

# Development and validation of a future ready talent framework

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This paper advances the Future Ready Talent Framework (FRTF), a conceptual model of talents that are relevant to stakeholders of work-integrated learning (WIL) programs. The paper is organized into three sections. The first section provides background on the development of the FRTF, including a brief review of talent frameworks and the future of work literature as they relate to WIL. The second section presents the method through which the FRTF was extended and validated. This involved soliciting behavioral examples of talents from WIL stakeholders. The third section of the paper discusses implications of the FRTF for WIL, such as its application to student assessment. It also situates the FRTF in a broader discussion of WIL and the future of work. The goal of the paper is to position the FRTF as a tool that WIL stakeholders can use to create “common ground” as they communicate with each other about talent.

Keywords: Work-integrated learning, future of work, talent frameworks, communication tool, stakeholder engagement

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The notion of “future ready talent” is a concern among stakeholders of work-integrated learning (WIL) programs. Several recent reports (Mercer, 2019; World Economic Forum, 2018) suggest that employers are concerned with access to future ready talent. They perceived that the workforce does not yet possess the talents needed to address emergent problems. Students and educators are concerned with understanding the talents necessary to address such problems. Armed with such understanding, students can better communicate their talents to employers, and educators can offer educational experiences that support students’ development as talented, employable graduates.

However, our understanding of future ready talent is incomplete. Recent events have fundamentally challenged how we define talent and think about its relationship to work. For instance, while soft skills were traditionally considered important to success at work, organizational leaders now challenge us to consider a broader array of human skills including intercultural intelligence and self-awareness (Royal Bank of Canada, 2018). Also, disruptions to work have shifted a focus from technical expertise to a greater appreciation of upskilling (Ellingrud et al., 2020) and lifelong learning (Desire 2 Learn, 2020; World Economic Forum, 2018). This suggests that students will require a greater motivation and capacity for learning, above and beyond their discipline-specific knowledge.

Understanding future ready talent is especially challenging in the context of WIL given various and sometimes competing interests of WIL stakeholders. As mentioned, WIL programs rely on a co-creation framework that involves employers, students, and educators (Ruskin & Bilous, 2020). They work together to create desirable outcomes of WIL, including the development of and access to talent. Yet, it is well documented that perspectives on talent vary widely among WIL stakeholders (e.g., Benbow & Hora, 2018; Floyd & Gordon, 1998; Jackson, 2010; Rook & Sloan, 2021). In many cases,

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employers' perspectives on talent differ from the perspectives of those in post-secondary institutions. Such differences can create confusion that is problematic for the ongoing success of WIL programs.

The Future Ready Talent Framework (FRTF) (McRae et al., 2019) was created to address this issue. The FRTF is a conceptual model of 12 talents that are relevant to WIL stakeholders moving forward together into the future of work. Talent has been defined as individuals' natural or intentionally developed knowledge, skills, abilities, and traits that generate desirable outcomes at work (Gallardo-Gallardo et al., 2013). Such talents are organized into a framework of four clusters that convey relationships between talents (Ingham, 2006). The term future ready within the FRTF is meant to acknowledge the talents that will help individuals navigate an increasingly volatile, uncertain, complex, and ambiguous (VUCA) world (Pretti & McRae, 2021).

The goal of the FRTF is to provide a common ground for WIL stakeholders to discuss the talents that are important to them. This is relevant to the success of WIL programs because communicating from a common ground is essential to coordinating stakeholders' efforts as they work together toward desirable program outcomes (Cooper et al., 2010; Fleming et al., 2018). Informal feedback about the FRTF that has been collected from students, employers, faculty, staff, and senior administrators suggests that the FRTF is useful in conversations about talent.

The purpose of this paper is to advance the FRTF in two ways. First, a fuller description is provided of the process through which the FRTF was developed than is offered elsewhere (McRae et al., 2019). This is important to establishing awareness of the scope of the FRTF so that stakeholders can make informed decisions about its use. The paper explains that the FRTF is based on a review and synthesis of previous talent frameworks and the literature regarding the future of work. The intention among the creators of the FRTF was to identify and define talents that are mutually relevant to employers, students, and educators in WIL. The FRTF is not intended to be prescriptive. Rather, it acts as a tool WIL stakeholders can use as they communicate with each other.

Second, this paper extends and validates the FRTF by identifying behavioral examples of each talent in the framework and examining stakeholders' perspectives of the links between talents and behavioral examples. Behavioral examples of talents are useful to creating a richer understanding of talent because they illustrate what talent actually looks like in a given context (Boyatzis, 1982; Boyatzis et al., 1999). More than that, such examples could help WIL stakeholders better understand the actions that WIL students or graduates can take to demonstrate their talents. Through activities with over 150 stakeholders, over 50 behavioral examples were identified and tied to the 12 talents in the FRTF. It was also found that stakeholders sorted talents and behavioral examples as expected.

This paper is organized into three sections. In the first section, information relevant to the development of the FRTF is presented. This includes a brief review of talent frameworks as they relate to WIL and the future of work literature. It also includes a description of the process through which the FRTF took shape. In the second section, the method through which we solicited stakeholder feedback to validate the FRTF and identify behavioral examples is described. The third section of the paper discusses implications of the FRTF for WIL, including its application to student assessment tools and as a guide for future research.

## DEVELOPMENT OF THE FUTURE READY TALENT FRAMEWORK

This section of the paper describes the process through which the FRTF was developed. Consistent with previous efforts to develop talent frameworks (Marrelli et al., 2005; Wood et al., 2019), that process

involved two steps. First, a review and synthesis of previously developed talent frameworks most relevant to WIL programs and literature regarding the future of work was conducted. The second phase involved consultations with WIL stakeholders.

#### *Talent and Talent Frameworks Relevant to Work Integrated Learning*

Talent has been defined in numerous ways by scholars with some describing it as innate abilities and others referring to it as an area of strength. Collins (n.d.) defines talent as “a natural ability to do something well”. Whereas Meyers et al. (2013), in summarizing a variety of definitions of talent across scholars, described talent as sitting on a spectrum from innate abilities to learning opportunities that an individual has. These definitions suggest that there is a wide application and understanding of the term talent both in practice, and in the literature.

In the context of WIL, the way in which employers think about talent is important as it will relate to employers’ assessment of student employability. Research with employers has found that talent is a very nuanced term that varies by company and individual. Thunissen and Van Arenbergen (2015) identified three components in a talent model as abilities, intrapersonal characteristics and performance. In a study with hiring managers, talent was defined to include an aptitude for learning and a capacity for change (Drewery et al., 2020). Another study with employers found that they view talent in post-secondary graduates as the skills and knowledge that give them an edge coming into a new job (McCracken et al., 2016).

Approaching talent from a developmental perspective and to support both WIL students and employers, the need for a talent framework was identified. Frameworks provide a common language that enables stakeholders to interact more efficiently (Gyarmati et al., 2020). A talent framework is a tool that provides a common language to help job candidates link their skills to employers’ requirements (Braham & Tobin, 2020).

The first step taken in developing the FRTF was to search the academic and grey literatures to identify relevant frameworks to review. The search was conducted using several online databases (Scopus, Web of Science, ERIC, and Google Scholar). Relevant ministerial and governmental websites and reports were also included through an additional targeted search. Further, experts in the field of WIL and a university librarian were consulted throughout the search process to ensure that the review was comprehensive.

This search identified 46 talent frameworks and dozens of papers and reports regarding key employability skills. The next step was to identify the set of unique talents that existed across the frameworks. A researcher and an expert in talent development in higher education created a grid with the frameworks listed along the left and talents across the top. If a talent was represented in a particular framework a checkmark would be added to the grid. When a talent was identified that had not been included in previous frameworks, it was added to the list at the top. This exercise resulted in a list of 29 talents that appeared across the 46 frameworks. The frameworks used are marked with \* in the list of References. Table 1 shows the 29 talents and their frequency of occurrence across the frameworks.

TABLE 1: Frequency of occurrence of each talent from the 46 frameworks included in the review.

Label of Competencies	Frequency	%
1. Communication	42	91
2. Collaboration/Teamwork	39	85
3. Critical Thinking	36	78
4. Creativity/Innovation	33	72
5. Problem solving	31	67
6. Technological and digital fluency	31	67
7. Self-aware/self-regulated/self-directed	26	57
8. Interpersonal/social skills	24	52
9. Personal organization/management	24	52
10. Accountability/responsibility	23	50
11. Lifelong learning	21	46
12. Citizenship/civic & community	20	43
13. Decision-making	19	41
14. Entrepreneurial spirit/mindset	19	41
15. Cultural awareness	18	39
16. Adaptability/flexibility	17	37
17. Leadership	17	37
18. Global view	16	35
19. Information literacy	15	33
20. Ethics	14	30
21. Financial literacy/numeracy	13	28
22. Analytical skills	12	26
23. Initiative/motivation	10	22
24. Well-being	10	22
25. Resilience	8	17
26. Risk-taking	7	15
27. Character	6	13
28. Curiosity	6	13
29. Environmental responsibility	5	11

#### *Future of Work and its Implications for the Future Ready Talent Framework*

Recent reports have discussed the anticipated changes to the nature of work (Amery, 2018; Lent, 2018; Rivera et al., 2020). However, the concept of the future of work is one that has only more recently been discussed, and it has evolved substantially within the last decade (Pretti & McRae, 2021). Stevens et al. (2020) analyzed 32 reports relating to the future of work, and in collaboration with community stakeholders and educational practitioners, identified six main themes relevant to the future of work. They are: technological advances; skill agility and transferability; responsibility for adaptation; fostering cultures of equity, diversity and inclusion; gig economy and precarious work; and employee vs. organizational values. It is beyond the scope of this paper to review each theme in depth, but a detailed review of these themes is offered elsewhere (Stevens et al., 2020).

Understanding prominent themes in the future of work is important to identifying talents most relevant to success. To ensure future-ready graduates, students are required to build certain talents during their

degree. For example, to improve the talent pipeline, graduates would benefit from a combination of a lifelong learning mindset, the ability to demonstrate adaptability, and the ability to solve unique problems or solve existing problems in a unique manner (Drewery et al., 2020). The importance of certain talents aiding students' transition to work during the pandemic (e.g., resilience, communication, productivity) has also been identified (Pretti et al., 2020). Though the need to foster students' talent is not a new concept, the way students can demonstrate their comprehension of these talents is lesser known and studied. As such, this gap informed the development of the FRTF and the contribution of this study.

To develop the FRTF, a member of the research team and an expert in talent development were tasked with identifying the talents that were believed to be most important to WIL student success in the future of work. Their work was guided by three criteria: greater prevalence in previous frameworks indicates greater importance of a given talent, talents should be consistent with the themes of the future of work, and talents should be situated in the context of WIL by integrating academic and work settings. Then, a steering committee comprised of experts in the areas of WIL and talent development in higher education was formed. Such committees provide guidance and expert advice throughout the process of talent framework development (Davis et al., 2008). In this project, the role of the steering committee was to provide input throughout the process (e.g., obtaining a consensus on talent labels).

The synthesis of 32 future of work reports (Stevens et al., 2020) and 46 existing talent frameworks, coupled with the work on behalf of the research team and expert in talent development, resulted in a set of 12 talents. These 12 talents were then aggregated into four talent clusters (see Table 2). The four clusters are: Expand and Transfer Expertise, Develop Self, Build Relationships, and Design and Deliver Solutions.

#### *Organization of the Future Ready Talent Framework*

The first FRTF cluster is called Expand and Transfer Expertise. This cluster acknowledges the increasing importance of data and technology across disciplines to individual success at work (Policy Horizons Canada, 2019; Royal Bank of Canada, 2018). Individuals need to leverage new data sources and technologies to provide value. Similarly, the talent labelled Discipline and Context-Specific Skills denotes the importance of leveraging subject matter expertise. This is consistent with the notion of T-shaped professionals described in the WIL literature (Gardner, 2017). The T-shaped professional has depth of expertise in specific areas as well as breadth in their ability to collaborate with others across disciplines.

The second FRTF cluster is called Develop Self. Success in the future of work requires more than expertise. It requires, too, that individuals self-manage and self-assess. Such talents are crucial given the call for individuals who can cope with changing work conditions (Mercer, 2019). Such talents seem especially relevant to WIL. Participation in WIL may aid in self-development in various ways (Linn, 2015), such as through critical self-reflection (Jackson, 2017). Self-reflection encourages students' self-assessment, adaptation to changing work conditions, and lifelong learning (Stevens et al., 2020). Given the potential impact of WIL on students' self-development, it is important that this cluster is reflected in the FRTF. Furthermore, the diversification of work and interconnectedness of industries means that students today, more than ever, will venture into boundaryless careers (Bravo et al., 2017). WIL experiences provide opportunities to develop the self with respect to a career path (Drewery et al., 2016). Such experiences instill in students an understanding that self-development is a lifelong process

(Khampirat, in press). Such desirable outcomes are within the purview of WIL and so they are reflected in the FRTF.

The third FRTF cluster is called Build Relationships. Communication and Collaboration were two of the most common skills listed in the talent frameworks reviewed during the development of the FRTF. These talents are often linked with success, and they are expected to be foundational for success in the future (Royal Bank of Canada, 2018). Indeed, the complex problems of tomorrow call for inter-professional and cross-disciplinary approaches to problem solving, which require people working together. In addition, the future of work literature suggests the importance of Intercultural Effectiveness, the third talent included in this cluster. This talent contributes to building and fostering cultures of equity diversity and inclusion (EDI) (World Economic Forum, 2019). WIL students may explore EDI during their program and are encouraged to critically reflect on their experience and potential biases through their reflections (Stevens et al., 2020). However, more intentional EDI curriculum may boost students' cultural intelligence, aiding their advocacy and allyship for diverse (and often underrepresented) employees.

The fourth FRTF cluster, called Design and Deliver Solutions, encompasses talents related to solving complex problems. Such talents, including innovation and critical thinking, were prominent in previously developed talent frameworks. Implementation, too, is an important component of designing and delivering solutions because problem solving involved the execution of action plans. Within the WIL context, but also within the future of work discussion related to precarious work, the importance of identifying steps to get work done and meeting deadlines are important to students' workplace success (World Economic Forum, 2018).

TABLE 2: Definitions and organization of talents in the Future Ready Talent Framework.

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<b>Cluster 1: Expand and Transfer Expertise</b>
<ol style="list-style-type: none"> <li>1. <i>Discipline and Context-Specific Skills</i>: acquire and strengthen knowledge and skills relevant to a specific discipline or context.</li> <li>2. <i>Information and Data Literacy</i>: Find, evaluate, interpret, synthesize, and use information and data effectively.</li> <li>3. <i>Technological Agility</i>: Assess, select, and use technologies to simplify and streamline the work required to reach the desired outcomes.</li> </ol>
<b>Cluster 2: Develop Self</b>
<ol style="list-style-type: none"> <li>1. <i>Self-Management</i>: Act with professionalism, regulating behavior for task and interpersonal challenges.</li> <li>2. <i>Self-Assessment</i>: Organize thoughts and feelings around what inspires and maintains curiosity, energy, or interest. Notice strengths and areas of challenge.</li> <li>3. <i>Lifelong Learning and Career Development</i>: Track accomplishments and challenges. Reflect on how underlying talents relate to current role, work environment, and career directions.</li> </ol>
<b>Cluster 3: Build Relationships</b>
<ol style="list-style-type: none"> <li>1. <i>Communication</i>: Articulate thoughts, ideas, and possibilities clearly and effectively in written and oral forms to persons inside and outside the organization. Listen actively and ask questions to understand other people's viewpoints.</li> <li>2. <i>Collaboration</i>: Share responsibility as a positive team member to solve problems and meet goals.</li> <li>3. <i>Intercultural Effectiveness</i>: Seek contributions from, work cooperatively with, and express respect for people from diverse backgrounds and differing organizational perspectives.</li> </ol>
<b>Cluster 4: Design and Deliver Solutions</b>
<ol style="list-style-type: none"> <li>1. <i>Innovation Mindset</i>: Make unconventional or creative connections across industries, contexts, or fields that enable the transfer of ideas, approaches, or technologies.</li> <li>2. <i>Critical Thinking</i>: Analyze problems critically, evaluate alternatives, and select the best course of action.</li> <li>3. <i>Implementation</i>: Structure, coordinate, organize, and successfully complete projects and tasks.</li> </ol>

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## EXTENSION AND VALIDATION OF THE FUTURE READY TALENT FRAMEWORK

Initial feedback received about the FRTF was positive. WIL stakeholders have suggested that it helps them organize their thinking about talent and communicate such thinking to other WIL stakeholders. The goal in this study is to advance the FRTF even further. This was done through two steps. First, behavioral examples of talents in the framework were identified. Second, stakeholder feedback was sought to test and validate the organization of the FRTF.

*Identifying Behavioral Examples*

Talent framework development benefits from the involvement of key stakeholders, such as experts and those who may benefit from the framework (Marrelli et al., 2005). As such, the development of the FRTF included a consultation with stakeholders. Such consultation involved two related components. First, a steering committee comprised of experts in the areas of WIL and talent development in higher education was formed. Such committees provide guidance and expert advice throughout the process of talent framework development (Davis et al., 2008). In this project, the role of the steering committee was to provide input throughout the process (e.g., help decide on appropriate talent labels), and to review and synthesize the input provided by other stakeholders as described below.

The second component of stakeholder consultation was a survey of WIL students ( $n = 18$ ), employers ( $n = 16$ ), and educators ( $n = 26$ ). The students were elected representatives whose role was to consult on matters related to WIL. The employers were a convenience sample of those who had hired a WIL student in the previous year. They represented various organizational positions (e.g., directors of human resources, chief executives), sizes, and industries (e.g., healthcare, telecommunications, manufacturing, finance, engineering, cyber security, government, and accounting). At the time they were contacted, most employers (13 of 16, 81%) supervised at least one staff member. The WIL educators represented a wide range of roles such as associate dean, instructional support coordinator, and employer relations manager.

The goal of the survey was to identify behavioral examples of the talents in the FRTF. Such examples are critical to any talent framework because they illustrate how each talent can be demonstrated (Marrelli et al., 2005). Participants were provided with definitions of the FRTF talents (see Table 2) and asked to share examples of such talents in the workplace. A total of 1,806 responses were provided. The average number of examples for each talent was 41.1 ( $SD = 3.22$ ). The selected steering committee was tasked with reviewing such examples. After removing duplicates and much discussion, 59 behavioral examples were identified (Table 4).

*Validating Organization of the Future Ready Talent Framework.*

The FRTF was presented to WIL stakeholders to validate its component parts and conceptual organization. Sorting tasks were organized as tests of the framework validity. If participants correctly sorted components into proposed categories, then the framework would have a clear conceptual organization. A similar sorting task approach has been used to validated surveys (Agarwal, 2011; Davis, 1989), which is comparable to the present work.

After receiving ethics clearance, WIL educators at the University of Waterloo ( $n = 97$ ) were recruited to participate in an online study. Participants were presented with two tasks. In the first task, the four talent clusters were presented beside eleven talent labels. Discipline and Context-Specific Skills was not included in these tasks as there is not one set of statements that can adequately represent this talent.

As indicated by its label, this talent includes behaviors that are associated with a specific discipline or context and therefore, unlike the other 11 talents, there are not common cross-discipline, cross-contextual statements that can represent the talent. With no other information, participants were asked to intuit the associations between talents and talent clusters. They indicated such associations by dragging each talent into the appropriate category. The percentages of talents sorted in adherence with the proposed talent clusters were examined.

Table 3 shows the percent of participants that sorted each talent into the proposed talent cluster. Results of one-sample t-tests (where the test value is .25, representing the 1 in 4 odds of correctly sorting a talent by chance) are also provided. Results indicate support for the conceptual organization of the talents in the FRTF. Participants sorted each talent with as high adherence as 94.8% (Self-Assessment as a member of the Develop Self cluster). The least correctly sorted talent was that of critical thinking (44.8% as member of Design and Deliver Solutions). Recall that participants had four categories into which they could sort each talent. Chance alone would suggest that critical thinking would be sorted correctly only 25% of the time, yet participants matched critical thinking with its correct cluster almost twice as frequently as chance alone.

TABLE 3: Percent of correctly sorted talents and results of one-sample t-tests.

Talent	Proposed Category	%	<i>t</i>	<i>p</i>
Information & data literacy	Expand expertise	83.5	15.45	<.001
Technological literacy	Expand expertise	79.4	13.17	<.001
Self-assessment	Develop self	94.8	30.62	<.001
Self-management	Develop self	92.8	25.67	<.001
Continuous learning & career development	Develop self	65.3	8.20	<.001
Communication	Build relationships	79.2	13.00	<.001
Collaboration	Build relationships	94.7	30.28	<.001
Intercultural effectiveness	Build relationships	83.2	15.07	<.001
Critical thinking	Design & deliver solutions	44.8	3.88	<.001
Innovation mindset	Design & deliver solutions	64.6	8.07	<.001
Implementation	Design & deliver solutions	92.6	25.10	<.001

In a second task, participants were presented all the behavioral examples of talents within each talent cluster. For example, they were provided all the examples of Communication, Collaboration, and Intercultural effectiveness within the Build Relationships cluster. The three talents (in this example, Communication, Collaboration, and Intercultural Effectiveness) were also presented and defined. Participants were tasked with matching talents and behavioral examples of those talents. For each talent, correct sorts were coded as "1" and incorrect sorts were coded as "0".

Critically, participants were presented the option to indicate that a given behavioral example did not correspond to any of the talents on their screen. On some of the screens, they were also provided trap items that were expected to be sorted into the does not belong category. This served two purposes. First, it captured participants' decisions to include versus exclude each behavioral statement in the FRTF. Second, it ensured that participants understood the task as designed, indicated by correctly sorting the trap item into the does not belong category. The results of the trap items are not presented



here, but each one was sorted as expected. Table 4 shows the results of the second sorting task. Specifically, it shows that percent of participants who sorted each behavioral example into the correct talent. Each item is presented from the highest correctness (most correctly sorted) to lowest correctness (least correctly sorted) within each talent.

Much like the results from the earlier sorting task, results of the second sorting task provide support for the components of the FRTF. Of the 59 behavioral examples, 54 were sorted better than chance into their proposed talent. More than that, 48 of 59 behavioral examples in the framework were sorted into the correct talent by more than half of the participants. This suggests a high degree of agreement between participants despite participation occurring independent of one other.

TABLE 4: Percentage of correctly sorted behavioral examples of talents and results of one-sample t-tests

<b>Talents and Behavioral Examples</b>	<b>%</b>	<b><i>t</i></b>	<b><i>p</i></b>
<i>Data literacy</i>			
1. Identifies data relevant to the work at hand.	95.1	25.96	<.001
2. Synthesizes data from multiple sources into meaningful information.	95.1	25.96	<.001
3. Assesses quality of both qualitative and quantitative data.	93.9	22.91	<.001
4. Analyzes data for trends or patterns to gain new insights.	93.9	22.91	<.001
5. Translates information for various audiences.	81.7	11.34	<.001
<i>Technological literacy</i>			
6. Applies technology to achieve better results.	96.3	30.37	<.001
7. Embraces use of new technologies.	89.2	16.36	<.001
8. Evaluates strengths and limitations of possible technologies.	85.4	13.33	<.001
9. Advocates for use of innovative technologies.	84.2	12.60	<.001
10. Teaches others to use new technologies.	82.9	11.94	<.001
<i>Self-assessment</i>			
11. Acknowledges limits of own knowledge, skills, and abilities.	85.4	15.37	<.001
12. Has an accurate sense of what they contribute to the organization.	81.9	13.86	<.001
13. Seeks out feedback from others.	48.8	4.28	<.001
14. Learns from mistakes.	48.8	4.28	<.001
15. Incorporates feedback into performance.	39.0	2.59	.011
<i>Self-management</i>			
16. Maintains boundaries between work and other domains of life.	86.6	16.26	<.001
17. Copes with workplace pressures.	86.6	16.26	<.001
18. Manages own reactions and emotions.	85.4	15.37	<.001
19. Respects others' boundaries between work and other domains of life.	70.7	9.05	<.001
20. Adapts to workplace culture.	65.9	7.75	<.001
<i>Continuous learning and career management</i>			
21. Seeks learning opportunities, both formal and informal.	90.2	19.79	<.001
22. Takes initiative to connect with others about career opportunities.	78.1	11.54	<.001
23. Develops knowledge and skills relevant to the specific work context.	74.4	10.18	<.001
24. Makes plans to achieve learning goals.	64.6	7.46	<.001

25. Approaches day-to-day challenges as an opportunity to learn and grow.	57.3	5.88	<.001
26. Seeks feedback on performance.	42.7	3.22	.002
27. Reflects on experiences to clarify career interests.	39.0	2.59	.011
28. Tracks growth and accomplishments.	26.8	0.37	.711
<i>Communication</i>			
29. Uses clear and concise language.	96.6	37.23	<.001
30. Communicates ideas effectively.	94.3	27.93	<.001
31. Listens attentively to others.	80.7	13.16	<.001
32. Adapts communication to audience and circumstance.	58.4	6.36	<.001
33. Asks questions of others to gain perspective.	39.8	2.82	.006
<i>Collaboration</i>			
34. Does a fair-share of the team's work.	87.5	16.90	<.001
35. Gives credit to others for their ideas, strengths and contributions.	87.5	17.63	<.001
36. Asks others to share their perspectives.	72.7	10.00	<.001
37. Takes responsibility for own actions.	55.7	5.76	<.001
38. Actively listens to others.	18.2	-1.65	.103
39. Pays attention when others are speaking.	10.2	-4.55	<.001
<i>Cross-cultural agility</i>			
40. Uses language that is inclusive of diverse groups.	86.4	16.04	<.001
41. Adapts to organizational cultural dynamics.	83.2	14.57	<.001
42. Takes steps to learn about the values and norms present within the workplace.	65.9	7.91	<.001
43. Respects points of view that differ from their own.	55.7	5.76	<.001
<i>Critical thinking</i>			
44. Seeks to understand the "big picture," root problem, or purpose for their actions.	77.7	11.58	<.001
45. Makes evidence-based decisions and/or recommendations.	77.4	11.41	<.001
46. Applies criteria to determine a best course of action.	65.5	7.76	<.001
47. Takes time to engage thoughtfully with their work.	54.1	5.36	<.001
48. Identifies multiple possible options or solutions to problems.	51.8	6.06	<.001
<i>Innovation mindset</i>			
49. Demonstrates curiosity in the workplace.	78.8	12.07	<.001
50. Takes measured risks.	59.3	6.44	<.001
51. Identifies important opportunities for improvement.	57.6	6.06	<.001
52. Actively integrates ideas from across contexts.	57.6	6.06	<.001
53. Asks relevant questions about important issues.	11.9	-3.68	.001
54. Explores implications of proposed solutions.	9.4	-4.89	<.001
<i>Implementation</i>			
55. Tracks progress towards defined goals.	84.7	15.20	<.001
56. Meets deadlines with integrity.	81.2	13.17	<.001
57. Manages own deadlines.	80.2	12.79	<.001
58. Identifies concrete steps necessary to complete projects.	80.0	12.60	<.001
59. Aligns work plan with overarching goals.	67.1	8.20	<.001

*Note.* Statistics are derived from one-sample t-tests. The test value for the data literacy and technological literacy talents was .33 because participants sorted items into three groups. The test value for all other items was .25 because items were sorted into four groups.

## IMPLICATIONS OF THE FUTURE READY TALENT FRAMEWORK FOR WIL

The main implication of the FRTF is that it provides educators, students, and employers with a common language to discuss talent. Though previous talent frameworks have been developed, the FRTF focuses on demonstrations of future ready talents (see Table 4). This is what sets it apart from previous frameworks. Demonstrations are a key component of talent frameworks (Marrelli et al., 2005), as they inform our understanding of what talent looks like (Boyatzis, 1982; Boyatzis et al., 1999). Within the current context, these demonstrations may deepen students' awareness of future ready talents, and aid students' preparation for the future of work.

The framework has been designed with the expectation that the 12 talents will remain consistent as important aspects for talent for the foreseeable future, but that the behavioral statements that represent the talents may need to change as the predictions for the future of work unfold. For example, communication has been, and will continue to be a key component of success in work. However, as technology advances to support remote or hybrid work, the behavioral statements that describe a successful communicator may change.

Talent development is one element of the larger picture when considering the future of work, and whether students and organizations are future ready. Moving forward, the future of work is expected to involve increasing advocacy for equity, diversity, and inclusion (EDI). In relation to the current context, this may involve considerations such as access to WIL programs for students from underrepresented groups, and how access to these opportunities may impact employment outcomes. However, these discussions extend beyond the scope of the current research and are suggested as areas for future consideration.

### *Potential Applications of the Future Ready Talent Framework*

There are several planned applications for the FRTF as curricular support, as an assessment tool both at the student and program level, and as a tool for integration between WIL experiences and academic curriculum.

The FRTF provides curricular support across the programming provided to WIL students. The introduction of the FRTF as part of the WIL preparatory curriculum can create awareness for students about the anticipated changes in the future of work, and how their WIL experiences will enable them to develop talents that will prepare them for success. For example, the inclusion of Lifelong Learning and Career Development as a talent signals to students at the beginning stages of their career that learning is something that will continue throughout their lives, not end with the completion of their degree. The FRTF also serves as a roadmap to connect the learning outcomes from career appointments and workshops to a single frame of reference. Students will be able to see how the programming that is offered to them relates to a bigger picture through its connection to the FRTF. Another area of curricular support offered by the use of the FRTF is in connecting it to students' workplace reflections. The FRTF provides an organizing tool for students to reflect on the ways that their experiences are enabling them to develop talents important for the future of work.

The FRTF is also a tool for assessment. Many WIL programs encourage or require employers to complete an evaluation of the WIL students' performance. The FRTF and in particular, the associated behavioral statements can be used to collect feedback on students' demonstration of talents. The FRTF can also be used by students to self-assess as they consider their strengths and areas for development. A component of program assessment information is also possible through the collection of feedback

from employers and students. The FRTF and its associated behavioral statements can highlight areas of general strength and weakness for students from a particular program and provide information to academic programs about possible gaps in students' skills.

A third area of possible application for the FRTF is in the integration between academic curriculum and workplace learning. The FRTF tool can be used to link the learning outcomes from an academic course, or an academic program, to a common language relevant to employers. For example, by connecting a learning outcome in a course to one or more of the FRTF talents, students gain an appreciation for not just the knowledge they are gaining, but also for the skills they are developing through their academic courses and how that combination of knowledge and skills can then be applied in a workplace context.

Beyond mapping learning outcomes at the course level, the FRTF could also be used to map learning outcomes at the program level and could highlight areas where the academic curriculum is supporting students' development of future ready talents. For example, it would be expected that there would be significant representation of Discipline and Context-Specific Skills across academic courses, but possibly less support for students in developing Innovation Mindset or Intercultural Effectiveness. A mapping exercise between academic curriculum and the FRTF might reveal opportunities for additional curricular support for students in becoming future ready.

In summary, the FRTF has potential for wide-reaching implementation. It can allow students to track and reflect on their talent development in the context of the predicted changes for the future of work. Through its use, students and educators can consider the ways that work experiences and academic courses combine to prepare students. The FRTF also provides a tool to assess and collect feedback on student performance that can be used as input to enhance WIL programming.

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## About the Journal

The International Journal of Work-Integrated Learning (IJWIL) publishes double-blind peer-reviewed original research and topical issues dealing with Work-Integrated Learning (WIL). IJWIL first published in 2000 under the name of Asia-Pacific Journal of Cooperative Education (APJCE). Since then the readership and authorship has become more international and terminology usage in the literature has favored the broader term of WIL, in 2018 the journal name was changed to the International Journal of Work-Integrated Learning.

In this Journal, WIL is defined as "*an educational approach that uses relevant work-based experiences to allow students to integrate theory with the meaningful practice of work as an intentional component of the curriculum. Defining elements of this educational approach requires that students engage in authentic and meaningful work-related task, and must involve three stakeholders; the student, the university, and the workplace*". Examples of practice include off-campus, workplace immersion activities such as work placements, internships, practicum, service learning, and cooperative education (Co-op), and on-campus activities such as work-related projects/competitions, entrepreneurship, student-led enterprise, etc. WIL is related to, but not the same as, the fields of experiential learning, work-based learning, and vocational education and training.

The Journal's main aim is to enable specialists working in WIL to disseminate research findings and share knowledge to the benefit of institutions, students, co-op/WIL practitioners, and researchers. The Journal desires to encourage quality research and explorative critical discussion that leads to the advancement of effective practices, development of further understanding of WIL, and promote further research.

The Journal is ongoing financially supported by the Work-Integrated Learning New Zealand (WILNZ), [www.nzace.ac.nz](http://www.nzace.ac.nz) and the University of Waikato, New Zealand, and received periodic sponsorship from the Australian Collaborative Education Network (ACEN) and the World Association of Cooperative Education (WACE).

## Types of Manuscripts Sought by the Journal

Types of manuscripts sought by IJWIL is primarily of two forms; 1) *research publications* describing research into aspects of work-integrated learning and, 2) *topical discussion* articles that review relevant literature and provide critical explorative discussion around a topical issue. The journal will, on occasions, consider best practice submissions.

*Research publications* should contain; an introduction that describes relevant literature and sets the context of the inquiry. A detailed description and justification for the methodology employed. A description of the research findings - tabulated as appropriate, a discussion of the importance of the findings including their significance to current established literature, implications for practitioners and researchers, whilst remaining mindful of the limitations of the data, and a conclusion preferably including suggestions for further research.

*Topical discussion articles* should contain a clear statement of the topic or issue under discussion, reference to relevant literature, critical and scholarly discussion on the importance of the issues, critical insights to how to advance the issue further, and implications for other researchers and practitioners.

*Best practice and program description papers.* On occasions, the Journal also seeks manuscripts describing a practice of WIL as an example of best practice, however, only if it presents a particularly unique or innovative practice or was situated in an unusual context. There must be a clear contribution of new knowledge to the established literature. Manuscripts describing what is essentially 'typical', 'common' or 'known' practices will be encouraged to rewrite the focus of the manuscript to a significant educational issue or will be encouraged to publish their work via another avenue that seeks such content.

By negotiation with the Editor-in-Chief, the Journal also accepts a small number of *Book Reviews* of relevant and recently published books.



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