, a monthly income can ease financial problems and it makes WIL an attractive option for students.

an organisational perspective, WIL programmes address critical business needs, especially during periods of change. Brook & Corbridge (2016) and Rowe et al. (2017) highlight that employers often support WIL initiatives because they meet business or service demands, helping organisations navigate transitions more effectively. By integrating students into their workforce, organisations benefit from fresh skills and perspectives, which can motivate existing employees and foster a more dynamic, innovative work environment (Fabian et al., 2022; Smith, 2018). This infusion of new talent not only boosts performance but also encourages cultural shifts towards greater innovation.

Furthermore, WIL enables universities to engage in joint research and innovation projects with industry partners. Bernhard & Olsson (2020), Bramford & Eason (2021), and Smith (2018) highlight that the collaborative relationships developed through WIL can extend beyond student placements to include broader research initiatives. WIL also facilitates knowledge transfer and drives innovation within organisations. Bramford & Eason (2021) discuss the reciprocal learning dynamic in WIL, where employees mentor students and simultaneously improve their own skills, especially in evidence-based practices.

WIL programmes also boost universities and organisations' public image and societal value (Murray, 2024). As Lester (2020) and Pogátsnik (2018) suggest, the visibility of successful WIL programmes enhances prospective students' and partners' future collaboration. By maintaining ongoing relationships with businesses, universities can stay attuned to labour market trends, ensuring that their graduates are well-prepared to meet professional challenges (Fabian et al., 2022; Grooters et al., 2023; Rowe et al., 2017). Organisations can therefore recruit and offer permanent positions to individuals already familiar with their culture and operational requirements (Bramford & Eason, 2021; Fabian et al., 2022; Grooters & Zaal, 2023; Smith, 2018).

In this regard, WIL appears to already offer such cost-effectiveness opportunities. For example, Cain et al. (2022) note that involving students in research roles within the workplace reduces the need for organisations to hire additional staff. Students assist in data analysis, which saves costs while enhancing the organisation's capacity to use data-driven strategies for decision-making.

DISCUSSION

Themes of WIL in higher education studied in the EHEA

From the broadest to the most specific themes, authors throughout the EHEA have conducted mostly qualitative research in order to analyse WIL programmes and their impact on all stakeholders. Although the reported data is subject to each study context and purpose, strong consistency has been found regarding WIL characteristics, competency development and assessment, cooperation between universities and organisations, and the impact of WIL on all stakeholders.

There is a consensus on the defining features of effective WIL programmes which include their ability to bridge the theory–practice gap and foster the development of both soft and hard professional competencies. To be successful, a common framework is needed to ensure that all parties understand and are aware of each other's responsibilities. As highlighted by Brook & Corbridge (2016) and Poortman et al. (2014), this can be guaranteed by using learning contracts. These formal agreements between students, institutions and employers articulate the learning objectives, expected skills and knowledge, and assessment criteria, providing a structured framework to guide the WIL experience.

Crucially, WIL programmes must also address the integration of academic theory and practical workplace application (Brook & Corbridge, 2016; Coiduras et al., 2014; Roure-Niubó &

Boudjaoui, 2016), which is central to the successful learning outcomes of WIL. Hence, some authors (Bernhardsson, 2023; Gerhardt & Montgomery, 2024; Konstantinou & Miller, 2021; Quew-Jones, 2024) explore the advantages of using reflective practice to foster students' self-awareness about their experiences and practical skills. In this regard, student recruitment and selection is a key element of WIL, as identified by Perusso & Wagenaar (2024) and Saville et al. (2020), who found that a strength-based assessment approach helps identify candidates most likely to thrive in integrated learning environments. Understanding student motivations, as explored by Kocsis & Pusztai (2021) and Stone & Worsley (2022), also allows universities and organisations to tailor their recruitment strategies to attract committed and engaged participants. Although WIL can take different organisational forms, key features consistently bridge the gap between academic knowledge and professional practice, empowering students to develop both the soft and hard skills needed for their future careers (Juhasz et al., 2022; Kocsis & Pusztai, 2021).

In this regard, hard skills development remains at the core of WIL experiences, particularly in structured professional fields. This underlines the specific and technical nature of disciplines such as engineering, where practical and technical competencies are essential for work performance and fulfilment of professional standards (Navío-Marco et al., 2023; Thomas, 2023). On the other hand, the development of soft skills—e.g. teamwork, communication and emotional intelligence—reflects a growing consensus in the literature on their importance in all occupational fields (Brook & Corbridge, 2016; Kaarby & Lindboe, 2016; Pogátsnik, 2018). According to Atkinson (2016), these skills are less tangible, although crucial for work integration, adapting to dynamic work environments and conflict resolution. This enables individuals to work effectively in teams, a prerequisite in almost any sector, thus improving employability (Bernhard & Olsson, 2023).

The frequent detachment between academic and workplace assessments remains a key challenge for successful WIL deployment (Diver, 2021; Velasco et al., 2021). Academic evaluations often rely heavily on structured, decontextualised criteria, such as written exams or portfolios, which may not fully capture the interpersonal and professional skills developed in the workplace. This has led to calls for more integrated assessment models, where academic tutors and workplace mentors collaborate to provide a more comprehensive evaluation of student competencies (Coiduras et al., 2014; Peguera-Carré et al., 2021). For instance, students can be asked to follow a project plan or design an artefact to answer to a company's specific needs, which makes their WIL experience 'rooted in "real work" and delivers something for the business' (Brook & Corbridge, 2016, p. 225). Such models could help ensure that both hard and soft skills are assessed in a way that reflects their importance in real-world professional settings. Moreover, adding multiple formats for assessment, such as observations, multimedia portfolios, blogs and podcasts, could help universities and organisations to capture students' workplace experiences and ensure competency development monitoring.

To effectively address the aforementioned competency development, organisational commitment stands out as a significant feature to be taken into consideration. Industry engagement in WIL takes different forms although some actions appear to be recurrent and beneficial for all parties involved. Students positively value the feedback sessions, essential for aligning expectations and addressing emerging issues during the WIL programme. However, organisations are often found to lack access to the academic materials required to provide adequate support. This reflects the need for better integration of resources and bidirectional communication to facilitate collaboration between universities and organisations, by creating shared portals where these materials can be shared (Lopes & Lussuamo, 2021). In addition, it may be necessary to structure these feedback sessions to avoid misunderstandings and non-aligned objectives. Hence, it would be interesting to establish regular

co-assessment cycles involving students, employers and academics (Govender et al., 2021) where tools such as shared assessment rubrics and project management software are used.

Although universities and organisations have different objectives, they have a shared responsibility to design curricula and support mechanisms that ensure the effective management of WIL and of the mentoring of students (Bernhard & Olsson, 2023; Fabian et al., 2022; O'Mahony et al., 2024). Thus, a shared vision is essential to foster a common project; without one, WIL programmes risk losing cohesion and effectiveness. One proposed solution to better align these interests is to organise initial workshops with all stakeholders prior to programme implementation to establish shared goals and clear collaboration mechanisms. Related to this shared responsibility, there is a need for curricular adjustments and institutional flexibility. While this approach can make programmes more relevant to industry, there is a risk that universities may compromise their academic mission by prioritising market demands (Grooters et al., 2023; Kocsis & Pusztai, 2021; Stone & Worsley, 2022). Moreover, constantly adjusting curricula can be both costly and time-consuming. Adopting a modular and adaptable curriculum design approach could enable quicker updates in key areas without compromising the overall academic structure (Smith, 2018). This outcome highlights the need for a collaborative approach in the planning and implementation of WIL (Grooters & Zaal, 2023). One potential solution could be the establishment of regional university–industry consortia to co-design WIL programmes, ensuring that each party fulfils its responsibilities and maximises resource utilisation.

Such collaborations benefit students' WIL experiences with valuable opportunities to apply academic knowledge in real-world professional settings (Pogátsnik, 2018). Some authors (Cain et al., 2022; Diver, 2021; Velasco et al., 2021) emphasise how WIL enhances students' employability, work-readiness and understanding of organisational dynamics, equipping them with crucial competencies in areas such as communication, problem-solving and management. WIL experiences can also reinforce or re-evaluate students' career aspirations, as observed by Agevall et al. (2018), Forsyth & Cowap (2017), and Thompson (2017). Students gain valuable insight into their chosen professional field and thus make informed decisions about their future. The literature points out that the impact of WIL on students is not only beneficial on an educational level but also on an economic one. Undergraduates have the possibility of getting paid while studying, as most integrated learning programmes include a salary agreement between the student and the host organisation (Kocsis & Pusztai, 2021; Stone & Worsley, 2022). However, this might not be the reality in all EHEA member states. While several European WIL schemes—particularly dual study programmes in Austria, Germany and Switzerland (Graf, 2016), the *formation en alternance* in France, and industrial PhD programmes in Sweden (Olsson & Bernhard, 2023)—typically include employment contracts and remuneration, this is not a universal practice across the EHEA. European WIL practices also include unpaid or only stipend-supported traineeships, reflecting uneven implementation of quality standards and national labour/HE policies (European Commission, 2014; EPRS–European Parliament, 2022). Clarifying this variability helps avoid assuming a single WIL model across Europe.

Immersing students in the job market also enhances their professional and personal development (Bernhard & Olsson, 2023; Dempsey et al., 2023; Navío-Marco et al., 2023), as they have to deal with an agreed dual role (student-worker). However, this dual role can present significant challenges, such as balancing work, study and personal life (Stone & Worsley, 2022), requiring high levels of maturity, time management, and emotional resilience (Fabian et al., 2022). Additionally, students may face ethical dilemmas and practical difficulties, such as data-related anxieties, as highlighted by Bernhard & Olsson (2023) and Cain et al. (2022). Despite these obstacles, the overall impact of WIL on students

underscores the importance of continued investment and refinement of these integrated learning experiences.

To do so, acknowledging WIL's repercussions on organisations and academia is also essential. This review exposes that WIL programmes also offer significant advantages for participating organisations. By hosting WIL students, industry partners gain access to a pool of motivated, skilled, and cost-effective talent, as noted by Stone & Worsley (2022) and Kocsis & Pusztai (2021). These WIL placements provide the opportunity to assess potential future employees and cultivate a pipeline of skilled workers (Cain et al., 2022; Pogátsnik, 2018). Furthermore, the integration of academic knowledge and practical experience brought by WIL students can contribute to organisational innovation and problem-solving, as they contribute fresh perspectives and apply their theoretical learning to real-world challenges. However, organisations must also be prepared to invest time and resources to effectively supervise and mentor WIL students, as emphasised by Forsyth & Cowap (2017) and Thompson (2017). Overall, the strategic engagement of organisations in WIL programmes can yield significant benefits in terms of talent acquisition, skills development, and knowledge exchange, provided that they are willing to commit the necessary resources to support and guide the student experience.

Similarly, the implementation of effective WIL programmes can have a profound impact on universities and their ability to prepare students for the demands of the modern workforce. By fostering strong partnerships with industry and community organisations, universities can ensure that their curricula remain relevant and responsive to evolving labour market needs (Grooters et al., 2023). These collaborations also provide valuable opportunities to engage in applied research and maintain currency with professional practices, enhancing the quality and relevance of their teaching (Bramford & Eason, 2021; Smith, 2018). The successful integration of WIL experiences within academic programmes can serve as a powerful recruitment and retention tool, attracting prospective students, as observed by Kocsis & Pusztai (2021) and Stone & Worsley (2022). However, universities must also be mindful of the challenges associated with WIL, such as the need for robust quality assurance mechanisms, effective student support systems, and the alignment of learning outcomes with both academic and professional standards (Bernhard & Olsson, 2023; Cain et al., 2022).

Stakeholders' perceptions of WIL experiences in higher education

This review exposes a complex interplay of expectations, benefits, and challenges of the WIL programmes for each group—students, academic staff, and organisations—concerned.

The literature consistently points to the dual student-worker role, and to the fact that WIL students often struggle to balance the demands of work and study. Balancing academic, professional, and personal responsibilities demands high levels of time management and emotional resilience (Fabian et al., 2022; Stone & Worsley, 2022). Moreover, students often encounter ethical dilemmas and discomfort when reflective practices encouraged by higher education clash with workplace norms (Diver, 2021; Fletcher, 2023; Siebert & Costley, 2013). The lack of alignment between academic and organisational expectations can detract from the overall experience. Universities and organisations must consider integrated support structures and tailored interventions, such as reflective practice workshops or enhanced mentoring (Quew-Jones & Rowe, 2022), to help students navigate these challenges and maximise learning outcomes. Despite these challenges, WIL is largely viewed and perceived by students as a valuable and transformative experience that enhances both personal and professional development (Jederud, 2024; Pogátsnik, 2018).

From the universities' perspective, on the one hand, WIL is considered essential to enhance the relevance of their programmes, ensuring that students graduate with competencies that are in demand in the workplace (Grooters & Zaal, 2023). However, there is still some concern about the impact of continuous adjustments to course content and schedules to meet industry demands, which may dilute academic rigour (Grooters & Zaal, 2023). There is also a strong institutional emphasis on fostering partnerships with industry, which not only aids in curriculum development, but also provides opportunities for faculty to engage in applied research (Bernhard & Olsson, 2020, 2023). Academic staff also play a pivotal role in WIL, yet the literature reveals the often insufficient interaction between academics and workplace mentors. Also, academics tend to prioritise academic outcomes, often struggling to integrate the practical needs of the workplace into their teaching responsibilities (Grooters & Zaal, 2023). This is compounded by increasing class sizes and administrative burdens, which reduce their capacity to provide individualised support to students (Smith, 2018). This weakens mentorship, collaborative efforts, and hinders the alignment of academic and professional goals. Strategies such as joint training sessions or co-assessment initiatives could enhance mutual understanding and improve programme coherence.

The engagement of organisations and industry partners is crucial to the success of WIL programmes, yet this involvement is often inconsistent. As the findings from this review indicate, organisations that participate in WIL stand to gain significant benefits, including access to skilled graduates, improved operational efficiency, and opportunities for innovation (Rowe et al., 2017).

However, the review also highlights key challenges in aligning the priorities and expectations of organisations and academic institutions. Employers tend to focus on short-term organisational gains, while universities emphasise academic objectives, leading to gaps in alignment, communication, and mentorship quality (Rowe et al., 2017). Improved collaboration, regular feedback, and a flexible approach to programme design are essential for successful WIL partnerships (Cain et al., 2022; Fabian et al., 2022). The review further reveals that organisations face their own challenges in supporting WIL students, such as the significant time and resource commitments required for effective mentorship (Rowe et al., 2017; Smith, 2018). While the long-term benefits often outweigh these short-term costs, organisations must carefully balance these demands alongside their existing workloads. According to stakeholders, structured mentor training programmes can help address this issue by providing a framework for supporting and facilitating student learning (Bramford & Eason, 2021; O'Neill, 2024). Importantly, the engagement of organisations in WIL goes beyond simply providing placements for students. As Kocsis & Pusztai (2021) found, the workplace socialisation and networking opportunities afforded by WIL can be particularly valuable for students and employers, allowing undergraduates to develop critical skills that cannot be fully mastered within the university setting and which are highly appreciated by employers. Moreover, Bramford & Eason (2021) highlight how the reciprocal learning that occurs during WIL can 're-energise' and enhance the performance of existing organisational staff.

Overall, this review underscores the pivotal role that organisations and industry partners play in the success of WIL programmes. While challenges persist in aligning priorities and managing resource constraints, the findings suggest that fostering strong, collaborative partnerships between academia and industry is essential for maximising the benefits of WIL for all stakeholders.

CONCLUSION

WIL in the EHEA emerges as a bridge between academic knowledge and professional practice, equipping students with hard and soft skills while fostering employability and personal

development. This review highlights the importance of reflective practices, structured learning agreements, and collaborative assessment frameworks to ensure effective integration of theory and practice. The shared responsibility among universities, organisations and students underscores the need for co-designed curricula and adaptable approaches that address both academic and industry needs without compromising educational integrity. Despite challenges, such as balancing academic and professional responsibilities and aligning stakeholder expectations, WIL programmes consistently provide transformative educational experiences. Strong partnerships between universities and organisations, supported by clear communication and resource-sharing, are essential to maximise these benefits and meet these challenges. While organisations benefit from innovative insights and talent pipelines, universities gain relevance and faculty engagement with professional practices. Students, as dual-role participants, navigate significant challenges but ultimately acquire competencies that enhance their workforce readiness. By fostering mutual understanding and collaboration, WIL has the potential to reshape higher education and industry engagement, driving the development of a highly skilled and adaptable labour force.

Beyond its academic relevance, this review holds significant implications for higher education policy across the EHEA. The findings advocate for a more systemic incorporation of WIL and WBL into national higher education strategies. Policymakers are urged to promote structural incentives that facilitate sustained collaboration between universities and industry, such as co-funded placement schemes, regulatory frameworks for learning contracts, and national guidelines for quality assurance in WIL. Furthermore, targeted support for underrepresented groups in WIL programmes could enhance educational equity and inclusion. Aligning educational policy with labour market needs through institutionalised WIL pathways is essential to foster employability, innovation, and regional development across member states.

While this review concentrates on the dynamics of WIL within the EHEA, its findings hold potential for cross-national transferability among member states. Given the shared goals outlined in the Bologna Process, the European Skills Agenda, and national higher education reforms, the lessons drawn from more mature WIL systems—such as those in Germany, the Netherlands, or the UK—could inform policy adaptations in countries where WIL structures remain underdeveloped. Promoting structured frameworks for learning agreements, mentorship, and quality assurance across borders could enhance comparability, mobility, and recognition of WIL experiences, thereby supporting a more integrated and cohesive EHEA. Moreover, increased collaboration through EU-funded initiatives, consortia, and academic alliances may foster scalable models that accommodate local institutional realities while preserving common quality standards.

This review presents a comprehensive analysis of WIL within the EHEA, yet certain limitations should be acknowledged. The inclusion and exclusion criteria used in this review, focusing exclusively on peer-reviewed journal articles and studies conducted in English, Spanish and French, may have excluded valuable insights from the grey literature, non-traditional formats, and research in other languages. The exclusion of theoretical studies and articles with workplace participation outside HEIs further narrows the scope, potentially overlooking broader implications of WIL practices. Additionally, the predominance of qualitative research among the selected studies highlights a lack of quantitative data, which limits generalisability and cross-context comparisons. A further limitation of the present review is that most of the included studies focused on undergraduate students. This predominance reflects the fact that the largest proportion of WIL initiatives in the EHEA are embedded in first-cycle programmes, particularly dual studies and curricular placements, and also aligns with European-level policy frameworks that emphasise employability at the undergraduate level. Nevertheless, WIL is not limited to undergraduates. There are also relevant initiatives at postgraduate and doctoral levels, such as professional master's placements and

industrial PhD programmes (Bernhard & Olsson, 2020). Future research should therefore explore how WIL operates across different cycles of higher education in order to provide a more comprehensive picture of its implementation.

Future research should address these gaps by incorporating broader methodological approaches, such as longitudinal and large-scale quantitative studies, to complement the rich insights provided by qualitative research. The inclusion of other languages, the grey literature, and theoretical works could also enhance the understanding of WIL's multidimensional impact. Moreover, expanding the temporal and geographical scope of future studies may also capture evolving trends in WIL, providing more comprehensive insights into its transformative potential. Investigating underexplored areas, such as WIL's long-term effects on graduate employability, would be invaluable. Collaborative research between universities and organisations, involving mixed-method designs, could further elucidate how to optimise WIL for all stakeholders. Based on the findings and limitations of this review, we identify several priorities for future research. First, methodological diversification is needed, moving beyond the current qualitative dominance towards longitudinal, large-scale and mixed-methods studies. Second, comparative analyses should be conducted across countries (including contrast with contexts such as Canada, the United States, Australia and New Zealand) and across educational levels (undergraduate, postgraduate and industrial PhD). Third, innovative approaches to assessment and learning design warrant further exploration. In addition, more research is required on governance arrangements, inclusion and student wellbeing, as well as on the impact of digital and hybrid WIL models and national or EU-level policies on different stakeholders.

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Andreu Curto-Reverte: Conceptualization; investigation; writing – original draft; writing – review and editing; visualization; validation; methodology; software; formal analysis; project administration; resources; data curation; supervision. **Maria Carme Peguera-Carré:** Conceptualization; investigation; funding acquisition; writing – original draft; validation; methodology; visualization; writing – review and editing; formal analysis; data curation; supervision; resources; software. **Helena Cobos-Rius:** Conceptualization; investigation; methodology; writing – review and editing; data curation; writing – original draft; software. **Cristina Vidal-Marti:** Writing – review and editing; methodology; conceptualization; formal analysis.

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CONFLICT OF INTEREST STATEMENT

The authors report there are no competing interests to declare.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

ETHICS STATEMENT

This systematic review did not involve the collection of primary data from human participants; therefore, ethical approval and informed consent were not required. The review was conducted with a commitment to transparency, objectivity, and academic integrity, and all efforts were made to ensure the accuracy and reliability of the data included.

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