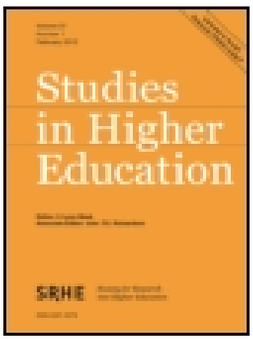
# *An inclusive multifaceted approach for the development of electronic work-integrated learning (eWIL) curriculum*



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# An inclusive multifaceted approach for the development of electronic work-integrated learning (eWIL) curriculum

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**ABSTRACT**

The need for inclusive and equitable teaching and learning approaches is widely accepted in higher education literature. Surprisingly, the notion of inclusion appears to be neglected within the context of eWIL. This paper uses insights from multi-disciplinary theories to propose a framework for the development of an eWIL framework. Its key features include an inclusive, intentional approach that integrates content (the 'what') and process (the 'how') aspects of delivery using technology. The primary considerations of the framework are anticipating and responding to the diverse backgrounds, abilities, aspirations, and needs of students, and primary partners (academics and employers). The desired outcomes of the curriculum include 'hard' outcomes (like student employability) and 'soft' outcomes (like involvement and inclusion). The framework highlights particular student-related obstacles for electronically mediated experiences and learning, and issues with employers are also likely as they evolve new ways to work in a digitalized environment. Anticipating some tensions in translating the intended eWIL curriculum into practice, a 'transition prism' is suggested. Overall, the eWIL framework offers a multifaceted approach for active discussion, implementation and evaluation of eWIL programs. This is a timely consideration given dramatic shifts to remote work and online instruction observed during COVID-19.

**KEYWORDS**

EWIL; transition pedagogy; intentional curriculum; community of inquiry; signaling theory; COVID-19

## 1. Introduction

Work-integrated learning (WIL) is an umbrella term for activities that intentionally connect theory with workplace experiences within a curriculum (Patrick et al. 2009). WIL is instrumental in achieving several educational outcomes, particularly the development of employability skills such as problem-solving, team work and communication (Jackson 2015; McManus and Rook 2019; Thomas, Wong, and Li 2014). Other outcomes are the facilitation of students' transition to professional practice (Billett 2009), the formation of professional identity (Bowen 2018), the promotion of students' confidence in their learning and workplace capabilities and their engagement with course materials (Cooper, Orrell, and Bowden 2010). As well, WIL helps to promote graduate employability and job-readiness (Jackson 2015), and is necessary for the achievement of qualifications and industry memberships (e.g. in the fields of medicine/para medicine, psychology and social work).

Given the wide range of desired outcomes, WIL programs can vary enormously. They vary in terms of location [e.g. off-campus in the form of industry placements and field trips, and on-campus

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activities as part of job readiness programs and virtual projects (Rowe, Winchester-Seeto, and Mackaway 2012)]; content [e.g. emphasis on different industry-specific skills (Gee, Lankshear, and Hull 1996)]; and structure, educational purpose, and curriculum and pedagogic approaches (Billett 2011). They can also vary by type and scope of stakeholder involvement (Siddoo, Janchai, and Sawattawee 2018). Lastly, they can vary by degree of technology involvement (Schuster and Glavas 2017). Understandably, Dollinger and Brown (2019) suggest a lack of consensus on how to best embed student employability into the WIL experience.

In recent years, the trend towards integrating technology with WIL has attracted growing research interest. This trend is likely to accelerate post COVID-19. In their systematic review, Schuster and Glavas (2017) highlight the various terminology in literature (blended WIL, virtual WIL, electronic WIL (eWIL)), and develop an eWIL typology based on two dimensions the function of technology (whether technology acts as an administrative or pedagogical tool), and the degree of technological involvement. Based on these dimensions, Schuster and Glavas (2017) categorize eWIL as *technology-supported*, *technology-facilitated*, *technology-based*, and *technology-blended* – see Figure 1 for a description of each type of eWIL. Arguably, with the advent of COVID-19 and the dramatic online transformations in workplace and higher education practices, the 'degree of technological involvement' dimension proposed by Schuster and Glavas (2017) may be a moot discussion point that is no longer relevant in practice.

To clarify the scope of this paper, in light of the varied nature of WIL and the associated diverse terminology, this paper will use 'eWIL' to describe work-based learning activities that are exclusively supported and delivered by technology. Drawing on the work of Schuster and Glavas (2017), 'eWIL' is conceptualized as a combination of *technology-facilitated* and *technology-based* WIL – see Figure 1. *Technology-blended and technology-supported* WIL activities are excluded due to 'face-to-face' and/or 'low technological involvement' attributes.

The logic behind this conception of 'eWIL' is as follows. With the digitalization of the global economy and introduction of new business models, organizations have increased their reliance on innovative and flexible knowledge workers who are able to overcome environmental uncertainties. This has resulted in labor markets being dominated by remote, digital workers who are free from constraints of 'where, when and how to work' (Thite 2019, 4). The current COVID-19 crisis has exponentially accelerated the pace of workforce digitization. Social distancing rules and worldwide lockdowns have forced businesses (irrespective of size and industry) to devise strategies, like work-from-home arrangements, for sustainable business operations. Given the widespread emergence and

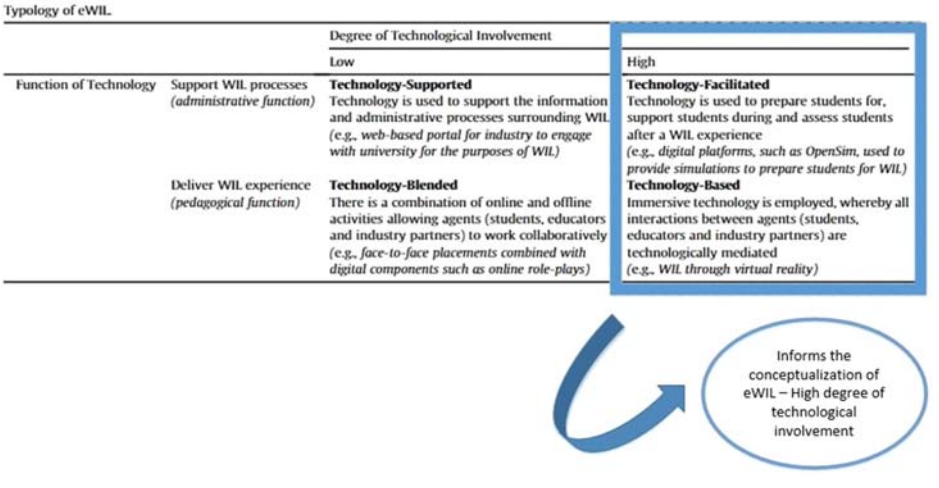


**Figure 1.** Typology of eWIL – Schuster and Glavas (2017).

likely normalization of remote work, it is reasonable to suggest that digital work interactions and conditions are here to stay. Following this line of reasoning, it is argued that WIL can only be fit-for-purpose if it is in sync with contemporary realities, and prepares students to adapt and respond to fast-paced work and a growing digitalized world. Ngai et al. (2019) have made a strong case for importing communication e-platforms from the corporate world to professional education as a means of preparing learners for labor market realities. Clearly, there is great value in examining eWIL programs from a technological lens, especially as there is negligible 'WIL-online technology' work in literature.

Against this background, this paper establishes a novel, multi-disciplinary eWIL framework that brings together key theoretical approaches from management and education literatures, namely transition pedagogy (Kift 2015, 2009), community of inquiry (Garrison, Anderson, and Archer 2000), signaling theory (Spence 2002; Connelly et al. 2011), and the Kirkpatrick evaluation model (Kirkpatrick and Kirkpatrick 2006). The eWIL framework proposes a set of principles for the development of an inclusive, intentional eWIL curriculum. Anticipating some tensions in translating the intended eWIL curriculum into practice, a 'transition prism' is also suggested.

## 2. Theoretical principles of the eWIL framework

One of the central tenets of the framework rests on a distinction between the *content* of eWIL and the *process* by which eWIL implementation transmits 'messages' to stakeholders. The 'content-process' distinction was made by Bowen and Ostroff (2004) who based their work on signaling theory (Spence 2002). Traditionally concerned with decreasing information asymmetry between parties, signaling theory has been applied to various research contexts including anthropology, marketing, economics and management. From a management discipline viewpoint, it stipulates that 'signals' or messages emanating from signalers (managers, employees, recruiters, firms) are received and interpreted by receivers (individuals or groups) to form shared perceptions (Connelly et al. 2011). Based on this, Bowen and Ostroff (2004) suggest that human resource management systems, for example, should seek to integrate content (the 'what') and process (the 'how') aspects so as to communicate strong and uniform 'messages' to employees.

Following this logic, a distinctive and consistent approach to eWIL can help 'signal' to stakeholder groups the type of behaviors expected and rewarded in an eWIL program. Key stakeholders form perceptions of what is expected from them and what they can expect in return based on eWIL content (i.e. the curriculum design) and process (i.e. the curriculum implementation). When stakeholders share common perceptions and develop a uniform eWIL interpretation, eWIL programs stand a greater chance of eliciting the appropriate behaviors and attitudes required for meeting program objectives. Therefore, the goal is to formulate and implement eWIL content and process that enables shared stakeholder understanding. This notion of creating a common language and understanding among all WIL actors as a pathway for successful WIL (Ajjawi et al. 2020; Billett 2015) is not new. In the words of Billett (2015, 156), 'when there is common understanding amongst workplace practitioners and supervisors, teachers in higher education and students about the purposes, processes and desired outcomes of these experiences, the prospects of decision-making in organizing learning experiences, how they are enacted and experienced are most likely to be consonant'. Achieving this agreement may be an unrealistic feat (Billett 2015), but the eWIL framework seems a necessary enabler towards any consonance.

Another key principle of the eWIL framework is the transition pedagogy as identified by Kift (2009). Transition pedagogy is widely used in the Australian higher education context as a theoretical lens to build inclusive first-year experiences. Highlighting the various challenges faced by students transitioning to university, Kift (2009) enunciates several key principles for first-year curriculum development. These include an intentional curriculum with embedded, contextualized support for all, but especially time-poor student groups. Other principles are comprehensive, integrated and

coordinated whole-of-institution approaches, and just-for-me and just-in-time interventions enacted over student life cycles by academic and professional staff partnerships (Kift 2015, 2009).

Although transition pedagogy is traditionally a first-year experience approach, its principles of inclusion, collaborations and individualized support can be adapted equally to the development of an inclusive, intentional curriculum for students transitioning into the workforce. For example, it can apply to an intentional approach focusing on career-ready skills development, knowledge integration and reflection (Thomas, Wong, and Li 2014). Similarly, it can be applied to interventions tailored to students' personal circumstances, such as support mechanisms to address language issues and visa-related considerations for students with English as a second language/international students, and guidance to students with learning disabilities, or with no prior work experience or limited digital skills. It can also apply to multi-level partnerships in the form of university-industry and academic-student collaborations. All these activities are arguably integral to WIL/eWIL. The remainder of the paper will unpack the principles of the proposed inclusive eWIL framework illustrated in Figure 2, and introduce the 'transition prism'.

## 3. Shared needs and engagement of eWIL stakeholders

Generally, the curriculum is an intentional and dynamic process that reveals values, beliefs and principles associated with knowledge and learning (Annala and Mäkinen 2013). An intentional, inclusive curriculum is concerned with anticipating and responding to the diverse student background (Harley and Nomikoudis 2014; Kift 2015). In the context of eWIL, an inclusive curriculum will necessarily be expanded to the needs of a broader group of stakeholders. Broadly, WIL stakeholders can be classified either as *primary partners*, those people who directly interact with student internship such as learners, academics and workplace collaborators, or *secondary partners*, who support WIL management like government and society (Siddoo, Janchai, and Sawattawee 2018). The focus of the eWIL framework is on students, academics and employers.

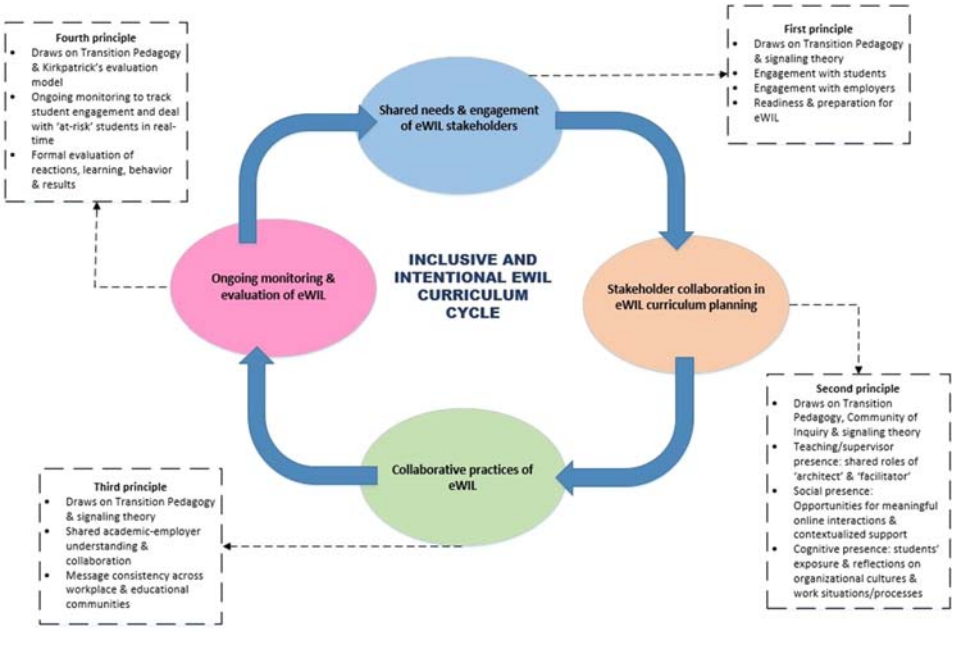


**Figure 2.** The eWIL framework.

The central concern in this paper is engaging and responding to the needs of eWIL stakeholders, and the express aim is to best satisfy the transition objectives identified for eWIL. The literature points to various stakeholder motivations in WIL participation: students seek employment opportunities, employers are focused on talent attraction and retention, and academics pursue labor market advantages for students and university-industry relationships (Rowe 2017). As well, industry experience and employability skill development are rated highly by all (Fleming and Haigh 2017).

Beyond the 'hard' orientation in outcomes associated with student employability and competitiveness in the labor market, it is argued that WIL/eWIL stakeholders equally value less tangible attributes like involvement, inclusion, empowerment, communication, and fairness. These attributes are more typical of a 'soft' outcomes focus. These 'soft' aspects can be discerned from recent studies – e.g. creating inclusive WIL workplaces for LGBTQ+ students (Mallozzi and Drewery 2019), promoting student dignity during WIL (Davis et al. 2020), and nurturing two-way communication channels between WIL students and employers (Fleming and Pretti 2019). In sum, the eWIL framework supports a focus on 'soft' outcomes characterized by student and industry engagement and readiness for eWIL. These characteristics are explored in the following sub-sections.

### *3.1 Engagement with students*

Central to an inclusive needs assessment is authentic student partnerships and engagement. As Budd (n.d.) notes, a working curriculum *must* serve the needs of the students as future professionals. Moreover, as student voice is an important consideration, Thomson et al. (2017) recommend authenticity in student engagement with WIL by redefining students as active participants and change agents, and expanding student contribution to WIL curriculum design and research.

The eWIL framework draws on transition pedagogy principles of inclusion (Kift 2009, 2015) to engage students (especially from under-represented groups) in eWIL development and implementation. Student engagement with eWIL may emerge in various forms such as using inclusive language and translation options when consulting with students; formulating flexible processes and timeframes to allow 'vulnerable' and/or time-poor student communities (e.g. Aboriginal students, refugees, students with disability, mature aged students, international students, and students with family responsibilities) to understand their views on what matters to them; and accommodating for the diversity of preferences in how students choose to be involved (e.g. group versus individual eWIL consultations, short-term versus long-term involvement, visible versus anonymous student contributions, or involvement at a personal unit-level or a broader institutional-level).

Engaging with students as partners requires a climate characterized by trust, transparency, respect and open communication. Setting up structures and systems for engagement would be compromised if students perceive their voice to be under-valued or ignored. This tension is reflected in potential situations where student voice mechanisms are more compliance exercises (where student feedback is used to meet institutional agendas) than a dialogue-based activity (Lodge 2005).

### *3.2 Engagement with employers*

Another necessary feature of inclusive eWIL relates to engagement with employers. The literature highlights the crucial role of employers in providing authentic industry placements (Smith and Worsfold 2015) and in curriculum development (Williamson, Wardle, and Hasmi 2020). A curriculum that promotes skill development and work-readiness necessarily requires industry input (Williamson, Wardle, and Hasmi 2020; Ferns, Russell, and Kay 2016). There are, however, numerous barriers noted to industry engagement. These include cost and time pressures, insufficient employer resources and role ambiguity for employers (Ferns, Russell, and Kay 2016; Patrick et al. 2009).

Ideally, engagement with employers would reflect distinctive industry needs. For example, eWIL is likely to be contextually different in a resource-constrained small- and medium-sized business (Kay

et al. 2019) compared to a multi-billion dollar multinational corporation with abundant resources and sophisticated technology capabilities, or to a values-driven not-for-profit organization compared to a profit-making enterprise. Furthermore, industry engagement may be facilitated by a cultural alignment between academics and employers. If universities and employers dramatically differ in terms of values and philosophies, it may lead to issues generally associated with a breakdown in partnership agreements [e.g. culture clash, conflict and barriers to cooperative methods of working (Fuller and Vassie 2002)]. Simply put, it may be difficult to create trusting relationships between academics and employers if they come from opposite frames of reference at the outset. Further, it appears that a needs assessment may assist eWIL administrators to match industry collaborators for cultural fit from the outset. As Davis et al. (2020) advises, this is an important consideration since universities should not send students to organizations with suboptimal cultures (filled with mistrust, disrespect, exclusion, and abuse).

### *3.3 Readiness and preparation for eWIL*

Student readiness and preparation for WIL is a sustained theme in literature. Scholars commonly agree on getting students ready for WIL at educational and psychological levels (Zegwaard and Rowe 2019). As others state, this is needed to produce realistic expectations and motivations, optimize participation and outcomes, and develop ongoing sustainable relationships (Horstmanshof and Moore 2016; Patrick et al. 2009; Fleming and Pretti 2019; Davis et al. 2020; Billett 2015; Zegwaard and Rowe 2019). Interestingly, a few studies also advocate preparing students to become 'socially astute' and to take responsibility for relationship building with workplaces and supervisors. When students see how their workplace behaviors and attitudes impact employers' motivations in offering future WIL opportunities, they may be motivated to leave industry relationships in a better shape (Horstmanshof and Moore 2016; Patrick et al. 2009). Deferring to this literature, the eWIL framework supports students' pre-eWIL guidance, especially since eWIL students may be expected to complete unfamiliar job tasks and deal with unexpected workplace scenarios and cultures, while simultaneously mastering foreign technologies and navigating a virtual world where social interactions and organizational socialization become more complex.

Arguably, while the educative aims of eWIL are admirable, the reality is that not all students are ready for electronically mediated experiences and learning. Barriers to online student engagement and success include access to appropriate technological tools, experience and comfort in using these tools, learning preferences, personal traits, study skills and habits, and lifestyle factors (Schrum and Hong 2002). As an illustration, international students from non-English speaking backgrounds may be susceptible to miscommunications and difficulties in building rapport in the workplace and may prefer tangible industry and native English interactions as a way to improve their language skills and cultural fit. As such, they may perceive eWIL as a sub-par experience that does not meet their personal goals. Barriers to online engagement reiterate the importance of contextualized student support such as workplace mentoring (Billett 2015), counseling, digital support, resilience training (Zegwaard and Rowe 2019).

Additionally, eWIL readiness applies equally to employers and academics. Except for Horstmanshof and Moore's (2016) reference to clinical educators' WIL preparation, prior studies appear to largely ignore the notion of pre-WIL guidance for employers and academics. The eWIL framework intends pre-eWIL preparation for *all stakeholders* as an integral component for shared stakeholder understanding. In line with signaling theory (Connelly et al. 2011; Spence 2002), successful eWIL requires all stakeholder groups to collectively understand and accept their roles and responsibilities. If stakeholders perceive their roles to be ambiguous, they may use their individual cognitive processes to make sense of their participation. This may, in turn, generate a dysfunctional eWIL ecosystem where stakeholders form conflicting interpretations and expectations. In sum, role ambiguity can be moderated through pre-eWIL preparation for all stakeholders.

This section has relied on transition pedagogy (Kift 2009, 2015) and signaling theory (Spence 2002; Connelly et al. 2011) to explore the concepts of stakeholder engagement, needs and readiness as key principles to eWIL inclusiveness. Overall, an inclusive eWIL approach creates a positive 'sense-making' opportunity for stakeholders. When students are given a voice, they may make attributions about the program's tolerance for risk-free expressions. Likewise, when employers are consulted, they may form positive perceptions of the partnership. The next section integrates these concepts within the intentional eWIL curriculum design.

## 4. Stakeholder collaboration in eWIL curriculum planning

Stakeholder collaboration in eWIL curriculum planning is another central feature of the eWIL framework. This is discussed through the lens of the community of inquiry (Garrison, Anderson, and Archer 2000), transition pedagogy (Kift 2015, 2009), and signaling theory (Spence 2002; Connelly et al. 2011). The community of inquiry lens (COI) is an online learning context that helps identify the behaviors and processes required for 'critical inquiry and the collaborative construction of personal meaningful and shared understanding' (Garrison 2016, 24). These actions enable deep and worthwhile learning experiences The COI approach has three dimensions: *teaching presence* (the design and facilitation of the educational experience by a teacher acting as an 'architect' and 'facilitator'), *social presence* (the ability of learners to project themselves socially and emotionally as real people), and *cognitive presence* (the extent to which learners are able to negotiate meaning through continuous interaction and reflection) (Garrison, Anderson, and Archer 2000; Garrison 2016). The COI approach has mainly been applied to online and blended classroom settings. In the context of eWIL, the COI dimensions have different implications. This is because eWIL is an intersection of the workplace and educational experiences (Siebert, Mills, and Tuff 2009) rather than due to only the classroom experience. The next sub-sections explore the COI dimensions as applied to eWIL.

### *4.1 Teaching/supervisor presence*

For *teaching presence* (referred to as '*teaching/supervisor presence'* in this paper), the roles of 'architect' and 'facilitator' are jointly performed by academics and employers (rather than being solely reliant on academics). This unique shared feature highlights the paradoxical challenge of eWIL curriculum development, and thence deserves some attention. As the eWIL curriculum is principally designed by academics, but implemented in partnership with employers, there is a possible gap between academics' intentions and workplace realities – referred to as eWIL 'rhetoric' and workplace eWIL 'reality'. One way to bridge this gap and construct a shared understanding is through the involvement of employers at the design stage. Empirical evidence suggests closer academic-employer co-operation can minimize conflicting demands being imposed on students (Siebert and Costley 2013). That said, engaging industry partners in eWIL design is a balancing act. Allowing employers to have a say and exert some influence in the curriculum design may be perceived positively as a collaborative approach. At the same time, academics should not fall into the trap of over-relying on employers for input and direction as this might be seen as too onerous and can result in the loss of competitive industry support and opportunities. As noted by Kay et al. (2019), sustainable WIL models accept industry engagement should not be too onerous. In order to strike the right balance, eWIL designers must make choices on when, how and how extensively employers should contribute to the content of eWIL. Conversely, it is also useful to allow some flexibility in subsequent practice; emergent needs and high pressure deadlines are an invaluable learning opportunity that cannot be scripted. Clear, but flexibly applied criteria and expectations for industry partners can facilitate this opportunistic response.

Another important point regarding teaching/supervisor presence concerns the active role students play in eWIL curriculum planning. As mentioned in section 3.1, an inclusive eWIL curriculum is designed *with* and not just *for* students. Students' input in what to experience and how best to

experience eWIL implies that students also contribute to the eWIL architecture. That said, student empowerment in curriculum design needs to be balanced; one risk is that students may end up designing an easy eWIL experience, thereby hindering the quality of learning (French, Bickett, and Locono 2013). In essence, in designing eWIL, the role of 'architect' might be shared between academics, students and employers, while the role of 'facilitator' is a joint responsibility by academics and employers.

### 4.2 Social presence

Turning to *social presence*, this can be expressed through affective/personal expression, group cohesion, and open communication (Garrison, Anderson, and Archer 2000; Garrison 2016). It is used to convey the feeling of community or a sense of belonging that a learner experiences in an online environment. Social presence complements the inclusive and participative approach proposed by the eWIL framework, and accompanies earlier discussions on the significance of building trusting stakeholder relationships. Students' social presence can be triggered through an appropriate course design (Swan and Shih 2005). Evidence by Danchak, Walther, and Swan (2001) suggests participants in online environments need to evoke more immediacy behaviors (that communicate warmth and psychological closeness) in order to make up for the lack of face-to-face communication. Immediacy is multidimensional and includes both verbal communication that shows caring, flexibility and humor, and non-verbal facial expressions (including emoticons), gestures and posture, including body orientation. As online learners rely on the communication medium available to them to maintain social presence (Danchak, Walther, and Swan 2001), social presence is influenced by the quality of the medium (Swan and Shih 2005).

Social presence for students is manifested in both workplace and academic contexts, and contributes to the development of soft skills such as organizational skills, communication, teamwork, and problem solving. Highlighting this duality of experience by WIL students, Siebert, Mills, and Tuff (2009) stressed an integrated approach when building social interactions within WIL. As they argued, work-based communities help WIL students '*talk the language* of that community' whereas university-based learning communities enable students to 'talk *about* the practice – i.e. use the language of theory' (Siebert, Mills, and Tuff 2009, 451). Content-wise therefore, the eWIL curriculum should intentionally seek to enable opportunity for online social learning and interactions in the host organization and the university learning space. Such structured opportunities in both work and university contexts may take numerous forms. These include online discussion forums, video conferences, virtual work-cum-study spaces (e.g. virtual coffee lounges) as well as the use of task management platforms to share and manage tasks, post updates and provide feedback. Considering that 'access without support is not opportunity' (Engstrom and Tinto 2008, 50), these structured opportunities must be complemented by contextualized, just-for-me, and just-in-time support (Kift 2009, 2015), such as student mentoring (Billett 2015) and digital support.

Fundamentally, opportunities to promote social presence (and a sense of belonging) must be designed in such a way so as to convey consistent and uniform messages and expectations to students. When academics and employers achieve this consensus and consistency across their respective communities, students are likely to perceive social presence as a visible, credible, and influential learning component, and may be motivated to establish an effective online social presence.

### 4.3 Cognitive presence

*Cognitive presence* is the capacity by participants in any configuration of a community of inquiry to construct meaning through sustained communication. It requires a triggering event (such as a task or problem statement) accompanied by knowledge construction, exploration, integration and application (Garrison 2016). WIL represents the ideal bed for stimulating such higher order thinking processes. When learners apply declarative knowledge (the 'know-that' found in books and journal

articles) to workplace situations, they learn to construct procedural knowledge ('know-how', which is personal and largely tacit in nature and which allows for the strategic performance of tasks) (Billett 2009; Bratton and Gold 2012). According to Fleming and Haigh (2018), social WIL experiences and activities raise an awareness of workplace culture, language, and processes, and allow for the creation of tacit individual and shared knowledge. Put differently, exposure and reflections on workplace cultures, processes and practices act as a catalyst for the development of deep cognitive presence.

In an eWIL environment characterized by low affective communication channels, the challenge is that learners' physical and visual exposure to workplace employees and cultures are limited. To mitigate this challenge and stimulate cognitive presence, eWIL curriculum development needs to move from a place-based or 'site of learning' view to a 'de-situated' virtual space where online resources and interactions are the key drivers of learning (Woodley and Beattie 2011). This requires meaningful online interactions (with contextualized support), reflective practices and on-going student development (e.g. through self-directed learning) across both workplace and academic context.

In summary, this section examined an inclusive approach to eWIL curriculum development incorporating COI (Garrison, Anderson, and Archer 2000), transition pedagogy (Kift 2015, 2009) and signaling theory (Spence 2002; Connelly et al. 2011). An inclusive approach can help create an effective learning environment where learners can connect with their peers, academics and employers, and engage in realistic collaborative learning activities. The following section discusses the application of the intended eWIL curriculum.

## 5. Collaborative practices of eWIL

Noting the potential eWIL 'rhetoric-reality' gap associated with distinct parties designing and implementing eWIL, it is important that implementation be closely aligned with design intentions. Based on the earlier noted shared facilitative role by academics and employers, this alignment requires a clear, shared understanding and collaboration between both parties. A shared understanding is needed to implement eWIL as it will help them adopt common language and principles, which will in turn sustain the necessary attitudes and actions. A united front by academics and employers helps send the same message on the objectives and implementation of eWIL. Consistency in messages add a sense of legitimacy and relevance that may lead to learners' understanding of what is expected and is instrumental in getting uptake of the desirable workplace and learning behaviors.

To illustrate collaborative implementation, if social presence is associated with opportunities to inject a human, personal touch into online interactions (Burgess and Ice 2011), academics leading eWIL are advised to role model the desired online social behaviors (Garrison, Anderson, and Archer 2000). Similarly, the development of social cues can be modeled by academics' self-disclosure and use of paralanguage (such as emoticons and emojis) (Gordon 2017). Social cues can also emerge from reflections on students' emotions including feelings of isolation and loneliness (Kim 2011). This means that through behaviors and language, academics are transmitting 'social presence' messages that students interpret and may replicate. Concurrently, employers are communicating their own set of 'social presence' messages to their employees and eWIL participants. For instance, supervisors who adopt an authoritarian management style may not be open to feedback and may not create an environment conducive for risk-free expression. In such a case, eWIL participants may be receiving contradictory messages from respective academics and employers regarding the acceptable levels of online socio-emotional interactions. Such mixed communications may create confusion and impede student learning and engagement. In brief, ongoing conversations and collaborations are a priority during eWIL for an optimum experience.

## 6. Ongoing monitoring and evaluation of eWIL

The eWIL framework considers monitoring and evaluation of eWIL as fundamental activities. Ongoing monitoring by academics and employers is indispensable to track student learning and

engagement and devise real-time strategies to deal with 'at-risk' students. As suggested by Kift (2009), monitoring can be through student activity data on online platforms. As for eWIL evaluation, it refers to the assessment of the quality and effectiveness of the eWIL curriculum in meeting learning objectives. WIL evaluation has been described as a challenging task due to the lack of quality measures and the program's heavy reliance on industry-academic relationships (Zegwaard and Rowe 2019; Alvir 1975).

The eWIL framework supports both short-term and long-term evaluation based on the Kirkpatrick evaluation model. The Kirkpatrick model, widely employed within organizational development settings, suggests four ways of measuring training effectiveness, namely through participant reactions, learning, behaviors, and results (Kirkpatrick and Kirkpatrick 2006). Table 1 provides practical guidelines on the measurement of each level within the context of eWIL. Of note, effective evaluation at each level requires sustained stakeholder engagement and the implications are long-run reforms to the curriculum.

## 7. Discussion and conclusion

This paper has drawn on multi-disciplinary concepts to develop an eWIL framework that integrates content (the 'what') and process (the 'how') aspects of delivery using technology. Its key features include an inclusive, intentional approach focusing on enabling career-ready skills development, knowledge integration and reflection to meet explicit transition objectives of the curriculum. The primary considerations of the framework are anticipating and responding to the diverse backgrounds, abilities, aspirations, and needs of students and primary partners – people who directly interact with student internship, namely academics and employers. This involves the need to communicate strong and uniform 'messages' to all participants. The desired outcomes of the curriculum include 'hard' outcomes (student employability) and 'soft' outcomes (involvement and inclusion). There are particular student-related obstacles noted for electronically mediated experiences and learning, and issues with employers are also likely as they evolve new ways to work in a digitalized

**Table 1.** eWIL evaluation **adapted from** Kirkpatrick and Kirkpatrick (2006).

| Level | Indicator/Measurement method | Of whom? | When? | Why? |
|---|---|---|---|---|
| Reactions | *Satisfaction and engagement* via surveys, interviews, focus groups, student activity data | Students, employers, academics | Immediately after eWIL | Understand students' enjoyment of workplace and educational experiences, capture holistic and evidence-based understanding of strengths and weaknesses of eWIL. |
| Learning | *Knowledge and skills* via curriculum assessments, reflective learning, supervisory feedback on job performance | Students | During eWIL | Understand if students have acquired procedural knowledge |
| Behavior | *Change in attitudes and behaviors* via observation, supervisory/team member feedback, reflective assessment tasks, mentoring | Students | During eWIL and 12 months after eWIL | Understand if students are motivated and have developed desirable job attitudes/behaviors |
| Results | *Student employability* via alumni data that suggests that eWIL students have higher likelihood of securing jobs compared to non-eWIL students; data on proportion of students recruited by host organizations (Alvir 1975) and participation in industry graduate programs; assessing whether host organizations maintain WIL partnerships for future students; employer and student testimonials | Students, employers, academics | Long-term focus | complex task, but one which provides a clear link between eWIL and employability |

environment. The eWIL framework considers evaluation as a fundamental activity that will necessarily extend over time.

The eWIL framework has multiple applications and benefits. With dramatically changed higher education and work landscapes due to COVID-19, demands for flexible work arrangements and remote internships are likely to grow. Practically, eWIL invites thoughts about ground breaking change, and the framework could be the basis for active discussion, implementation and evaluation of eWIL programs that incorporate emergent technologies such as smart virtual assistants, immersive team applications based on virtual and augmented realities, cloud-based systems and solutions that combine several of these technologies. Furthermore, the inclusive and collaborative approach supported by the framework may enable improved educational outcomes, including workforce development, equitable and global access (for students with mobility and/or disability issues, access to international workplaces), and authentic experiences where students are treated as valued team workers rather than as visitors to workplaces. Further, engaging with students may provide universities with valuable information on how to better manage risks, including in terms of student well-being and safety.

The intention of an inclusive eWIL framework is to guide reflections on curriculum planning and implementation. The realities of the workplace can mean that intended eWIL can be somewhat different from how the curriculum is implemented by employers and academics respectively (enacted eWIL) and how the curriculum is experienced by students (experiential eWIL). A 'transition prism' follows to help negotiate the inevitable contextual realities that can impact the practical application of the eWIL framework. The paper concludes with future research opportunities.

### *7.1 The 'transition prism': from intention to practice*

The 'transition prism' (illustrated in Figure 3) identifies two main tension points in implementing the intended eWIL curriculum. The first tension is between intention and practice. Arguably, eWIL principles are likely to be interpreted and applied across disciplines, industries, employers, and universities. The most tangible example is, in accredited courses (e.g. medical/para medical and engineering professions), where eWIL learning outcomes are strictly driven by students' demonstration of hard skills. It may be that duty of care will also mean that employers will have the ultimate authority to determine if learners meet learning objectives. The explicit changed power dynamics may alter the nature of academic-employer relationships and collaborations. More generally, the depth of engagement and collaboration prescribed by the eWIL framework may be difficult to achieve due to the dichotomous operational needs of universities and industries. Arguably, while employers may wish to engage with universities (Ferns, Russell, and Kay 2016) and contribute to

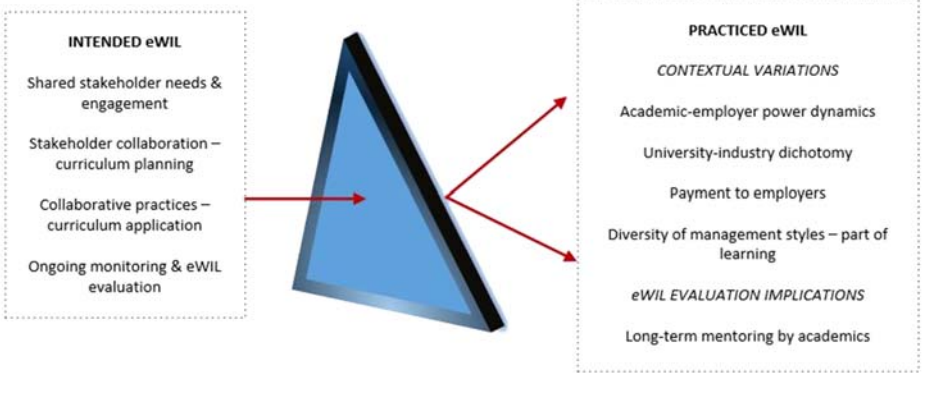


**Figure 3.** The transition prism.

the development of work-ready graduates, not all employers may have the will, time and/or resources to invest in eWIL planning and implementation.

Reflecting an awareness of the associated impost from WIL, there is an emerging trend of employers expecting payment for participation in WIL/eWIL (e.g. for medical placements). Relationships based on employer payments rather than goodwill may change the dynamics and perceived authenticity of any collaboration. Another intention-practice tension concerns the level of harmony between academics and employers in implementing eWIL. Although the case has been made in section 5 for message consistency, some may argue that differences in management styles and social communications are part and parcel of working experience and attempting to shield students from such diversity, if it were at all possible, would serve to only create artificial and sycophantic eWIL experiences.

The second tension point relates to eWIL evaluation, particularly in relation to learner behaviors. Table 1 highlights the importance of measuring students' work behaviors and attitudes at different points in time. During eWIL, such behavioral assessment can be performed by employers and academics within the structure of the program. However, measuring long-term skill acquisition requires follow-up with students (approximately one year after eWIL completion) to assess skill retention and growth. This long-term evaluation approach suggests that academics may have an ongoing obligation to continue workplace relationships beyond eWIL through student mentoring. This also stresses the importance of training academics in assessment methodologies so that they can authentically assess the transfer of student learning to workplaces. Practically, long-term evaluation is a resource-intensive exercise and may require a staffing model with tenured academics who can carry on student relations beyond eWIL. However, the current higher education landscape – characterized by work casualization and intensification (Giroux 2002) and extreme, COVID-induced financial stress – does not necessarily motivate universities to invest in a long-term eWIL approach.

### *7.2 Future research*

This paper offers several research avenues for future eWIL studies (please refer to Figure 4). Given the influence of context on learning and curriculum design (Boud and Walker 1998) and the fact there is no one-size-fit-all eWIL model, future research work should focus on exploring the impact of various environmental conditions on the design, application and evaluation of the inclusive eWIL curriculum. Salient contextual considerations include eWIL variations arising from stakeholder characteristics (e.g. how eWIL in small host organizations differ from eWIL in large partner organizations) and eWIL structure and objectives. At the international level, understanding the interplay between cross-cultural factors and eWIL practices is of considerable value and is expected to be an area of increasing interest, since the digital work/learning environment removes significant costs associated with students' international internships (such as travel and accommodation costs and living expenses) and allows for global university-industry collaborations.

Another research strand could take on a theoretical perspective, and design scales to measure the various dimensions introduced in the eWIL framework. For example, this paper has adapted COI to fit the unique tripartite nature of eWIL (e.g. by revisiting the scope of the 'teaching presence' dimension and rebranding it as 'teaching/supervisor presence'). Future research can tap into this adaptation and uncover measurement instruments for all COI dimensions as applied to eWIL. In a similar vein, eWIL research employing signaling theory (Spence 2002; Connelly et al. 2011) is bound to be innovative and valuable. Studies adopting this line of inquiry can, amongst other things, investigate how eWIL message 'consistency' and 'consensus' be measured, and what factors contribute to a shared eWIL understanding and engagement amongst all stakeholder groups.

In conclusion, COVID-19 has forced organizations to reimagine work and rethink how to provide safe, productive and meaningful jobs to employees. In this sense, eWIL could be reimagined too to facilitate doing things differently. Universities, as centers of research and knowledge creation, are expected to lead this new phase of the digital revolution through best eWIL practices such as

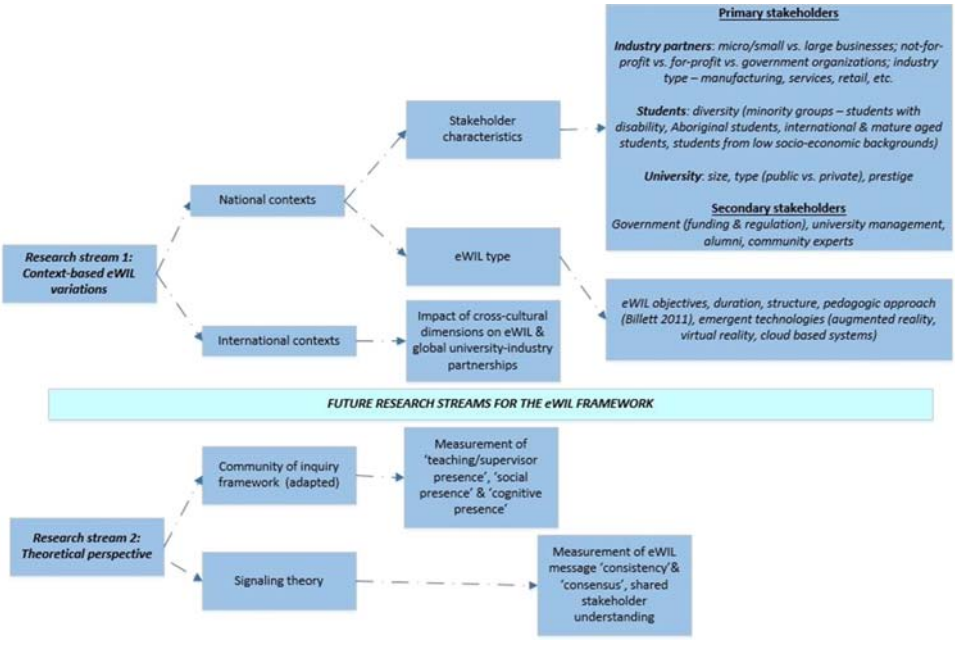


**Figure 4.** Future research.

reciprocity and trust-based collaborations, inclusivity, applied learning, innovative interactions (beyond Zoom), and monitoring and evaluation. The eWIL framework represents a promising effort to incorporate these practices. It is hoped that future research efforts be directed towards expanding this line of inquiry.

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No potential conflict of interest was reported by the author(s).

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