A Practical Guide for Work-integrated Learning

Effective Practices to Enhance the Educational Quality of Structured Work Experiences Offered through Colleges and Universities

Higher Education Quality Council of Ontario

An agency of the Government of Ontario

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education at work ontario

HIGHER EDUCATION INSTITUTIONS HAVE BECOME INCREASINGLY FOCUSED ON THE QUALITY OF TEACHING AND LEARNING, AND THE PROVISION OF HIGH-QUALITY EDUCATIONAL EXPERIENCES FOR STUDENTS IN VARIOUS LEARNING CONTEXTS.

WELL-DESIGNED WORK-INTEGRATED LEARNING IS OF BENEFIT TO THE STUDENT, THE ACADEMIC INSTITUTION, THE HOST INSTITUTION/EMPLOYER AND THE COMMUNITY.

THROUGH WORK-INTEGRATED LEARNING, STUDENTS BRING NEW IDEAS AND INNOVATION TO INDUSTRY, GOVERNMENT AND COMMUNITY ORGANIZATIONS.

COLLEGES AND UNIVERSITIES ARE RECOGNIZING THE EDUCATIONAL IMPACT OF WORK-INTEGRATED LEARNING, AND IT IS BECOMING INCREASINGLY POPULAR IN HIGHER EDUCATION SETTINGS.

OPPORTUNITIES FOR WORK-INTEGRATED LEARNING SPAN THE BREADTH OF DISCIPLINARY AREAS, FROM THE SOCIAL SCIENCES AND HUMANITIES TO ENVIRONMENTAL, PHYSICAL, HEALTH AND APPLIED SCIENCES, FINE ARTS, BUSINESS AND VOCATIONAL TRAINING.

WHEN DONE CORRECTLY, OPPORTUNITIES FOR STUDENTS TO LEARN OUTSIDE THE CLASSROOM IN A WORK ENVIRONMENT AUGMENT STUDENTS' ACADEMIC LEARNING AND DEVELOP WORK-READY GRADUATES.

EDUCATIONAL PARTNERSHIPS BETWEEN THE ACADEMIC INSTITUTION AND THE WORKPLACE ENHANCE THE INTEGRATION OF THEORY AND PRACTICE WITHIN AND BETWEEN ACADEMIC AND WORKPLACE ENVIRONMENTS.

WORK-INTEGRATED LEARNING OPPORTUNITIES FOSTER PERSONAL AND PROFESSIONAL GROWTH AND ENRICH STUDENTS' HIGHER EDUCATION EXPERIENCE.

THIS GUIDE IS INTENDED

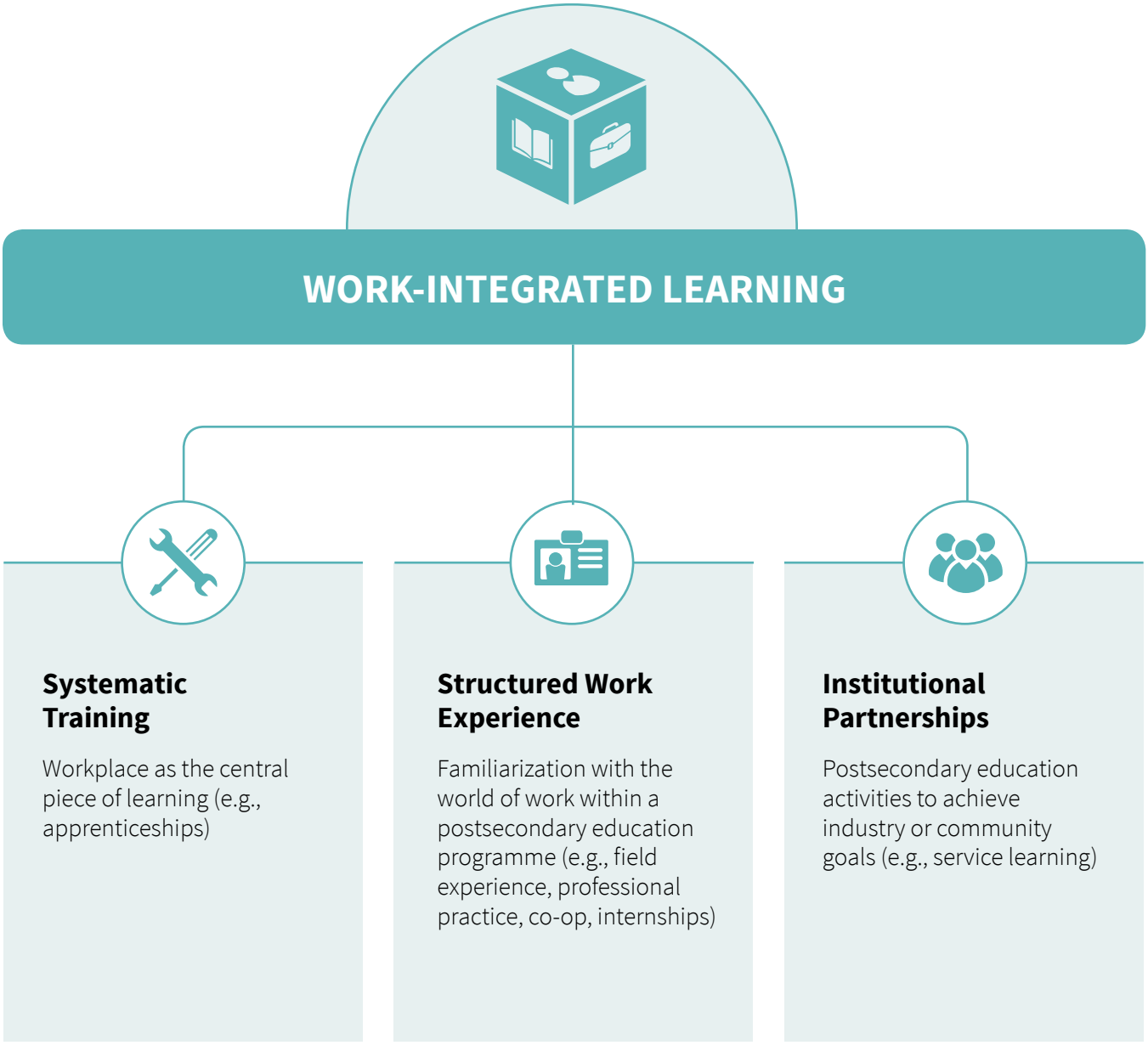
TO SERVE AS A RESOURCE TO ENHANCE STUDENT LEARNING AND DEVELOPMENT IN HIGHER EDUCATION THROUGH THE STRUCTURED WORK EXPERIENCE

Work-integrated learning is a pedagogical practice whereby students come to learn from the integration of experiences in educational and workplace settings (Billett, 2009).

- Work-integrated learning has emerged as a key pedagogical strategy to enhance student learning and development (Kennedy, Billett, Gherardi & Grealish, 2015).
- Integrating curricular learning with workplace experience provides students with an opportunity to combine theory and practice in a real-world work environment, deepening students' knowledge and understanding, and enhancing work-related capabilities (Cooper, Orrell & Bowden, 2010).
- Work-integrated learning is becoming increasingly popular in higher education (Smigiel, Macleod & Stephenson, 2015).
- Almost half of the postsecondary students in Ontario direct-entry programmes will experience work-integrated learning by graduation (Sattler & Peters, 2013). This does not take into account the vast number of work-integrated learning opportunities offered by second-entry/graduate programmes.

WIL Typology

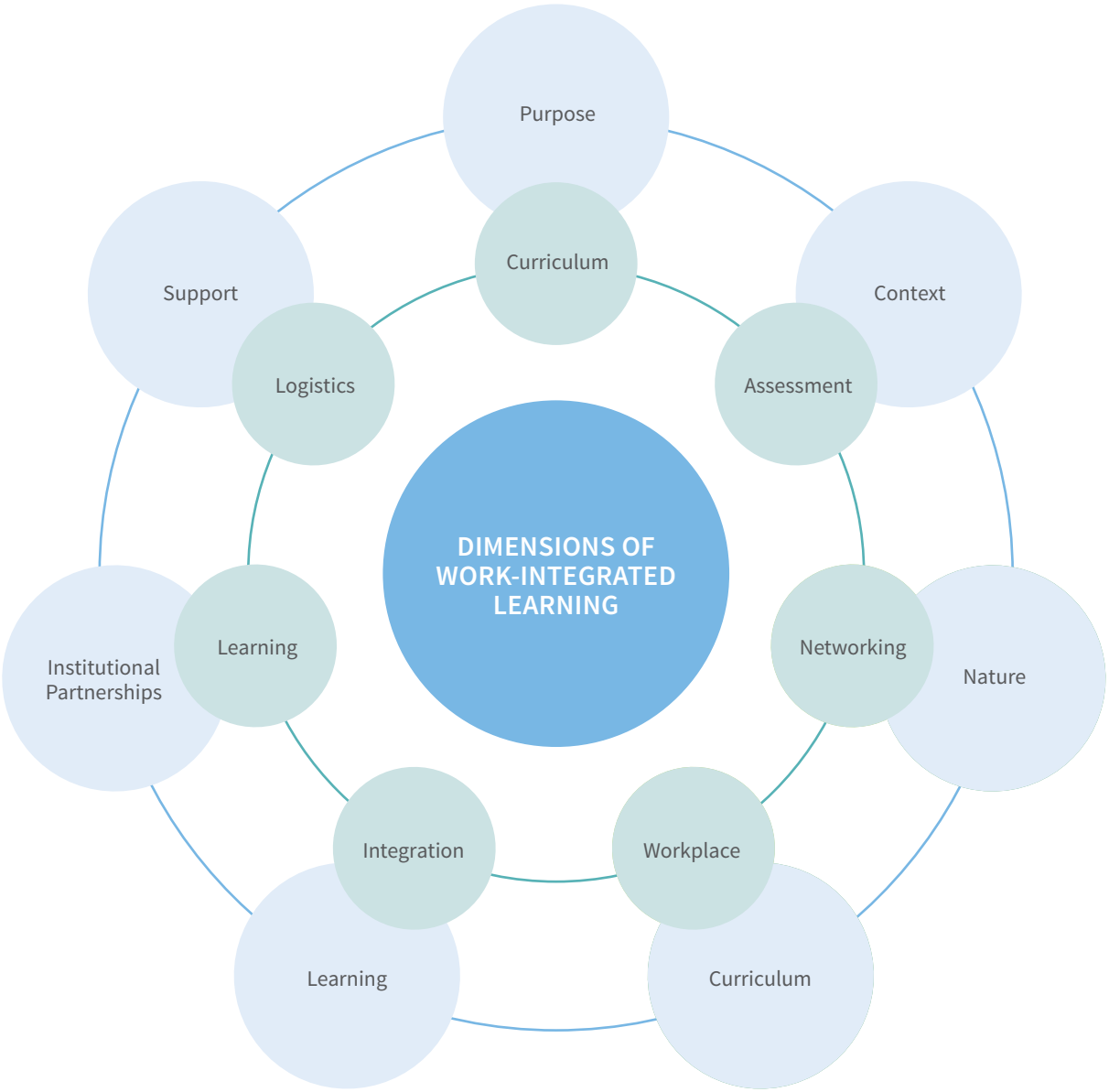
The term 'work-integrated learning' (WIL) is often used interchangeably with work-based learning, practice-based learning, work-related learning, vocational learning, experiential learning, co-operative education, clinical education, internship, practicum and field education, to name but a few (Sattler, 2011). In an attempt to provide clarity around work-integrated learning terminology, several models and typologies of work-integrated learning have been proposed (Calway, 2006; Cooper et al., 2010; Furco, 2006; Guile & Griffiths, 2001; Keating, 2006; Rowe, Mackaway & Winchester-Seeto, 2012; Schuetze & Sweet, 2003). Specifically describing the provision of work-integrated learning in Ontario's postsecondary sector, Sattler (2011, p. 29) outlines a typology to explain the different types of work-integrated learning experiences in colleges and universities, including: ***systematic training***, in which the workplace is "the central piece of the learning" (e.g., apprenticeships); the ***structured work experience***, in which students are familiarized with the world of work within a postsecondary education programme (e.g., field experience, professional practice, co-op, internships); and ***institutional partnerships***, which refer to "postsecondary education activities [designed] to achieve industry or community goals" (e.g., service learning).



(Sattler, 2011)

Key Dimensions of WIL

In addition to models and typologies, key dimensions of work-integrated learning programming have been suggested. Cooper, Orwell and Bowden (2010) identify seven key dimensions, including: purpose, context, the nature of the integration, curriculum issues, learning, institutional partnerships, and the support provided to the student and the workplace. Building upon this list, Cantalini-Williams (2015) proposed her "CANWILL" framework for developing effective work-integrated learning practicums (curriculum, assessment, networking, workplace, integration, learning and logistics), adding assessment and logistics as dimensions to the delivery of work-integrated learning experiences.



THIS GUIDE IS INTENDED TO SERVE AS A RESOURCE TO ENHANCE STUDENT LEARNING AND DEVELOPMENT IN HIGHER EDUCATION THROUGH THE STRUCTURED WORK EXPERIENCE.

The Focus of this Guide

This guide is intended to serve as a resource for faculty, staff, academic leaders and educational developers engaged in work-integrated learning programme development, facilitation and/or evaluation. The focus of this guide is on enhancing the educational quality of work-integrated learning programmes. Several aspects of Cooper et al.'s (2010) and Cantalini-Williams' (2015) dimensions of work-integrated learning, such as purpose, context and institutional partnerships, will be referenced throughout the guide, with student learning as the main dimension of focus. Using Kolb's experiential learning cycle, we suggest effective practices to address each of the learning modes of experience, reflection, theorization and experimentation within a higher education work-integrated learning programme, in order to optimize student learning and development.

While the information included in this guide may apply to several types of work-integrated learning, including systematic training (e.g., apprenticeship) and institutional partnerships (e.g., service learning), this guide was developed with a focus on the structured work-integrated learning experience, such as internships, placements, co-ops, field experiences, professional practice and clinical practicums. Looking at these forms of structured work experience as a whole, their intention is to integrate theory and practice and provide postsecondary students with a valuable learning experience in a real-world work environment (Sattler, 2011). Accordingly, this guide was written with the intention of providing effective practices to enhance the educational quality of the variety of structured work experiences that are offered in postsecondary programmes.

In Chapter 1, an overview is provided of Kolb's experiential learning theory, outlining the foundation for the remaining chapters. Chapters 2 to 5 provide background information and recommendations of effective practices for ways to enhance the educational quality of work-integrated learning programming while addressing each of Kolb's four learning modes: purposeful experience (Chapter 2); reflection (Chapter 3); the integration of theory and practice (Chapter 4); and applying new ideas (Chapter 5). Chapter 6 includes information for work-integrated learning programme evaluation, including strategies to evaluate the effectiveness of a work-integrated learning programme for student learning and development. Building on the previous chapters, Chapter 7 makes recommendations for broader curricular integration and meaningful partnerships with industry, government and community organizations to further advance the pedagogical practice and educational quality of the structured work experience in higher education settings.

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HOW TO USE THIS GUIDE

This guide is designed so that it can be read from start to finish, or readers can turn directly to topic areas of interest.

Each chapter provides a combination of background information on the topic, key definitions, opportunities to reflect on past or present work-integrated learning practice, sample tools and activities, and success stories exemplifying effective practices in work-integrated learning programming. The intention is for the reader to bring personal experience with work-integrated learning to the reading and interpretation of the material included in this guide, and after reflecting on previous experiences in light of the material shared in this guide, readers will be in a good position to develop an action plan to enhance further the educational quality of their structured work-integrated learning programmes. In order for this guide to be most effective, it is recommended that the full content and activities be reviewed.

This guide includes the following components:

KEY TERMINOLOGY
Key terminology defined

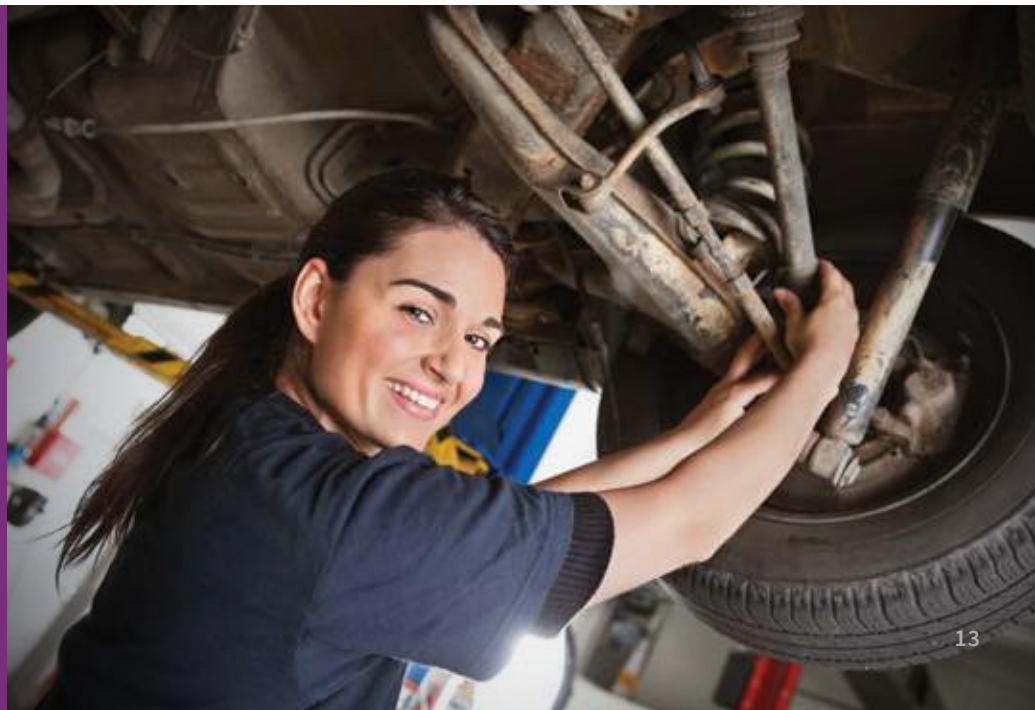
RECOMMENDATIONS AND GUIDELINES
Recommendations, guidelines and tips for effective practice

GIVE IT A TRY!
Sample tools, assignments, exercises and classroom activities

REFLECTION QUESTIONS
Personalized reflection questions/exercises

SUCCESS STORIES
Examples and stories shared by faculty and staff leading work-integrated learning programmes at colleges and universities in Ontario

THE BENEFITS OF WORK-INTEGRATED LEARNING ARE NOT IMPLICIT WITHIN THE WORK ITSELF, BUT RATHER IN THE INTEGRATION OF THEORY AND PRACTICE.



IN ORDER TO ASSURE THE EDUCATIONAL QUALITY OF THE WORK-INTEGRATED LEARNING EXPERIENCE, IT IS IMPORTANT THAT THESE PROGRAMMES BE STRUCTURED DELIBERATELY AND GROUNDED IN EMPIRICAL LEARNING THEORY.

When effective, the work-integrated learning experience offers numerous benefits to students, workplace supervisors and employers, higher education institutions, and industry, government and community partners (Sattler & Peters, 2012). However, compared to traditional classroom-based instruction, the delivery of work-integrated learning programmes requires novel teaching strategies, including the deliberate integration of theory and practice, the development of specific learning outcomes for practice, and creative reflection exercises and assignments (Kennedy et al., 2015; Smigiel et al., 2015). Also included in the instruction of these courses/programmes is a heavy emphasis on students' self-directed learning and professional responsibility in the workplace (Smigiel et al., 2015).

Another consideration in the delivery of work-integrated learning is the effectiveness of work-integrated programming in enhancing student learning and development. More specifically, recognizing that the benefits of work-integrated learning are not implicit within the work itself, but rather in the integration of theory and practice facilitated through the work-integrated learning experience (Billett, 2009; Cooper et al., 2010), it is important to consider how this integration may be achieved most effectively. In order to assure the educational quality of the work-integrated learning experience, it is important that these programmes be structured deliberately and grounded in empirical learning theory.

Students

- Practical experience
- Applied learning
- Skill/professional development
- Networking
- Career exploration
- An edge in the job market
- Enhanced transition into the workplace
- Future career success
- Personal growth
- Awareness of self

Supervisor/Employer

- Access to high-quality students for temporary employment
- Students bring new ideas and innovation to work projects
- Access to current theoretical knowledge and resources
- Development of the employer's coaching and leadership skills
- Reinforces previous education and training

Academic Institution

- Increased community engagement
- Increased communication with government and industry
- Opportunities for curriculum enhancement with applied content
- Enhanced student education, satisfaction and engagement
- Enhanced student recruitment

Worksite

- Development and maintenance of a positive reputation
- Application of theoretical knowledge to the workplace
- Opportunities for evaluation
- Improved employee morale
- Opportunities for recruitment of strong 'work-ready' graduates

References: Coco, 2000; Divine, Linrud, Miller & Wilson, 2007; Gault, Leach & Duey, 2010; Gault, Redington & Schlager, 2000; Hergert, 2009; Huling, 2001; Hynie, Jensen, Johnny, Wedlock & Phipps, 2011; Knemeyer & Murphy, 2002; Knouse & Fontenot, 2008; Paris & Adams, 1994; Denmark & Podsen, 2013; Ross & Elechi, 2006; Sattler, 2011; Sattler & Peters, 2012; Schmutte, 1986; Weible, 2009

"If [student] experiences are structured effectively and processed rigorously, they can add a great deal of value to students' learning and to the educational strength of the institution… But these ***transformative effects depend on careful planning and execution, on avoiding the tendency to fall back on the adage that every experience is educational****, on pushing students and faculty to think rigorously and extensively about the intersections between theory and instruction, so students can understand not only how to do things, but why they work the way they do, and what ethical principles are at stake as they engage in real-world activity."*

– THORNTON MOORE (2010, P. 11)

1

THEORETICALLY GROUNDED WIL:
APPLICATION OF KOLB'S EXPERIENTIAL LEARNING THEORY

This introductory chapter provides an overview of Kolb's experiential learning theory. Experiential education and experiential learning are defined. Historical theories on learning through experience that led to the development of Kolb's theory are reviewed. Kolb's tenets of experiential learning, the experiential learning cycle, learning styles and developmental process are summarized and followed by critiques of the theory and a review of other theories that are applicable to work-integrated learning.

EXPERIENTIAL EDUCATION AND EXPERIENTIAL LEARNING DEFINED

"Learning from experience" begins with experiential education in the broadest sense and is followed by experiential learning in the field. One of the ways in which learning in the field can be facilitated is through work-integrated learning.

Experiential education refers broadly to a philosophical process that guides the development of structural and functional learning experiences, attends to the ethics of knowledge and outlines the overarching standards for learning environments (Roberts, 2012). ***Experiential learning*** is considered to represent the specific techniques or mechanisms that an individual can implement to acquire knowledge or meet learning goals (Roberts, 2012). According to Keeton and Tate (1978), learning is experiential when "…the learner is directly in touch with the realities being studied… it involves a direct encounter with the phenomenon being studied rather than merely thinking about it" (p. 2). Further, Beard and Wilson (2013) recognize experience as the "bridge" between an individual and his or her external environment (p. 26). As a result, Boud et al. (1993) suggest that there is little value in detaching learning from experience, as experience is the main facilitator of learning. This type of learning can be achieved in academic settings (e.g., mechanisms for testing theoretical concepts in the workplace) and/or extracurricular environments (e.g., techniques for learning to skate; Roberts, 2012). Essentially, experiential learning is "the process whereby knowledge is created through transformation of experience" (Kolb, 1984, p. 38). Despite substantial support for the role of experience as a cornerstone of learning, it must be noted that learning is not an automatic result of experience (Beard & Wilson, 2013). Instead, deliberate engagement with an experience (e.g., critical reflection on aspects of experience) is required for effective experiential learning (Beard & Wilson, 2013).

Experiential learning can be facilitated in postsecondary education through ***work-integrated learning***, which is a broad term that encompasses various learning opportunities centred on the integration of academic learning and practical application in a chosen work environment (Sattler, 2011).

KEY TERMINOLOGY

Experiential education is the philosophical process that guides the development of structural and functional learning experiences.

Experiential learning refers to the specific techniques or mechanisms that an individual can implement to acquire knowledge or meet learning goals.

(Roberts, 2012)

LEARNING IS NOT AN AUTOMATIC RESULT OF EXPERIENCE. INSTEAD, DELIBERATE ENGAGEMENT WITH AN EXPERIENCE IS REQUIRED FOR EFFECTIVE EXPERIENTIAL LEARNING.

HISTORICAL REVIEW OF LEARNING FROM EXPERIENCE:
THE BACKGROUND TO KOLB'S THEORY

Experiential learning opportunities should be grounded in a theoretical framework to ensure that each opportunity is educational. Kolb's (1984) experiential learning theory was chosen as the framework for this guide. As identified by Thornton Moore (2010), most approaches to learning through experience share theoretical underpinnings drawn from early experiential learning philosophies. Philosophies centered on experience as a form of learning have developed over time, beginning with Greek philosophers such as Plato and Aristotle and evolving to present-day thought with scholars such as Piaget, Lewin, Dewey and Kolb.

450-325 BCE

- The concept of 'experience' grounded in empirical observation originated with Plato and Aristotle (Beard & Wilson, 2013; Jay, 2005, pp. 15-16).
- This philosophical approach to 'experience' recognized the importance of deliberate practice in achieving higher-order thought or learning (Roberts, 2012).

1590s-1650s

- René Descartes emphasized 'reasoning' (e.g., logical thought) instead of 'experience' (e.g., learning through the senses) as the core principle of learning (Garber, 1998, p. 124).
- This philosophical perspective detached the subjective experiences of individuals from the acquisition of knowledge or learning (Garber, 1998).

1910-1940s

- John Dewey challenged philosophical approaches centred on 'reasoning' and resurrected the idea of 'experience' as an important aspect of knowledge acquisition (Roberts, 2012).
- Dewey's Model of Learning (1938) was created to recognize "how learning transforms the impulses, feelings, and desires of concrete experience into higher-order purposeful action" (Kolb, 1984, p. 22).

1940-1950s

- Kurt Lewin's (1951) Model of Action Research and Laboratory Training outlined the process in which "here-and-now" experiences are interpreted through subsequent data collection and reflection regarding the experience (Kolb, 1984).
- Lewin's (1951) theory aligned with the notion that experience is a critical aspect of learning.

1970s

- Jean Piaget (1978) developed his Model of Learning and Cognitive Development, which emphasized learning as an interaction between existing concepts or schemas and personal experiences (Kolb, 1984).

1980s

- David A. Kolb's (1984) experiential learning theory outlines a scientific process for learning through experience.
- His theory is grounded in the notion that knowledge acquisition occurs when an individual grasps and intentionally transforms his or her personal experiences (Kolb, 1984).
- To this day, Kolb's theory is commonly used in research and practice related to experiential learning (e.g., Cantor, 1995; Healey & Jenkins, 2000; Hopkins, 1999; Kuh, 2008).

KOLB'S (1984) EXPERIENTIAL LEARNING THEORY WAS CHOSEN AS THE GROUNDING FRAMEWORK FOR THIS GUIDE.

DAVID A. KOLB'S (1984) EXPERIENTIAL LEARNING THEORY

Drawing from the works of Dewey (1938), Lewin (1951) and Piaget (1978), David A. Kolb's (1984) theory is founded on the notion that learning occurs when an individual recognizes a personal experience and transforms that experience through his or her affect, perceptions, cognitions and/or behaviours.

Tenets of Experiential Learning Theory

Kolb and Kolb (2005) identify six core tenets upon which the experiential learning theory is founded, including: 1. Learning is a process; 2. Learning is grounded in experience; 3. Learning involves mastery of all four learning modes; 4. Learning is a holistic process of adaption; 5. Learning occurs when an individual interacts with his or her environment; and 6. Knowledge is created through learning.

RECOMMENDATIONS AND GUIDELINES

Tenets of Experiential Learning Theory

1. Learning is a process.	• Promoting student acknowledgement of previous informal and formal learning • Student learning is viewed as ongoing • Encouraging the modification of ideas or techniques throughout the work-integrated learning experience
2. Learning is grounded in experience.	• Introducing student learning experiences at an appropriate pace and progression • Challenging students' preconceptions in light of new experience, theory and reflection
3. Learning involves mastery of all four learning modes.	• Providing students with opportunities to experience, reflect, theorize and apply
4. Learning is a holistic process of adaptation.	• Addressing students' feelings, perceptions, thoughts and actual behaviours throughout the WIL experience
5. Learning occurs when an individual interacts with his or her environment.	• Providing students with experience in the wider real-world environment (e.g., workplace context)
6. Knowledge is created through learning.	• Learning should be individualized to each student • Assigning students responsibility over their own learning

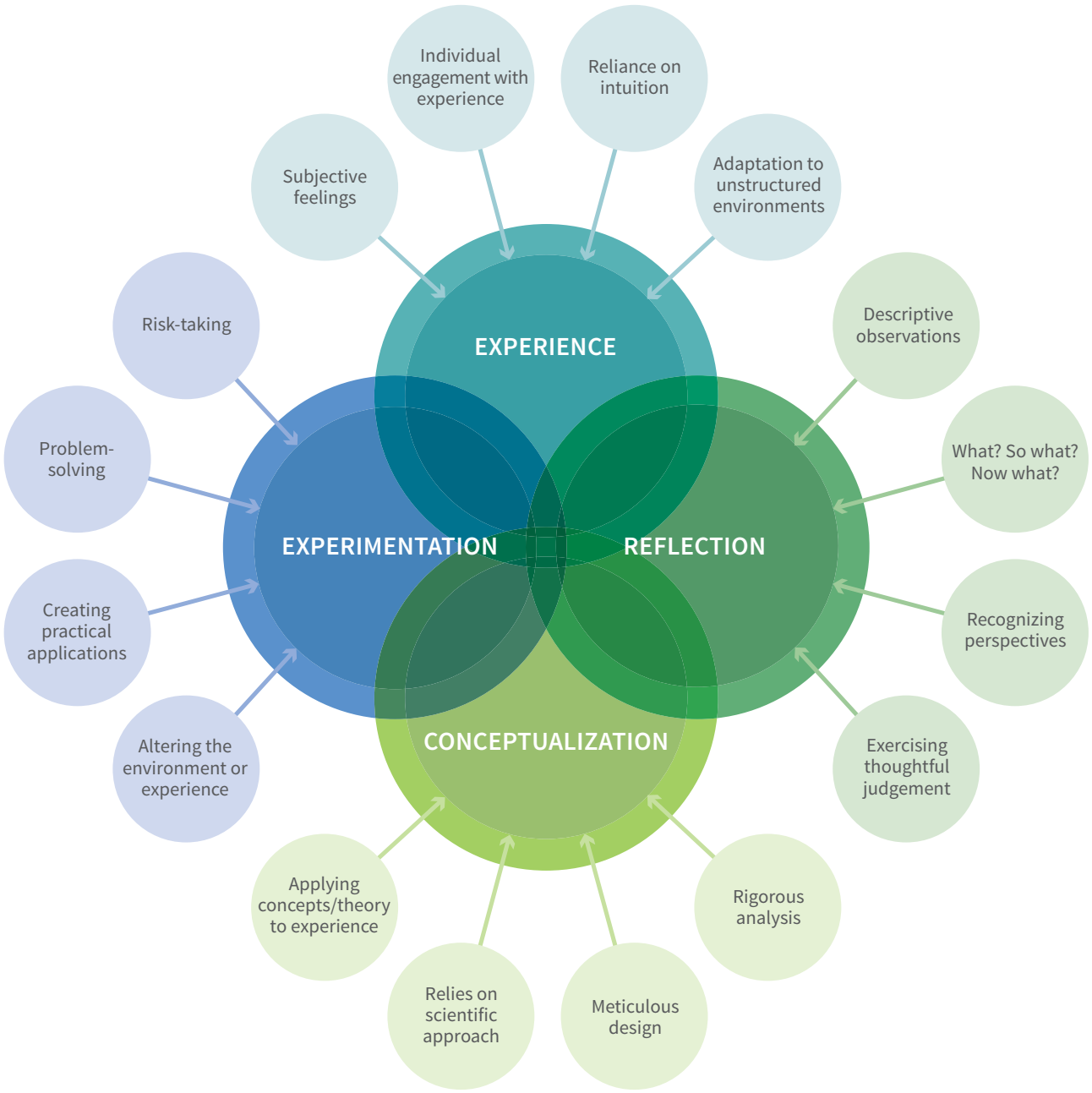
Adapted from Kolb (1984); Stirling (2013).

Experiential Learning Cycle

Kolb's (1984) theory is comprised of four major modes of learning: concrete experience (feeling dimension), reflective observation (watching dimension), abstract conceptualization (thinking dimension), and active experimentation (doing dimension). When each mode is represented adequately, an optimal level of learning occurs (Kolb, 1984). It is important to note that the four major modes of learning do not have to occur in a sequential manner (Evans, Forney, Guido, Patton & Renn, 2010; Kolb, Boyatzis & Mainemelis, 2001). While Kolb's experiential learning cycle is typically presented as a four-stage cycle that may be entered at any point, in this guide the four learning modes are presented as overlapping in a Venn diagram, in order to highlight the integration of each of these modes for effective student learning.

Kolb's (1984) Modes of Experiential Learning

(Adapted from Kolb, 1984)



Four Major Modes of Learning

The ***concrete experience (CE)*** mode of learning emphasizes an individual's engagement with an experience. It centres on the subjective feelings attached to an individual's present reality. Individuals with an orientation toward this learning mode typically rely on their intuition, interact well with others and can adapt to unstructured environments.

Reflective observation (RO) centres on descriptive observations of the experience. The major aspect of this mode is engagement in reflection for the purpose of revealing what or how an event occurred. Those with an RO orientation are skilled at recognizing various perspectives and exercising thoughtful judgement.

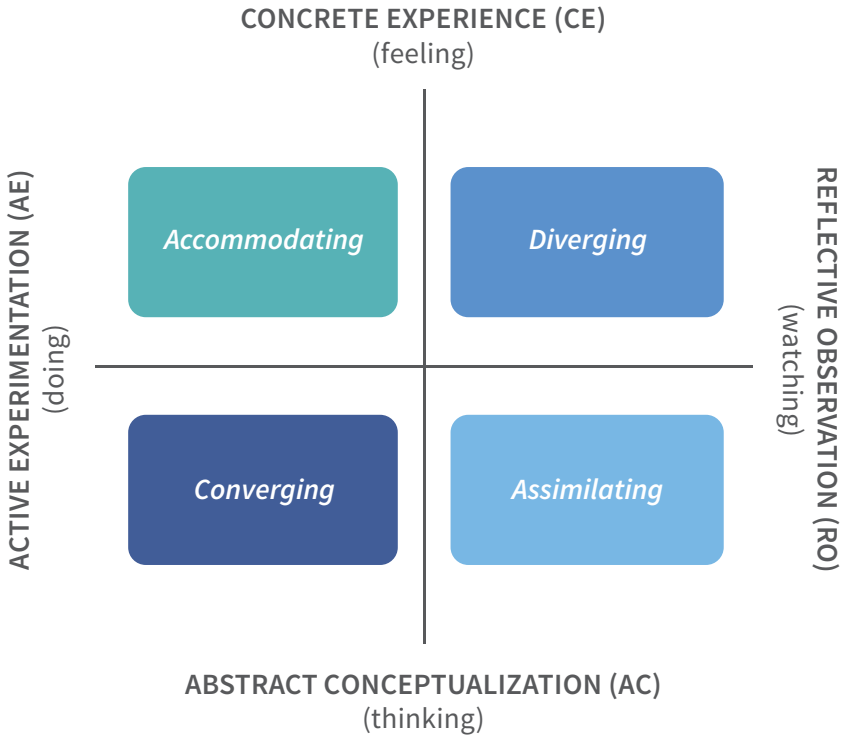
Abstract conceptualization (AC) centres on applying logic, theory and concepts to an experience. This learning mode relies primarily on a pure scientific approach. Individuals with an orientation toward AC are skilled at meticulous design and rigorous analysis of concepts and ideas.

Finally, the ***active experimentation (AE)*** mode of learning emphasizes the use of experimentation to alter an environment or an experience. It focuses on creating practical, effective applications to solve pertinent issues. Individuals with an orientation toward this learning mode are inclined to take risks if it will assist them in reaching their goals.

Basic Learning Styles

In addition to the four major modes of learning, Kolb's (1984) theory identifies four basic learning styles often adopted when acquiring new or building on existing knowledge (Kolb, 1984). Adopting a particular learning style is typically a result of various influences encountered throughout an individual's life (e.g., parents, peers, education, employment; Kolb, 1984). The four learning styles outlined by Kolb (1984) are converging, diverging, assimilating and accommodating. Each learning style favours an orientation toward two learning modes. The ***converging*** learning style is associated with an orientation toward active experimentation and abstract conceptualization. Skills commonly associated with this learning style include problem solving, reasoning and practice. The ***diverging*** learning style is associated with an orientation toward concrete experience and reflective observation. Skills commonly associated with this learning style include perspective-taking, observing one's feelings and possessing a creative imagination. The ***assimilating*** learning style is associated with an orientation towards abstract conceptualization and reflective observation. Skills commonly associated with this learning style include the generation of theoretical frameworks and interpreting abstract thoughts or ideas. The ***accommodating*** learning style is associated with concrete experience and active experimentation. Skills commonly associated with this learning style include engagement in activities, implementing designs, taking risks and adapting to new environments.

Interestingly, a person's chosen vocation often aligns with and accentuates his or her learning style (Kolb, 1984). For example, young adults who choose to pursue postsecondary education in business-related programmes tend to favour an accommodating learning style, while those who choose programmes that involve abstract concepts (e.g., math or chemistry) favour an assimilating learning style (Kolb, 1984). Information on Kolb's learning styles is included in this guide as they are commonly cited in relation to career exploration and career counselling. As a reminder, regardless of the student's intended career choice or preferred learning mode, all four learning modes must be addressed in order for learning to be most effective in the structured work environment.



LEARNING STYLE	COMMON CAREER PATHS
Converging	Computer science and engineering Finance and economics Applied sciences Medicine
Diverging	Arts and entertainment Communications Social service
Assimilating	Sciences and mathematics Social and physical sciences Legal professions Research and higher education
Accommodating	Management and HR Sales and marketing Teaching Nursing Government
(Evans et al., 2010)	

Experiential Learning as a Developmental Process

According to Kolb (1984), experiential learning is often accompanied by personal development. From this perspective, the connection between learning and development occurs when an individual's personal qualities interact with the external environment and provide an opportunity for personal knowledge to collaborate with the cultural or social knowledge of this environment (Kolb, 1984). In the context of experiential learning theory, personal development relies on the degree of complexity an individual reaches within each learning mode, as well as an individual's abilities to integrate and effectively express all fours learning modes (Kolb, 1984). As individuals develop through the learning process, they progress through the developmental phases of ***acquisition***, ***specialization*** and ***integration***. In the phase of ***acquisition***, basic learning abilities and cognitive structures develop. ***Specialization*** includes the shaping and development of a particular learning style through social, education and organizational socialization forces. And the ***integration*** phase of development occurs when a person emphasizes the expression of his or her non-dominant adaptive/learning modes or learning styles in work and personal contexts. In this developmental process, the ability to integrate all four learning modes is an indicator of personal growth and viewed to be important for personal fulfillment and cultural development (Evans et al., 2010).

CRITIQUES OF EXPERIENTIAL EDUCATION

The general idea of implementing experiential education in postsecondary environments has been met with two major criticisms. The first critique involves the objective of experiential education in postsecondary institutions. The second critique expresses skepticism regarding the pedagogical value of these learning opportunities (Butin, 2005; Thornton Moore, 2010).

The 'objective' critique of experiential education questions whether experience, such as workplace experience, should have a place in postsecondary educational programming. This question stems from the claim that postsecondary education has traditionally been focused on educating students on classic theories and texts, and may thus be incompatible with the applied practical skills required in real work environments (Thornton Moore, 2010). The idea is that while favouring absolute science in postsecondary education, students might be prevented from exploring alternative views of thinking and

learning. Therefore, there is a "problem of fit," in which the forms of knowledge acquired in postsecondary institutions do not align clearly with the knowledge required for optimal functioning in the workplace (Thornton Moore, 2010).

The "pedagogical" critique of experiential education targets the quality of experiential programming in higher education. It highlights several pedagogical gaps that generally exist, including an overemphasis on the activity itself, a lack of rigorous and critical reflection, a lack of integration of theory and practice, and a lack of connection with broader curricular learning and community needs (Thornton Moore, 2010). Thornton Moore (2010) explains that the shortcomings of experiential education are exposed when the purpose of the work-integrated learning is not pedagogically grounded and instead viewed solely as an opportunity for career exploration or networking, rather than primarily as a learning experience. Administered in this way, Thornton Moore (2010) argues that the value of the experiential activity is minimal: "The student could have learned the same things just by virtue of having a part-time job or volunteer service activity. Experiential pedagogy, done right, is extremely rewarding – but also extremely demanding" (p. 10).

To address the objective critique, Kirschner and Whitson (1997) and Lave and Wegner (1999) argue that individuals adopt various ways of thinking and learning when they are engaged in different contexts. For example, they might identify problems in certain ways or choose to solve those problems with a variety of techniques, depending on the context in which the problem occurs (Thornton Moore, 2010). From this standpoint, they suggest that postsecondary institutions may emphasize a scientific perspective, while the workplace emphasizes adaptive action or meaning making (Thornton Moore, 2010). Consistent with this line of thought, Hughes and Thornton Moore (2004) suggest that within appropriate parameters, experiential learning can be beneficial in postsecondary environments.

The pedagogical critique highlights the importance of using theories such as Kolb's to structure educational environments, as these educational theories provide guidelines to assist students in transferring knowledge learned in the classroom to practice, and vice versa (Thornton Moore, 2010).

OBJECTIVE CRITIQUE	PEDAGOGICAL CRITIQUE
• Attends to the fundamental question of whether experience *should be* involved in postsecondary education (Thornton Moore, 2010) • Those who support the objective critique often view postsecondary education as a platform for exploring classic theories and texts, or for learning about science in a pure or absolute manner (Bloom, 1987; Hart, 2001). • From this perspective, critics question whether traditional postsecondary learning (e.g., classic texts or pure science) is compatible with experiential learning (Thornton Moore, 2010).	• Focuses on whether the current organization and delivery of postsecondary education curriculum fulfills the potential of experiential learning opportunities (Thornton Moore, 2010) • This critique emphasizes the importance of the proper transfer of learning between contexts and highlights several pedagogical gaps, including an overemphasis on the activity itself, a lack of rigorous and critical reflection, a lack of integration of theory and practice, and a lack of connection with broader curricular learning and community needs (Thornton Moore, 2010).

THE ABILITY TO INTEGRATE ALL FOUR LEARNING MODES IS AN INDICATOR OF PERSONAL GROWTH AND VIEWED TO BE IMPORTANT FOR PERSONAL FULFILLMENT AND CULTURAL DEVELOPMENT.

CRITIQUES OF KOLB'S EXPERIENTIAL LEARNING THEORY

It is also important to recognize some of the critiques challenging Kolb's (1984) experiential learning theory, as it can sometimes be viewed as a taken-for-granted truth regarding experiential learning (Beard & Wilson, 2013).

Some of the critiques of the philosophy of experiential learning theory include the lack of perspective on the various ways humans acquire knowledge or transform learning (Webb, 2004); its integration of diverse frameworks from various fields without recognizing significant differences in these areas with regards to conceptualizations of learning, knowledge, truth and experience (Webb, 2004); and its inadequate representation of the theories it was built upon – i.e., Dewey (1938), Lewin (1951) and Piaget (1978) (Miettinen, 2000). Furthermore, some of the critiques of the practical application of experiential learning theory include its limited consideration and applicability to non-Western cultures (Dickson, 2000; Forrest, 2004; Smith, 2001, 2010); over-simplification of learning modes and styles (Forrest, 2004); and lack of consideration of social influences (Miettinen, 2000) and power relations (Vince, 1998) in the learning process.

Despite critical appraisal of Kolb's (1984) theory, scholars conclude that the significance of this theory for postsecondary education cannot be undermined (Eyler, 2009). Specifically, the scientific approach to experience puts emphasis on the learner – as opposed to the teacher – as primarily responsible for knowledge acquisition and transformation (Kelly, 1997). In addition, Kolb's (1984) theory has been highly regarded for the advancement and unification of several important learning theories (e.g., Dewey, Lewin and Piaget) into one coherent over-arching framework (Beard & Wilson, 2013; Greenaway, 2015). Furthermore, basic scientific models, such as experiential learning theory, tend to be viewed as accessible and relevant for use by practitioners and learners (Beard & Wilson, 2013). Overall, this theory has raised awareness of experiential learning as a critical aspect of postsecondary education (Brookfield, 1990; Cross, 1981; Jarvis, 1995; Kemp, Morrison & Ross, 1996; McKeachie, 1994).

CRITIQUES OF PHILOSOPHY	CRITIQUES OF PRACTICAL APPLICATION
• Kolb's (1984) theory recommends techniques or modes that can lead to experiential learning, yet his theory does not provide a philosophical perspective for what 'learning' entails, or the ways in which humans acquire knowledge or transform learning (Webb, 2004). • The tenets of experiential learning theory assume the integration of various frameworks of thought (e.g., epistemology, psychology), and in so doing disregard some of the significant differences in these areas with regards to conceptualizations of learning, knowledge, truth and experience (Webb, 2004). • Kolb's (1984) theory is not an adequate representation of the theories by which it was informed – Dewey (1938), Lewin (1951) and Piaget (1978) (Miettinen, 2000).	• There is minimal consideration of cultures outside of the Western world. As a result, the applicability of experiential learning theory to these cultures may be limited (Dickson, 2000; Forrest, 2004; Smith, 2001, 2010). • The learning modes and styles are too simplistic to be widely applicable (Forrest, 2004). • Learning appears to occur independently, which overlooks the importance of feedback and collaboration with others to enhance knowledge acquisition and assist in drawing conclusions from experiences (Miettinen, 2000). • Limited empirical support for the theory (Jarvis, 1987; Tennant, 1997) • The theory does not attend to the potential unequal power relations involved in the learning process (Vince, 1998).

ONTARIO POSTSECONDARY STUDENT INTERNSHIP PROGRAMMES OVER-EMPHASIZE THE PRACTICAL ASPECT OF THE EXPERIENCE AT THE EXPENSE OF LINKING THEORY AND PRACTICE

Purpose: The purpose of this study was to examine the characteristics of internships in Ontario colleges and universities and to assess the congruence between the components of these internships and Kolb's (1984) experiential learning framework.

Method: Information was analyzed from 44 Ontario colleges and universities, including 369 internship programme webpages and 77 internship course outlines.

Results: The findings indicated that internship programmes do a good job of facilitating the concrete experience and reflective observation modes of learning, but are lacking in their connection with theory. Opportunities for active experimentation are also not evident.

Discussion: Recommendations to optimize work-integrated learning opportunities include establishing explicit learning activities consistent with each experiential learning mode, including practice, reflection, connecting coursework and practical experience, and implementing creative ideas in practice.

(Stirling et al., 2014)

★ SUCCESS STORY

George Brown College

Work-integrated learning has been a key component of education at George Brown College since the college was founded in 1967. Field experience has always been incorporated into programmes in many areas, and demonstrated competence in practical settings is often required. As part of the college's Strategy 2020, the college is committed to having a work-integrated learning component in 100% of qualified programmes by 2017. Those work-integrated learning components must be of high educational quality and meet the college standard for students' preparation, minimum number of hours in the placement setting, and assessment of learning. Currently, 88% of qualified programmes have a field education component, most of which already meet the college standard.

For many students, work-integrated learning creates a powerful bridge between the theoretical material in the classroom and the practical application of that knowledge. It accelerates the students' skill development and often increases students' interest in classes as well, as they now understand the value of what they are learning and how they will draw on content from different courses in their work.

In addition to consolidating the skills they have been learning, students also bring new ideas to the workplace partners. Students have designed a vertical turbine, developed a more comfortable vest for patients who need to wear a heart monitor, and helped a bakery figure out why their bread was splitting as it cooled. These challenging projects combined student learning with practical experience, benefitting the external industry partner as well as the students.

There are many inspiring stories of students who have found success through work-integrated learning. For example, a recent student had been through some serious life problems and was living in a shelter when he applied to a college programme [at George Brown]. As part of the programme, he did a placement at a prominent Toronto restaurant. When the student completed this entry-level assistant cook programme, the restaurant offered him an apprenticeship. He completed the apprenticeship successfully, gained his professional credential, and continues to work in the hospitality field. Without the hands-on practice, positive mentorship and the valuable educational experience he received through the work-integrated learning programme, he might not have found his passion for this work and been so successful in it.

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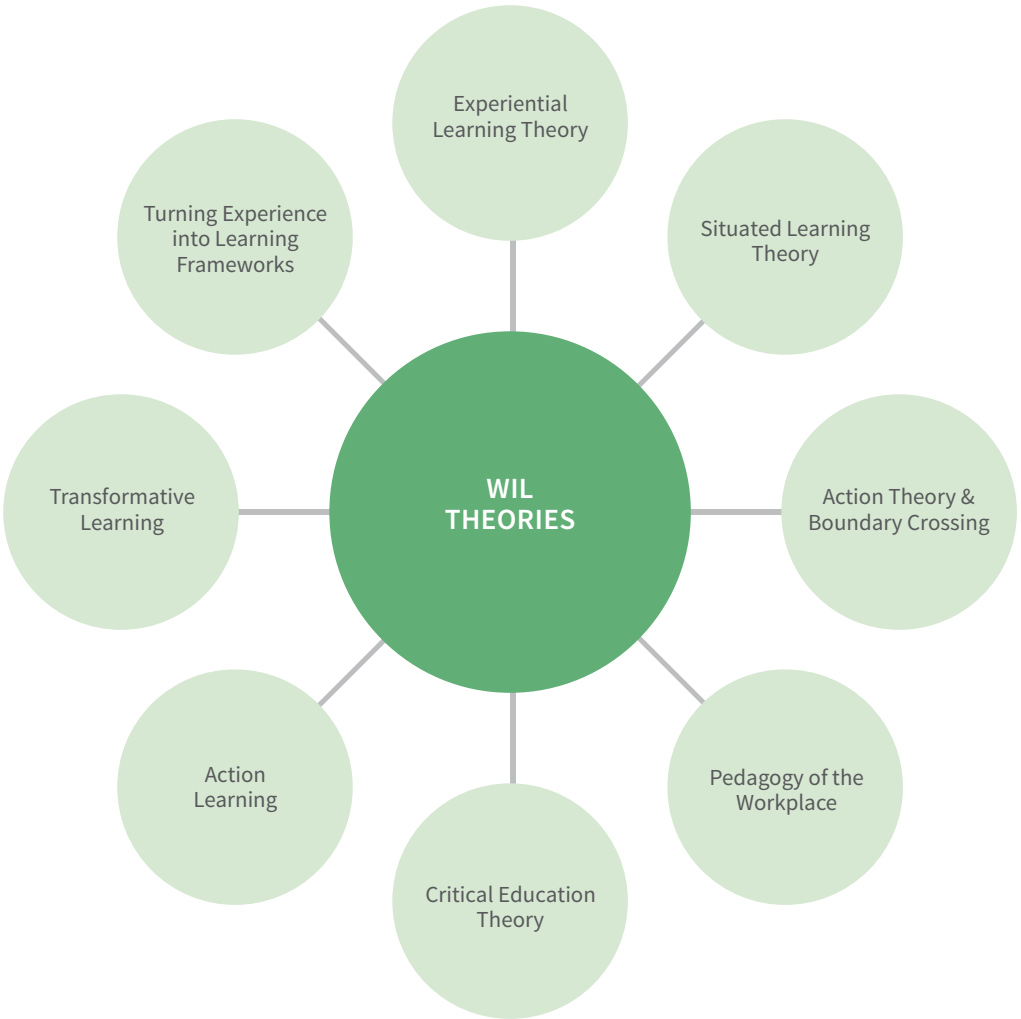
Dean, Centre for Preparatory and Liberal Studies
George Brown College

OTHER EXPERIENTIAL AND WORK-INTEGRATED LEARNING THEORIES

While Kolb's (1984) theory has been chosen as the guiding framework for this resource, it is important to recognize that other models are used in the experiential learning environments and may be applied to the student learning that takes place in the structured work experience.

Sattler (2011) and Keating (2006) review a number of student learning theories that may be used to advance the educational quality of work-integrated learning programming, including situated learning theory (Lave & Wagner, 1991), action theory and boundary crossing (Guile & Griffiths, 2001), pedagogy of the workplace (Billett, 1996; 2002; 2011), and critical education theory (Myers-Lipton, 1998). Other theories that may also apply to work-integrated learning include action learning (Bonwell & Edison, 1991), transformational learning theory (Mezirow, 1997), and the Turning Experience into Learning Framework (Boud, Keogh & Walker, 1985).



SUMMARY OF EXPERIENTIAL LEARNING AND THEORETICALLY GROUNDED WIL

1

- Learning is not an automatic result of experience. Instead, deliberate engagement with an experience is required for effective experiential learning (Thornton Moore, 2010).
- Experiential education is the philosophical process that guides the development of structural and functional learning experiences (Roberts, 2012).
- Experiential learning refers to the specific techniques or mechanisms that an individual can implement in order to acquire knowledge or meet learning goals (Roberts, 2012).
- Philosophies centered on experience as a form of learning have developed over time, beginning with Greek philosophers such as Plato and Aristotle and evolving to present-day thought with scholars such as Piaget, Lewin, Dewey and Kolb.
- Kolb's (1984) experiential learning theory can provide a theoretical framework to guide learning through experience. It is characterized by six tenets:

  1) Learning as a process

  2) Learning grounded in experience

  3) Learning as mastery of all four learning modes

  4) Learning as holistic

  5) Learning occurs when individual interacts with his/her environment

  6) Knowledge is created through learning

- The theory is composed of four major modes of learning:
  - Concrete Experience – centers on the student's engagement with an experience
  - Reflective Observation – engagement in descriptive observations of what or how an event was experienced
  - Abstract Conceptualization – focuses on connecting theoretical concepts and logic to an experience
  - Active Experimentation – emphasizes the use of experimentation within an experiential learning environment
- The ability to integrate all four learning modes through WIL is an indicator of personal growth and viewed as important for personal and cultural development.
- Kolb's (1984) model also highlights four basic learning styles that learners typically adopt when acquiring new or building on existing knowledge (Kolb, 1984), including:
  - Converger – learning style oriented towards active experimentation and abstract conceptualization
  - Diverger – learning style oriented towards concrete experience and reflective observation
  - Assimilator – learning style oriented towards abstract conceptualization and reflective observation
  - Accommodator – learning style oriented towards concrete experience and active experimentation

- Experiential learning also tends to be associated with personal development for the students (Kolb, 1984). The developmental phases encountered throughout the learning process include:
  - Acquisition – development of basic learning capacities and cognitive structures
  - Specialization – development of a learning style based on the social, educational and organizational forces one encounters
  - Integration – development through the demonstration of the students' non-dominant learning style in work or personal environments
- Several critiques regarding Kolb's (1984) experiential learning theory have been identified, including:
  - Question of objective – views postsecondary education environments as a place for learning classic texts rather than the development of practical skills (Bloom, 1987; Hart, 2001)
  - Question of pedagogy – questions whether postsecondary environments deliver a curriculum that fulfills the potential of experiential learning (Thornton Moore, 2010)
  - Critiques of philosophy – points to Kolb's (1984) lack of attention to the ways in which humans acquire knowledge and define learning, and his inadequate representation of the theories upon which his ideas are based (Miettinen, 2000)
  - Critiques of practical application – identifies Kolb's lack of consideration for diverse cultures (Dickson, 2000; Forrest, 2004), minimal empirical support for the theory (Jarvis, 1995; Tennant, 1997), and inattention to the collaborative nature of learning (Miettinen, 2000)
- Despite critical appraisal of Kolb's (1984) theory, scholars conclude that the significance of this theory for postsecondary education cannot be undermined (Eyler, 2009). As such, this theory was used as the theoretical framework for the guide.

“Without goals and plans to reach them, you are like a ship that has set sail with no destination.”

– FITZHUGH DODSON

2

PURPOSEFUL EXPERIENCE

Focusing on Kolb's concrete experience learning mode, this chapter provides an overview of effective practices for facilitating purposeful experience. Specific forms of the structured work experience (e.g., practicum, internship, co-op) and designs (i.e., project implementation – work experience) are reviewed. The importance of aligning the forms and design of work-integrated learning with the learning emphasis of the work experience (i.e., learning outcomes, learning assessment and learning plans) is highlighted. Furthermore, in order to enhance the educational quality of the student's experience, the learner's physical and social learning environment must be considered, including considerations for diverse learners, managing risk and facilitating mentoring relations.

STRUCTURED WORK EXPERIENCE

Work-integrated learning is a pedagogical practice whereby students come to learn from the integration of experiences in educational and workplace settings (Billet, 2009).

Looking specifically at the provision of work-integrated learning in Ontario's post-secondary sector, Sattler (2011, p. 29) outlines a typology to explain the different types of work-integrated learning experiences in colleges and universities, including: ***systematic training***, in which the work-place is "the central piece of the learning" (e.g., apprenticeship); the ***structured work experience***, in which "students are familiarized with the world of work within a postsecondary education programme" (e.g., field experience, co-op, internship); and ***institutional partnerships***, which refer to "postsecondary education activities [designed] to achieve industry or community goals" (e.g., service learning).

Further definitions have been proposed for the different forms of structured work experience, such as co-op, internships, placements and field experiences. Based upon the definitions employed by various work-integrated learning practitioners in Ontario postsecondary institutions, Sattler (2011) charts a number of (overlapping) points under different criteria in an attempt to distinguish between forms of structured work experience, e.g., duration, mode of delivery, common programme sector, job descriptions, assessment measures, compensation and main educational purpose (Sattler, 2011). While there is little consensus on the specific criteria by which to define each of these structured work experiences (e.g., duration, pay require-ments), adopted from Cooper et al. (2010) and supported by the Higher Education Research and Development Society of Australia, O'Shea (2014) provides a general description of each of the main forms of structured work experience, including placements, practicums, internships, co-operative education, sandwich courses, field education or experiences, and field-work (O'Shea, 2014).

FORMS OF STRUCTURED WORK EXPERIENCE

PLACEMENT
Umbrella term describing all structured work experience. Learning emphasis on career exploration and employability/ professional skill development.

PRACTICUM
Focus is on developing professional capabilities and meeting professional registration requirements as defined by accrediting body.

INTERNSHIP
Work experience under the guidance of an experienced professional. Deep learning and realistic preview of employment sector.

CO-OP EDUCATION
Guided professional and employability skill development through alternating full-time study and full-time employment across an academic programme.

SANDWICH COURSE
A supervised work position in the practice of the student's future profession. Occurs during a period of time away from study.

FIELD EXPERIENCE
Work experience linked to programme content and designed for the purpose of preparation for professional practice.

FIELD WORK
Exposure to the work setting through participation in work activities, site visits, etc. Experience used to enhance learning of academic content.

WORK STUDY
Concurrent work experience not necessarily in the practice of future profession. Often tied to general professional and/or personal developemnt.

(Adapted from O'Shea, 2014)

WHILE THE FORMS OF STRUCTURED WORK EXPERIENCE MAY DIFFER SLIGHTLY IN THEIR LEARNING EMPHASIS OR STRUCTURE, THEY ALL PROVIDE AN OPPORTUNITY FOR LEARNING WITHIN A WORK SETTING AS A PART OF A STUDENT'S POSTSECONDARY EDUCATION.

Forms of Structured Work Experience

Consistent with the focus of this guide, forms of work experience are differentiated based upon their learning emphasis and structure.

According to O'Shea (2014, p. 8), the term ***placement*** is used as an "umbrella term" describing a range of structured work experiences in which a student performs work in an organization, which has been approved by the postsecondary institution. In a placement, the learning emphasis is on career exploration, with employability/professional skills development and knowledge and practice as a secondary focus.

Practicum refers to the experience by which professional capabilities are developed in a work setting, with the aim of meeting professional registration requirements. The work experience is often a requirement of the academic programme, with learning content and assessment developed based on standards and professional competencies as defined by the accrediting body. Other terms used to describe a practicum work experience include professional practice placement, clinical placement or professional placement (O'Shea, 2014).

An ***internship*** refers to work experience conducted under the guidance of an experienced professional. It is generally conducted over an extended period of time to allow for "deep learning and development as a professional" (O'Shea, p. 8) and "provides a realistic preview of what employment would be like in the sector" (O'Shea, p. 8).

Similar to an internship, ***co-operative education*** is work experience conducted under the guidance of an experienced professional for the purpose of developing professional and employability skills. It typically occurs as a part of a specialist co-op education programme that "provides alternating full-time study with full-time employment." There is general exposure to different work settings and progression in work experience at multiple points across the length of the academic programme (O'Shea, 2014, p. 8).

Consistent with this description, the Canadian Association for Co-operative Education defines a co-operative education programme as "a program which alternates periods of academic study with periods of work experience in appropriate fields of business, industry, government and social services." For more information on defining co-operative education in Canada, please visit www.cafce.ca. For additional information on defining co-operative education for the Ontario Ministry of Finance Co-operative Education Tax Credit, please visit www.fin.gov.on.ca.

A ***sandwich course*** is described as a work position in which the "student spends time engaged in the practice of their future profession, supervised by a senior professional." The sandwich course is often undertaken during a period away from study at the postsecondary institution (O'Shea, 2014, p. 8).

Field education or ***field experience*** is a term used to describe work experience linked to content of the academic programme and designed for the purpose of preparation for professional practice. In this work experience, learning is achieved through supervision, support and assessment.

Finally, ***fieldwork*** includes experiences in which students are exposed to the work setting through participation in work activities, participation in laboratories, site visits, study tours or field trips (O'Shea, 2014). For these activities, the experience is used to enhance learning of specific academic content. Fieldwork also includes ***work study*** placements and service industry placements (O'Shea. 2014), which may or may not be directly related to the student's area of study. These work experiences are designed to enhance students' general postsecondary education through concurrent work experience – often non-curricular and tied to general professional and/or personal development.

While the forms of structured work experience may differ slightly in their learning emphasis or structure, they all provide an opportunity for learning within a work setting as a part of a student's postsecondary education. In addition to differentiating between forms of structured work experience based upon educational purpose, the design of the work experience conducted within each of these forms can be classified further into project-based and work-based experience.

Design of Work Experience: Project Implementation vs. Work Participation

Along with the specific learning emphasis and structure, the design of the work experience itself should be considered. Workplace experience can be designed so that the student implements a specific project in the workplace organization and/or participates in regular workplace activities. With this said, it may be most appropriate to think of the design of the work experience along a continuum reflecting the various degrees to which students may partake in a combination of project implementation and work participation.

On one end of the continuum of work experience design is project implementation. ***Project implementation*** is when students design, deliver, manage or evaluate a specific project as a part of their work experience. This work design draws upon the pedagogy of project-based learning, which suggests that in order to ground the project theoretically and link to the students' academic learning, there should be a problem that drives real-world projects, and a project summary should be produced upon completion (Helle, Tynjälä & Olkinuora, 2006). Key learning emphases that may be tied to implementation projects include professional knowledge and skills, humanitarian values, critical thinking and enhanced understanding of subject matter (Helle et al., 2006).

KEY TERMINOLOGY

Project implementation is when students design, deliver, manage or evaluate a specific project as a part of their work experience.

Work participation is when students partake in and contribute to the regular day-to-day activities of the workplace.

In general, a project may take two different forms: it can be research or applied. Consistent with this categorization, O'Shea (2014) distinguishes the ***research project*** from project development and management as two separate designs, each with its own benefits and limitations. The research project provides clear aims of the placement, and through the research itself can address specific organizational needs for evaluation. One of the limitations of the research project is that it "can dominate student awareness and keep them academically-oriented, reducing incidental learning from [the] work environment" (O'Shea, 2014, p. 9). ***Project development and management*** also provides clear aims for the student and can be beneficial for fulfilling a practical need in the workplace, as well as enhancing students' practical and project management skills. The limitation of this work is that sole focus on one project can exclude other learning opportunities in the workplace. Also, students may only contribute to partial project development and management across their placement, making assessment and summaries of students' completion of a project more challenging.

On the other end of the continuum of work experience design is work participation. ***Work participation*** is when students partake in and contribute to the regular day-to-day activities of the workplace. According to O'Shea (2014, p. 9), work participation is beneficial for students as "full focus on the experience of being in the workplace and developing professional capabilities allows for development of professional skills, knowledge, and acumen." One of the limitations of this design is that, compared to the project implementation experience, work participation can seem aimless, emphasizing the importance of defining clear workplace tasks. It also requires greater supervision "to ensure purposeful experience occurs" (O'Shea, 2014, p. 9).

Recognizing the benefits of both designs, many structured work experiences employ a combination of project implementation and work participation activities. As an example, a student teacher (teacher candidate) conducting a placement in an elementary school may participate in workplace activities by assisting his or her supervisor (associate teacher) in delivering learning activities and tutoring students in the classroom. As a part of the student's placement, he or she may also be asked to design and deliver a lesson plan or conduct an evaluation of the students' preferred learning styles.

Importantly, the choice of work experience design should align with the learning emphasis and objectives of the work-integrated learning programme, as well as the intended learning outcomes of the student.

SUCCESS STORY

Trent Community Research Centre

At the Trent Community Research Centre (formally the Trent Centre for Community-Based Education), we develop and facilitate community-based research projects for the benefit of the Peterborough community and provide a unique educational experience to a diverse range of Trent students. The vast majority of our projects are full academic year research initiatives carried out by undergraduates for course credit. Working closely with a very broad range of local not-for-profit organizations, from conservation authorities to social service-focused charities and government agencies, the TCRC develops projects that address genuine local research needs and matches these to third- and fourth-year Trent undergraduates. We then mentor and support the students through the steep learning curve of performing original research that can include interviews, focus groups, developing surveys, environmental analysis and literature review work.

In contrast to much undergraduate 'research,' in which students are asked to repeat a measurable task that their peers performed in previous years, all our projects represent original work on projects that address a genuine community need. Over the past 20 years, the Peterborough City and County community has benefitted from a wealth of research that our host organizations would typically not be in a position to carry out internally, or afford to pay a third party to perform. At the same time, students get the most productive and grounded educational experience of their undergraduate careers as they get to apply and develop their academic knowledge in a community setting. Students tell us that their community-based research "feels more real" and gives them a chance to "give back and apply the skills they have learned."

To offer two sample projects from the 2014/15 academic year, one student designed and implemented a monitoring project for a newly built root cellar at a local organic café. This project not only tracked temperature and humidity levels in the cellar, but also tested various storage options for different root crops to understand how to best preserve the vegetables through the winter. The project also interviewed a number of local farmers who are also re-introducing this low-energy form of food preservation, and researched the history of root cellar use and design, along with its connection to local food security. This project involved a combination of technical measuring work, including researching best practice in temperature and humidity measurement, interview work and literature review. This diversity of work undertaken by one student is typical of our projects.

Some of our projects are performed by pairs or teams of students. Last year, two human geography students looked at the feasibility of a local community organization expanding a one-day multicultural festival to a multi-day event. They reviewed and summarized literature on festival organizing and performed online research into the scale and practices of other multicultural events across Canada. They also emailed a survey to festival organizers and performed a number of interviews.

The TCRC offers this program to Trent students in conjunction with two sister organizations, U-Links in Haliburton and C-Links in the City of Kawartha Lakes. Between the three organizations, we run over 50 community-based research projects and a number of community service learning opportunities each year, serving up to 250 Trent students.

John Marris, PhD
Director, Community-Based Research
Trent Community Research Centre

THINK OF THE DESIGN OF THE WORK EXPERIENCE ALONG A CONTINUUM REFLECTING THE VARIOUS DEGREES TO WHICH STUDENTS MAY PARTAKE IN A COMBINATION OF PROJECT IMPLEMENTATION AND WORK PARTICIPATION.

LEARNING OUTCOMES, ASSESSMENT AND PLANS

LEARNING OUTCOMES
Students will be able to...

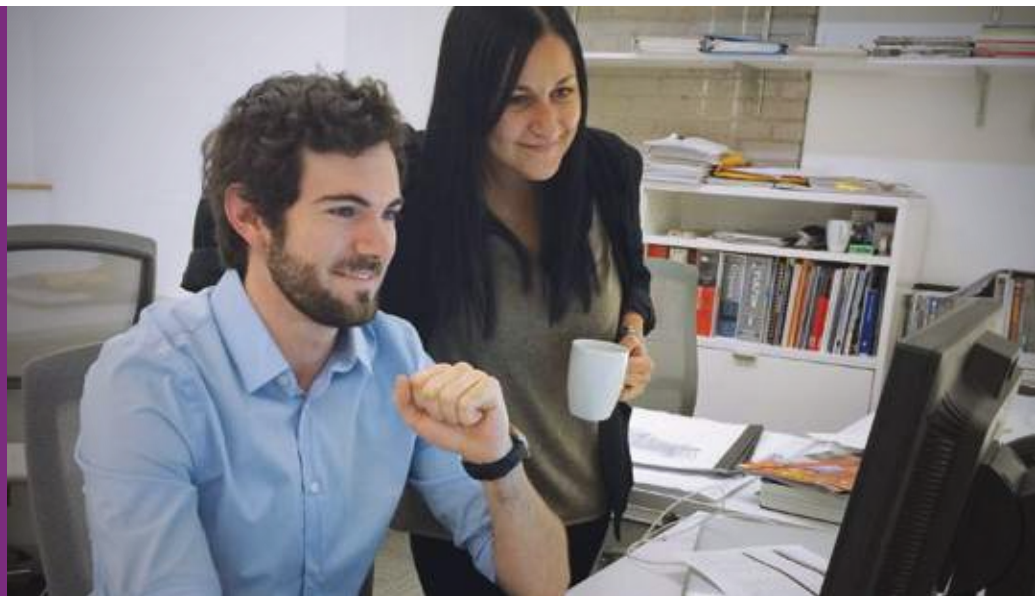
LEARNING ASSESSMENT
As evidenced by...

LEARNING PLANS
Achieved through engagement in...

Determining the learning emphasis of the work-integrated learning programme is critical to ensuring educational quality. This can be thought of as a three-stage process, including the determination of 1) learning outcomes; 2) learning assessment; and 3) learning plans. It is suggested that clear articulation of student learning outcomes, assessment and plans has the greatest impact on the educational quality of the structured work experience, and is also used to assure educational quality of the other learning modes addressed. Starting with clearly defined learning outcomes for the students, these learning outcomes are used to select the appropriate form and design of the structured work experience. The intended outcomes also direct selection of placements for the work-integrated learning programme. The development of learning assessment measures and specific placement tasks and plans reinforces the learning outcomes and provides a foundation to ensure that all stakeholders (e.g., student, workplace supervisor, course instructor, etc.) share the same learning emphasis and are working towards the same learning goals. Together, the learning outcomes, assessment and plans ultimately shape the nature of the work experience by guiding what placement tasks occur, where they occur, why, by what time, for what purpose, and the resources, support and feedback required. In addition to guiding the concrete experience of the students in the workplace, the learning emphasis is also used to ground the reflection, integration of theory and practice, and application of new insights in the workplace, as discussed in the upcoming chapters. It is also critical for programme evaluation purposes.

Determining learning outcomes involves completing the following statement: "After completing the work experience, students will be able to…." Determining learning assessment involves answering the question, "How will you measure whether students have successfully met the learning outcomes?" And learning plans involve determining, "How will the learning be achieved?"

CLEAR ARTICULATION OF STUDENT LEARNING OUTCOMES, ASSESSMENT AND PLANS HAS THE GREATEST IMPACT ON THE EDUCATIONAL QUALITY OF THE STRUCTURED WORK EXPERIENCE.



THE STUDENT, WORKSITE SUPERVISOR AND COURSE INSTRUCTOR/ PROGRAMME DIRECTOR WORK TOGETHER TO DEVELOP SPECIFIC LEARNING OUTCOMES FOR THE STUDENT'S WORK EXPERIENCE.

Developing Learning Outcomes

The terms 'learning objectives' and 'learning outcomes' are often used interchangeably. With this said, they are generally distinguished from one another based upon whether the focus is on the teacher and what is being taught (learning objectives) or on the learner and what the students will know, value or be able to do (learning outcomes). For the purpose of this guide, the term 'learning outcomes' is used to emphasize the student-centred focus of the structured work experience.

Learning outcomes are specific expectations of what students are supposed to value, know or be able to do as a result of completing the work-integrated learning experience (adapted from Ravitch, 2007). In work-integrated learning, the student learning outcomes are generally developed in partnership between the student, workplace supervisor and course instructor/ programme director (Holly, 2014). A work-integrated learning programme would generally have pre-established learning outcomes set by the head of the work-integrated learning programme (e.g., programme director/coordinator) and associated institutional/curricular influences (e.g., institution, curriculum committee, faculty/department head etc.). These pre-established learning outcomes consider the broad aims of the programme, looking at what knowledge, skills and/or attitudes the programme intends to teach. For example, through this work-integrated learning programme students will acquire professional skills, knowledge and practice in the field of [aviation technology, for example]. These broad learning outcomes are used to guide the form and design of the structured work experience, as well as partnership development between the academic institution and the worksite, and the matching between the student and the workplace supervisor. Once these partnerships are in place, the student, worksite supervisor and course instructor/ programme director work together to establish specific student learning outcomes for the work experience using the overarching intended learning outcomes of the work-integrated learning programme.

LEARNING OUTCOMES	
Definition:	Specific expectations of what students are supposed to value, know or be able to do as a result of completing the work-integrated learning experience (adapted from Ravitch, 2007)
Set by:	In partnership between the student, workplace supervisor and course instructor/programme director
How to:	✓ A learning outcome statement should contain a verb (an action) and an object (usually a noun), and provide purpose for the learning ✓ Consider audience (who?), behaviour (what?), conditions (how?), degree (how much?) ✓ Try to avoid ill-defined terms that are open to interpretation (e.g., understand, learn, grasp). Instead, use terms that describe observable behaviours (e.g., demonstrate, articulate, describe) (Osgood & Richter, 2006).
Example:	"I [student] will demonstrate three of the five leadership criteria as stated in Kouzes and Posner's *The Leadership Challenge* as a result of participating in the work experience" (adapted from Hatch & Stenta, 2015).

Bloom's Taxonomy of Learning Domains

USEFUL VERBS FOR DEVELOPING LEARNING OUTCOMES

COGNITIVE

define, describe, recognize, explain, differentiate, apply, analyze, critique, develop, design

PSYCHOMOTOR

see, hear, position, prepare, imitate, adjust, supply, adapt, organize, construct, create, organize, produce

AFFECTIVE

accept, realize, believe, defend, prefer, value, pursue, favour, relate, internalize, judge, verify, view

(Adapted from Bloom, 1956)

A learning outcome is a statement that contains a verb (an action) and an object (usually a noun), and provides purpose to the learning (Anderson & Krathwohl, 2001, pp. 4-5; Goff et al., 2015). In order for the learning statement to outline specific expectations, try to avoid ill-defined terms that are open to interpretation (e.g., understand, learn, grasp). Instead, use terms that describe observable behaviours (e.g., demonstrate, articulate, describe) (Osgood & Richter, 2006).

Common models used to develop learning outcomes include Bloom's (1956) Taxonomy of Learning Domains and Fink's (2003) Taxonomy of Significant Learning. Both of these models outline different dimensions of learning and provide useful verbs and phrases for developing learning outcomes.

In ***Bloom's Taxonomy of Learning Domains***, learning outcomes are sorted into three groups, called domains:

- ***Cognitive domain*** – intellectual or thinking skills
- ***Psychomotor domain*** – physical skills or the performance of actions
- ***Affective domain*** – attitudes and values

In developing a learning outcome statement, complementing the verbs outlined within each of Bloom's domains of learning presented above, ***Higgs' (2011) Standards for Professional and Practice-Based Education*** may be useful for filling in the object (e.g., noun) portion of the learning outcome statement. These standards include the graduate capabilities and attributes of professionalism and citizenship, professional judgement, communication and interactions, information literacy, professional competence and work readiness.

In addition to Bloom's three learning domains, ***Fink's Taxonomy of Significant Learning*** can be used to identify possible learning outcomes beyond knowledge acquisition and the cognitive domain of learning. In particular, it highlights the potential for inclusion of learning outcomes around integration, caring and lifelong learning into the work-integrated learning programme. Similar to Bloom's Taxonomy,

USEFUL NOUNS FOR DEVELOPING LEARNING OUTCOMES

Professionalism and citizenship	accountability; trustworthiness; social inclusion; commitment to quality; global perspective of practice; financial responsibility; social and environmental sustainability; being a reflective practitioner and lifelong learner
Professional judgement	critical reflection; flexibility; adaptability; problem-solving; creativity; ethical decision making; lawful practice
Communication and interactions	professional communication; supportive communication; cultural competence; confidentiality; teamwork; collegiality; collaboration
Information literacy	accessing new information; judging information; synthesizing information from multiple sources; producing reports and multimedia presentations
Professional competence and work readiness	professional knowledge; professional skills; integration of theory and practice; knowledge of workplace/profession; competence in safe work practice; competence in professional knowledge and skills; initiative; independence

Standards for Professional and Practice-Based Education (Higgs, 2011)

examples of useful verbs for developing learning outcomes within each of Fink's six different kinds of learning are provided and are paired with useful nouns for completing the learning outcome statement (Osgood & Richter, 2006).

Fink's Taxonomy of Significant Learning outlines six different kinds of learning that can be considered when developing learning outcomes of a structured work experience. These include:

- ***Foundational knowledge*** – remembering and understanding
- ***Application*** – critical thinking, practical thinking, creativity, managing projects, practice skills
- ***Integration*** – connection ideas and experiences, interdisciplinary learning
- ***Human dimension*** – leadership, citizenship, ethics, learning about one's self and others
- ***Caring*** – feelings, interests, values, commitments
- ***Learning how to learn*** – enhancing learning plans; inquiring, self-directed learning (Fink, 2003)

(Fink, 2003)

DEVELOPING LEARNING OUTCOMES USING FINK'S TAXONOMY OF SIGNIFICANT LEARNING

Foundational knowledge	**Verbs:** explain, list, recognize, compare, contrast, define **Nouns:** facts, concepts, theories, models, problems, results
Application	**Verbs:** analyze, differentiate, interpret, advise, diagnose, suggest, adapt, design, implement, administer, coordinate, perform **Nouns:** ideas, issues, plans, products, tasks, timelines, projects
Integration	**Verbs:** associate, connect, relate, link **Nouns:** ideas, perspectives, people, disciplines, contexts
Human dimension	**Verbs:** advocate, cooperate, emphasize, express, influence, protect, resolve, model, support, unite **Nouns:** ethics, morality, principles, attitudes, beliefs, and personal, social, cultural implications
Caring	**Verbs:** agree to, commit to, get excited about, pledge, share, value **Nouns:** attitudes, beliefs, feelings, interests, opinions, values
Learning how to learn	**Verbs:** frame, develop, identify, inquire, research, assess **Nouns:** learning, knowledge, skills, self-direction, inquiry, curiosity, desire for self-improvement, accountability

Fink's Taxonomy of Significant Learning (adapted from Osgood & Richter, 2006)

REFLECTION QUESTIONS

What do I want students to learn from their work-integrated learning experience?

- What key information, ideas or perspectives are important for students to know?
- What kinds of thinking, complex projects and skills is it important for students to be able to do/manage?
- What connections should students be able to recognize and make within and beyond the work-integrated learning experience?
- What should students learn about themselves and about interacting with others?
- What changes in students' feelings, interests and values are important?
- What should students learn about learning, engaging in inquiry and becoming self-directed?

(Adapted from Osgood & Richter, 2006, pp. 21-22)

Other recommendations for developing learning outcomes for the structured work experience are to provide sufficient detail in the learning outcome statement by addressing the ***ABCDs of the learning outcomes***:

- ***Audience*** – Who are the learners?
- ***Behaviour*** – What will they be able to think, feel, know or do?
- ***Condition*** – Under what circumstances/ context will the learning occur?
- ***Degree*** – How much will be accomplished, and to what level? (Heinrich, Molenda, Russell & Smaldino, 2002)

Consistent throughout the literature is the importance of forming a partnership between the student, workplace supervisor and course instructor when determining the learning outcomes (Fleming & Ferkins, 2005; Lu, 2007; Montrose, 2002; Rothman, 2007; Williams, 2004, Orrell, Bowden & Cooper, 2010). Montrose explains that there may be some resistance when asking students to set preliminary outcomes for their experience, when they do not necessarily have an idea of what learning will occur (Montrose, 2002). "How do I know what I want to learn before I have the experience?" can be a typical response from students (Montrose, 2002). Given that learners may initially find goal generation and plan development to be challenging (Li & Burke, 2010), they may need some encouragement and guidance when specifying their outcomes. Schwiebert and colleagues (1991) found that students were more comfortable when they were able to select learning goals from a preselected list, as opposed to generating their own. Furthermore, learning outcomes that are important to the learner, as well as challenging and purposeful, communicate to the student that they are capable and valuable (Li, Paterniti & Co, 2010). As a result, the student will be more inclined to commit to the organization (Coco, 2000; Ruiz, 2004a).

Factors that are associated with achieving progress with learning outcomes include but are not limited to tracking progress on the achievement of learning goals; confidence in self-directed learning abilities; interest in lifelong learning; having learning goals that align with learning needs; and having a designated career path (Royal College of Physicians and Surgeons of Canada, 2010). It is important to understand that some of these factors may be easier to manipulate than others, and in some cases the outcomes and tasks may need to be modified to increase chances of success (Royal College of Physicians and Surgeons of Canada, 2010).

Purposeful and clear expectations are important not only to enhance student learning, but also to avoid student vulnerability in a new workplace and avoid statements such as, "75% of my internship involved working in the mail room. I don't feel that I learned a thing stuffing mailboxes" (Ruiz, 2004b, p. 53). When there is a lack of clear learning outcomes, students are at risk of having a negative work-integrated learning experience (Schneider & Stier, 2006). Not only is it important to determine

RECOMMENDATIONS AND GUIDELINES

Factors to Consider when Constructing Learning Outcomes

- Inclusion of a verb (an action), object (usually a noun), and purpose for the learning in the learning outcome statement
- Audience (who?), behaviour (what?), conditions (how?), degree (how much?)
- Developed in partnership between the student, workplace supervisor and course instructor/programme director
- Outline specific expectations for learning in the workplace
- Challenging and purposeful
- Alignment with the student's interest, learning needs and career path
- Realistic for workplace and student (e.g., hours, training, available resources)

References: Anderson & Krathwohl, 2001; Breiter, 1993; Coco, 2000; Heinrich et al., 2002; Li, Paterniti & Co, 2010; Montrose, 2002; Ravitch, 2007; Ruiz, 2004

KEY TERMINOLOGY

Summative assessment is implemented at the culmination of a learning experience to evaluate outcomes of the experience.

Formative assessment is implemented throughout a learning opportunity with the purpose of recognizing challenges and improving upon them.

Integrated assessment merges summative and formative assessment tools to encourage learners to be conscious of their own learning.

(Ash & Clayton, 2009)

purposeful and clear expectations, but learning outcomes and tasks must be realistic for the workplace and the student (Breiter, 1993). This includes consideration of the placement hours, the student's background training, and the available resources of the workplace and supervisor (Breiter, 1993).

Assessment of Learning Outcomes

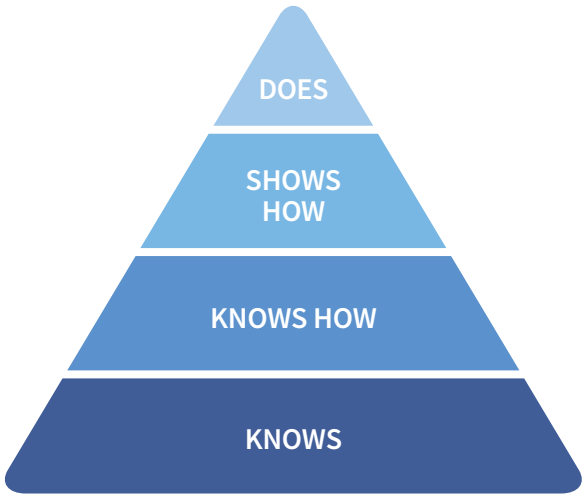
Learning assessment is the key to gauging student learning and ensuring educational integrity in the structured work experience (Young & Baker, 2004). A well-designed assessment plan allows students to be reflective, provides them with opportunities to be active in the assessment process (Young & Baker, 2004), and fosters student learning (Webber, 2012). According to Connaughton et al. (2014, p. 31), "WIL learning assessment should be linked to educational learning outcomes and experiences with industry to determine discipline-specific competencies." Students, workplace supervisors, course instructors and the employer organization can all have a role in the assessment of student learning (Montrose, 2002; von Treuer, 2011; Reddan, 2011; Stagnitti et al., 2010).

While there is much debate about the recording of assessment measures, for example the use of pass/fail grades instead of letter grades (Cook et al., 2004), it is widely recognized that the primary objective of assessment activities is to assess the learning outcomes achieved. In order to ensure alignment of the learning assessment with the learning goals of the student, workplace supervisor and course instructor, it is recommended that assessment activities be discussed when developing the learning outcomes and be built into student learning plans (Montrose, 2002).

There are three time-based techniques for learning assessment: summative, formative and integrative. ***Summative assessment*** is implemented at the culmination of a learning experience to evaluate outcomes of the experience (Ash & Clayton, 2009). ***Formative assessment*** is implemented throughout a learning opportunity with the purpose of recognizing challenges and improving upon them (Ash & Clayton, 2009). And ***integrated assessment*** merges summative and formative assessment tools to encourage learners to be conscious of their own learning (Ash & Clayton, 2009).

In designing learning assessments, one commonly used assessment model is ***Miller's (1990) Triangle/Model of Clinical Competence***. This is a conceptual model that is particularly popular in the learning assessment of students in the health sciences, but could be applied to any structured work experience. Miller's Triangle identifies the components of clinical competence as:

- ***Knowledge*** (i.e., knows)
- ***Competence*** (i.e., knows how)
- ***Performance*** (i.e., shows how)
- ***Action*** (i.e., does)



Miller's (1990) Triangle/Model of Clinical Competence

REFLECTION QUESTIONS

How can the development and description of the broader learning outcomes of the work-integrated learning programme be improved?

- What is the learning outcomes statement(s) of the work-integrated learning programme?
- Are the learning outcomes of the programme clearly described?
- Are workplace supervisors/students aware of the intended learning outcomes of the programme?
- How can we incorporate at least one of the considerations above to enhance the description of the learning outcomes of the work-integrated learning programme?

How can students' development of learning outcomes be enhanced?

- Do the students develop specific learning outcome statements for their work experience?
- How can we facilitate the co-development of learning outcomes with the student, workplace supervisor and course instructor/programme director?
- How can we incorporate at least one of the considerations above to enhance the students' descriptions of their learning outcomes for the structured work experience?

Biggs and Collis' (1982, 1989) ***Structure of Learning Outcomes (SOLO) Taxonomy*** is another broad assessment tool used to gauge the complexity of one's knowledge with regards to predetermined learning outcomes (Boulton-Lewis, 1995). The five levels are as follows:

- ***Prestructural:*** Minimal understanding of the knowledge required for a particular learning experience
- ***Unistructural:*** A single component of the learning experience is understood by the learner (e.g., theoretical concept related to course content)
- ***Multistructural:*** Multiple but independent components of the learning experience are understood by the learner (e.g., multiple theoretical concepts related to course content)
- ***Relational:*** Multiple components of the learning experience are understood by the learner and integrated to build a deeper network of knowledge (e.g., personalizing and integrating theoretical concepts to be relevant to experiences)
- ***Extended abstract:*** Knowledge acquired by the learner is applied or tested in a new environment (e.g., learner uses theoretical concept in experiential learning setting)

In addition to the types and models of learning assessment, a number of assessment activities are commonly used to evaluate student learning outcomes and can be applied to the assessment of learning in the structured work experience, including written and practical examinations, written assignments and oral presentations. The students may also collect a portfolio of evidence that focuses on the stated learning outcomes. Student learning may be assessed through direct observation. Additional assessment measures include the use of concept maps and capstone projects (Connaughton, Edgar & Ferns, 2014; Fink, 2003; Montrose, 2002; Reddan, 2011).

Connaughton et al. (2014) further elaborate on various ways in which work-integrated learning assessment may be supported with technology through the use of e-portfolios, online platforms (e.g., Blackboard, D2L), virtual simulations and webinar software (e.g., Gotomeeting). Chapter 3 includes more specific information on the inclusion and assessment of reflection exercises.

A number of common challenges exist for assuring reliability in assessment of student learning outcomes in a work-integrated learning programme, particularly when including assessment from other stakeholders (e.g., workplace supervisor, clients, peers). These challenges include ***inter-assessor variations*** caused when different work-place supervisors apply different grading standards, ***intra-assessor variations*** when not all students are assessed against the same criteria, and ***case specificity***, which occurs when students have a specific situation occur that impacts their performance at the worksite (Connaughton et al., 2014).

In order to address these challenges, Connaughton et al. (p. 31) recommend "staff training to ensure standardised interpretation and application of assessment tools." They also suggest to outline clear performance criteria within the assessment, use global rating scales to reflect overall performance, use multiple assessors, and perform multiple assessments across the work experience (Connaughton et al., 2014; Van der Vleuten & Verhoeven, 2013).

RECOMMENDATIONS AND GUIDELINES

Factors to Consider when Assessing Learning Outcomes

- Provide training to ensure standardized interpretation of assessment measures.
- Outline clear performance criteria.
- Use global rating scales to reflect overall performance.
- Use multiple assessors.
- Assess student performance at multiple time periods across the work experience.

Adapted from Connaughton et al., 2014

ASSESSMENT ACTIVITIES

Examinations	• Written exams • Practice-based exams
Written assignments	• Written portfolios • Analytic papers • Reflection essays/writing activities • Case studies • Journals • Progress reports • Article/reading review
Oral presentations	• Poster presentations • PowerPoint presentations • Individual/group interview • Online discussion group • Video diaries
Portfolios	• Photography portfolios • Critical incident analysis • Reflective writings • Performance 'evidence'
Direct observation	• Workplace performance assessment • Peer assessment • Simulation • Demonstration • Task-oriented assessment
Other	• Concept maps • Capstone projects

References: Connaughton, Edgar & Ferns, 2014; Fink, 2003; Montrose, 2002; Reddan, 2011)

Sample Assessment Tool:
Workplace Supervisor Assessment of Student Placement Performance

Instructions

Please complete this *Assessment of Student Placement Performance* and hold a formal meeting to discuss your feedback with the student.

Overall Assessment

1. Did the student complete the minimum hour requirement?
   Please indicate the number of placement hours completed: _____

2. In your opinion, what was the general level of performance of the student in his/her placement?

   ◯ Excellent ◯ Very good ◯ Good ◯ Below average ◯ Poor

3. Indicate this student's top three strengths (required):

   •

   •

   •

4. Indicate three areas in which this student could improve (required):

   •

   •

   •

5. The four categories for placement performance assessment and the component criteria that you will consider in each category are outlined below. For each component of each category, select the number that best represents the student's performance.

Not applicable N.A.	**Excellent** 5 marks	**Very good** 4 marks	**Good** 3 marks	**Below average** 2 marks	**Poor** 1 or 0 marks
This particular component does not apply to the student's placement position.	Student is very proficient, highly skilled and motivated, and performance can be improved only slightly.	Student's skill in this area is well developed, with some room for improvement.	Performance is satisfactory; student is capable in this area, has a positive attitude, and self-improvement is evident.	Level of competency is below that required; greater effort and/or training is needed.	Level of competency is very low; attitude and motivation for improvement are not exhibited.

Sample Assessment Tool (cont'd)

Please calculate the final category mark (out of 5) by averaging the scores of all the items included in the category. Record your assessments in the spaces provided and indicate a total performance mark out of 20.

CATEGORY I – Responsibility for Own Learning

Rate your student on each item below by selecting the number that corresponds to the assessment scale. Please include comments and examples to support your assessment.

	N.A.	Excellent	Very good	Good	Below average	Poor
Motivation and enthusiasm	N.A.	5	4	3	2	1
Motivation and eagerness to learn and to optimize the learning experience; Interest and enthusiasm in approaching work tasks; Degree to which the student takes responsibility for his/her learning objectives						
Work habits	N.A.	5	4	3	2	1
Reliability in preparing for and completing tasks; Regularity of attendance and punctuality; Diligence in following instructions; Adherence to good safety practices, and appropriateness of appearance and presentation; Responsibility in meeting commitments made to the mentor and placement organization						
Initiative/Self-starting ability	N.A.	5	4	3	2	1
Initiative to accept responsibility, to seek new challenges, assignments and projects, to increase his/her level of knowledge and skill, and to assume ownership of his/her role in the workplace; Initiative in ongoing communication and collaboration with mentor (e.g., initiating placement performance evaluation(s) in a timely and effective manner)						
Openness to suggestions/criticism	N.A.	5	4	3	2	1
Student's ability to learn from others, to accept suggestions and criticism positively, and to modify behaviour in response to feedback						
General comments regarding student's taking responsibility for his/her own learning:						

Average mark on "Responsibility for Own Learning": _____/5

Sample Assessment Tool (cont'd)

CATEGORY II – Competence in Placement Activities

Rate your student on each item below by selecting the number that corresponds to the evaluation scale. Please include comments and examples to support your assessment.

	N.A.	Excellent	Very good	Good	Below average	Poor
Knowledge base	N.A.	5	4	3	2	1
Degree to which student demonstrates and uses relevant knowledge and skills in completing placement activities; Student's understanding of his/her duties and role in his/her placement position						
Organization and planning	N.A.	5	4	3	2	1
Degree of organization and planning for placement activities; Ability to manage time on tasks and complete work in a timely manner						
Communication skills	N.A.	5	4	3	2	1
Ability to communicate information and ideas in both writing and speaking in a manner that is clear, grammatically correct and appropriate to the audience; Ability to express own ideas and opinions openly using language that demonstrates respect for people and their differences; Ability to listen to others' ideas and opinions with an open mind						
Quality of work	N.A.	5	4	3	2	1
Quality and effectiveness of student's performance in carrying out assigned tasks						
General comments regarding student's competence in placement activities:						

Average mark on "Competence in Placement Activities": _____/5

Sample Assessment Tool (cont'd)

CATEGORY III – Critical Thinking

Rate your student on each item below by selecting the number that corresponds to the evaluation scale. Please include comments and examples to support your assessment.

	N.A.	Excellent	Very good	Good	Below average	Poor
Creativity	N.A.	5	4	3	2	1
Level of creativity and innovation as demonstrated; Ability to seek new and better ways of doing things						
Adaptability	N.A.	5	4	3	2	1
Ability to learn from the placement experience, to react to unexpected circumstances, to be open to new ideas and to appreciate, accept and learn from differences in the experiences of others						
Self-evaluation	N.A.	5	4	3	2	1
Ability to accurately assess his/her own level of effectiveness and competence in practice and to identify strengths and learning needs						
Application of ideas	N.A.	5	4	3	2	1
Student's ability to analyze work situations, make appropriate decisions and act on them; Degree to which the student can evaluate and make constructive suggestions regarding work and your organization						
General comments regarding student's judgement and critical thinking skills:						

Average mark on "Critical Thinking": _____/5

Sample Assessment Tool (cont'd)

CATEGORY IV – Relations in the Workplace

Rate your student on each item below by selecting the number that corresponds to the evaluation scale. Please include comments and examples to support your assessment.

	N.A.	Excellent	Very good	Good	Below average	Poor
Interpersonal and intercultural skills	N.A.	5	4	3	2	1
Degree to which student has effective and positive relationships with personnel at all levels of your organization, such that interactions are productive and sensitive to the needs of others; Degree to which student shows consideration and respect to others and maintains purposeful working relationships that respect diversity (of culture, beliefs, sexual orientation…); Ability of student to cooperate and work effectively with others						
Understanding of workplace	N.A.	5	4	3	2	1
Student's effort to increase his/her knowledge of the organization, its mission, policies, rules and regulations in relation to the work performed; Degree to which student understands priorities and can determine what shall be done, by whom, where or how						
General comments regarding student's relations in the workplace:						

Average mark on "Relations in the Workplace": _____/5

Category	Mark
Category I: Responsibility for Own Learning	/5
Category II: Competence in Placement Activities	/5
Category III: Critical Thinking	/5
Category IV: Relations in the Workplace	/5
Total	**/20**

Total mark on student placement performance: _____/20

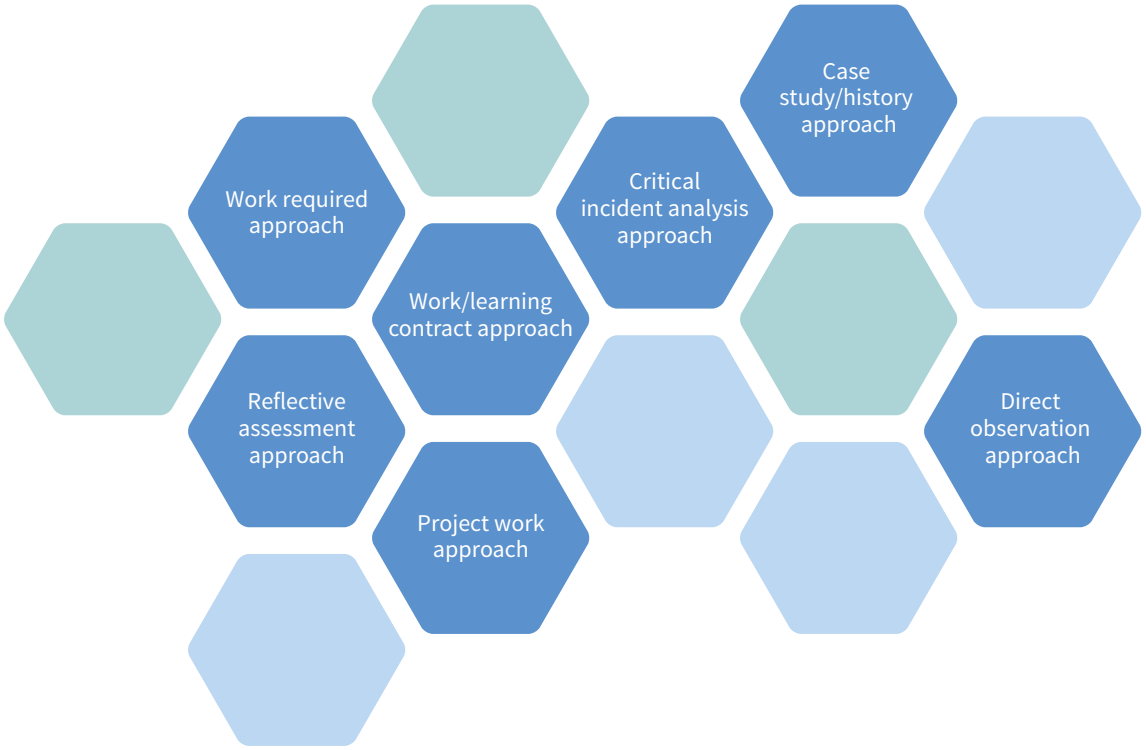
Learning Plans

Once the learning outcomes and assessment measures have been established, it is important to set up a learning plan. A learning plan, or learning contract, is the collection of tasks or activities that will assist the learner in meeting his/her learning outcomes. A learning plan is generally developed in partnership between the student and the workplace supervisor and takes into consideration the specific contextual details of the worksite. Having a learning plan in place can help alleviate misunderstandings among involved parties and lead the student toward a positive educational experience (Montrose, 2002; Martin & Hughes, 2009). The use of an individualized learning plan has also been shown to enhance self-directed lifelong learning skills in learners (Li & Burke, 2010).

In translating learning outcomes into specific workplace tasks, Cooper et al. (2010) suggest seven different approaches (as described in Reddan, 2011). Each of these approaches parallels the design of the work experience on the continuum from work participation to project implementation. They reflect different ways in which learning outcomes may be achieved in the workplace, ranging from specific workplace tasks to observation and reflection tasks and project-based activities. Learning plans can draw upon one or more approaches that may be used to actualize student learning outcomes in the workplace, including:

- ***The work required approach:*** Students work through an agreed-upon set of tasks while in the workplace.
- ***The reflective assessment approach:*** Students observe day-to-day practice in the workplace and reflect on decisions made. This approach is often accompanied by the use of reflection exercises such as a reflective diary.
- ***The work/learning contract approach:*** In alignment with learning outcomes, students negotiate a set of workplace responsibilities with their supervisor to be achieved in a defined time frame.
- ***The project work approach:*** Students are responsible for completing a specific project within a set time frame, concluding with a written report.
- ***The critical incident analysis approach:*** Students record verbatim an incident in which they were involved. They discuss their response with their learning guide and evaluate how their actions could have been more effective.
- ***The case study/history approach:*** Students provide a detailed study of an individual, feature or event in the workplace, with a plan for change or improvement.
- ***The direct observation approach:*** Students are observed over time in the workplace. A record is maintained of observers' estimations of their performance in relation to specific learning outcomes (Cooper, Orrell & Bowden, 2010; as described in Reddan, 2011).

In general, learning plans should include learning outcomes that are clear, measurable and realistic; a list of specific tasks that will be used to achieve the learning outcomes; the method and timeframe for assessment of these outcomes; monitoring and assessment methods; and any applicable guidelines from the host institution or programme (Li & Burke, 2010; Martin & Hughes, 2009; Montrose, 2002).



LEARNING PLANS	
Definition:	Tasks or activities that will assist the learner to meet the learning outcomes
Set by:	In partnership between the student and workplace supervisor
How to:	✓ Develop tasks/activities that will assist the learner to meet each learning outcome ✓ Determine the evidence that will demonstrate an outcome is successful ✓ Create and continually modify tasks and plans so that they are realistic and based on current context and available resources ✓ Develop a timeline for achieving tasks or a way to incorporate tasks into daily routines (Li, Paterniti & Co, 2010; Martin & Hughes, 2009)
Example:	• Participate in project meetings • Observe staff members and gain a better understanding of what is involved in project conception and development • Shadow designers and have the opportunity to ask questions regarding procedures • Complete the following design-related tasks… (Sides & Mrvica, 2007)

RECOMMENDATIONS AND GUIDELINES

Information to Include in Learning Plans

- ✓ Learning outcomes that are clear, measurable and realistic
- ✓ Specific tasks that will be used to achieve the learning outcomes
- ✓ Method and timeframe for assessment of learning outcomes
- ✓ Monitoring and assessment methods
- ✓ Any applicable guidelines from the host institution or programme

References: Li & Burke, 2010; Martin & Hughes, 2009; Montrose, 2002

GIVE IT A TRY!

Sample Learning Plan

Learning Outcome (What do I intend to learn?)	**Assessment Criteria** (How will my goal be assessed?)	**Placement Tasks** (How can I best learn this? What learning activities will I perform?)	**Strategies and Resources** (What resources are available?)

FACILITATING A LEARNING ENVIRONMENT

Learning Spaces

"The enhancement of experiential learning in higher education can be achieved through the creation of learning spaces that promote growth-producing experiences for learners" (Kolb & Kolb, 2005, p. 205).

Another factor to consider in enhancing the educational quality of the work-integrated learning experience is the quality of the learning environment in which the experience occurs. A positive learning environment not only refers to the practical experience with the subject matter, but also includes the total life space of the learner (Kolb & Kolb, 2005). The learner's physical and social environment, and the quality of relationships within those environments, impact students' learning experiences (Kolb & Kolb, 2005). Authors note the importance of making space for different factors that foster learning in experiential education, including the development of expertise through repeated practice, active reflection, connecting experience to interests and emotions, allowing the student to take responsibility and direction over his/her own learning, and constructive communication (Kolb & Kolb, 2005).

Factors Contributing to Positive Learning Spaces

(Kolb & Kolb, 2005)

Development of Expertise	Repeated practice in areas that are related to the learner's goal
Action and Reflection	Active expression, testing, reflection of knowledge and learning
Feeling and Thinking	Connecting emotions to knowledge; learning what is most interesting to an individual
Learners to Take Charge of Their Own Learning	Allows the learner to take direction and responsibility for their own learning; self-directed learning
Inside Out Learning	Linking educational experiences to the learner's interests stimulates intrinsic motivation and learning effectiveness
Communication	Conversation promotes ongoing reflection

MENTORS HAVE THE ABILITY TO ENCOURAGE TEAMWORK, FOSTER POSITIVE ATTITUDES ABOUT THE PROFESSIONAL SETTING, FACILITATE REFLECTION, ENCOURAGE RISK TAKING AND SUPPORT THE TRANSITION FROM THEORY TO PRACTICE.

Mentorship

Related to the creation of positive learning spaces, quality mentorship is an essential component of the structured work experience for students (Jones, 2007). The term 'mentor' derives from the wise and learned person in Homer's Odyssey. In this poem, when Odysseus left for the Trojan War, he trusted the guidance and education of his son to his friend Mentor (Galvez-Hjornevik, 1986; Gray et al., 1985; Homer, 1999; Merriam, 1983). A mentor is now referred to as a person who "guides, nurtures, and models" (Koskela & Ganser, 1998).

In a work-integrated learning setting, mentors open the avenue for practical instruction after the student has received theoretical information from the instructors at the institution (Cornell, 2003). Mentors have the ability to encourage teamwork, foster positive attitudes about the professional setting, facilitate reflection, encourage risk taking and support the transition from theory to practice (Fish, 1995; Lu, 2007). They play a critical role in providing positive feedback, social integration and shared knowledge of expertise in the field with students (Diambra et al., 2004). When effective, both students and mentors benefit from the mentoring process (Arnold, 2002; Lu, 2007).

Based on a study conducted with undergraduate students and their academic advisors, Williamson (2014) outlines seven mentor qualities/behaviours that facilitate a positive student-mentor relationship, including: approachable/personable, accessible, knowledgeable about topic, effective communicator, encourages/cares for students, good listener and confidence.

Recognizing the benefits of quality mentorship for student learning experiences, previous research has highlighted the importance of mentor training prior to experiential learning experiences (Giebelhaus & Bowman, 2002). Examples of mentor training programmes include placement orientation (Giebelhaus et al., 2002), a full-semester course on clinical supervision (Kent, 2001), a semester-long workshop on how to give feedback (Dever, 2003), and ongoing mentor classes throughout the student teaching experience (Wyatt et al., 1999).

Based on research conducted on mentorship among nursing students and midwives, Linford and Marshall (2014) outline three main areas of mentorship:

- ***Supported learning:*** In supported learning, mentors think about areas for student learning, help the student plan learning activities, provide probing questions to understand the student's level of learning and deliver constructive feedback (Linford & Marshall, 2014).
- ***Relationship building:*** In relationship building, mentors facilitate learning by being patient, approachable and understanding, and satisfying the student's need to feel valued and safe. In relationship building mentorship, the mentor invests time in the placement and develops a student's confidence and competence as a practitioner by building a relationship with the student (Linford & Marshall, 2014).
- ***Role modeling:*** In role modeling, mentors portray values and behaviours in the workplace that are observed and emulated, thus potentially moulding how the student learns and develops (Linford & Marshall, 2014).

Previous research suggests that students regard relationship building as the most important factor for facilitating a positive learning environment (Cahill, 1996), but all three areas of mentorship are recommended in order to facilitate optimal student learning and development in the work-integrated learning experience.

MENTOR QUALITIES IN A POSITIVE STUDENT-MENTOR RELATIONSHIP

- Approachable/personable
- Accessible
- Knowledgeable about topic
- Effective communicator
- Encourages/cares for students
- Good listener
- Confident

(Williamson, 2014)

GIVE IT A TRY!

Mentoring Mentors:
Reflection Questions to Check in on your Mentoring

Questions to Ask Yourself Throughout the Student Placement

- Am I aware of the learning goals of the student?
- Have these changed over the course of the work experience?
- Do we have a plan in place to achieve these goals?
- Are we following the plan?
- Has the student learned new techniques or skills recently?
- Are there any topics or skills that I think the student needs to improve upon?
- Am I providing my mentee with ongoing constructive feedback on his/her performance?
- Am I approachable and available to the student?
- Should I encourage the student to ask more questions? Should I ask the student more questions?
- Does the student feel valued and safe in the work environment?
- Am I modeling the professional values and behaviours that would align with the student's learning goals?
- Is the student being challenged with a variety of tasks and increasing responsibilities over the work experience?
- What is the next level of learning opportunities I can provide to challenge my mentee?

SUPPORTED LEARNING, RELATIONSHIP BUILDING AND ROLE MODELING MENTORSHIP ARE RECOMMENDED IN ORDER TO FACILITATE OPTIMAL STUDENT LEARNING AND DEVELOPMENT.

GIVE IT A TRY!

Student-Mentor Communication Tips

Communication Tips for Students

- First impression – make eye contact, dress appropriately, firm handshake
- Think about your audience – different people respond to different styles of communication
- In person, either face-to-face or via phone, rather than by email
- Language, both written and oral communication; use the English language correctly
- Etiquette, e.g., always begin a phone call by asking the respondent if they have a moment to talk
- Challenge yourself and seek opportunities to talk in front of people and make formal presentations
- Practice before making a formal presentation
- Ask if you require assistance or don't understand
- Formalize documents – letters and reports
- Proofread documents for spelling, grammar and format

(Martin & Hughes, 2009)

Communication Tips for Mentors

- Discuss your expectations for how and when the student should communicate with you
- Talk to the student about their comfort level with different methods of communication
- Provide frequent and varied communication opportunities
- Communicate with students in the manner that you expect them to communicate
- Explain the culture in your workplace, e.g., typically contact is via email, via telephone or in person
- Help the student understand the tone of communication required by different stakeholders
- Highlight to the student which styles of communication are effective in different situations
- Review important written documents so that the student knows where improvement is required
- Demand high standards from the student, particularly around external communication to clients
- Provide regular feedback to students on the progress they are making

(Martin & Hughes, 2009)

Points for Mentors to Consider when Providing Feedback

- Encourage the student to evaluate his/her progress
- Maintain confidentiality
- Be honest and constructive (beware of being destructive)
- Remain calm and objective
- Ask for feedback from others who have worked with the student
- Refer to specific actions, not personal traits
- Allow time for the student to process the information
- Check understanding and clarify meaning
- Assist the student in setting small achievable goals to reduce anxiety
- Use positive feedback to reinforce learned knowledge, values and skills
- The style of feedback may need to vary to suit individual students
- Contact the work-integrated learning programme coordinator (contact at the academic institution) if there are concerns
- Document feedback provided

(Adapted from Linford & Marshall, 2014; Penfold, 2007)

PEER MENTORS HAVE THE ABILITY TO MAKE STUDENTS FEEL MORE RELAXED, COMFORTABLE AND CONFIDENT IN THE WORK SETTING, ARE ABLE TO PROVIDE GUIDANCE AND SUPPORT, AND REFLECTIVE INTERACTION.

Another way to facilitate a positive learning environment is through the involvement of peer mentors or peer coaches. Peer mentors have the ability to make students feel more relaxed, comfortable and confident in the work setting, are able to provide guidance and support, and reflective interaction (Anderson et al., 1994; Hasbrouck, 1997; Kurtts et al., 2000; Gemmell, 2003; Lu, 2007). While this may not be viable for all structured work experiences, there is research to support the positive benefits that peer mentors have on students' experiential learning experiences (Hudson et al., 1994; Joyce & Showers, 1980; Pierce & Miller, 1994). Peer mentors should not replace workplace mentors but can act as additional support for the student during the work-integrated learning experience (Grierson, Cantalini-Williams, Wideman-Johnston & Tedesco, 2011; Hudson et al., 1994).

Consideration for Diverse Learners

Given that the postsecondary student population is increasingly diverse and the number of students with special learning needs is increasing, it is important to consider diverse learners in work-integrated learning experiences (Severance & Starr, 2011). Examples of diverse student learning needs include but are not limited to students with physical, mental or social challenges that affect their educational experiences/activities. Students with special learning needs may benefit greatly from work-integrated learning experiences, as the work-integrated learning experience allows them to understand and solve important issues, negotiate potential barriers and understand available support and services while in a safe, protected environment (Briel & Getzel, 2005). Mentors may also have a lot to gain from the experience of working with students with diverse learning needs (Severance & Starr, 2011). Work-integrated learning programme directors and course instructors should include inclusive statements in all promotional materials to encourage participation from student groups that may not feel permitted to participate (Severance & Starr, 2011).

Severance and Starr (2011) highlight a number of issues to consider around disclosure and accommodations for students in work-integrated learning, including: does the student want to disclose her or his disability to the internship site?; what types of accommodation does the student need?; how can you work with the worksite to ensure that appropriate accommodations are in place?; and how can you safeguard students from discrimination in the workplace?

RECOMMENDATIONS AND GUIDELINES

Considerations for Diverse Learners

- Does the student want to disclose her or his disability to the internship site? Note: Faculty/staff may not disclose to the worksite or work supervisor on behalf of the student.
- How can the student be prepared to discuss his/her learning need in terms of impact, functionality and limitations instead of simply diagnosis?
- What is the appropriate timing for disclosure? (e.g., before the placement interview? Once work position is secured?)
- What types of accommodation does the student need?
- Is the internship site a realistic placement? That is, is it a good match for the student's abilities and limitations with or without accommodations?

Adapted from Severance & Starr (2011)

Managing Risk

While considering the learning environment in which the work experience occurs, it is also important to think about the health and well being of students at the worksite so that effective engagement in the workplace learning activities can occur. Participation in work-integrated learning has unique risks compared to traditional classroom learning (Cooper et al., 2010), with associated logistical considerations that need to be addressed to manage risk in this environment. "Good risk management requires tailoring [the work experience] in a way that does not undermine the institutional and learning objectives of WIL" (Cameron & Klopper, 2015, p. 345).

Common risks associated with students' work-integrated learning experience include workplace health and safety and negligence; issues with duty of care (Bosco, 2014); intellectual property issues; breach of confidentiality; student misconduct; termination of the student from the workplace; misalignment of workplace practices with the policies of the academic institution (e.g., inclusion and accessibility); workplace harassment; sexual harassment; and issues with wages and payment (Cameron & Klopper, 2015; Koerin & Miller, 1995). In an attempt to manage these risks, many academic institutions engage with the institution's legal team to develop a number of risk management practices, including the development of insurance policies; placement agreements (or Memoranda of Understanding) between the academic institution and the worksite; student codes of conduct, disciplinary policies and due practice; accommodation requirements for students with disabilities; institutional guidelines on equity and inclusion, sexual harassment and workplace harassment; intellectual property and privacy law guidelines, and guidelines for wages and other payments (Broughton & Overby, 1993; Cameron & Klopper, 2015; Cobb, 1994; Francis, Salzman, Polomsky & Huffman, 2007; Gelman, 1990; Koerin & Miller, 1995; Rothstein, 2007; Vacha-Haase, Davenport & Kerewsky, 2004).

WORK-INTEGRATED LEARNING RISK MANAGEMENT PRACTICES

- Insurance policies
- Placement agreements (MOUs)
- Codes of conduct, disciplinary policies and due practice
- Accommodation requirements
- Guidelines on equity and inclusion, sexual harassment and workplace harassment
- Intellectual property and privacy guidelines
- Guidelines for wages and other payment

Adapted from Cameron & Klopper (2015)

ADDITIONAL RISK MANAGEMENT CONSIDERATIONS FOR INTERNATIONAL WORK-INTEGRATED LEARNING

- Risk assessments
- Health and safety prerequisite screening
- Emergency communication plan
- Travel health advice
- Travel plans
- Language barriers
- Cultural and political training
- Plans for supervision
- Work permit requirements

Adapted from Tan (2014)

The risks of the work-integrated learning experience are particularly salient when facilitating student work experience abroad. As such, when the student work is performed internationally, additional measures for managing risk are recommended, including: the conduct of more rigorous risk assessments of the student work, work environment and geographical location of the work; health and safety pre-requisite screening (e.g., proof of immunization, medical insurance); and the development of an emergency communication plan (e.g., reliable contact information of the work-integrated learning programme director at the student's academic institution, the contact information of the worksite and worksite supervisor, and student access to communication options such as a phone with international roaming, internet access, etc.) (Tan, 2014).

In addition to the risk management protocols described above, when students are conducting their work experience internationally, other factors for managing risk include consideration of: travel health advice (e.g., necessary vaccinations, ensure adequate medications for duration of travel, action-plan for any pre-existing medical conditions); travel plans; preparation for any language barriers; cultural and political orientation and sensitivity training; in-country orientation to specific etiquette, behaviour, safety precautions and transportation practicalities; and plans for supervision and checking-in with the student's academic institution (Tan, 2014). Any requirements for work permits or worker visas should also be considered.

REFLECTION QUESTIONS

What are the potential risks of the work-integrated learning experience and how can they be managed?

What sources of guidance exist at the institution for the risk management of work-integrated learning?

- What are the requirements and provisions available for student insurance in the workplace?
  - General liability insurance?
  - Health and safety insurance?
- What is common institutional practice for educational placement agreements? Is there a template placement agreement for use by educators and administrators within the institution?
- What placement prerequisites can be established in order to protect student health and safety in the workplace (e.g., orientation, safety and equity training, proof of immunization)?
- What institutional policies and procedures exist at the institution for accommodation requirements for persons with a disability?
- How does the institution deal with sexual harassment of workplace harassment of students when on placement?
- What policies and procedures exist at the institution for study/work-integrated learning abroad?

Who can be contacted at the institution to get more information on managing risk in work-integrated learning?

- Is there an office/person at the institution that provides advice on risk management issues?

SUCCESS STORY

Nipissing University

The Nipissing University Schulich School of Education Concurrent Education Program at the Brantford campus includes an international practicum experience of three weeks to Italy. This practicum placement in the schools of the Abruzzo area was developed in 2007, and almost 300 students in total have participated, with faculty facilitators attending each year. This work-integrated learning experience entails teaching English to Italian students from preschool to adult education. Research findings (Cantalini-Williams & Tessaro, 2011) confirm that future teachers derive benefits such as increased resilience, resourcefulness and sensitivity towards cultural and educational differences. Some of the logistics that are considered before sending students overseas include risk management forms, waivers and insurance requirements.

Student feedback:

"It was a once in a lifetime experience getting to see what life is like in another culture and getting to see how the school system was similar and different to the one we are entering as teachers."

Maria Cantalini-Williams, EdD
Associate Professor, Schulich School of Education
Nipissing University

SUMMARY OF EFFECTIVE PRACTICES FOR FACILITATING PURPOSEFUL EXPERIENCE

- Work-integrated learning: A pedagogical practice in which students learn from the integration of educational and workplace experiences (Billet, 2009)
- Despite limited consensus, O'Shea (2014) provides a general description of each of the main forms of structured work experience:
  - Placement – an umbrella term describing the range of structured work experiences facilitated by the postsecondary institution
  - Practicum – centers on the development of professional capabilities in a work setting, with the aim of meeting professional registration requirements
  - Internship – guided by an experienced professional and facilitates "deep learning and development as a professional" and "provides a realistic preview of what employment would be like in the sector" (O'Shea, 2014, p. 8)
  - Co-operative education – alternating full-time study and full-time employment conducted under the guidance of an experienced professional for the purpose of developing employability skills
  - Sandwich course – a work position in which the "student spends time engaged in the practice of their future profession, supervised by a senior professional." The sandwich course is often undertaken during a period away from study at the postsecondary institution (O'Shea, 2014, p. 8)
  - Field education – work experience linked to the content of the academic programme and designed for the purpose of preparation for professional practice
  - Fieldwork – experience in which students are exposed to the work setting through participation in work activities, laboratories, site visits or field trips
  - Work study – non-curricular concurrent work experience not necessarily in the practice of future profession; often tied to general professional and/or personal development
- WIL stakeholders can think of the design of WIL along a continuum reflecting the various degrees of project implementation and work participation:
  - Project implementation – when students design, deliver, manage or evaluate a specific project as part of their work experience, such as:
    - Research projects (e.g., research addresses specific needs of organization for evaluation)
    - Project development and management: fulfills practical need in workplace and enhances students' practical and management skills
  - Work participation – students engage in and contribute to the day-to-day activities of the workplace

- Determining the learning emphasis of the WIL program is critical for ensuring educational quality. It can be thought of as a three-stage process of 1) defining learning outcomes; 2) determining learning assessment; and 3) drafting learning plans.
  - These three aspects shape the nature of the work experience by guiding what placement tasks occur, the location, the timing, the purpose, and the resources, support and feedback required.
- Learning outcomes – specific expectations of what students are supposed to value, know or be able to do as a result of completing the WIL experience (Ravitch, 2007); generally developed in partnership with all stakeholders (Holly, 2014)
- When creating learning outcomes, the following criteria should be covered:
  - Statement should contain a verb and an object, and provide purpose for the learning; should consider the audience (who), behaviour (what), conditions (how) and degree (how much); and should use terms to describe observable behaviours (Osgood & Richter, 2006).
- Models commonly used to develop learning outcomes include Bloom's (1956) Taxonomy of Learning Domains and Fink's (2003) Taxonomy of Significant Learning.
- In Bloom's Taxonomy of Learning Domains, learning outcomes are sorted into three groups, called domains:
  - Cognitive domain – intellectual or thinking skills
  - Psychomotor domain – physical skills or the performance of actions
  - Affective domain – attitudes and values
- Fink's Taxonomy of Significant Learning outlines six different kinds of learning that can be considered when developing learning outcomes of WIL (Fink, 2003):
  - Foundational knowledge – remembering and understanding
  - Application – critical and practical thinking, creativity, managing projects, practice skills
  - Integration – connects ideas and experiences, interdisciplinary learning
  - Human dimension – leadership, citizenship, ethics, learning about one's self and others
  - Caring – feelings, interests, values, commitments
  - Learning how to learn – enhancing learning plans, inquiring, self-directed learning
- Learners may find goal-setting and plan design initially challenging (Li & Burke, 2010). Students may need some guidance when specifying their outcomes.
- The key to gauging student learning and ensuring educational integrity in WIL is through appropriate learning assessment (Young & Baker, 2004). The primary objective of assessment activities is to assess whether the learning outcomes were achieved.
- There are three time-based techniques for learning assessments (Ash & Clayton, 2009):
  - Summative assessment: implemented at the culmination of a learning experience to evaluate the outcomes of the experience
  - Formative assessment: implemented throughout a learning opportunity with the purpose of recognizing challenges and improving upon them
  - Integrated assessment: merges summative and formative assessment tools to encourage learners to be conscious of their own learning
- Two commonly used models to design learning assessments are Miller's (1990) Triangle/Model of Clinical Competence and Biggs and Collis' (1982, 1989) Structure of Learning Outcomes (SOLO) Taxonomy.
- Miller's (1990) model is composed of four components of competence:
  - Knowledge (i.e., knows)
  - Competence (i.e., knows how)
  - Performance (i.e., shows how)
  - Action (i.e., does)
- Biggs and Collis' model (1982, 1989) is composed of five levels of competence:
  - Prestructural – minimal understanding of the knowledge required for a particular learning experience
  - Unistructural – a single component of the learning experience is understood by the learner (e.g., theoretical concept related to course)
  - Multistructural – multiple but independent components of the learning experience are understood by the learner (e.g., multiple theoretical concepts)
  - Relational – multiple components of the learning experience are understood by the learner and integrated to build a deeper network of knowledge (e.g., personalizing theoretical concepts to be relevant to experiences)
  - Extended abstract – knowledge is applied or tested in a new environment (e.g., learner uses theoretical concept in experiential learning setting)

- Examples of assessment activities include (e.g., Fink, 2003; Montrose, 2002; Reddan, 2011):
  - Written and practical examinations
  - Assignments (e.g., portfolios, analytical papers, reflection essays)
  - Oral presentations
  - Portfolios of evidence (e.g., photography, critical incident analysis)
  - Direct observation
  - Concept maps or capstone projects
- Challenges of assessment of learning outcomes include (Connaughton et al., 2014):
  - Inter-assessor variations (e.g., different workplace supervisors applying different grading standards)
  - Intra-assessor variations (e.g., not all students are assessed against the same criteria)
  - Case specificity (e.g., students have specific situations that impact performance)
- Students also create learning plans to assist in meeting the learning outcomes. These plans should include (e.g., Martin & Hughes, 2009; Montrose, 2002):
  - Clear, measurable and realistic learning outcomes
  - Tasks/activities that assist in reaching each learning outcome
  - Pre-determined evidence required to demonstrate success of outcome
  - Modifying tasks that are realistic
  - Method and timeframe for achieving tasks and assessment of outcomes
  - Applicable guidelines from the host institution or programme
- To translate learning outcomes into specific workplace tasks, Cooper et al. (2010) suggest seven different approaches (as described in Reddan, 2011):
  - The work required approach – Students work through an agreed set of tasks while in the workplace.
  - The reflective assessment approach – Students observe day-to-day practice in the workplace and reflect on decisions made through activities (e.g., journals).
  - The work/learning contract approach – Students negotiate a set of workplace responsibilities with their supervisor to be achieved in a defined time frame.
  - The project work approach – Students are responsible for completing a specific project within a set time frame, concluding with a written report.
  - The critical incident analysis approach – Students record verbatim an incident in which they were involved. They discuss their response with their learning guide and evaluate how their actions might have been more effective.
  - The case study/history approach – Students provide a study of an individual, feature or event in the workplace with a plan for change or improvement.
  - The direct observation approach – Students are observed over time in the workplace. A record is maintained of observers' estimations of their performance in relation to learning outcomes (Cooper, Orrell & Bowden, 2010).
- The learner's physical and social environment, and the quality of relationships within those environments, also impact students' learning experiences (Kolb & Kolb, 2005).
- To foster a learning space, it is important to make space for different factors that foster learning in experiential education, including:
  - Development of expertise – repeated practice in areas related to learner goals
  - Action and reflection – active expression, testing and reflection of learning
  - Feeling and thinking – connecting emotions to knowledge
  - Encouraging learners to take charge of their own learning
  - Inside out learning – linking educational experiences to learner's interests
  - Communication – conversation promotes ongoing reflection
- Other aspects that contribute to positive learning spaces include:
  - Presence of mentors – encourage teamwork, build relationships, foster positive attitudes about the professional setting, support learning, facilitate reflection, encourage risk taking, provide feedback, act as a role model and help transition theory to practice (e.g., Fish, 1995; Linford & Marshall, 2014; Lu, 2007)
  - Consideration of diverse learners – Students with special learning needs may benefit greatly from WIL experiences, as WIL allows them to solve important issues, negotiate barriers, and understand available support and services while in a safe and protected environment (Briel & Getzel, 2005).
  - Risk management – monitoring the health and well being of students; potential risks include workplace health and safety negligence, issues with duty of care, intellectual property issues, student misconduct, concerns about payment and issues of harassment (Cameron & Klopper, 2015; Koerin & Miller, 1995)

“Challenging, continuous, context-appropriate reflection turns work experience into learning experience.”

– EYLER (2009, P. 30)

3

REFLECTION

This chapter focuses on the reflective observation learning mode. Forms of reflection are defined, as are antecedents and conditions for high-quality reflection. The D.E.A.L. model for critical reflection is introduced as a tool to use for facilitating reflection in work-integrated learning. Following a brief explanation of the importance of facilitating reflection in the structured work experience, recommendations are outlined for designing and teaching reflection, including specific instructional practices, reflection exercises and forms of assessment. The chapter concludes with a review of challenges that may be faced when addressing this learning mode in work-integrated learning programmes.

DEFINING REFLECTION

Reflective activities have an essential role in facilitating knowledge transformation in work-integrated learning (Sattler, 2011).

While no formal definition of reflection has reached a consensus among scholars (Atkins & Murphy, 1993), there are several definitional aspects that have been suggested, including:

- An understanding of one's personal philosophy, while continuously re-examining that philosophy in relation to experience (Nolan, 208)
- An active process in which students develop and learn through analysis of personal and professional practice (Bolton, 2001; Brock & McGill, 1988; Dewey, 1910; Kim, 1999; Nolan, 2008)
- Thoughtful retrospection and judgment about experience, feelings or knowledge that provides new understanding and informs future action (Kember et al., 2001; Schon, 1983; Sullivan & Rosin, 2008)

Critical Reflection

Another term associated with reflection is 'critical reflection.' ***Critical reflection*** enhances basic reflection through questioning personal assumptions or biases, connecting theory to experience, addressing the ways in which theoretical knowledge and experience differ, considering multiple perspectives and creating evidence of new learning (Ash & Clayton, 2009; Whitney & Clayton, 2011; Zlotkowski & Clayton, 2005). Critical reflection can also represent a connection between reflection and critical theory, in which reflectors are encouraged to use experience and reflections to confront social issues (Beard & Wilson, 2013). Furthermore, engagement in critical reflection can assist learners in identifying areas where improvement in practice is needed (Boud et al., 1985; Schon, 1983).

Reflection-In-Action and Reflection-On-Action

Schon (1983) further differentiates types of reflection into reflection-in-action and reflection-on-action. ***Reflection-in-action*** refers to an impromptu process in which the individual is required to understand and adapt to a challenging and ongoing situation (Beard & Wilson, 2013; Schon, 1983). Reflection-in-action commonly occurs when an individual encounters a situation – often in the workplace – that is unfamiliar and requires attention or resolution (Schon, 1983). Conversely, ***reflection-on-action*** is a planned and structured reflection exercise that facilitates experiential learning (Schon, 1983). Reflection-on-action is most common when the individual is not currently engaged in the workplace or environment in which the situation or experience occurred (Schon, 1983).

ENGAGEMENT IN CRITICAL REFLECTION CAN ASSIST LEARNERS IN IDENTIFYING AREAS WHERE IMPROVEMENT IN PRACTICE IS NEEDED.

Single-loop and Double-loop Reflection

An additional concept for understanding reflection is by looking at reflection used for single-loop learning (single-loop reflection) and reflection used for double-loop learning (double-loop reflection). ***Single-loop reflection*** refers to thoughtful retrospection on a particular experience, including its connection to theoretical knowledge but not considering personal influences (Argyris & Schon, 1974). ***Double-loop reflection***, on the other hand, is when reflectors challenge their role and contribution in learning environments and carefully consider the influence of their own personal beliefs, attitudes or actions (Argyris & Schon, 1974). During double-loop reflection, learners will often pose questions such as, "Am I doing the appropriate things?" (Beard & Wilson, 2013).

Surface Reflection and Deep Reflection

Finally, it is important to recognize the difference between reflection used for the purposes of surface learning and reflection used for the purposes of deep learning, termed 'surface reflection' and 'deep reflection.' ***Surface reflection*** refers to an approach in which learners typically view the reflection and corresponding learning opportunities as mandatory requirements (e.g., for course credit) that are completed through reliance on extrinsic motivation (Biggs, 1987; Chin & Brown, 2000; Marton, 1983). In surface reflection, students reflect upon the descriptive elements of their structured work experience, which may or may not include a review of theory and/or relate directly to the students' learning plans and intended outcomes. In contrast, ***deep reflection*** occurs when a learner views a learning opportunity as relevant to their experience or applicable to real-world contexts, and often relies on intrinsic motivation to complete the task (Biggs, 1987; Chin & Brown, 2000; Marton, 1983). In deep reflection, students strive to develop an understanding of the experience through an emphasis on linking previous understandings with new knowledge; recognizing others' perspectives in solving difficult tasks; providing multiple explanations to highlight an issue; and allowing themselves to change or deepen their perspective on an issue (Biggs, 1987; Entwistle & Waterson, 1988; Marton, 1983; Offir et al., 2008).

KEY TERMINOLOGY

Summary of Reflection Definitions

Reflection	Thoughtful retrospection that provides new understanding and informs future action
Critical reflection	Enhances basic reflection through questioning personal assumptions, connecting theory to experience, considering multiple perspectives and creating evidence of new learning
Reflection-in-action	Impromptu reflection required to understand and adapt to an ongoing situation
Reflection-on-action	Planned and structured reflection post-experience
Single-loop reflection	Connection of experience to theoretical knowledge
Double-loop reflection	Considers influence of personal values, attitudes and actions
Surface reflection	Extrinsically motivated reflection upon the descriptive elements of experience
Deep reflection	Intrinsically motivated reflection on experience as applicable to self and real-world context

ANTECEDENTS AND CHARACTERISTICS OF HIGH-QUALITY REFLECTION

Building upon the definitions of reflection, scholars have outlined several important aspects of the reflective process that should be attended to if students are to produce high-quality reflections.

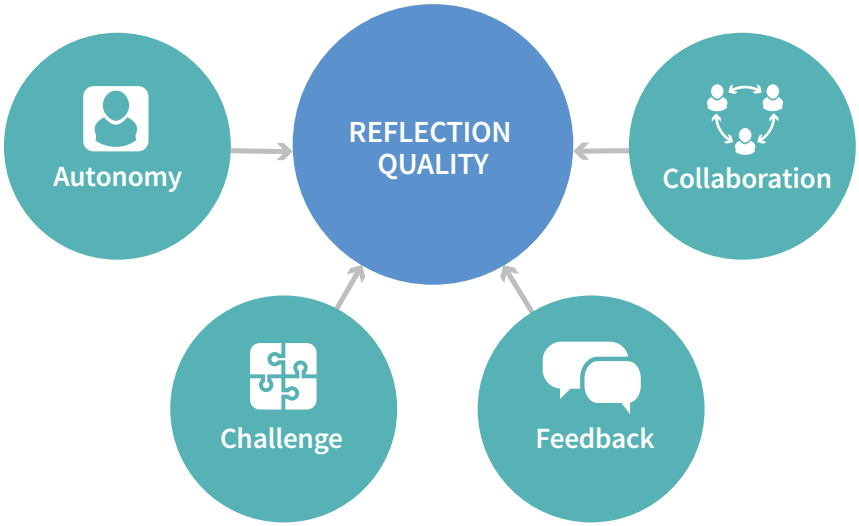
Included in these recommendations are two important antecedents that encourage the reflective process: 1. The individual is involved with an unfamiliar, new or complex experience (Beard & Wilson, 2013; Loughran, 1996; Mezirow, 1991; Seibert & Daudelin, 1999); and 2. The individual is open and eager to reflect on experiences (Rogers, 2001).

It is also important to consider the context in which the reflection occurs. Notably, the environment should be designed deliberately to encourage reflection through greater autonomy of the learner, appropriate challenges and pressures (e.g., increased workload or highly regarded project), consistent and appropriate assessments with constructive feedback, and opportunities to collaborate with others (Seibert & Daudelin, 1999).

In addition to the antecedents of reflection and environmental influences on reflection quality, scholars have also highlighted several conditions for high-quality reflection. Reflection activities should be ***continuous***, occurring both throughout and following the structured work experience (Eyler, Giles & Schmiede, 1996). More specifically, students should be reflecting both in-action and on-action as a part of the work-integrated learning programme.

Environmental Influences on Reflection Quality

(Rogers, 2001)



RECOMMENDATIONS AND GUIDELINES

Important Precursors to Reflection

- Involvement with an unfamiliar, new or complex experience
- Willingness to reflect on experience

Rogers (2001)

These reflections would be enhanced by a combination of formative (ongoing) and summative (cumulative) feedback received from the workplace supervisor, instructor, clients, peers or one's self within the work environment.

Reflection activities should encourage students to ***draw on personal experience*** while also situating their reflections ***within the broader community*** (Eyler et al., 1996; Rogers, 2001). This requires that students use both surface and deep reflection as a part of the work-integrated learning programme.

The reflection should be ***guided with deliberate connections*** drawn between

theory and practice in the learning environment (Bringle & Hatcher, 1999; Eyler et al., 1996). Reflections should also involve ***personal changes*** to the learner and emphasize consistently ***setting new goals*** (Zlotkowski & Clayton, 2009). These connections between theory, practice and person can be facilitated through the use of single-loop and double-loop reflection.

Lastly, it is suggested that learning is strengthened when activities emphasize ***inductive*** (e.g., experience followed by academic learning) and ***deductive*** (e.g., academic learning followed by experience) reflections (Rogers, 2001) – pointing to the importance of classroom theory/knowledge influencing practice in the work setting, as well as developing opportunities for the practice of the work setting to guide and inform theoretical content taught to the students as a part of the work-integrated learning experience. This last point is addressed in more detail in Chapter 4.

RECOMMENDATIONS AND GUIDELINES

Conditions of High-Quality Reflection

- Reflection should be ***continuous***.
- Reflection activities should ***draw on personal experience*** as well as be situated ***within the broader community***.
- ***Reflection activities should be guided by a deliberate connection*** between theory and practice.
- Reflection should involve ***personal changes*** to the learner and emphasize consistently ***setting new goals***.
- Learning is strengthened when activities emphasize ***inductive*** (e.g., experience followed by academic learning) and ***deductive*** (e.g., academic learning followed by experience) reflections.

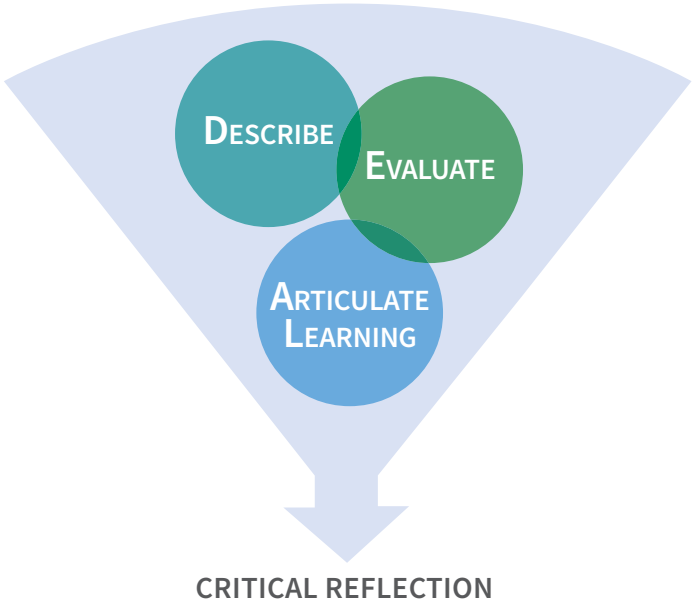
References: Bringle & Hatcher, 1999; Eyler et al., 1996; Rogers, 2001; Zlotkowski & Clayton, 2009

THE D.E.A.L MODEL FOR CRITICAL REFLECTION

Building upon the antecedent and conditions for reflection, several scholars have attempted to theorize the process of reflection from beginning to end in order to enhance the value of these exercises.

Rogers (2001) summarizes a number of theoretical frameworks for reflection, including the work of Dewey (1933), Schon (1983), Langer (1989), Loughran (1996), and Seibert and Daudelin (1999), to name a few. However, for the purpose of this guide, Ash and Clayton's (2004) three-step ***D.E.A.L. Model for Critical Reflection*** will be highlighted as the guiding framework for strategic engagement in the reflective

D.E.A.L. Model for Critical Reflection
(Ash & Clayton, 2004)



process. The D.E.A.L. model is useful for viewing reflection as a means for learning throughout an educational opportunity, as opposed to a task to complete following the experience (Clayton & Ash, 2004).

The three steps of the D.E.A.L. model are detailed below:

1. ***Description*** of learning experiences that is as objective and comprehensive as possible. Ash and Clayton (2009) suggest that learners be prompted to consider simple but important aspects of an experience, such as who was involved in the experience, where the experience occurred and the details of what happened throughout the experience.

2. ***Examination*** of learning opportunities with respect to previously identified learning goals or expected outcomes. During this step, learners should be encouraged to personalize the learning experience in order to avoid simply summarizing it (Ash & Clayton, 2004).

3. ***Articulation of Learning*** involves recognizing the learning experience that has occurred and creating goals intended for future action. These new learning goals are generated to enhance and refine practice moving forward (Ash & Clayton, 2009).

GIVE IT A TRY!

Reflection Questions for Students: The D.E.A.L. Model for Critical Reflection

Describe:

- What took place?
- When and where did the experience in question take place?
- Who was and was not present?
- What did you and others do/not do?
- What did you see, hear, etc.?

Evaluate:

- In what ways did you succeed or do well?
- In what ways were you challenged?
- How did this experience make me feel (positively and/or negatively)?
- How has your perspective/thoughts changed in light of you experience?

Articulate Learning:

- What did you learn?
- How did you learn it?
- Why does it matter?
- What will I do in light of it?

SUCCESS STORY

University of Toronto Mississauga

Critical reflection has long been an important component of WIL programmes in relation to integrating theory and practice and broadening students' thinking about their experiences and how they may change their approach, perspective or actions in future contexts. Reflective journals provide an opportunity for students to express how they see themselves as young professionals, and the trial and error processes they often engage in within the workplace. One of the most effective models for critical reflective journaling is Ash and Clayton's D.E.A.L. (Describe, Examine and Articulate Learning) model, which includes articulating learning. The model calls for a structured approach that can be modified even further by applying D.E.A.L. to specific critical incidents in which students are confronted with a challenge and possible change to their thinking. Students' reflective journals can be used to develop a broader understanding of the impact of the work experience on their learning outcomes, personal growth and professional identity development, relationship building, knowledge transfer, skill building and autonomy (self-directedness), among other things.

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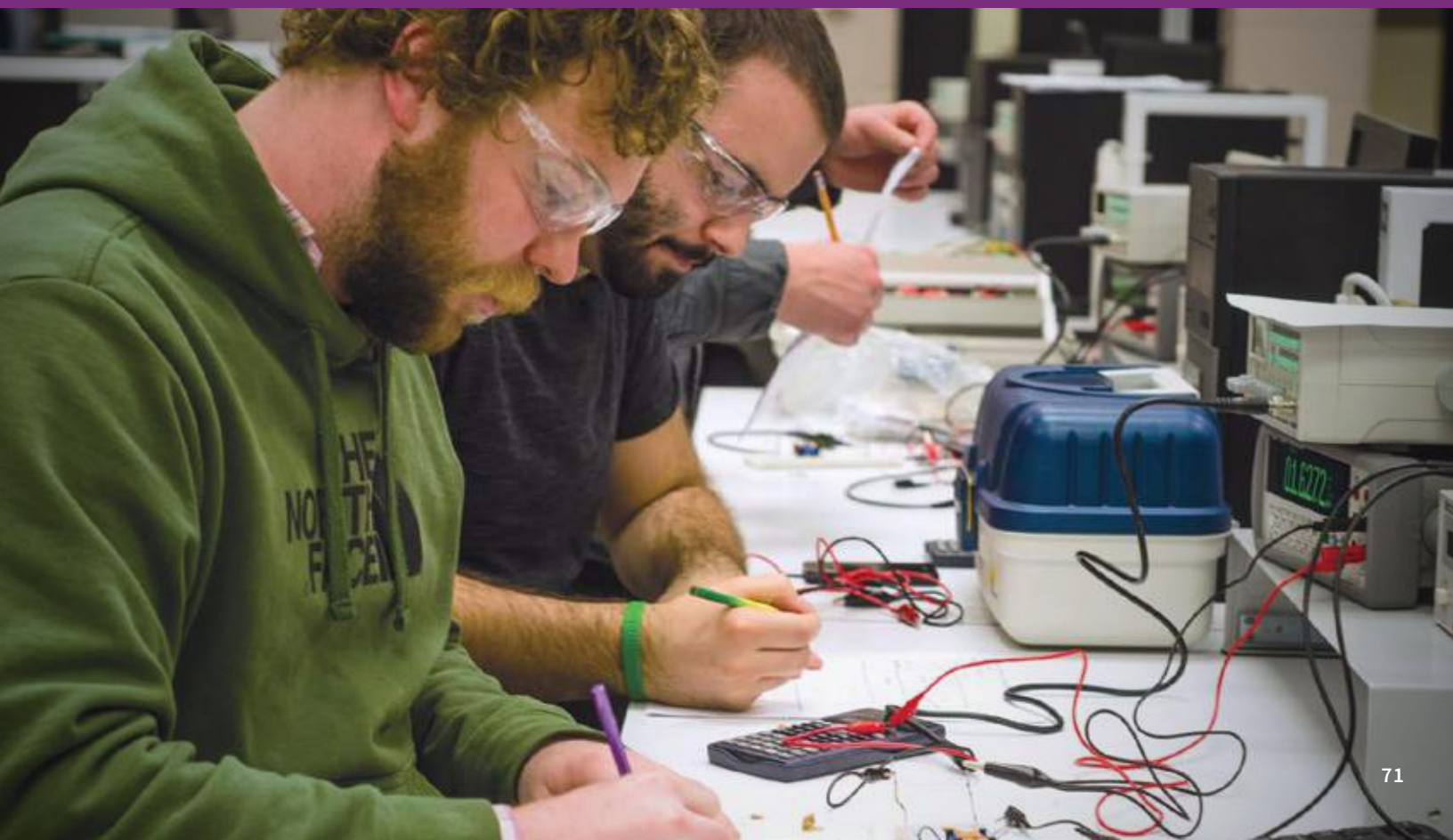
THE IMPORTANCE OF REFLECTION IN WIL

Widely recognized as an important component of work-integrated learning, rigorous reflection deepens students' knowledge and understanding, and enhances personal and professional growth. Reflection assists students in thinking critically about their work experiences by contemplating the influence an experience has on their life (Ash & Clayton, 2009); generating an awareness of the origins and importance of particular learning experiences (Ash & Clayton, 2009); and creating new meanings regarding previous experiences (Beard & Wilson, 2013). In addition, reflection can have personal benefits for the student, such as: the development of valuable life skills including decision making, goal-setting, problem-solving and the ability to integrate multiple concepts (Boud et al., 1985; Conrad & Hedin, 1987; Eyler & Giles, 1999); a chance to develop a deeper understanding of oneself and one's identity (Beard & Wilson, 2013); and opportunities for engagement in present, self-aware and authentic practice (Bandura, 1986; Beard & Wilson, 2013). Furthermore, consistent reflection may strengthen new or pre-existing relationships among students, instructors and workplace supervisors involved in the experiential learning environments (Mann, Gordon & MacLeod, 2009).

RIGOROUS REFLECTION DEEPENS STUDENTS' KNOWLEDGE AND UNDERSTANDING, AND ENHANCES PERSONAL AND PROFESSIONAL GROWTH.



DESIGNING AND TEACHING REFLECTION

High-quality reflections emerge as a result of deliberate and conscientious planning (Ash & Clayton, 2009). Reflections serve to assist postsecondary students in navigating learning experiences and drawing meaning from these experiential learning opportunities (Ash & Clayton, 2004). From this perspective, reflection is considered a valuable skill cultivated through instruction and practice, instead of an assumed outcome of experience (Aronson, 2011). By including reflection as a significant aspect of course material, postsecondary students engage in meaning-making tasks consistently and intentionally (Turns et al., 2014).

Instructional Practices

To achieve high-quality reflection in work-integrated learning settings, reflective activities should be guided by trial and error, regular feedback, and consistent alignment between activities and intended learning outcomes (Ash & Clayton, 2009). Reflections must also consider the intricacies of particular contexts in which work-integrated learning occurs (Ash & Clayton, 2009). These reflective activities should not be limited to the learner. Instead, reflection should be an iterative process between the student and the instructor, workplace supervisor, peers and other practitioners, in order to invite alterations to practice (Sandars, Murray & Pellow, 2008).

In order to foster reflective action, Rogers (2001) synthesizes the broad factors useful for instructors or practitioners to strengthen students' reflective process, including the use of advanced vocabulary, timing considerations, attention to learning styles, the use of guiding questions and activities, and attention to environmental factors.

It is recommended that instructors encourage students to use advanced vocabulary to promote rich and exact reflections (Dewey, 1933). This may be done through both written and oral reflections. One activity that may be used to integrate advanced vocabulary into students' reflections is to lay out a number of cue cards with a word on each card (e.g., apprehensive, enthusiastic, apathetic, fervent, zealous, etc.). After prompting students with a reflective question (e.g., "How would you describe your feelings about your assigned placement before beginning your work experience?"), students would select a word card that best reflects their answer and then use this word

RECOMMENDATIONS AND GUIDELINES

Instructional Practices to Strengthen Student Reflection

- Encourage the use of advanced vocabulary to promote rich and exact reflections.
- Ensure appropriate timing.
- Pay attention to the individual learning styles of students.
- Provide guiding questions and activities.
- Structure appropriate learning environments.

Adapted from Rogers (2001)

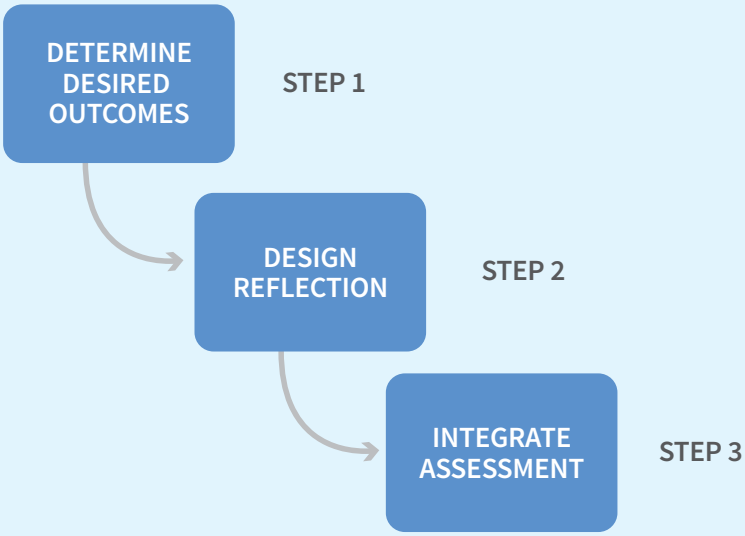
REFLECTION IS CONSIDERED A VALUABLE SKILL CULTIVATED THROUGH INSTRUCTION AND PRACTICE.

card to elaborate upon and discuss their answer with a group.

The timing of the reflection is also important. Instructors should develop strategies to encourage continuous reflection both during and following the work experience. It is also important to assure appropriate distance between the learning experience and reflection (Fade, 2002; Rogers, 2001). For post-experience reflections, enough time should be allowed to pass so that students can look back on their experience, but not so much time that details of the work experience may be forgotten.

Instructors should pay attention to the individual learning styles of students (Mann, Gordon & MacLeod, 2009). This can be done by encouraging reflection on aspects of the experience that relate to each learning mode (i.e., feeling, watching, thinking, doing), including the following example questions: "In what ways do you feel you were successful in the workplace? In what ways did you feel challenged?"; "Describe a situation in which you observed the practice of your placement supervisor/ another co-worker? How would you do things the same/differently?"; "How does the practice in the workplace compare to what you've learned in previous courses?"; "What experiences did you have at the worksite that were unexpected? How did you adapt?"; and "What are some of the ways in which the work at the site may be improved? What would you suggest?"

RECOMMENDATIONS AND GUIDELINES



In order to facilitate student reflection, it is useful to provide guiding questions or activities. Sample activities are included in the next section of this chapter.

Lastly, when facilitating student reflection it is important to consider the broader work experience which the student will be reflecting upon and ensure appropriate learning environments (Rogers, 2001). This includes encouraging self-directed learning, purposeful integration of challenges throughout the learning experience, collaborative practice, and opportunities for feedback, including both formative assessment feedback (used during a process as a way to improve both the process and the outcomes) and summative assessment feedback (used at the end of a process to measure and document outcomes).

REFLECTION ACTIVITIES ARE MOST EFFECTIVE WHEN DESIGNED TO ACHIEVE AN INTENDED OUTCOME AND USED SEQUENTIALLY TO BUILD UPON ONE ANOTHER.

Building upon these instructional practices, Ash and Clayton (2004, p. 28) outline a ***3-Step Process for Designing Critical Reflection*** in applied learning contexts such as the structured work experience. These three steps include: 1. Determining the desired learning goals and outcomes; 2. Designing reflection so as to achieve those outcomes; and 3. Integrating formative and summative assessment into the reflection process.

Reflection Exercises

In addition to strategies that facilitate the reflective process, there are also a number of tangible activities instructors can implement to encourage and assess students' reflective capacities, including pre-experience and post-experience surveys, structured dialogue (e.g., mentor-to-mentee, class discussions, online chats), writing activities (e.g., worksheets, case studies, essays, journaling, question posing, narrative), acting (e.g., storytelling in front of audience), visual arts (e.g., graphic designs, poster presentations, video), or through behaviours such as modeling (Ash & Clayton, 2009; Bowen, 2011; Brookfield, 1990; Eyler, 2002; Loughran, 1996; Offir et al., 2008; Seibert & Daudelin, 1999; Sparks-Langer & Colton, 1991; Thompson & Thompson, 2008). According to Ash and Clayton (2009), these tangible reflection activities are most effective when designed to achieve an intended outcome and used sequentially to build on one another.

One way to plan for continued and progressive reflection across a student's work experience is through the use of a ***reflection map***. Eyler (2001; 2002) created a tool for organizing reflection activities that lays out reflection activities according to timing (pre, during, post-experience) and relational context in which the reflection and associated assessment feedback would occur. Through the use of this reflection map, students can assume more ownership over the planning of reflection and its connection to learning goals. Also, according to Eyler (2009, p. 30), another benefit of using a reflection map is that "Classroom time is conserved by building reflection into other settings, and the process encourages continuous iterative reflection rather than a single paper or event at the end of the field experience. This is particularly important for cooperative education and internships where regular classroom meetings are difficult to arrange." As an example, pre-work reflection that occurs alone could include a letter to self or a goal statement. During the work experience, listserv discussions could occur online with classmates, including debrief of critical incidents that occur at the workplace. After the work experience, a student could reflect with members at the worksite by presenting a summary report of his/her work or by participating in an exit interview and performance assessment debrief with his/her workplace supervisor.

REFLECTION EXERCISES	
Surveys	• Pre-experience survey • Post-experience survey
Structured dialogue	• Mentor-to-mentee • Class discussion • Online charts
Writing activities	• Worksheets • Case studies • Essays • Journaling • Question posing • Narrative
Acting	• Storytelling
Visual arts	• Graphic designs • Poster presentations • Video
Behaviour	• Modeling

References: Ash & Clayton, 2009; Bowen, 2011; Brookfield, 1990; Eyler, 2002; Loughran, 1996; Offir et al., 2008; Seibert & Daudelin, 1999; Sparks-Langer & Colton, 1991; Thompson & Thompson, 2008

GIVE IT A TRY!

Sample Reflection Map

	Pre-work Experience	During Work Experience	Post-work Experience
Reflect Alone	*Reflection activities:* • • •	*Reflection activities:* • • •	*Reflection activities:* • • •
Reflect with Peers	*Reflection activities:* • • •	*Reflection activities:* • • •	*Reflection activities:* • • •
Reflect with Course Instructor/WIL Programme Coordinator	*Reflection activities:* • • •	*Reflection activities:* • • •	*Reflection activities:* • • •
Reflect with Members of the Worksite	*Reflection activities:* • • •	*Reflection activities:* • • •	*Reflection activities:* • • •

(Adapted from Eyler, 2002)

Sample Reflection Exercises

Daily Bag Drop

- Each person in the class designs a paper bag to hang in his or her workplace environment.
- Design blank cards that have "Positive experience at worksite: _____", "An area to improve: _____", and "Goals for next time: _____" written on them, followed by an appropriately sized blank space for the student to fill in with text.
- Following each designated shift at the student's worksite, the student will sign and date a card and fill in the blank spaces to recognize a positive experience that occurred during placement that day, a challenging experience that requires improvement or an alternate resolution, and the steps that the individual will take to improve practice during his or her next opportunity at the workplace.
- At the culmination of the work experience, the student will empty the bag and recount the various positive aspects, challenges and improvements that he or she made throughout the work-integrated learning opportunity.
- These cards could also provide the foundation for a written analysis or discussion with the class.

Two Things

- Each individual is required to record two things following every opportunity/shift in the workplace that has been significant for his or her learning.
- The individual will then record the ways in which these aspects can be applied to future practice or integrated with other knowledge learned in the classroom.

Field Notes

- Students are to create a small reference book that details one interesting aspect of the work experience, improvements that have been achieved, something useful that the students have learned, and new terms or goals for future action for each letter of the alphabet.

Collaborative Drawings

- Students break up into groups of 3-4. Provide the students with a large piece of paper and writing utensils.
- Request that the students collaborate to create a drawing that represents their experience and learning throughout their work experience.
- Ensure that all students have a personal piece included in the drawing that is relevant to their experience. This is particularly important given that the experiences of each student are likely to be quite different.
- Each group is then required to describe their drawing at the front of the class. Included in this discussion should be each individual student's personal part of the drawing, as well as the ways in which each of the personal aspects of the drawing connect with each other to address a higher-order theme or topic.

(Adapted from Volpe-White, 2015)

Sample Reflection Exercises (cont'd)

Mind Map

- Select 1-3 words that directly relate to your work experience (e.g., your title, the organization, broad facts about the organization, mission for placement, skills involved) and write it in the middle of a blank sheet of paper.
- Create lines coming from the centre of the paper where the key words have been placed. At the end of these lines, record thoughts on the placement, expectations of what might occur, challenges that are likely to be faced, ideas that you might experiment with, connections you would like to make and learning goals.
- Complete this activity at the beginning, middle and end of the placement experience, and share/discuss or create a written analysis of the similarities, evolutions and differences among the three activities.

Interview

- Pair students in groups of 2 or 3.
- Create a draft of a semi-structured interview guide for students to use within the group. Encourage the students to generate their own questions as well.
- Students take turns engaging in a guided reflection by interviewing their partners using these semi-structured guides.
- The interviewer (or third partner) should record the responses. The recorded responses are given to the interviewee at the end of the activity.

Professional Identity Development

- Provide each student with four circles on paper. The four plates are intended to represent a mask of how we are seen in different contexts: friends, family, school and work.
- On each mask, have the students draw an image of how others see them in that context.
- Discuss the contrast between the masks and how the student would like to be seen.

Object Share

- Have each student bring in an object that represents his or her work experience: e.g., "How I felt about the work experience"; "My contribution"; "What I learned"; "What I will do next."
- Have the students describe the object and discuss reasons for object selection.

Prospective Planning

- Pretend it is 10 years in the future.
- Ask the students to answer the following questions: "How did your student work experience affect your life?"; "What have you done since this experience?"; "How have you actions impacted others?"

(Adapted from Volpe-White, 2015)

ASSESSMENT OF REFLECTION

The final step in the reflection process is the integration of assessment. Suitable measures of assessment are critical for quality reflection and for attaining the learning goals and outcomes identified at the beginning of a learning experience (Ash & Clayton, 2009). Assessments must obviously align with the intended learning outcomes.

Assessment evaluates the learners' capacity to think in reflective ways relative to the defined learning outcome and the use of these reflections in practice (Kember et al., 2008). As discussed in *Chapter 2: Purposeful Experience*, assessing the quality of students' reflective activities (e.g., worksheets, essays, structured dialogue, acting) can be implemented through three broad time-based techniques: summative, formative or integrative assessments (Ash & Clayton, 2009).

Since reflection activities are often personalized to each student and each work-integrated learning environment, it is important that scholars and practitioners have a means for assessment that is flexible enough to assess reflections on various topics and in various contexts and formats (Kember et al., 2008). A few frameworks commonly used to assess reflective activities are summarized below.

One method to assess the quality of students' reflections is to use the **D.E.A.L. model** to develop a rubric that details each level of reflection with corresponding expectations of quality (e.g., level one – beginner to level four – advanced; Ash & Clayton, 2009). Extending the use of the D.E.A.L. Model for Critical Reflection, Ash and Clayton (2009) suggest that the quality of the reflection process should be assessed using universal intellectual **standards for critical thinking**, including: integration, clarity, accuracy, precision, relevance, depth, breadth, logic, significance and fairness.

Kember et al.'s (2000) questionnaire is used to determine the degree to which learners engage in reflective thought based on four major aspects, including:

- ***Habitual action:*** when an individual engages in a particular context or situation in a way that requires minimal reflection (Kember et al., 2008)
- ***Understanding:*** an individual can recognize that learning has taken place (e.g., student has an understanding of material read in textbook), but does not integrate this knowledge with experiences in the field (Kember et al., 2008)
- ***Reflection:*** the learner is able to acquire theoretical knowledge, personalize this knowledge and implement it in practice (Kember et al., 2008)
- ***Critical reflection:*** this category builds on the previous category of reflection

STANDARDS FOR ASSESSING CRITICAL THINKING IN REFLECTION

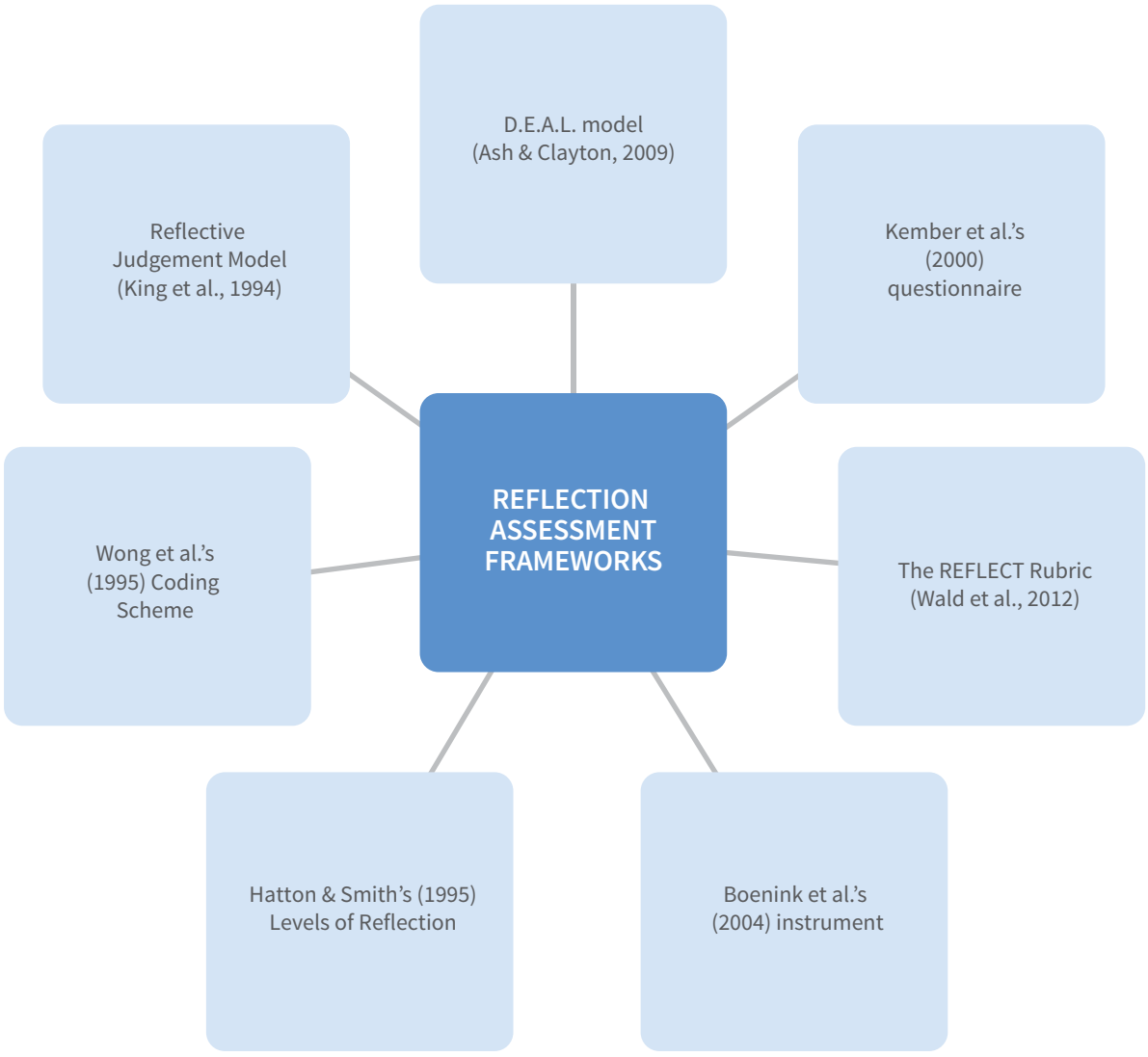
Standard	Description
Integration	Connection between experience and learning
Clarity	Expands on ideas; use of examples
Accuracy	Statements are factually correct
Precision	Specific information included
Relevance	Statements connect to main idea
Depth	Explains reasons behind conclusions
Breadth	Considers multiple perspectives
Logic	Reasoning makes sense
Significance	Attention to main focus
Fairness	Others' perspectives accurately represented

(Ash & Clayton, 2009; adapted from Paul & Elder, 2001)

by considering the learners' ability to demonstrate the ways in which their perspectives have shifted or transformed based on the learning experience (Kember et al., 2008)

Another framework used to assess reflection is the Reflection Evaluation For Learners' Enhanced Competencies Tool, also called the ***REFLECT Rubric*** (Wald et al., 2012). This rubric was designed specifically for the assessment of reflective writings. It builds upon the work of Kember et al. (2000) and provides specific guidelines to assess the five main criteria of: A. Writing spectrum; B. Presence; C. Description of conflict or disorienting dilemma; D. Attending to emotions, and E. Analysis and meaning making, across the six levels of: 1. Habitual action (non-reflection); 2. Thoughtful action or introspection; 3. Reflection; 4. Critical reflection; 5. Transformative reflection and learning; and 6. Confirmatory learning.

Some of the other frameworks for assessing reflection include Boenink et al.'s (2004) observer-rated instrument for measuring reflection in medical practice, Hatton and Smith's (1995) levels of reflection, Mamede and Schmidt's (2004) nature of reflection in medical practice questionnaire, Wong et al.'s (1995) reflective journals coding scheme, and King and Kitchener's (1994) reflective judgement model of intellectual development.



GIVE IT A TRY!

Sample Reflection Assessment Tool

Assignment Instructions

The final reflection report is a critical part of your reflection on your work experience. Consistent with the D.E.A.L. Model for Critical Reflection, this report should include the following sections:

Description of work experience and intended learning outcomes. Provide a description of the worksite, including your roles and responsibilities. Describe what took place during your work experience by answering the following questions: *What would a typical day entail? Who was and was not present? What did you and others do/not do? What did you see, hear, etc.?* In this section, you should list your intended learning outcomes of the work experience and an explanation of how your learning goals may have changed over the course of your work experience (if applicable).

Examination of placement experience. Provide a critical examination of your work experience by answering the following questions:

- *How did this experience make me feel (positively and/or negatively) before starting the work experience and upon completion?*
- *In what ways did you succeed or do well?*
- *In what ways were you challenged?*
- *How has your perspective/thoughts changed in light of you experience?*

You will repeat this exercise three times. The first time you ask yourself these questions, think about your general work experience. Following your general examination of your work experience, choose a specific topic covered in the course (e.g., communication, decision making, teamwork, leadership) and define the professional skill with relevant sources. Repeat the examination questions above, this time focusing on your experiences in the workplace related to the topic of focus. Be sure to provide specific examples. Repeat this exercise for 2 different course topics.

Articulation of learning. Provide a summary of your learning in the workplace by answering the following questions as they relate to: 1) your learning about professionalism (topics covered in class); 2) your learning about job specific knowledge and skills; and 3) your learning about yourself.

- *What did I learn through my work experience?*
- *How did I learn it?*
- *Why is this learning important for me as a developing practitioner?*
- *What will I do in my future practice in light of this learning?*

It is recommended that you organize your report using the headings listed in the assessment tool below. Be sure to use APA 6th Edition referencing (estimated word length: 3,000-4,000 words).

Assessment Tool

The final reflection report will be graded /200 based on the following criteria:

SECTION	VALUE
DESCRIPTION OF PLACEMENT AND INTENDED LEARNING OUTCOMES	25
EXAMINATION OF PLACEMENT EXPERIENCE	75
ARTICULATION OF LEARNING	75
REFERENCING AND WRITING STYLE	25

Sample Reflection Assessment Tool (cont'd)

	1 - Poor	2 - Satisfactory	3 - Good	4 - Very good	5 - Excellent	
CRITERIA	**SCORE**					**COMMENTS**
DESCRIPTION OF WORK EXPERIENCE AND INTENDED LEARNING OUTCOMES						**(_____/25)**
Clear description of the worksite						
Description of student roles and responsibilities at the worksite						
Description of what took place (e.g., tasks, interactions, observations, etc.)						
Description of intended learning outcomes						
Description of change in learning goals overtime						
EXAMINATION OF WORK EXPERIENCE						**(_____/75)**
Examination of work experience						**(_____/25)**
Examination of feelings towards the work experience pre- and post-experience						
Examination of ways in which the student succeeded in the workplace						
Examination of ways in which the student was challenged in the workplace						
Examination of how the student's thinking and perspective has changed						
Use of specific workplace examples						
Examination of workplace experience using professionalism construct #1						**(_____/25)**
Construct description with relevant sources						
Examination of understanding about the construct prior to the work experience						
Examination of how the student's thinking and perspective has changed						
Examination of strengths and challenges in applying this construct to practice at the worksite						
Use of specific workplace/classroom examples						
Examination of workplace experience using professionalism construct #2						**(_____/25)**
Construct description with relevant sources						
Examination of understanding about the construct prior to the work experience						
Examination of how the student's thinking and perspective has changed						
Examination of strengths and challenges in applying this construct to practice at the worksite						
Use of specific workplace/classroom examples						

Sample Reflection Assessment Tool (cont'd)

CRITERIA	1 - Poor	2 - Satisfactory	3 - Good	4 - Very good	5 - Excellent	COMMENTS
ARTICULATION OF LEARNING						**(_____/75)**
Articulation of learning on job-specific knowledge and skills in the workplace						**(_____/25)**
Articulation of what was learned about job-specific knowledge and skills in the workplace						
Articulation of how this was learned (e.g., tasks, situations, feedback mechanisms)						
Articulation of why this matters						
Articulation of what the student will do in future practice in light of this learning						
Use of specific examples						
Articulation of learning on job-specific knowledge and skills in the workplace						**(_____/25)**
Articulation of what was learned about job-specific knowledge and skills in the workplace						
Articulation of how this was learned (e.g., tasks, situations, feedback mechanisms)						
Articulation of why this matters						
Articulation of what the student will do in future practice in light of this learning						
Use of specific examples						
Articulation of learning about self						**(_____/25)**
Articulation of what was learned about one's self through the workplace						
Articulation of how this was learned (e.g., tasks, situations, feedback mechanisms)						
Articulation of why this matters						
Articulation of what the student will do in future practice in light of this learning						
Use of specific examples						
REFERENCING AND WRITING STYLE						**(_____/25)**
Appropriate sentence structure						
Appropriate grammar, spelling and punctuation						
Organization and use of headings and sub-headings						
Reference list completion and formatting (APA 6th ed.)						
Appropriate in-text referencing						

REFLECTION CHALLENGES

Despite the extensive body of work focused on the importance of reflection and how to address it in theory and practice, there are also some challenges and critiques of this practice that have been identified in the existing literature (Mann, Gordon & MacLeod, 2009). Challenges to reflective practice include the potential for waning interest and reflection fatigue due to students' consistent engagement in these activities (Boenink et al., 2004), and time pressures that require attention to other activities in high-paced environments, such as medical clinics (Mamede & Schmidt, 2005). This is important to consider when thinking about building continuous reflection into a work-integrated learning programme or across multiple learning opportunities in an academic programme. In order to avoid reflection fatigue and student disengagement, special consideration should be paid to ensuring variation in reflection exercises and assessment methods, and progression of reflective practice. With respect to critiques of reflective practice, Strawson (2004) suggests that there is a potential disconnect between the events as they occurred at the time and the retrospective reflection of the events used in these activities. In addition, some researchers propose that reflection activities might be met with negativity on behalf of the learner as these activities could be perceived as a disruption to familiar forms of knowledge acquisition and may pose a time constraint on other learning needs (Burnard, 1995; Dornan, 2002; Pearson & Heywood, 2004).

REFLECTION QUESTIONS

How can I improve my own use of reflection?

- Do I consciously or unconsciously use reflection in my everyday life?
- What strategies can I use to set aside time for reflection?
- How can I incorporate reflection into my role in coordinating the WIL programme?
- What specific learning goal is my reflection guided towards?
- From what sources do I receive feedback on my reflection (e.g., friends, co-workers)?
- What are three ways in which I can enhance reflection in my everyday life?

How can the reflection of students be enhanced?

- Do the students understand and value the purpose of reflection?
- What learning goals should the students' reflections be guided towards?
- Where will the students reflect on their work experiences?
- How frequently will the reflection occur?
- Who will participate in the reflection process?
- What reflection exercises or questions may be used to facilitate the reflection?
- How will the students demonstrate their reflective thinking? How will this be assessed?
- How can reflection fatigue be mitigated?
- What are three ways in which student reflection can be enhanced?

TO AVOID REFLECTION FATIGUE AND STUDENT DISENGAGEMENT, SPECIAL CONSIDERATION SHOULD BE PAID TO ENSURING VARIATION IN REFLECTION EXERCISES AND ASSESSMENT METHODS, AND PROGRESSION OF REFLECTIVE PRACTICE.

SUMMARY OF EFFECTIVE PRACTICES FOR FACILITATING REFLECTION

3

- Activities that stimulate reflection have an essential role to play in fostering knowledge transformation in WIL experiences (Sattler, 2011).
- Definitions of reflection include:
  - Understanding one's own philosophy and re-evaluating that philosophy in light of experience (Nolan, 2008)
  - Learning that tends to occur through analysis of personal and professional experience (Bolton, 2001; Dewey, 1910; Kim, 1999; Nolan, 2008)
  - Retrospection about experience, feelings or knowledge that provide a new understanding (Kember, 2001; Schon, 1983; Sullivan & Rosin, 2008)
- Key terms related to reflection:
  - Critical reflection – strengthens basic reflection by interrogating personal assumptions, considering other perspectives and connecting theory to experience
  - Reflection-in-action – spontaneous reflection used to adapt to current situation
  - Reflection-on-action – structured reflection following an experience
  - Single-loop reflection – connecting experience to theory
  - Double-loop reflection – considers influence of values, attitudes and actions in reflection on experience
  - Surface reflection – extrinsically motivated reflection based upon descriptive aspects of experience
  - Deep reflection – intrinsically motivated reflection based on practical application to self and real-world context
- Antecedents to high-quality reflection include engagement in unfamiliar, new or complex experiences, and the willingness of an individual to engage in reflection activities (e.g., Beard & Wilson, 2013; Rogers, 2001).
- The environment should also be designed to foster autonomy of the learner, relevant challenges, consistent and appropriate assessment and feedback, collaboration with peers and colleagues, and opportunities for reflection throughout WIL (Eyler et al., 1996; Seibert & Daudelin, 1999).
- Reflection activities should consider the following (e.g., Ash & Clayton, 2009; Bringer & Hatcher, 1999; Rogers, 2001):
  - Students' personal experiences and growth
  - Connection between theory and practice
  - Proper alignment between activities and learning outcomes
  - Goal setting and achievement
  - Sensitivity to contexts in which WIL occurs
  - Opportunities for inductive (e.g., experience followed by learning) and deductive (e.g., academic learning followed by experience) learning

- Ash & Clayton's (2009) three-step D.E.A.L. Model for Critical Reflection was highlighted in the chapter as a guiding theoretical framework for strategic engagement in the reflective process. The framework describes reflection as a three-step process made up of:
  - Description of learning experiences in an objective and comprehensive manner
  - Examination of learning opportunities in light of previously identified goals or expected outcomes of learning
  - Articulation of learning, which acknowledges the learning experience that has occurred and establishes goals for future action in the learning process
- Rigorous reflection is key for the following reasons:
  - Deepens students' knowledge and understanding
  - Enhances personal and professional growth
  - Generates awareness of origins and importance of learning experiences
  - Develops valuable life skills (e.g., decision making, problem solving)
  - Deepens understanding of one's identity
  - May strengthen new or pre-existing relationships among stakeholders
- Tips for instructors to promote high-quality student reflection include (Rogers, 2001):
  - Encourage detailed reflections through use of advanced vocabulary
  - Appropriate timing
  - Attention to students' individual learning styles
  - Provide guiding questions or activities
  - Appropriate structure to learning environments
- Ash and Clayton (2004) recommend a three-step process for designing critical reflection:
  - Determine desired learning goals and outcomes
  - Design reflection so as to achieve those outcomes
  - Integrate formative and summative assessment into reflection process
- Examples of reflection exercises include pre- and post-experience surveys, structured dialogue (e.g., mentor-to-mentee, in-class discussion), writing activities, acting, visual arts and behaviour (e.g., Ash & Clayton, 2009; Thompson & Thompson, 2008).
- Assessment of reflection can be carried out through summative, formative and integrated assessments (Ash & Clayton, 2009).
- Examples of assessment models for reflection include Ash and Clayton's (2009) D.E.A.L. model, Kember et al.'s (2000) questionnaire, the REFLECT Rubric (Wald et al., 2012), Boenink et al.'s (2004) Instrument, Levels of Reflection (Hatton & Smith, 1995), Coding Scheme (Wong et al., 1995), and Reflective Judgement Model (King et al., 1994).
- There have been some challenges and critiques surrounding reflection identified in the existing literature, including:
  - Potential waning interest or reflection fatigue due to consistent engagement in reflective activities (Boenink et al., 2004)
  - Time pressures in high-paced environments (Mamede & Schmidt, 2005)
  - Potential disconnect between experiences as they occur in the WIL environment and the retrospective reflection of these experiences (Strawson, 2004)

"There is nothing so practical as a good theory."

– LEWIN (1952, P. 169)

"There is no better theory than a good practice."

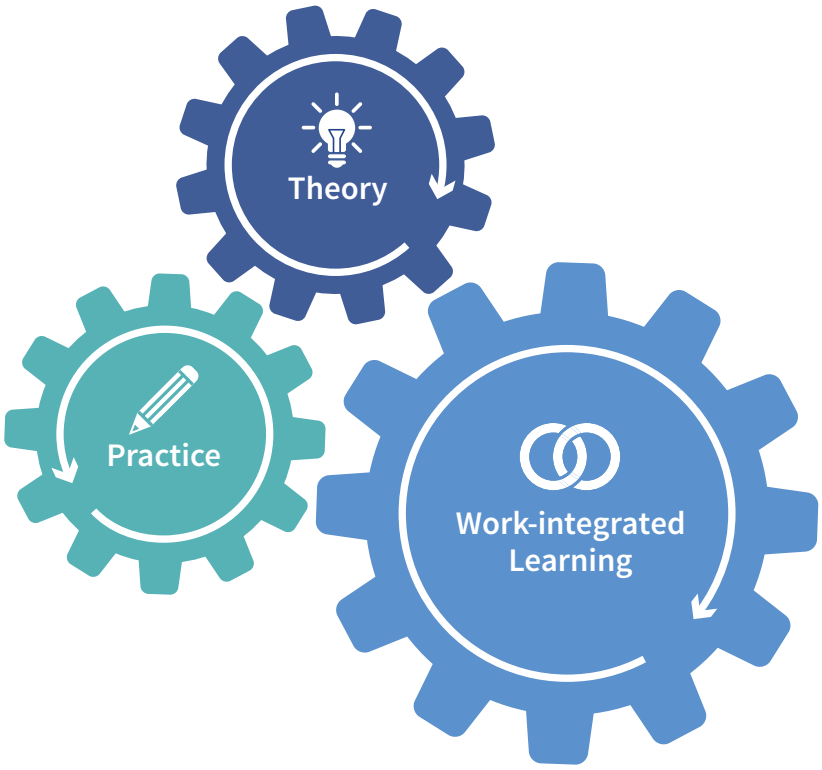
– BROWN (2011, P. 3)

4

INTEGRATION OF THEORY AND PRACTICE

Focusing on the abstract conceptualization learning mode, this chapter reviews effective practices for facilitating students' integration of theory and practice in work-integrated learning, including challenges, approaches and recommendations for enhanced integration. The importance of bi-directional integration is discussed, as well as the shared responsibility between the student, workplace supervisor and the academic instructor/coordinator. The topic of self-directed learning is reviewed as one way to promote students' abstract conceptualization, along with recommendations for teacher-facilitated integration of theory and practice. The chapter concludes with a critique of the erroneous division between theory and practice, particularly in work-integrated learning contexts.

INTEGRATING THEORY AND PRACTICE IN THE WIL EXPERIENCE



As cited in Brown (2011), good practice is not without good theory and good theory cannot be without good practice. The strategic involvement of all stakeholders in the work-integrated learning partnership, as well as re-conceptualizing and organizing work-integrated learning purposefully to unite scientific knowledge and professional practice, is vital to effective student learning (Billett, 2015; Fleming & Martin, 2007; Martin, Fleming, Ferkins, Wiersma & Coll, 2010; Orrell, 2011).

★ SUCCESS STORY

George Brown College

Many students find that the practical elements of a work-integrated learning setting make the theoretical material come alive. They understand the curriculum more fully and see how they will use their learning when they go on to employment. They also experience different workplaces and often have clearer career direction, knowing that they are interested in a specialized area, would prefer to work in a smaller firm or a larger one, and so on. This helps make the transition to the first job after graduation more successful and less stressful. The classroom learning and theoretical material are crucial. Work-integrated learning enables the student to put theory into practice while the student is still in school, able to ask questions and develop skills with guidance and support.

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RECONCEPTUALIZING AND ORGANIZING WORK-INTEGRATED LEARNING PURPOSEFULLY TO UNITE SCIENTIFIC KNOWLEDGE AND PROFESSIONAL PRACTICE IS VITAL TO EFFECTIVE STUDENT LEARNING.

Challenges in Integrating Theory and Practice

Previous research (Boud & Symes, 2000; Stirling et al., 2014) has indicated that one of the biggest challenges facing work-integrated learning today is the ability to facilitate and support students' integration of classroom curricula into practice, and vice versa. According to Ruhanen (2005), this challenge is precipitated by work-integrated learning programmes feeling the pressure to balance the theoretical base of the academic programme at the postsecondary institution "with the practical skills required by the industry that will ultimately employ the students on graduation" (p. 34). As a result, the nexus between theory and practice (Kolb, 1984) that should exist in work-integrated learning programmes is arguably one of if not the most challenging mode of Kolb's experiential learning theory for faculty and staff to accomplish.

An additional challenge in bridging this gap is that there is little empirical research about how theory learned in the classroom is integrated into the workplace during the structured work experience, and even less is known about the transfer of knowledge and experiences from the workplace back into the classroom (Wong & Coll, 2001).

Despite these challenges, a number of approaches and recommendation are reviewed below based on the limited research that does exist on effective means for integrating theory and practice in the student work experience.

Approaches for Integrating Theory and Practice

The integration of theory and practice in work-integrated learning should be thought of as bi-directional, with theory informing practice and practice informing theory. There are four different approaches through which theory and practice may be integrated, including the theory informed by practice approach; the practice informed by theory approach; the concurrent approach; and the scaffolding approach (adapted and expanded from Brew & Kottler, 2007).

Theory informed by practice approach

In the first approach for integrating theory and practice in the structured work experience, students may gain practical experience and work on building practical skills before studying the underlying theory of the field and practice. In this approach, "It is reasoned that these professional behaviours are so universal among practitioners that it is not necessary to understand their theoretical base before you begin practicing them" (Brew & Kottler, 2007, p. 63). This approach may apply best to more universal learning outcomes such as skills related to professionalism (e.g., communication, listening, decision making), but can also be used for specific learning outcomes related to the field of practice (e.g., assessment, measurement, practice). In this approach, practical experiences that occur in the workplace setting are used to inform theoretical learning. For example, as part of a student's field experience working as a social worker for an adoption agency, a student may be challenged by a particular case in which a parent and child are unable to bond. After months of working with the family, the student is introduced to various challenges faced in the adoption process. This practical experience is applied to the student's future coursework and serves as motivation for an in-depth review of literature on grieving and the feelings of loss around adoption.

KEY TERMINOLOGY

Approaches for Integrating Theory and Practice in the Structured Work Experience

Theory informed by practice approach	Practical experiences inform theoretical learning
Practice informed by theory approach	Theory is applied by students and/or practiced
Concurrent approach	Students are studying theoretical material at the same time as they are engaging in practice
Scaffolding approach	Continued progression and interspersing of theory and practice

Practice informed by theory approach

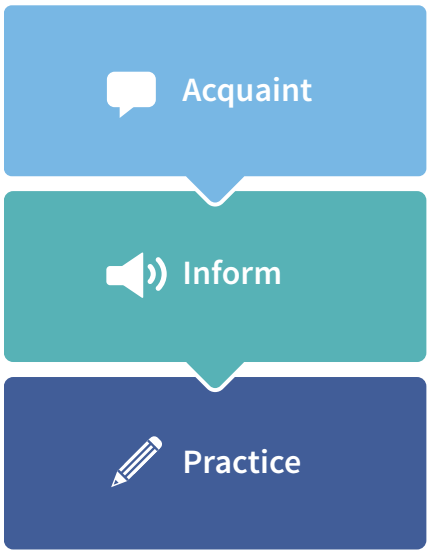
The practice informed by theory approach requires students to study theories before application and practical experience (Brew & Kottler, 2007). Theoretical or conceptual knowledge can thus be applied by the students and/or practiced in the workplace setting. For example, in a human anatomy internship programme, students may be required to complete an introductory or advanced anatomy course as a prerequisite. In the internship, the students are then required to apply their previous learning of anatomy and anatomical theory in order to enhance their practice by conducting cadaver prosection while working under the supervision of an experienced anatomist.

Concurrent approach

In the concurrent approach, students are studying the theoretical material at the same time as they are engaging in the practice of the material in the workplace. This can be done through a concurrent theory course, by embedding the workplace experience within a course that exposes students to both theory and practice at the same time, or through the learning of both theory and practice at the worksite.

Scaffolding approach

The final approach to integrating theory and practice is the scaffolding approach. In this approach, there is a deliberate scaffolding of students' exposure to theory and practice so that there is a continual progression of both theory and practice from simplistic to advanced, and a deepening of the integration between the theory and practice in the work experience. Through the scaffolding approach, students may apply theory to practice or practice to theory. Scaffolding of theory and practice could occur within a work placement that extends across a longer period of time or across multiple work experiences throughout an academic curriculum.



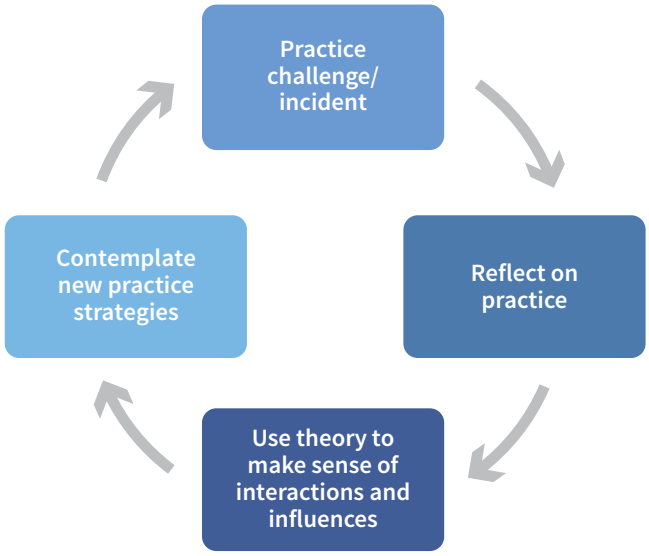
One model that may be useful in applying the theory to practice approach is ***Collingwood's (2005) Three Stage Theory Framework*** for relating theory to practice during practice-based learning for social work. The framework is made up of three progressive stages in which students access theory required for social work practice. In the first stage, students are introduced to the workplace setting and clients. At this stage, the students use previous theoretical knowledge to locate themselves within the workplace setting and assess what is going on. In the second stage of the framework, students use theory to inform themselves or others of what is going on (and why) and to inform the development of potential intervention strategies. In the third stage, students build upon their use of theory to identify and practice the specific knowledge, values and skills underlying the service of the placement agency.

According to Munson (1993, as cited in Beder, 2000), there are three ways in which a workplace supervisor could facilitate the application of theory to practice:

1. Discuss the theory and help the student connect the theoretical material with the practice.
2. Translate the conceptual material into more practical language and use practical examples when explaining it.
3. Abandon the conceptual material. Present the practical material on its own and check that the student has made the connection.

Another model that may be applied to all of the approaches to integrating theory and practice is ***Fook and Gardner's (2007) Model for Critical Reflection***. Applying this model, students engage in a cyclical process in which they experience some sort of problem or incident in their practice at work, they reflect on this practice (see *Chapter 3: Reflection*), they draw upon theory to make sense of the interaction and influencing factors, and they contemplate new practice strategies moving forward. Notably, several similarities exist between this model, as presented, and Kolb's (1984) cycle of experiential learning.

Integrating Theory and Practice: Applying the Model for Critical Reflection



Recommendations for Enhanced Integration

In addition to the approaches for integrating theory and practice in the structured work experience, theorists have offered several recommendations for effective integration. According to Martin et al. (2010), the integration of learning and practice throughout the work-integrated learning experience is a shared responsibility between students, academic faculty/staff and the workplace supervisors/employers. Specific roles for integrating theory and practice, as outlined by Martin et al. (2010), include: 1. Faculty/staff should build the integration of knowledge into the structured work experience as a formal and explicit learning outcome *and* combine this with formal assessment tasks; 2. Students have the responsibility to integrate what they have learned in the workplace and relate it to or incorporate it into the next phase of academic learning; and 3. The workplace supervisor/employer holds the responsibility of facilitating student learning through the selection, proper execution and feedback given on work-related activities in which students participate at the workplace. A three-way partnership between student, workplace and postsecondary institution thus requires all parties to assume distinct responsibilities, execute specific functions and realize benefits in order to facilitate meaningful theory-practice exchange in the work-integrated learning experience (Fleming & Martin, 2007; Martin et al., 2010).

Supporting the above recommendation, Orrell (2011) explains the importance of

RECOMMENDATIONS AND GUIDELINES

Recommendations for Integrating Theory and Practice in the WIL Experience

- View the integration of theory and practice as a shared responsibility of faculty/staff, students and the workplace supervisor.
- Clearly define student learning outcomes and use them to guide integration of theory and practice.
- Develop a plan with specific roles and responsibilities for integrating theory and practice.
- The work setting should be viewed as an educational platform for enhancing both theoretical knowledge and practice.
- Consider the learning space's landscape (intersection of content areas; knowledge, values and skills; and interdisciplinary connections).
- Consider specific pedagogical practices that can enhance integration before, during and after work experience.

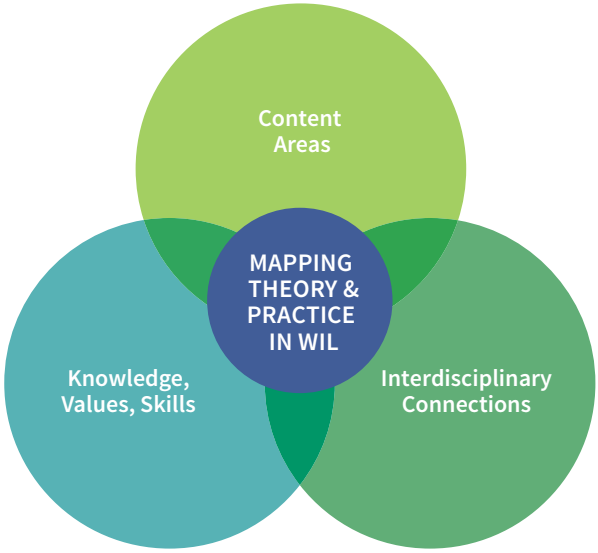
References: Billett, 2015; Cameron, 2006; Cooper et al., 2010; Fleming & Martin, 2007; Jonsson et al., 2014; Martin et al., 2010; Orrell, 2011

ensuring that all stakeholders are aware of student learning outcomes, including the core theoretical content or field-specific skills that should be integrated into the work experience. Taking this one step further, Orrell (2011) recommends developing a deliberate plan to put into action (following the achievement of a goal) that reintroduces theoretical or practical aspects in order to consolidate the learning that occurred in the field.

Another recommendation posed in the literature is to re-conceptualize the way in which we conceive of work-integrated learning. Instead of 'work-integrated learning' or 'WIL,' Jonsson, Nilsson, Pennbrant and Lyckhage (2014) propose 'learning-integrated work' or 'LIW.' This change calls for an approach integrating "scientific knowledge and professional values with practical knowledge and clinical competence…" (p. 91) and a learning process that encompasses organizational, social and personal factors that contribute to a student's experience of learning through work. Similarly, Cooper et al. (2010) suggest the phrase "working to learn," reinforcing the work environment as a source of learning and an educational platform for both the integration of theory and practical work experience, as well as the generation of new learning in and through the work experience.

Cameron (2006, as cited in Orrell, 2011) recommends the creation of ***a three-dimensional learning spaces landscape*** that entails "the theory/practice landscape; identifying and mapping the wide variety of spaces and places where student engineers encounter theory and practice; [and] developing alignment strategies for curriculum renewal and innovation" (Orrell, 2011, p. 23). As cited in Orrell (2011, p. 38), the three-dimensional learning spaces landscape:

> …takes into account time, space, engagement, affordances and cost, which can be used in three ways. It can map current course and curricula to show immediately the space/places the curriculum design crosses. It can assess the character of existing curricula, and explore the possibilities of curricular change and value adding to existing curricular design methodologies. … [And] it can be used as an awareness tool for disseminating the character of learning spaces through a cohesive framework.



Focusing specifically on mapping the intersections between theory and practice in work-integrated learning, adapted and expanded from Cameron (2006, as cited in Orrell, 2011), it is proposed that the following dimensions be outlined:

- ***Intersection content areas*** – The areas in which curriculum content intersects and works to foster alignment among concepts (e.g., field of study/practice)
- ***Intersection knowledge/values/skills*** – Pinpoint which specific knowledge, values or skills of the course/curriculum could be supported or complemented by specific tasks identified for the student(s) in the workplace (e.g., student will explore the notion of civility while organizing a charity drive for the workplace organization)
- ***Interdisciplinary connections*** – Facilitate broad and interdisciplinary learning philosophies for work-integrated learning (e.g., generate a learning philosophy for the work experience that integrates biophysical, psychological and sociological learning perspectives)

Furthermore, Billett (2009) suggests the following recommendations for integrating practice-based work experience with higher education curriculum, including: 1. Articulating clear learning outcomes so that experiences can be aligned to secure learning; 2. Organization of a staged engagement with practice-based experiences; 3. Alignment of work duration with an educational purposes (e.g., orientation versus skill development); 4. Acknowledgement of practice settings as providing experiences to acquire knowledge, skills and attitudes, not merely as places to practice; and 5. Deliberately planning preparatory and consolidating experiences pre- and post-work experience.

Building upon these recommendations, Billett (2015) outlines a number of pedagogical practices for integrating practical experience within higher education courses before, during and after the work experience. Before the students begin their work experience, it is recommended that the learning outcomes be clearly articulated; students should be oriented to their roles and the roles of others in facilitating their learning experience; and students should be adequately prepared to be proactive learners (Billett, 2015). During the work experience, it is recommended that students work with and be effectively guided by experienced workers; students should identify and engage fully in work tasks related to their leaning goals; and student should be encouraged to engage with peers to inform, consolidate and extend their learning (Billett, 2015). Finally, after the work experience, students should be provided with an opportunity to share their learning with others and should identify links between what they have been taught in their academic programme and the practice in the workplace (Billett, 2015).

RECOMMENDATIONS AND GUIDELINES

Pedagogical Practices for Integrating Work Experience within Higher Education Courses

Before Work Experience	During Work Experience	After Work Experience
• Orient students to requirements for effective engagement in the practice setting. • Clearly outline the purpose of the work experience. Include the responsibilities of the student, workplace supervisor and course instructor/programme coordinator. • Prepare students to be proactive learners. • Provide students with any procedural capabilities they may need (e.g., skills). • Prepare students for potential confrontations in the workplace.	• Ensure students work effectively with and are guided by experienced workers. • Encourage students to identify and engage fully in work tasks linked to intended learning outcomes. • Facilitate student engagement with peers to inform, consolidate and extend learning.	• Provide students with an opportunity to share their learning with others. • Promote students' identification of links between what they have been taught in their programme and the practice in the workplace. • Encourage criticality of learning.

Adapted from Billett (2015)

REFLECTION QUESTIONS

How can the integration of theory and practice be enhanced in our WIL programme?

- What are the potential points of intersection between theory and practice and between the academic curriculum and the structured work experience?
- How can we work with the workplace supervisors and students to better identify the potential points of intersection?
- Is everyone (i.e., student, workplace supervisor, course instructor) aware of the intended student learning outcomes of the work-integrated learning programme?
- What are the roles and responsibilities for the student, workplace supervisor and course instructor/programme coordinator in facilitating the integration of theory and practice?

How can students' application of theory to practice be enhanced?

- What resources could we provide workplace supervisors so that they can best assist students in applying theoretical knowledge to practice in the workplace?
- What theoretical content should the students engage with prior to or concurrently with their work experience so that the integration of theory and practice in the structured work experience may be enhanced?
- In what ways can students be encouraged to reflect critically on their work experiences in light of theory previously learned in their academic programme of study?

How can students' application of practice to theory be enhanced?

- Is there an opportunity for students to select a topic to study in more detail based off of questions that arose during the students' work experience?
- Is there a project that can be built into the work experience that would promote study of a particular theory as informed by practice in the workplace?
- What opportunities may exist at the academic institution for students to produce and advance theory through their practical work experience (e.g., research projects)?

SUCCESS STORY

Scotiabank

A couple summers ago I hired a co-op student from Sheridan College to work at Scotiabank, in our International Banking Systems department. Throughout the co-op term, he was tasked with several coding projects related to our application, with a focus on end-of-day (EOD) job maintenance and streamlining Business reporting. Most of his work related back to the coding techniques and theory he was leaning at school. One situation in particular stands out where I had the opportunity to learn from the student. One of the EOD reports the student worked on required a significant amount of scripting and manual manipulation using 10 different country data sources. After having to do this exercise several times, he decided this needed to be streamlined. Using his class knowledge he proceeded to create a scheduled program that automatically extracted the 10 data sources, consolidated the data and exported the report via an email dashboard to be reviewed by management.

Nicholas Dargus, PEng
Senior Manager, Development
Scotiabank

FACILITATING THE THEORY/ PRACTICE NEXUS THROUGH SELF-DIRECTED LEARNING

In order to support and facilitate the connection between theory and practice, the focus of postsecondary education has shifted from a traditional approach, in which the instructor or teacher is exclusively responsible for student learning, to an approach that values both student-led and teacher-led learning (Barr & Tagg, 1995). Each approach to learning is explored below, along with the ways in which they can be implemented to support the connection between theory and practice.

According to Kolb and Kolb (2005), creating an environment in which students "take control of and responsibility for their learning can greatly enhance their ability to learn from experience" (p. 209). One avenue for creating this type of environment is by facilitating self-directed learning in the structured work experience. According to Garrison (1997), self-directed learning is defined as "an approach where learners are motivated to assume personal responsibility and collaborative control of the cognitive (self-monitoring) and contextual (self-management) processes in constructing and confirming meaningful and worthwhile learning outcomes" (Garrison, 1997, p. 18). In a work-integrated learning programme, students may partake in structured work experience in a variety of workplaces, thus making it challenging for any one individual to make the connections between theory and practice for each work experience. Instead, application of a self-directed learning approach to work-integrated learning may be the best way to facilitate the connection between theory and practice in the structured work experience, as the autonomous nature of this approach and the independence of the student in directing his/her own learning allows for enhanced connections with theory relative to the diverse workplace practices and student work experiences. According to Billett (2015, p. 29), in practice-based learning, "there is a greater dependency on the student as a learner who is able to engage independently and direct and manage their own learning in these circumstances. That in some ways, is necessary because it is very much a student rather than teacher led learning process." Supporting this idea, other theorists have suggested that adopting a self-directed learning approach is particularly useful throughout new experiences within diverse environments, and is most effective in simulated or experiential contexts (Garrison, 1997; Keeton, Sheckley, & Griggs, 2002; Lorello, Cook, Johnson & Brydges, 2014), such as the structured work experience.

It is important to note that while students direct and manage a large part of this

process, educators should assist students in navigating areas of importance in particular fields of study (Schwiebert, Crandall & Brown, 1991). For example, educators might assist students in recognizing significant theoretical frameworks to guide their self-directed learning in a particular circumstance encountered in their work experience.

Benefits of Self-directed Learning

There are several benefits to a self-directed learning approach. From a broad perspective, the self-directed approach has been shown to enhance the effectiveness of the learning process, as well as the depth and breadth of the material that is learned (Garrison, 1997; Keeton, Sheckley & Griggs, 2002; Knowles, 1975; Schwiebert et al., 1991). Aligned with the idea that self-directed learning enables students to make enhanced autonomous connections between theory and practice, it has been suggested that when students are responsible for their own learning, they often employ critical thinking skills, learn to transfer skills in various contexts, encounter various perspectives, possess freedom over content and consider the potential impact that the learning could have on broader social issues (Montrose, 2002; Race, 1990). Additionally, addressing the concrete experience learning mode in Kolb's experiential learning theory, a self-directed approach would assist in designing learning experiences through the recognition of the learner's needs, development of realistic learning outcomes and plans for the experience, identification of required and available resources, and measures for appropriate assessment of learning (Knowles, 1975; Sparrow & Pearson, 1985). Implementation of a self-directed learning approach tends to be most efficient in environments where self-directed learning skills are helpful and necessary (Walsh, 2014). Furthermore, student engagement in this process of learning typically garners feelings of ownership over goals and outcomes (Patterson, Crooks & Lunyk-Child, 2002).

Theoretical Framework of Self-directed Learning

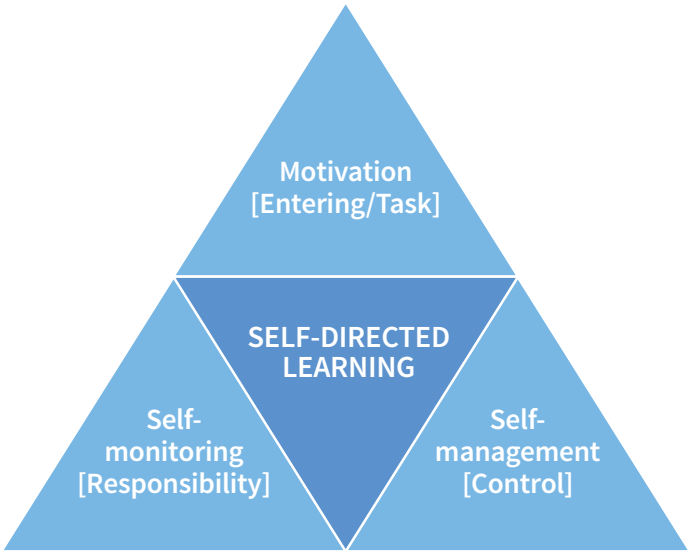
In order to provide helpful tips for creating an environment conducive to self-directed learning, it is important to recognize theoretical frameworks that guide this approach, such as ***Garrison's (1997) Self-directed Learning Model***, which includes three overlapping dimensions: ***self-management***, ***self-monitoring*** and ***motivation*** (Garrison, 1997). Each aspect of the self-directed learning model is discussed in turn below.

Self-management

From a broad perspective, self-management emphasizes the social and behavioural aspects that are related to the learning approach (Garrison, 1997). Self-management is defined as the "enactment of learning goals and the management of learning resources and support" (Garrison, 1997, p. 22). The primary function of self-management is to determine the contextual circumstances associated with the self-directed learning process (Garrison, 1997). Specifically, self-management attends to the following activities (Garrison, 1997):

- Oversight of goals associated with the learning process (e.g., student or instructor's procedural measures for managing goals)
- Methods required and utilized for attaining these goals
- Resources available to the learner
- Modes of assessment required to evaluate the learning experience

Other examples of contextual conditions created by the learner could include determining one's own learning goals or sharing input when creating an effective learning plan for attaining these goals (e.g., flexible schedule for completing activities; Garrison, 1997). It is important to note that management of learning must account for and balance both the common standards in education (e.g., knowledge understood to be valuable) and knowledge acquisition that is personally significant to the learner (Garrison, 1997). For instance, a student in psychology may be responsible for learning appropriate theories of lifespan development (i.e., common standard for a student in psychology) and relate this learning to his or her specific interest in working with children who possess learning disabilities (i.e., personally significant learning).



Dimensions of Self-directed Learning
(Adapted from Garrison, 1997)

Self-monitoring

Self-monitoring is the second aspect of Garrison's (1997) Self-directed Learning Model. It is defined as the "process by which the learner takes responsibility for the construction of personal meaning (e.g., integrating new ideas and concepts with previous knowledge)" (Garrison, 1997, p. 24). Students should engage in self-monitoring throughout a learning experience, as it prompts them to consider aspects of their learning experience in light of their pre-determined goals and expectations (Young & Baker, 2004). The process of self-monitoring should attend primarily to students' ability to achieve pre-determined outcomes, but also recognize and document the unanticipated practices/procedures and outcomes of an experience in the field (Young & Baker, 2004). An individual's ability to self-monitor relies on engagement in extensive reflection and assessment throughout a variety of circumstances, and solidification of these reflections through collaboration with peers and colleagues (Candy, Harri-Augstein & Thomas, 1985; Garrison, 1997). Solidification of the learner's reflections and meaning-making requires an appropriate balance between internal monitoring (e.g., assessing oneself) and external monitoring (e.g., feedback from instructor or mentor; Garrison, 1997). Self-monitoring can be facilitated through the following activities (Montrose, 2002):

- Journaling or writing activities (e.g., progress essays and reports)
- Update meetings with instructors, mentors or WIL administrators
- Structured conversations with fellow WIL students or classmates

Motivation

The third aspect – motivation – is the "perceived value and anticipated success of learning goals at the time learning is initiated" (Garrison, 1997, p. 26). As part of the Self-directed Learning Model, Garrison (1997) differentiates between two aspects of motivation. The first – entering motivation – refers to the commitment an individual makes to a learning goal and the plan of action required to achieve the goal (Garrison, 1997). This motivational process is perceived as the amalgamation of character, objectives and emotions (Thompson, 1992). The second aspect – task motivation – is defined as an individual's inclination to pursue the learning goal(s) that he or she has established in his or her area of interest (Garrison, 1997). Task motivation requires students to actively pursue their goal and maintain effort to achieve that goal over time (Garrison, 1997). In order to accomplish a self-directed learning approach, students should demonstrate both entering and task motivation.

Previous research has explored extensively the diverse perspectives regarding the ways in which students can be motivated in educational settings (Murphy & Alexander, 2000). From this research, Pintrich (2003) has devised an outline of some of the most significant generalizations for motivating student learning:

1. Students can be motivated by perceived competence and feelings of self-efficacy in a given area.
    - When students anticipate doing well on a particular task, they often apply increased effort, remain resilient when challenged and execute the task more efficiently (Eccles et al., 1998; Pintrich & Schunk, 2002).
2. Students are typically motivated by perceptions of control over learning and behaviour.
    - Students who perceive to possess control over their knowledge acquisition often have more enriching learning experiences (Pintrich & Schunk, 2002; Skinner, Zimmer-Gembeck & Connell, 1998).
3. Increased enthusiasm in an area of learning can motivate students.
    - Enthusiasm can be generated through personal interest (i.e., continuous enjoyment or curiosity about an area) and/or situational interest (i.e., attraction to an activity based on the fascinating task or a unique context) (Eccles et al., 1998; Pintrich & Schunk, 2002).
4. Personal significance of the task tends to motivate students.
    - Students can be motivated by activities that they deem to be important or are perceived to meet their personal needs (Baker, 2012; Pintrich, 2003).
5. Students are often motivated by personal goals.
    - These include both *social goals*, such as networking with new employers or establishing new friends in the work environment, as well as *academic goals*, such as achieving a high grade in the work-integrated learning course (Pintrich, 2003).

Each of these core motivational processes is supported by the Self-directed Learning Model, as Garrison (1997) explains that a student is more likely to enter the motivational stage of the model if their learning goals are perceived to be realistic, achievable and important to them. It is important to recognize the need for integration among the three modes (e.g., self-management, self-monitoring, motivation), as each mode is enhanced when the learner is proficient in the other two modes (Garrison, 1997). For example, motivation is enhanced when an individual perceives to have control and responsibility over a learning task (Garrison, 1997).

KEY TERMINOLOGY

Self-management is the enactment of learning goals and the management of learning resources and support.

Self-monitoring is the process by which the learner takes responsibility for the construction of personal meaning (e.g., integrating new ideas and concepts with previous knowledge).

Motivation is the perceived value and anticipated success of learning goals at the time learning is initiated.

(Garrison, 1997, pp. 22-26)

Other aspects identified as important in the process of self-directed learning include (Brockett & Hiemstra, 1991; Candy, 1991; Patterson et al., 2002; Young & Baker, 2004):

- Working collaboratively with peers and colleagues (e.g., assistance in goal construction, sharing ideas and feedback)
- Appropriate assessment measures (e.g., assessment by peers or instructors) and adequate self-assessment
- Opportunity to appraise organization/agency at the completion of the work experience
- Continuous reflection
- Critical thinking

Challenges of the Self-directed Learning Approach

Despite the well-documented potential for self-directed learning (Hewitt-Taylor, 2001; Lunyk-Child et al., 2001), this approach comes with challenges for students, work-integrated learning coordinators and instructors. Examples identified in the extant literature include:

- Students' potential anxieties or unwillingness to embrace a self-directed approach due to a perceived lack of structure (Burnard, 1991; Miflin et al., 2000; Lunyk-Child et al., 2001)
- Relevant integration of technology (Fischer & Scharff, 2010)
- Timing of introduction to self-directed learning (e.g., adapting to this approach in first year vs. fourth year; O'Shea, 2002)
- Feasibility and implementation in particular fields of study or technical skills-based programmes (e.g., nursing, medicine; O'Shea, 2002)
- Ability to provide the student with appropriate learning support and guidance related to his or her specific learning goals and plans (Fischer & Scharff, 2010)

Furthermore, it is important to recognize that some tasks and goals may benefit from more structured, teacher-led learning environments instead of self-directed approaches (Gawad et al., 2014; Rosser et al., 2007; Zeng, Woodhouse & Brunt, 2010). For instance, findings from a study conducted by Abbas (2015) demonstrated that among a group of medical students, learners with supervised training made improvements to particular surgical skills (i.e., peg transfer times) faster than did students who engaged in a self-directed approach to learning the task.

GIVE IT A TRY!

Reflection Questions for Students: Self-directed Learning

Self-management

- What do you intend to learn from your structured work experience?
- How do you plan to achieve these learning outcomes?
- What resources and measures of support do you have available to you?
- What support and assistance are provided to you by your workplace supervisor?
- What are the norms and standards for professional practice within the work organization?
- What expectations do you have for yourself in the workplace?

Self-monitoring

- How will you measure the success of your practice in the workplace?
- How will you receive feedback on your ongoing performance in the workplace?
- What feedback have you received?
- In what ways are you succeeding in the workplace?
- In what areas do you feel challenged?

Motivation

- What topics/material covered in previous courses may relate to your practice in the workplace?
- What skills and abilities do you bring with you to your structured work experience?
- What personal interests do you have that apply to your work experience?
- What are the benefits of completing your professional placement?
- How successful do you expect to be?
- What actions can you take to enhance the collaboration between yourself and your workplace supervisor in directing your learning in the workplace?

SUCCESS STORY

Niagara College

During college, I completed a two-week placement for my dental assisting diploma. The first few days of the placement, I observed dental procedures and the process they used to sterilize equipment. This is a very important process for dental assistants. I also observed the assistants as they dealt with patients on their own, such as taking X-rays for the dentist and preparing the patient for dental procedures. After the first week, I assisted the dentist with his procedures. During our interactions, the dentist taught me how he prefers to pass his instruments and the types of products he prefers to use in each procedure. Getting the hands-on experience in the dental clinic really helped make the theory I was learning at Niagara College more relevant, as I could directly see how it applied to practice as a dental assistant. I graduated from Niagara College in 2009 and have been working full-time as a level II dental assistant.

Natalie VanHerk
Alumna, School of Allied Health Dental Assisting Program
Niagara College

FACILITATING THE THEORY/ PRACTICE NEXUS THROUGH TEACHER-DIRECTED LEARNING

Recognizing the benefits of student-directed learning for integrating theory and practice in the students' structured work experience, there is still an important role for educators in facilitating the theory/practice nexus. In particular, educators might assist students in integrating theory and practice by assisting in the development of learning outcomes that guide the theory/practice connection, facilitating classroom activities and discussions, and providing students with theoretical and practical learning opportunities that align with the learning outcomes of the work-integrated learning programme.

Supporting Students' Self-directed Learning

In order to facilitate students' connections between theory and practice, the first responsibility of academic instructors/programme coordinators is to delineate carefully the intended learning outcomes of the work experience and ensure alignment with potential worksites and student placement tasks. This is critical to assure the feasibility of integrating the students' practice in the workplace with the theory related to the students' focus of study and includes developing overarching, flexible and educational outcomes that preserve the academic integrity of the course and structured work experience (Maher, 2004; Montrose, 2002; Sharp, 2001; Young & Baker, 2004). In defining overarching learning outcomes, it is important that these outcomes not be so specific as to restrict their applicability for students' diverse needs (Maher, 2004; Young & Baker, 2004). Furthermore, the process for creating flexible learning outcomes with students should be iterative in order to maximize effectiveness (Maher, 2004).

Next, work-integrated learning instructors are responsible for supporting students' integration of theory and practice by designing critical learning activities and

assessments that complement and support the self-directed learning approach (Montrose, 2002). This could include any combination of reflection exercises outlined in *Chapter 3: Reflection* (e.g., journaling, video blogs, class discussions, case studies). For instance, a programme related to experiential preparation of teachers identified the academic faculty as responsible for challenging common assumptions in teacher preparation and fostering theoretical and evidence-based change of students through practice (Sherman, 2005).

Teaching Subject-specific and Transferable Knowledge and Skills

Academic instructors might also be responsible for providing students with theoretical and practical content upon which to critique their work experience either before, during or after the experience, depending on the integration approach (i.e., theory-informed practice, practice-informed theory, concurrent, scaffolding).

This includes the generation and facilitation of subject-specific knowledge or skill development courses (Zeng, Woodhouse & Brunt, 2010). For example, Zeng, Woodhouse and Brunt (2010) designed a course for students in their fourth year of medical school to develop particular surgical skills (e.g., suturing, knot tying, management of issues) relevant to their clinical work experience in a calm and controlled environment. Specifically, each class included a brief lecture from the instructor, followed by demonstrations and active practice (Zeng, Woodhouse & Brunt, 2010). As evidenced, the academic instructor is responsible for engagement in effective instruction and development of appropriate assessment of the students' learning (Krause, 1997).

Providing students with theoretical and practical content upon which to critique their work experience also includes fostering the students' learning and demonstration of transferable knowledge, values and skills (Lu, 2007; Maher, 2004). As stated by Maher (2004), transferable skills represent the educational development that complements the student's understanding of discipline-specific knowledge. With the growth of work-integrated learning experiences in higher education programmes, these skills are now recognized as an essential aspect of postsecondary education (Maher, 2004). Transferable skills include curiosity, eagerness, resilience, communication, problem-solving, decision-making, teamwork, ambition and a strong work ethic, to name a few (Cuneen & Sidwell, 1993; Lu, 2007; Williams, 2004). As outlined in *Chapter 2: Purposeful Experience*, ***standards for professional and practice-based education*** that are commonly tied to students' structured work experience include the capabilities and attributes of ***professionalism and citizenship***, ***professional judgement***, ***communication and interactions***, ***information literacy***, and ***professional competence and work readiness*** (Higgs, 2011). Development of these skills often enhances the employability of students following the work-integrated learning experience (Knight & Yorke, 2004; Maher, 2004).

STANDARDS FOR PROFESSIONAL PRACTICE-BASED EDUCATION

PROFESSIONALISM & CITIZENSHIP
- accountability
- trustworthiness
- social inclusion
- commitment to quality
- global perspective of practice
- financial
- social and environmental sustainability
- being a reflective practitioner and lifelong learner

PROFESSIONAL JUDGEMENT
- critical reflection
- flexibility
- adaptability
- problem-solving
- creativity
- ethical decision-making
- lawful practice

COMMUNICATION & INTERACTIONS
- professional communication
- supportive communication
- cultural competence
- confidentiality
- teamwork
- collegiality
- collaboration

INFORMATION LITERACY
- ability to access new information
- ability to judge information
- systhesize information from multiple sources
- produce reports and multimedia presentations

PROFESSIONAL COMPETENCE & WORK READINESS
- professional knowledge
- professional skills
- ability to integrate theory and practice
- knowledge of work/profession
- competence in safe work practice
- competence in professional knowledge and skills
- initiate
- independence

(Higgs, 2011)

Areas of Preparation for Facilitating the Theory/Practice Nexus

In order to facilitate the theory/practice nexus, instructors who deliver work-integrated learning courses should educate themselves about their role as a work-integrated learning facilitator (e.g., effective teaching strategies, knowledge of content of the broader academic curriculum, and an understanding of the learning outcomes and related theoretical and practical content of the work-integrated learning programme). Instructors should be encouraged to reflect continuously on their role, be provided with a mentor to review their practice, and experiment or practice in meaningful environments (Krause, 1997; Lu, 2007).

Instructors should be trained in strategies to integrate teacher-led and student-led learning approaches for the purpose of effective theory/practice integration. As an example, this could entail the instructor facilitating a literature-based lesson regarding a professional skill (e.g., communication) and then encouraging students to take responsibility and control over practicing this skill in their work setting.

As well, training on instructional approaches to learning that emphasize links between theory and practice and assist students in shifting from content-based knowledge (i.e., declarative knowledge) to other forms of knowledge acquisition, such as procedural knowledge (i.e., understanding "how" a process works; Raelin, 2010), would be highly useful. By approaching learning in this manner, students tend to be equipped with an understanding of how to apply knowledge in diverse situations (Spiro, Feltovich & Jacobson, 1996).

The training of work-integrated learning instructors on effective instructional approaches for integrating theory and practice include training instructors on strategies for ways in which they can motivate students to make these connections. Osgood and Richter (2006) suggest a number of teaching factors, information factors and presentations factors for facilitating educational activities that are motivating to students. Applying these recommendations to the integration of theory and practice in work-integrated learning, examples include: teaching-factors, information factors and presentation factors.

RECOMMENDATIONS AND GUIDELINES

Teacher-led Strategies for Motivating Students' Connections of Theory and Practice in WIL

Teacher Factors	Information (Content) Factors	Presentation (Delivery) Factors
• Demonstrate enthusiasm for both the practical and theoretical elements of WIL. • Build a rapport with students. • Show a genuine interest in students and the theory/practice connections made. • Express high but realistic expectations for achievement of theory/practice integration. • Make learning and behavioural expectations clear. • Let students know how to succeed in connecting their work experience with theory. • Help students feel that they are valued members of the academic and workplace learning communities. • Give frequent, early and positive feedback that supports students' belief that they can do well linking their academic learning with practice in a real world work environment.	• Demonstrate the relevance/value of being able to connect theory and practice in WIL. Explain how the knowledge/skill is/will be useful to the student in current and future work experience. • Provide well-organized learning activities that encourage students to draw connections between theory and practice. • Target learning outcomes to the proper level. Ensure that they are designed to move learners to the next level of understanding. Use these learning outcomes as the focus for integrating theory with workplace practice. • Provide multiple concrete, relevant and understandable examples of links between theory and practice in WIL.	• Provide opportunities for students to be actively involved in establishing their own learning outcomes for WIL, to actively participate and to interact and share with others (feel connected and valued versus isolated and anonymous). • Involve minds through questions, discussion, demonstration, writing. • Involve mind-body through hands-on experiences and physical demonstrations of theory/practice nexus. • Involve attitudes, values and feelings through debates, position papers, and ethical and professional discussions. • Use a variety of teaching methods (e.g., discussion, group work, lecture); vary stimuli (e.g., video, slides, flip chart, audio).

Adapted from Osgood & Richter (2006, p. 15)

ERRONEOUS DIVISION OF THEORY AND PRACTICE

In discussing the integration of theory and practice, it is important to highlight the erroneous divide that is created between theory and practice relative to the presumed bases for each of their foundations.

This chapter, like most resources that provide information on the integration of theory and practice in work-integrated learning, is skewed towards the scenario in which students are integrating the practice they gain in the workplace with theory derived from the academic programme. While this is not an inaccurate depiction of how theory and practice may be integrated in work-integrated learning, it is important to acknowledge that the theory/practice nexus is not limited to these sources.

> "…current distinctions between theory and practice, and the divide between them that is frequently mentioned in relation to the inadequacy of experiences [in] educational settings and the need for those in practice settings are still largely based on the idea that theory (i.e., conceptual knowledge) is learnt in classrooms and practice (i.e., procedural knowledge) is that which is best developed in the circumstances of practice. However, these very premises are quite erroneous. Individuals learn concepts, propositions, casual links, and factual knowledge (i.e., theory) across different kinds of settings, including workplaces. Then the learning of how to do things (i.e., procedural learning) which is analogous to the term 'practice' also arises in educational settings as it does within settings where people engage in practice in applying knowledge in ways that secure goals" (Billett, 2015, p. 22).

Recognizing this erroneous divide, this guide suggests that in order to maximize the integration of theory and practice in work-integrated learning, students should be encouraged to draw upon and be given opportunities for conceptual and procedural knowledge acquisition, as well as opportunities for practice in both the workplace and academic environment. It is suggested that the more forms of theory and practice are drawn upon within each environment, the deeper the integration of the theory and practice may be, both within and between the academic environment and the workplace. Examples of ways in which students may be exposed to theory in the workplace include professional development workshops or seminars at the worksite, resource material provided for workplace employees/learners, through specific workplace tasks (e.g., background review on a project/procedure), or within discussions with mentors and peers at the worksite. Examples of how practice may be gained in the academic institution include practical and laboratory sections, and hands-on practice of the material with one's self, peers or visitors in the 'classroom.'

SUMMARY OF EFFECTIVE PRACTICES FOR FACILITATING THE INTEGRATION OF THEORY AND PRACTICE

4

- One of the biggest challenges facing WIL today is the ability to facilitate and support students' integration of classroom curricula into practice, and vice versa (Boud & Symes, 2000; Stirling et al., 2014).
- This challenge is precipitated by WIL programs feeling the pressure to balance the theory base of the academic programme "with the practical skills required by the industry that will ultimately employ the students" (Ruhanen, 2005, p. 34).
- Integration of theory and practice in WIL should be thought of as bi-directional. There are four different approaches:
  - Theory informed by practice approach – practical experiences inform theoretical learning; may be best applied to universal learning outcomes (e.g., professional skills) or specific learning outcomes related to field of practice
  - Practice informed by theory approach – theory is applied by students and/or practiced in the workplace
  - Concurrent approach – students are studying theoretical material at the same time as engaging in practice
  - Scaffolding approach – continued progression and interspersing of theory and practice; students may apply theory to practice or practice to theory given the cyclical nature of learning
- Collingwood's (2005) Three-stage Theory Framework can be used to apply the theory to practice approach to integration. It is comprised of three progressive stages:
  - Stage 1 – previous theoretical knowledge is used by students to acquaint themselves within the workplace setting
  - Stage 2 – theory is used to inform what is going on (and why) and potential intervention strategies
  - Stage 3 – students build upon use of theory to inform and intervene by identifying and practicing the specific knowledge, values and skills underlying the service of the placement agency
- Workplace supervisors can facilitate application of theory to practice in three ways (Munson, 1993):
  - Discuss theory and help student connect theoretical material to practice.
  - Translate conceptual material into more practical language and use examples.
  - Exclusively present the practical material and allow student to make connection.

- Another model is Fook and Gardner's (2007) Model for Critical Reflection:
  - Students engage in a cyclical process:
    - Students practice in the work setting and experience a problem/incident.
    - They reflect on this practice, draw upon theory and make sense of the interaction and influencing factors.
    - Students then contemplate new practice strategies going forward.
- Recommendations for enhanced integration include:
  - Integrated learning as a shared responsibility between all stakeholders
  - Faculty/staff build integration into structured WIL through learning outcomes and assessment.
  - Stakeholders can develop a deliberate plan of action that reintroduces theoretical or practical aspects to consolidate learning from the field.
  - Students should integrate what they have learned in the workplace and relate it to next phase of academic/work-integrated learning.
  - Acknowledgement of practice settings as providing experiences to acquire knowledge, skills and attitudes, not merely places to practice
- Pedagogical practices for integrating work experience within higher education courses:
  - Pre-work experience – orient students to requirements for effective engagement; outline purpose of work experience (e.g., responsibilities of stakeholders); prepare students to be proactive learners; provide students with skills they may need; prepare students for potential confrontations in workplace
  - During work experience – ensure that students are guided by experienced workers; encourage students to engage fully in work tasks related to learning outcomes; facilitate student engagement with peers
  - Post-work experience – provide students with the opportunity to share learning with others; promote identification of links between what students have been taught and their practice in the workplace; encourage criticality of learning
- To connect theory and practice, postsecondary education has shifted from a traditional approach (e.g., professor responsible for learning) to a shared responsibility of instructor-led and student-led learning (Barr & Tagg, 1995).
- Self-directed learning is "an approach where learners are motivated to assume personal responsibility and collaborative control of the cognitive (self-monitoring) and contextual (self-management) processes in constructing and confirming meaningful and worthwhile learning outcomes" (Garrison, 1997, p. 18).
- Benefits of self-directed learning (e.g., Garrison, 1997; Montrose, 2002; Race, 1990):
  - May enhance breadth and depth of material learned
  - Enables students to make autonomous theory and practice connections
  - Students learn to transfer skills in various contexts, encounter different perspectives, possess freedom over content, and consider potential impact learning could have on broader social issues
- Garrison's (1997) Self-directed Learning Model was chosen as the guiding framework for student-led connection of theory to practice. The theory is comprised of three overlapping dimensions:
  - Self-management – attainment of learning goals and management of contextual conditions, including oversight of goals, methods, resources, and support available for learning and modes of assessment required to evaluate experience
  - Self-monitoring – a learner's construction of meaning related to their learning in light of pre-determined goals, expectations and practical experience
  - Motivation – the perceived significance and expected success of the learning goals determined by the student at the time that learning begins
- Each mode (e.g., self-management, self-monitoring or motivation) is enhanced when the learner is proficient in the other two modes (Garrison, 1997).
- Other aspects identified as important for a self-directed learning approach include (Brockett & Hiemstra, 1991; Candy, 1991; Patterson et al., 2002; Young & Baker, 2004):
  - Collaboration with peers and colleagues
  - Appropriate assessment
  - Continuous reflection
  - Critical thinking
- Challenges of the self-directed learning approach for students, WIL coordinators and instructors (e.g., Burnard, 1991; Lunyk-Child et al., 2001; O'Shea, 2002):
  - Student anxieties or unwillingness to embrace self-directed approach
  - Relevant integration of technology
  - Timing of introduction to self-directed learning
  - Feasibility/implementation in unique fields or technical

skills-based programs

- Instructor's ability to cater guidance for the student to his/her learning goals

- Academic instructors also play an important role in facilitating the connection between theory and practice (e.g., Montrose, 2002; Young & Baker, 2004):
  - Develop an understanding of theoretical frameworks of experiential learning.
  - Design curriculum that complements/supports self-directed learning approach.
  - Choose broad content to be covered in class, and develop overarching and flexible educational objectives.
  - Facilitate subject-specific knowledge and skill development.
  - Foster student learning and demonstration of transferable skills.
  - Connect student-led and instructor-led learning in a meaningful way.
- Teacher-led strategies for motivating students' connections of theory and practice:
  - Teacher factors – enthusiasm for practical and theoretical elements of WIL; build rapport; high but realistic expectations for the integration of theory and practice; clear expectations for learning and behaviour; frequent, early and positive feedback about theory/practice nexus in WIL environment
  - Information (content) factors – demonstrate relevance of connection between theory and practice in WIL; explain how the knowledge/skill will be useful to students in current and future work; provide well-organized learning activities; ensure that learning outcomes are designed to move learners to next level of understanding; learning outcomes as focus of theory/practice nexus
  - Presentation (delivery) factors – provide opportunities for students to be actively involved in the development of learning outcomes and share with others; involve mind through questions, discussion and writing; involve mind-body through hands-on experiences and physical demonstration of theory/practice nexus; involve attitudes, values and feelings through debates, position papers and discussion.
- It must be acknowledged that the division of theory and practice is erroneous:
  - The current division of theory and practice is still based predominantly on the perception that learning of theory occurs in the classroom and that practice typically occurs in other workplace settings (Billett, 2015).
  - In order to maximize the integration of theory and practice in WIL, students should be given opportunities for conceptual and procedural knowledge acquisition, as well as opportunities for practice in both the workplace and academic environment.

"I never failed once. It just happened to be a 2000-step process."

– THOMAS EDISON

5

EXPERIMENTING WITH NEW IDEAS

In this chapter, effective practices are discussed for addressing the active experimentation learning mode in work-integrated learning. Experimentation is defined, followed by a review of a four-step process for developing an experimentation plan. Effective practices for facilitating students' experimentation with new ideas also include enabling students to be creative, adaptive and push the boundaries of what is possible in the work environment. The wealth of literature on entrepreneurship in higher education may also be applied as a strategy to enhance students' experimentation with new ideas in the structured work experience.

EXPERIMENTATION

Experimentation in the context of higher education generally calls to mind science experiments. However, experimentation can also apply to the work-integrated learning context and be conceptualized in similar ways. For example, in a science experiment, you begin with a theory-informed hypothesis and an idea of what you want to do. You then develop the methods for carrying out the experimentation, implement the experiment, evaluate its effectiveness and whether it disproves or supports your hypothesis.

Similarly in work-integrated learning, a student may develop an idea for practice in the workplace based on critical reflection and integrations of workplace experience and academic theory. The student then describes the idea with a supporting rationale, develops a plan for implementation, implements the plan and concludes by reflecting on whether the intended goals of the new workplace practice were met or not. Although experimentation in work-integrated learning is similar to that of a science experiment, it is less common and less well understood.

This chapter explores how student experimentation can be facilitated within the structured work experience, with special consideration given to fostering student creativity and adaptability in the workplace setting. In addition, considerations are provided for pushing the boundaries of work-integrated learning and allowing students the opportunity to take more risks and have greater autonomy over their learning experiences.

Definition and Overview

According to Kolb (1984), for a complete learning experience to take place, students must complete all four learning stages – concrete experience, reflective observation, abstract conceptualization and active experimentation (Rschick, Maypole & Day, 1998). However, the final stage is less well understood and thus less purposefully integrated into the work-integrated learning context (Stirling et al., 2014). Before addressing key factors for improving the integration of experimentation into students' structured work experiences, it is critical to begin by clarifying and making explicit what we mean by experimentation in work-integrated learning or the workplace setting. To do so, we turn to Kolb's conceptualization and definition of active experimentation in experiential learning theory. According to Kolb (1984; 1998), active experimentation is defined as the stage in which "students test theories [and] make predictions about reality and then act on those predictions... the learner is trying to plan how to test a model or theory or plan for a forthcoming experience" (cited in Akella, 2010, p. 102). Characteristics central to experimentation include (trial and error) problem-solving, decision-making, practical application, openness to new experiences, adaptation to change, action orientation, curiosity and creativity (Evans, Forney, Guido, Patton & Renn, 2010).

KEY TERMINOLOGY

Experimentation is defined as the stage of experiential learning in which "… students test theories [and] make predictions about reality and then act on those predictions."

(Akella, 2010, p. 102)

CHARACTERISTICS CENTRAL TO EXPERIMENTATION

- Problem-solving
- Decision-making
- Practical application
- Openness to new experiences
- Adaptation to change
- Action orientation
- Curiosity
- Creativity

(Evans et al., 2010)

According to Goltz, Hiatapelto, Reinsch and Tyrell (2008), globalization has resulted in organizations' growing demand for employees with enhanced decision-making and problem-solving skills. A way to create such employees is through students learning of these skills in higher education, prior to entering the workforce (Freeman, 1995). So now more than ever it is essential to develop and implement a strategic plan to facilitate student experimentation and the enhancement of the workplace skills required to propose and experiment with new ideas.

In looking to enhance students' experiences of active experimentation in the classroom specifically, there are several class participation techniques that faculty and/or staff can use to give voice to students' experiences and viewpoints, including: giving more student-relevant examples; including more class exercises and participation opportunities; using more visual aids like videos, role play, team work and class discussions; and becoming more open and curious about students, their lives and activities (Akella, 2010). In the work-integrated learning context, experimentation can be facilitated through the provision of opportunities such as collaboration in teams (Grossman, Wineburg & Woolworth, 2001; Little 2002; Schwarz McCotter, 2001; Vescio, Ross & Adams, 2008); problem-based learning situations (Yeo, 2009); training other colleagues/students (Ha, 2008); participating in work projects and troubleshooting experiences (Ha, 2008); participating in research projects (Itin, 1999); learning through case studies (Smith, 2000); and assigning (challenging) tasks spontaneously and/or under pressure (Middleton, 2002).

★ SUCCESS STORY

Seneca College

As a student in Seneca College's Veterinary Technician program, I learned so much about animal care and the practice of being a vet tech. While I was studying at Seneca, I had the opportunity to work at the Canine Wellness Centre, where I assisted in laser and manual therapy, as well as hydrotherapy. One of the highlights of working at this facility was working with my supervisor to develop a proposal for conducting canine fitness testing at the centre. Before coming to Seneca, I had completed an undergraduate degree in the Department of Kinesiology at McMaster University. It was great being able to apply my previous education to my work as a vet tech and be a part of the innovative practice happening at the Canine Wellness Centre. I now work full-time at the Toronto Humane Society.

Christina Giordmaina
Former student, Veterinary Technician Program
Seneca College

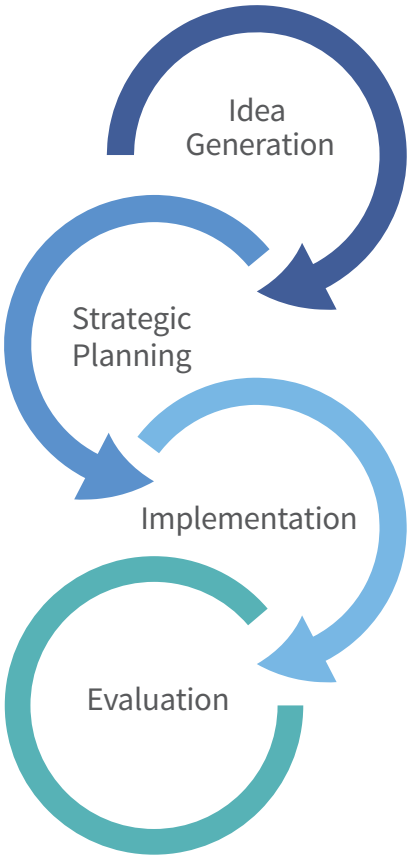
PEDAGOGICAL TECHNIQUES TO FOSTER STUDENT EXPERIMENTATION IN WIL

- Descriptive classroom examples of practical applications of theory
- Opportunities to practice experimentation in the classroom (e.g., role plays, team work, class discussions)
- Demonstrating openness and interest in students' ideas and activities
- Exposure to problem-based learning situations at the workplace
- Opportunities for workplace collaboration in teams
- Peer training/mentorship
- Troubleshooting workplace challenges
- Participating in research projects
- Learning through case studies
- Assigning challenging tasks spontaneously and/or under pressure

References: Akella, 2010; Grossman et al., 2001; Ha, 2008; Itin, 1999; Little, 2002; Middleton, 2002; Schwarz McCotter, 2001; Smith, 2000; Vescio et al., 2008; Yeo, 2009

Developing an Experimentation Plan

The intended outcome of an experimentation plan is to have students experiment with their new knowledge. Both inside the classroom and in the workplace, an explicit and strategic plan can be used to help facilitate students' experimentation. Developing an experimentation plan includes four basic steps: 1. Generate an idea; 2. Determine the strategy for implementation; 3. Implement the idea; and 4. Evaluate and reflect.



1. Generate an idea

The first step in coming up with an experimentation plan is to identify a need, challenge or opportunity in the workplace and an idea for resolution and/or advancement. This can be driven by faculty/staff charged with delivering the work-integrated learning programme, the workplace supervisor who oversees the student's work experience, or the students themselves. More specifically, idea generation can be precipitated by learning outcomes proposed by the academic institution, applied learning activities or assignments that challenge students to propose new directions, or advancements for practice in the workplace (e.g., class discussions, case study projects, problem-solving exercises). A student may be informed of a challenge or potential area for advancement in the workplace organization directly by the workplace supervisor, colleagues or clients, and idea generation may be facilitated through associated troubleshooting and brainstorming sessions. Areas of need or potential opportunity, and corresponding ideas for improvement, may also be generated autonomously through students' curiosity, creativity, critical reflection, and by applying theory/practice connections made in the work-integrated learning experience.

As an example, a speech language pathology student may be conducting a clinical placement at an elementary school. As a part of the student's placement work, he conducts one-on-one communication training with a child at the school who is non-verbal, and realizes that there is currently no training provided for the other children in the class on the use of sign language – a communication strategy currently being used by the child who is non-verbal in her home environment and with the teacher and teaching assistant in the classroom. As a part of a previous course taken in his academic programme, he remembers reading about the influence of communication competence between peers on social development and friendship, so he decides that conducting sign language training with the entire class may be a good idea.

2. Determine the strategy for implementation

The next step in developing an experimentation plan is to decide the best means to proceed with the idea, including identification of resources, feasibility and control mechanisms. More specifically, after generating an idea a student may ask him/herself, "What is required to implement the idea?"; "Can I fulfill these requirements with the resources available?"; "What is the best timing and process for implementation?"; "Am I in an appropriate position to implement the idea into action?"; and "Who else should be involved?" The breadth and depth of the strategic planning varies depending on the scope of the idea generation, but it is recommended that in all cases students should take a moment to assess critically the implications and considerations of their new idea(s).

Writing down the idea and projected plan for implementation is a good idea no matter how simple or elaborate the idea may be, as it helps flesh out pertinent details related to the idea/plan, as well as serves as a tool for the student to track his/her own progress and idea development. Once the plan has been written out in as much detail as possible – for example, recognized need/area for advancement, idea, resources required, timeline, end goal/product/solution, perceived barriers/challenges, etc. – it can be shared with stakeholders.

As a part of the strategic planning, in addition to assessing critically and documenting the idea and implementation plan, students should identify stakeholder(s) involved in the process and share the idea/plan. This not only entails identifying stakeholder(s) and resources that are needed to help carry out the idea/plan, but also sharing the projected plan with those stakeholder(s). Any work-integrated learning experience requires a collaborative partnership between academic institution, host organization and the student (Reeve & Gallacher, 2005). Therefore, regardless of who initiates the idea/plan, it must be shared and communicated with each partner. One of the primary aims for this step should be to solicit feedback from stakeholders before moving forward with the plan, and based on the feedback received make any required changes. Possible changes may include, for example,

the academic institution suggesting ways to assess student performance on the idea/plan or ways to better incorporate theory; the host organization may require the plan to meet organizational regulations or want to include additional staff/students in the process; and students may want to have input on what they would like to learn and develop by participating in the idea/plan.

3. Implement the idea

Once the plan has been finalized and has received feedback, it is ready to be implemented into practice. Throughout this step, routine feedback and communication between work-integrated learning stakeholders should be maintained and any unforeseen challenges and/or revisions to the plan should be addressed.

4. Evaluate and reflect

Finally, once the idea and plan have been generated, it is critical to evaluate the effectiveness of the plan, areas for improvement and the student learning that occurred. This can be done formally (e.g., mentor assessment of student performance on idea/plan; reflective writings) or informally (e.g., informal conversations and/or feedback from mentor and/or academic faculty/staff). Student reflections on the process and outcome of the plan should also be considered, including students' perceptions of the process, the added value of the idea and plan to the host organization, connections to theory that grounded the idea and plan, and the success of the idea and plan (as defined by the student). Ideally, this evaluation will spark ideas for further improvement, thus leading to the initiation of a new experimentation plan.

In addition to creating and using an experimentation plan, there are key factors for facilitating students' generation of new ideas and their ability to implement them in the workplace that should be considered. Students' ability to generate and test new ideas is influenced by their degree of creativity, adaptability and willingness to push the boundaries of what is possible in work-integrated learning.

GIVE IT A TRY!

Sample Student Experimentation Plan

1. Generate an Idea

IDEA:

RATIONALE:

- *What is an identified need, challenge or opportunity in the workplace?*
- *How can this be resolved/advanced?*

2. Strategy for Implementation

RESOURCES:

TIMEFRAME:

PROCESS:

TEAM MEMBERS:

- *What is required to implement the idea?*
- *Can I fulfill these requirements with the resources available?*
- *What is the best timing and process for implementation?*
- *Am I in an appropriate position to implement the idea into action?*
- *Who else should be involved?*

3. Implementation

STRENGTHS:

CHALLENGES:

- *What feedback has been received on the implementation of the idea?*
- *What are some of the strengths? Challenges?*

4. Evaluate and Reflect

EFFECTIVENESS:

AREAS FOR IMPROVEMENT:

VALUE:

STUDENT LEARNING:

- *Was the idea effective? How do I know?*
- *How can the idea/implementation be improved?*
- *What value did this idea add?*
- *What did I learn?*

CREATIVITY

Creativity has been gaining increasing attention over the last several decades, with educators promoting the importance of creative thinking inside and outside of the classroom (Brown & Kuratko, 2015).

However, the nature of the work tasks completed in a student's work-integrated learning experience are often effective for yielding practical knowledge while not allowing students sufficient flexibility for innovative thinking and creativity (Estes, 2004; Moore, 2010). Creativity, as described by Sternberg and Lubart (1999), has two defining characteristics: "The ability to produce work that is both novel (e.g., original, unexpected) and appropriate (e.g., useful, adaptive to task constraints)" (p. 3).

In today's economy, organizations that are able to cultivate employees' creativity and commitment to producing novel work enjoy much greater success (Kuratko, Ireland & Hornsby, 2001). However, the world of education preparing students to be inventive contributors to the workplace "has fallen behind in establishing innovative changes for educating in the 21st century" (Brown & Kuratko, 2015, p. 147).

One solution to improving the creative capabilities of students is to foster their knowledge, practice and attitudes towards creativity through the work-integrated learning experience. Brown and Kuratko (2015) propose a set of guidelines to assist faculty and staff in their use of work-integrated learning opportunities to foster students' creativity in the workplace, which include identifying the problem before designing the solution; demonstrating the process through iterations; being strategic rather than tactical; being open but constrained; and implementing teamwork opportunities with shifting assignments.

KEY TERMINOLOGY

Defining Characteristics of Creativity

- The ability to produce work that is novel (e.g., original, unexpected)
- The ability to produce work that is appropriate (e.g., useful, adaptive to task constraints)

(Sternberg & Lubart, 1999)

- ***Identify the problem before designing the solution*** – denotes that creativity involves allowing students the opportunities to develop and refine both the formulation of a problem and ideas for a solution, rather than having problems/solutions identified for them
- ***Demonstrate the process through iterations*** – highlights the importance of rewarding students for the process they use to address the problem they have identified, rather than simply the solution

STUDENTS' ABILITY TO GENERATE AND TEST NEW IDEAS IS INFLUENCED BY THEIR DEGREE OF CREATIVITY, ADAPTABILITY AND WILLINGNESS TO PUSH THE BOUNDARIES OF WHAT IS POSSIBLE IN WORK-INTEGRATED LEARNING.

they have developed. For example, requiring students to develop a number of solutions and submit this work as part of their final deliverable is one way to capture this process.

- ***Be strategic rather than tactical*** – suggests that students should be encouraged to think beyond the practical problems and instead develop alternative solutions that consider factors outside of what has been presented to them. This is evident, for example, when a workplace organization presents a practical problem to a student to solve and the student is confined to developing and suggesting tactical activities that will help the organization be successful in a course of action. Instead, the student should be allowed to think beyond tactical decisions and freed to develop alternative solutions that only focus on the problem as it was presented (Dunne & Martin, 2006; Dym, Agogino, Eris, Frey & Leifer, 2005).

- ***Be open but constrained*** – acknowledges that although open projects allow students the flexibility to be creative in developing solutions, constraints must be imposed in order for innovation to take place (Goodale, Kuratko, Hornsby & Covin, 2011; Mumford, Hunter & Bedell-Avers, 2008).

- ***Teamwork with shifting assignments*** – involves rotating student team assignments at random times to ensure that students are continuously adjusting to new teammates, new roles, new ways of thinking and differing perspectives. This in turn will help to improve students' leadership, communication skills, and ability to develop new ideas based on the various perspectives of the workplace/project to which they have been exposed (Hansen, 2006).

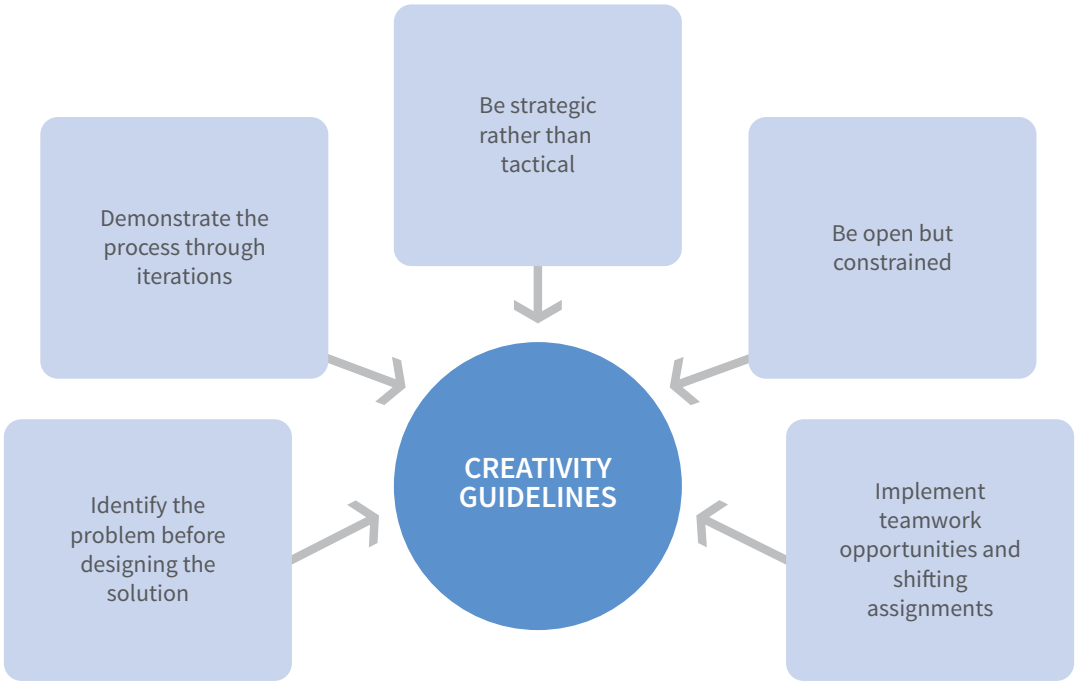
In addition to these concrete guidelines, there are also different forms of creativity that exist for differing purposes. According to DeGraff and Lawrence (2002), there are ***four main types of creativity*** that describe the creative tendencies of an individual or group. These four types are conceptualized into 'creativity profiles,' including imagine, invest, improve and incubate.

- ***Imagine*** – This profile is about break-through ideas and visions for the future. It is most appropriate for situations calling for the generation of divergent ideas to meet an externally produced challenge. It is not surprising, then, that the imagine profile involves high risks and high rewards. For example, a highly successful organization asks a group of its placement students to develop an advertising campaign to market a new product across Ontario. Under an imagine profile, the organization would promote radical thinking and ideas and be willing to have the students work on this project because of the potential large reward they could gain in sales. If the project fails, they have a financial buffer to cover the loss.

- ***Invest*** – This profile is all about converting creativity into action through the provision of resources and discipline. Similar to the imagine profile, the invest profile relies on creativity to produce monetary gains. However, these profiles differ in that the invest profile demands that the risks associated with creative endeavours be calculated. Convergent ideas are welcomed in the invest profile in order to meet an external challenge. In short, this approach usually tends to avoid taking big risks. For example, a not-for-profit organization would like to host a fundraiser aimed at raising money for the

Guidelines for Faculty/Staff to Consider to Enhance Student Creativity in WIL

(Brown & Kuratko, 2015)



organization and its outreach initiatives. Placement students have been assigned the task of creatively designing and organizing the fundraiser, but they are under strict orders to leverage company products and services and not to invest too much into the fundraiser in case they do not meet their intended goals.

- ***Improve*** – This profile is focused on leveraging something that already exists and making it better. This type of approach also involves internal systems producing a convergent solution. The improve profile is useful in increasing the quality of or getting the most from something pre-existing. Boundaries of control are central to this approach, as they allow for interdependent parts to work together to make incremental gains. As an example, a team of students at an engineering firm is tasked with improving the durability of a pre-existing product. The students work alongside a project manager, a software technician, a technology expert and a team of product specialists, all within the engineering company. This newly formed interdependent team then works within a system of standardized structures and processes to make incremental gains on the improvement of the product.
- ***Incubate*** – This profile pursues sustainable creativity by finding and developing people in the best possible environment. This includes internal 'talent scouting,' in which diverging abilities of different people are cultivated to create sustainable creativity. Given the long-term potential of this approach, time and patience are required before rewards can be seen or recognized. As an example of the incubate profile at play in the work-integrated learning context, a supervisor at a physiotherapy clinic where a student is doing his clinical work placement may notice that the student has excellent interpersonal skills and therefore places him at the front desk to greet patients. Over the course of the placement, the manager also notices the student's keen eye for technology and his ability to learn quickly. The placement student may begin treating patients with the clinic modalities under the supervision and guidance of his workplace supervisor. By the end of the student's placement, the student is contributing to several aspects of the clinic, thanks in part to the manager's ability to scout his talent and assign him appropriate tasks.

Creativity Profiles

(DeGraff & Lawrence, 2002)

ADAPTABILITY

According to Kolb (1984), the ability of students to adapt to their surroundings and changing circumstances characterizes the active experimentation mode of experiential learning theory. More specifically, these characteristics also paint a picture of the accommodating learning style (Kolb, 1984; Evans et al., 2010).

KEY TERMINOLOGY

Defining Characteristics of Adaptability

- Willing to take risks
- Employ trial and error approach to problem-solving
- Adjust to changing circumstances

(Evans et al., 2010)

In Evans et al. (2010), accommodators are further described as willing to take risks, preferring a trial and error approach to problem solving over using analytical thinking, and being good at adjusting to changing circumstances. Adaptability, therefore, is an integral component of experimenting with new ideas and should be supported and encouraged within the structured work experience.

Adaptability, as proposed by Hall (2005), is the capacity to change, including both the competence and the motivation to do so. It has been noted that today's workplace organizations are changing and are more dynamic than ever (O'Connell, McNeely & Hall, 2008; Pearlman & Barney, 2000; Pulakos, Arad, Donovan & Plamondon, 2000; Sanchez & Levine, 2001), which reaffirms and further fuels the need for students to be adaptive in the workplace, both as a part of their work-integrated learning and upon graduation. For example, as a part of the structured work experience, students may be faced with advancements in technology in the workplace, working with individuals from diverse backgrounds, both culturally and professionally, and/or needing to learn new skills to compete for involvement in different projects. As a result, students "need to be increasingly adaptable, versatile, and tolerant of uncertainty to operate effectively in these changing and varied [work] environments" (Pulakos et al., 2000, p. 612).

There are a number of ways in which a student can gain experience in practicing adaptation in their structured work experience, including: 1. Handling emergencies and crisis situations; 2. Handling work stress; 3. Solving problems creatively; 4. Dealing with uncertain and unpredictable work situations; 5. Learning work tasks, technologies and procedures; 6. Demonstrating interpersonal adaptability – being flexible and open-minded when dealing with others and developing effective relationships in the workplace; 7. Demonstrating cultural adaptability – taking action to learn about and understand the climate, orientation, needs and values of other groups, organizations or cultures, and integrating well and adjusting as necessary; and 8. Demonstrating physically oriented adaptability – adjusting to environmental extremes (e.g., temperature, cleanliness, physically demanding/strenuous tasks) (Pulakos et al., 2000).

Despite common challenges cited in the literature in developing adaptability – e.g., that it is a difficult thing to measure, predict and teach effectively (Pulakos et al., 2000) – Levin (2015) outlines a

Eight Dimensions of Adaptive Performance in the Workplace

(Pulakos et al., 2000)

range of skills and practices to further training aimed at increasing adaptability and accommodating future changes in workplace organizations. These dimensions can also be applied to developing the adaptability of students in the work-integrated learning context. Levin's (2015) dimensions include ***initiative; cooperation; working in groups; peer training; evaluation; reasoning; problem-solving; decision-making; obtaining and using information; planning; learning skills and multicultural skills***. To put these dimensions into practice, we pose the following example. Patricia is a student who is doing her placement at a community food bank. The food sorting machine recently broke down and since there is not enough funding to replace it, Patricia would like to pitch a plan to her work supervisor to improve the sorting and storing of non-perishable foods (***initiative***). She approaches two other placement students, as well as two volunteers working at the food bank, to work together on her idea (***cooperation; working in groups***). At this point, one of the longer-term volunteers provides his feedback on Patricia's plan (***peer training***), which then prompts the other volunteer and two placement students to pose additional (potential) problems with the idea. As a result, Patricia generates an alternative solution, clarifying to everyone the new information related to the project and how this information will be used to carry out the new plan (***obtaining and using information***). With unanimous support, the group pitches the plan to the workplace supervisor together and, within the week, they are working to implement the plan (***problem solving***).

The greatest gains in worker productivity result from the adaptability of workers to change (Levin, 2015). As such, students should be encouraged to try new things and experiment throughout their work-integrated learning experience. By doing so, students will not only develop an important trait for future career success, but will also actively pursue the active experimentation mode of Kolb's theory and therefore enhance the educational quality of their work experience.

TRAINING STUDENTS IN ADAPTABILITY

Skill/Practice	Description
Initiative	The drive to think and act independently
Cooperation	Constructive, goal-directed interaction with others
Working in groups	Directed towards both short-term goals of efficient task or activity accomplishment and the long-term goal of group maintenance
Peer training	Informal and formal coaching, advising and training of peers
Evaluation	Appraisal and assessment of the quality of a product or service
Reasoning	Generation of logical arguments
Problem-solving	Identification of problems, generation of alternative solutions and their consequences, selection of an alternative and implementation of a solution
Decision-making	Employing the elements of problem-solving on an ongoing basis
Obtaining and using information	Deciding which information is relevant, knowing where to obtain it and how to put it into use
Planning	Establishing goals, as well as scheduling and prioritizing work activities to achieve them
Learning skills	Cognitive and affective skills that facilitate the acquisition of new knowledge
Multicultural skills	Understanding how to work with persons from other cultures in terms of language, communication styles and diverse values

Levin (2005)

PUSHING THE BOUNDARIES

The perspective that work-integrated learning educators should exert less control over postsecondary students and allow for greater autonomy in student learning has been gaining greater attention in the literature over the last 25 years (Dworkin, 2005; Lightfoot 1997). With less controlled work-integrated learning experiences, students are encouraged to try new things and experiment with new ideas.

Advocates go one step further and suggest that students actively seek out and take risks when shaping their work-integrated learning experiences because of the challenge and excitement of it (Chassin, 1997; Lightfoot, 1997). Therefore, in organizing the structured work experience, it is important to be mindful of the structures put into place that can act to limit, or better yet liberate, student creativity and innovation. In addition to the impact on student experimentation, other reported benefits students derive from a less structured work-integrated learning environment include increased intellectual, professional and interpersonal skill development, enhanced learning habits and greater employability (Freestone, Thompson & Williams, 2006), as well as greater (task) self-efficacy (Subramaniam & Freudenberg, 2007). Furthermore, Giddens (1991) and Duke (2004) suggest that students who pursue opportunities to take on responsibility with positive outcomes are likely to develop a positive sense of self and increased confidence in their abilities to function as a professional in a work setting. Tennant (1999) suggests that these benefits are best derived when students are exposed to authentic activities and multiple situations.

RECOMMENDATIONS AND GUIDELINES

Conditions for Pushing the Boundaries on Risk Environments

- Exposure to authentic activities
- Exposure to multiple situations
- Developing trust with others (e.g., workplace supervisor)
- Student confidence and self-efficacy
- Managing risk (e.g., as opposed to eliminating)
- Pursuit of opportunities to take on responsibility
- Successfully overcoming challenges
- Willing to judge and partake in appropriate risk

References: Clouder, 2009; Duke, 2004; Giddens, 1991; Shapira, 1995; Tennant, 1999; Tschannen-Moran, 2004

Two conditions inherent in a less controlled work experience are trust and risk. ***Trust*** involves a "willingness to be vulnerable to another based on the confidence that the other is benevolent, honest, open, reliable and competent" (Tschannen-Moran 2004, p. 13). According to Smith (2005, p. 300), "[trust] becomes relevant when social interaction is based on uncertain knowledge about the likely action of another and one depends on their response for a beneficial outcome." In the work-integrated learning context, the nature of practical learning entails a student working closely with a workplace supervisor to develop specialist knowledge and skills, highlighting the need for trust within the student-supervisor relationship (Clouder, 2009). According to Clouder (2009), this trust that is built between the student and workplace supervisor also generates ***risk***, which is influenced by the fear of potential outcomes and the extent to which an individual feels in control of events (Clouder, 2009; Shapira 1995). The more students and workplace supervisors place trust in one another in the work environment, the more control they turn over to one another. Applying this idea to risk in work-integrated learning, this may entail a student taking risks in proposing a new idea in the workplace (e.g., fear of failure, fear of rejection), or the risk of resources (e.g., time, energy, finances) dedicated towards the student innovation. This may also include the risk of student engagement in the authentic experience necessary for idea generation and experimentation (e.g., risk of travel, environmental conditions). In these examples, while there is risk involved, due to the potential impact of the experimentation on both the student learning and productivity of the workplace organization, it is

recommended that risk in work-integrated learning be managed strategically, rather than aiming to eliminate it altogether. Specific strategies are outlined in *Chapter 2: Purposeful Experience* for managing risk in the work-integrated learning environment, with special consideration for the health and safety of the student. For managing risk in work-integrated learning, is it also recommended that you consult with the risk management office at your academic institution for advice and considerations specific to your programme.

In planning structured work experiences for students, academic faculty and/or staff, as well as workplace supervisors, should ask themselves, "How can we allow provisions for students to experiment and test new ideas on the spot? How can we put students in environments in which experimentation would be required? How do we allow for appropriate risk taking inside and/or outside of the classroom? How can we ensure that students are safe in their experimentation, yet allow for authentic experiences and autonomy over their own learning? What sources of guidance exist at my institution for the risk management of work-integrated learning? And how do we send students into unknown environments with appropriate caution and confidence?"

As an example, a faculty member may be charged with facilitating a teacher-training course, and as a part of this course wants to expose the students to greater cultural diversity. As such, a study abroad internship programme is organized in which the students are given the opportunity to gain work experience teaching English overseas. The students are tasked with living in a new environment, communicating with peers and colleagues who (potentially) speak another language, adjusting to a new culture, as well as facing the challenges any teacher in training would face in a typical classroom setting. In addition to managing the risks associated with study abroad (see *Chapter 2: Purposeful Experience*), the instructor prepares the students appropriately so that they will feel confident in their ability to teach English overseas. Because of their expertise and demonstrated confidence, several of the students are permitted enhanced autonomy to design and personalize lesson plans and educational activities – an opportunity to develop, integrate and experiment with innovative ideas for teaching the English class.

In summary, facilitating the conditions by which students may engage in multiple opportunities to take risks in the workplace in a safe and appropriate manner, trust others, overcome challenges, and have the autonomy to make decisions and push boundaries allows for active experimentation to take place. Burstein (2009) explains, "When individuals overcome hardship, it is called progress; when progress can be repeated, it is called development" (p. 371). In work-integrated learning, it is through the provision of opportunities for experimentation throughout the structured work experience that students may attend to the active experimentation mode of Kolb's experiential learning cycle and therefore further optimize student learning and development.

★ SUCCESS STORY

Toronto Blue Jays Baseball Club

Each year, a number of interns are employed by the Toronto Blue Jays Baseball Club. I've worked with some great students over the years from Brock University, George Brown College, Laurentian University and the University of Western Ontario. Over the past five years, a few of our interns have been hired on as full-time employees. The students contribute to important work in the organization and assist with day-to-day workplace activities. Duties include the planning and executing of key national marketing initiatives such as the Blue Jays Baseball Academy, Jays Care Rookie League and the Jr. Jays Club. In addition, interns play an important role in the game day presentation at the Rogers Centre by supporting full-time staff with the execution of promotional assets both before and during the game. Lastly, interns help support and represent the club in the community at various charitable events, such as the Jays Care Gala, Golf Tournament and other third-party initiatives.

One great aspect of having interns working at the organization is the exposure to fresh and innovative student perspectives. It's great when students use their education to provide new insights and suggest new ideas for the organization. A few years ago, one student proposed that the Blue Jays have a dedicated day of the week on which we highlight our followers on social media and include this in our game day experience both on TV and at the Rogers Centre. After collectively flushing out this concept further, we created a program called "Tweeting Tuesday," which was later sponsored by Blackberry. Over time, the creation of this new marketing property evolved into a more developed social media event called "Connect with the Jays," with integration on Twitter, Instagram, Snap Chat and Vine. Without the contributions from our interns, this would not have been possible.

Robert Jack
Manager, Social Marketing
Toronto Blue Jays Baseball Club

REFLECTION QUESTIONS

How can we allow provisions for students to experiment and test new ideas?

- How can we put students in environments in which experimentation would be required?
- How do we allow for appropriate risk-taking inside and/or outside of the classroom?
- How can we ensure that students are safe in their experimentation yet allow for authentic experiences and autonomy over their own learning?
- What sources of guidance exist at the institution for the risk management of work-integrated learning?
- How do we send students into unknown environments with appropriate caution and confidence?

IN ORGANIZING THE STRUCTURED WORK EXPERIENCE, IT IS IMPORTANT TO BE MINDFUL OF THE STRUCTURES PUT IN PLACE THAT CAN ACT TO LIMIT, OR BETTER YET LIBERATE, STUDENT CREATIVITY AND INNOVATION.

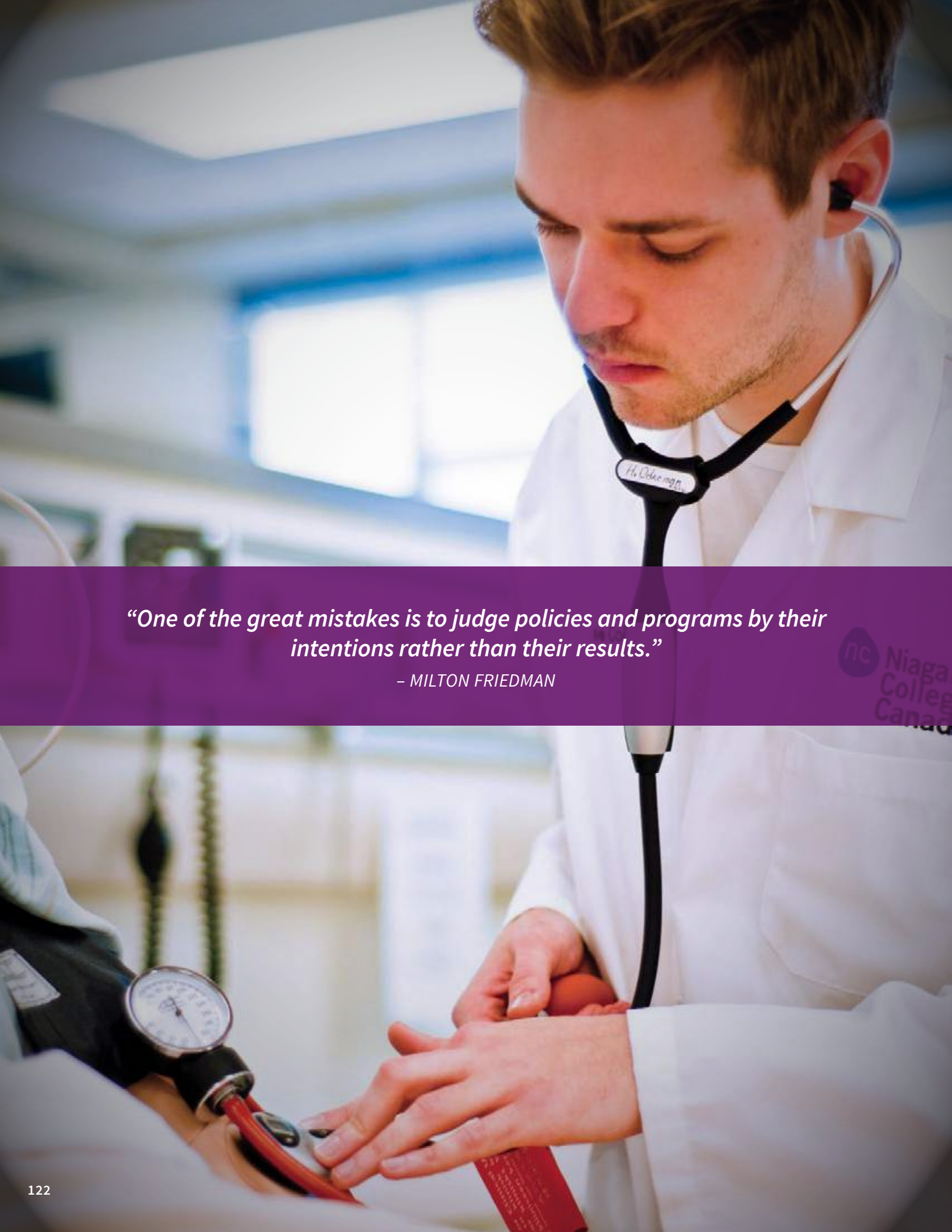
SUMMARY OF EFFECTIVE PRACTICES FOR FACILITATING STUDENTS' EXPERIMENTATION WITH NEW IDEAS

5

- Experimentation is defined as the stage of experiential learning in which "students test theories [and] make predictions about reality and then act on those predictions" (Akella, 2010, p. 102).
- Developing an experimentation plan includes four basic steps:
  1) Generate an idea
  2) Determine the strategy for implementation
  3) Implement the idea
  4) Evaluate and reflect
- In addition to creating and using an experimentation plan, key factors for facilitating students' generation of new ideas and ability to implement them in the workplace include their degree of creativity, adaptability and willingness to push the boundaries of what is possible in WIL.
- Creativity, as described by Strernberg and Lubart (1999), has two defining characteristics: "The ability to produce work that is both novel (e.g., original, unexpected) and appropriate (e.g., useful, adaptive concerning task constraints)" (p. 3).
- Brown and Kuratko (2015) propose a set of guidelines to assist faculty and staff in their selection and use of WIL opportunities to foster students' creativity in the workplace, including:
  - Identify the problem before designing the solution.
  - Demonstrate the process through iterations.
  - Be strategic rather than tactical.
  - Be open but constrained.
  - Implement teamwork opportunities with shifting assignments.
- Four creativity profiles describe the creative tendencies of an individual or group:
  - Imagine profile – This approach is about producing breakthrough ideas and visions for the future and is most appropriate for situations calling for the generation of divergent ideas to meet an externally produced challenge.
  - Invest profile – This profile is all about converting creativity into action through the provision of resources and discipline, relying on creativity to produce monetary gains.

- Improve profile – This profile is focused on leveraging something that already exists and making it better. This type of approach is useful in getting the most out of something pre-existing.
- Incubate profile – This profile pursues sustainable creativity through finding and developing people in the best possible environment (e.g., talent scouting).

- Adaptability is the capacity to change, including both the competence and the motivation to do so (Hall, 2005).
- Levin (2015) has proposed a range of dimensions that can be applied to developing the adaptability of students in the work-integrated learning context:
  - Initiative
  - Cooperation
  - Working in groups
  - Peer training
  - Evaluation
  - Reasoning
  - Problem-solving
  - Decision-making
  - Obtaining and using information
  - Planning
  - Learning skills
  - Multicultural skills
- The benefits of pushing the boundaries in WIL include increases in intellectual, professional and interpersonal skills, enhanced learning habits and greater employability (Freestone, Thompson & Williams, 2006), and greater (task) self-efficacy (Subramaniam & Freudenberg, 2007).
- Trust and risk are inherent in pushing the boundaries in the structured work experience.



“One of the great mistakes is to judge policies and programs by their intentions rather than their results.”

– MILTON FRIEDMAN

6

EVALUATING YOUR WIL PROGRAMME

This chapter builds upon Kolb's experiential learning theory and highlights effective practices for programme evaluation and its importance for ensuring the educational quality of work-integrated learning programmes. Following a brief review of the distinction between programme evaluation and research, this chapter outlines a six-step evaluation process. Specific information is provided on developing a work-integrated learning programme evaluation question, and paradigms and models for programme evaluation are discussed. References are provided for further information on developing evaluation tools, data collection and analysis, and presenting findings. This chapter concludes with a summary of ethical considerations when conducting an evaluation of a work-integrated learning programme.

WHAT IS PROGRAMME EVALUATION?

As a result of the varied uses and approaches to evaluation, close to 60 different terms have been noted in describing its use, including: adjudge, appraise, analyze, assess, critique, examine, grade, inspect, judge, rate, rank, review, score, study and test, to name but a few examples (Fitzpatrick, Sanders & Worthen, 2011; Mertens & Wilson, 2012; Patton, 2000; Stufflebeam & Coryn, 2014).

Despite the variations in terminology and language employed in describing evaluation, Scriven (as cited in Patton, 2000) believes that this "reflects not only the immense importance of the process of evaluation in practical life, but the explosion of a new area of study" (p. 7). Although there are several definitions of evaluation, many scholars have adopted and/or worked from an original definition of evaluation provided by Scriven (1967), a leading figure in the field, which defines evaluation as 'judging the worth or merit of something.' Looking specifically at programme evaluation, Mertens and Wilson (2012, p. 248) highlight the difference between evaluation and program evaluation, stating that the latter "is a ***profession*** that uses ***formal methodologies to provide useful empirical evidence*** about ***public entities*** (such as programs, products, performance) ***in decision-making contexts*** that are inherently ***political*** and involve multiple often-conflicting ***stakeholders***, where ***resources*** are seldom sufficient, and where ***time-pressures*** are salient."

KEY TERMINOLOGY

Programme evaluation is the use of *formal methodologies* to *provide useful empirical evidence* about *public entities in decision-making contexts* that are inherently *political* and involve multiple often conflicting *stakeholders*, where *resources* are seldom sufficient and where *time pressures* are salient.

(Mertens & Wilson, 2012)

Illustrating this definition of programme evaluation in practice, a programme coordinator might be given the task of using surveys and interviews to provide data about the department's internship programme. Before the academic year ends, the department's money must be budgeted and a decision needs to be made whether to continue to support the internship programme or allocate the funding to other educational initiatives. In this example, the internship programme coordinator works as a ***professional evaluator***; s/he has chosen to use surveys and interviews as the ***formal methodologies***. These surveys and interviews will provide ***empirical evidence*** about the internship programme (***public entity***). The faculty will use this information to ***make decisions*** about how to allocate funding, in a context in which the internship programme staff/faculty and the directors of the competing educational initiates in the department (***stakeholders***) have different ideas about how the money should be allocated (***political context***). A decision needs to be made within the *time constraints* of the academic year.

EVALUATION SHOULD BE VIEWED AS A CONTINUOUS SYSTEM TOWARDS GROWTH AND AN INTEGRAL COMPONENT OF THE WORK-INTEGRATED LEARNING PROGRAMME.

Importance of Programme Evaluation

One of the reasons why we are seeing the field of programme evaluation grow so rapidly is because of its potential for impact (Fitzpatrick et al., 2011). It provides not only an ingredient needed for quality assurance and improvement, but constitutes one of the most important contributors to strong services and societal progress (Stufflebeam & Coryn, 2014). Work-integrated learning coordinators can (and should) use evaluation to plan and improve programming to better meet stakeholders' needs (e.g., student, mentor, institutional and societal needs) and to continually improve the educational quality of the work-integrated learning experience. Programme evaluation, as discussed by Fitzpatrick et al. (2011), is important in developing good programmes; helping deliver programmes to changing stakeholders in changing contexts; and helping find interventions that are successful in achieving goals. Scriven (1991b) also argues the importance of programme evaluation in pragmatic terms (e.g., the potential for continual improvement), ethical terms (e.g., evaluation as a tool in the service of justice), social and business terms (e.g., evaluation directs effort where it is most needed, endorsing 'a new way' when it is better than the traditional way), intellectual terms (e.g., evaluation refines tools of thought) and personal terms (e.g., evaluation provides a basis for justifiable self-esteem). As one example of how programme evaluation assists in directing programme initiatives and change in the work-integrated learning context, a programme evaluation that highlights the need for enhanced partnership and recognition of workplace supervisors may lead to decisions around funding re-allocation to host a 'thank you night' for supervisors and their students in acknowledgement of each party's contribution to a successful work-integrated learning experience. Fitzpatrick et al. (2011) summarize the importance of programme evaluation nicely when they state, "Evaluation gives us a process to improve our ways of thinking and, therefore, our ways of developing, implementing, and changing programs" (p. 33).

Programme evaluation is not without its limitations. There are methodological limitations to evaluation, specifically that no single study can provide a complete, accurate account of the truth because truth is composed of multiple perspectives (Fitzpatrick et al., 2011). There also exist financial and political limitations, including the cost of the programme evaluation and the various competing sources of information that also play a role in an institution's decisions around work-integrated learning programming. Recognizing these limitations, the importance of programme evaluation for the continual improvement of work-integrated learning programming is undeniable. Evaluation should be viewed as a continuous system towards growth and a tool for better understanding and improving the work-integrated learning programme over time as the programme changes relative to changing contexts.

Considering the importance and potential impact of programme evaluation, it is increasingly important to differentiate evaluation from research because the differences between the two not only help us to understand the distinct nature of evaluation as an evolving field (Fitzpatrick et al., 2011), but also highlight the different criteria by which we should judge credibility.

★ SUCCESS STORY

University of Toronto Mississauga

In the age of accountability and transparency, evaluation is ubiquitous. Evaluation has multiple forms and can aide in programme analysis and development, curriculum design and partnership/relationship building. From large quantitative studies measuring graduate attributes, retention of WIL students or learning outcome success to smaller qualitative inquiry into professional identity construction or co-curricular programme effectiveness, evaluation is valuable for WIL programmes no matter their size. The key to effective programme evaluation, however, is identifying what you need to know, why this information is important, who else will be interested in the findings, and what might be some of the implications for programmes and classrooms. The findings from such evaluations can be used by administrators, teachers, career counselors and employers to strengthen programmes and align student learning outcomes.

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WORK-INTEGRATED LEARNING COORDINATORS CAN (AND SHOULD) USE EVALUATION TO PLAN AND IMPROVE PROGRAMMING TO BETTER MEET STAKEHOLDERS' NEEDS AND TO CONTINUALLY IMPROVE THE EDUCATIONAL QUALITY OF THE WORK-INTEGRATED LEARNING EXPERIENCE.

Difference between Evaluation and Research

Although there is overlap between research and evaluation, there are also marked differences with regards to purpose, who sets the focus, generalizability of results, intended use of results, criteria to judge adequacy, and the preparation of those who work in the area. One of the primary distinctions between evaluation and research is purpose (Fitzpatrick et al., 2011; Mertens & Wilson, 2012). The purpose of research is to add knowledge in a particular field and to contribute to the advancement of theory. While the results of an evaluation may contribute to knowledge development (Mark, Henry and Julnes, 2000), the primary purpose of evaluation differs from that of research as it strives to provide useful information to those who have a stake in what is being evaluated and to help them make a judgement or decision (Fitzpatrick et al., 2011).

A second notable difference between the two is the approach one takes. In research, the approach "is typically to explore and establish causal relationships" (Fitzpatrick et al., 2011, p. 10), whereas evaluation seeks to examine and describe particular things to consider their value. Furthermore, in evaluation the questions to be answered are not necessarily those of the evaluator, but rather those of important stakeholders. The inclusion in the planning and conduct of the evaluation of those who have a stake in what is being evaluated highlights who sets the agenda in evaluation (Fitzpatrick et al., 2011).

Research and evaluation also differ in the generalizability of results. In programme evaluation, stakeholders use the evaluation to make judgements about a specific object, programme or policy and are unconcerned with how applicable the results are to settings other than their own. Therefore, "good evaluation is quite specific to the

KEY TERMINOLOGY

Differences between Evaluation and Research

- Purpose
- Who sets the focus
- Generalizability of results
- Intended use of results
- Criteria to judge adequacy
- Preparation of those who work in the area

(Fitzpatrick et al., 2011)

PROGRAMME EVALUATION CRITERIA	
Accuracy	Accurate reflection of reality
Utility	Results serve practical information needs of stakeholders
Feasibility	Evaluation is prudent, realistic, diplomatic and frugal
Propriety	Evaluation is done legally and ethically
(Yarborough et al., 2011)	

context in which the evaluation object rests" (Fitzpatrick et al., 2011, p. 10). In addition, good evaluation is intended to have immediate impact on a particular context, whereas good research may or may not be of use right away (Fitzpatrick et al., 2011). In the research world, it is not uncommon for good research to be noticed or applied only years later.

The criteria by which research and evaluation are judged for their adequacy also differ. Whereas validity, reliability and generalizability are the criteria by which research is frequently assessed, accuracy, utility, feasibility and propriety (evaluation is done legally and ethically) are the criteria by which evaluation is judged (Yarborough, Shulha, Hopson & Caruth, 2011).

Finally, the preparations of those who work in research and evaluation differ. In research, depth of knowledge in a particular subject matter or discipline is important, and researchers often specialize in the use of particular methodological tools (Fitzpatrick et al., 2011). In contrast, evaluators must be trained in a diverse range of methods from a variety of disciplines. Being familiar with a wide variety of methods allows evaluators to choose those most appropriate for the particular programme and the needs of its stakeholders (Fitzpatrick et al., 2011).

Importantly, despite the marked distinctions between research and evaluation, "There is a place at which research and evaluation intersect – when research provides information about the need for, improvement of, or effects of programs or policies" (Mertens, 2009, p. 2).

The Evaluation Process

The evaluation process includes six steps:

1. Develop an evaluation question

The first step in programme evaluation is to develop an evaluation question. There are three common purposes for evaluation: to gain a better understanding of the needs within a particular context (needs assessment), to identify ways to improve the implementation of the programme (implementation), and for the purposes of reporting the degree to which the programme achieves its intended outcomes (evaluation of programme effectiveness). According to Patton (2008), evaluation questions are typically generated in consultation with the intended stakeholders, rather than the evaluator developing the questions in isolation of others' interests and perspectives. The process then inevitably begins with asking the stakeholder(s) to think of something about their programme that they would like to know (Mertens & Wilson, 2012).

2. Choose an evaluation paradigm

The next step is to choose an appropriate paradigm for evaluation. Paradigms are "broad metaphysical constructs that include sets of logically related philosophical assumptions" (Mertens & Wilson, 2012, p. 34). This step highlights the evaluators' beliefs about themselves, their roles, as well as their worldviews in the evaluation process (Mertens & Wilson, 2012) and how these contribute to clarity of thinking around the assumptions that underlie research and evaluation. There are four primary paradigms that are applied to programme evaluation: postpositivist, constructivist, transformative and pragmatic. Each of these four paradigms and their function in evaluating WIL programmes will be discussed in greater detail below.

3. Select an evaluation model

The third step is to select an evaluation model. Models are "a set of rules, prescriptions, and prohibitions and guiding frameworks that specify what a good or proper evaluation is and how it should be done" (Alkin, 2004, p. 5). There are numerous models that could be considered when evaluating WIL programmes. Three commonly cited models are the four levels of evaluation model (Kirkpatrick & Kirkpatrick, 2006), the RE-AIM framework (Glasgow, Vogt & Boles, 1999) and the CIPP model (Stufflebeam, 2002). Other approaches include the goal-free approach, the case study approach, and transformative participatory evaluation (Mertens & Wilson, 2012).

4. Develop evaluation tools

The fourth step is to develop evaluation tools. This entails determining the methods required to answer the evaluation question and the creation or selection of the appropriate measures for data collection. Common evaluation methods include participant observation, surveys, focus groups, (semi-structured) interviews,

experimental design, standardized testing and case file reviews (Stufflebeam & Coryn, 2014; Wholey, Hatry & Newcomer, 2010). The development of the evaluation methods and tools should align with the chosen paradigm and evaluation model.

5. Data collection and analysis

The fifth step is to collect and analyze the data. The quality of the data collected is of the utmost importance in order to reach accurate conclusions about a programme's effectiveness, and attention must be paid to ethical considerations in the data collection process (Mertens & Wilson, 2012). Data analysis is also important in ensuring that evaluation questions are answered accurately and effectively. Evaluators may choose from a variety of techniques of quantitative analysis – e.g., frequency counts, histograms, pie charts, variances and standard deviations, correlations, multiple regression, t-tests, analysis of variance, etc. (Stufflebeam & Coryn, 2014) – or engage in qualitative analysis – e.g., narrative presentations, summaries of main outcomes, depictions of major and minor themes, contrasting findings from stakeholder viewpoints, etc. (Stufflebeam & Coryn, 2014) – depending on the evaluation question(s) and paradigm identified in the first step and second steps.

6. Present findings to stakeholders

The sixth and final step is to present the evaluation findings to the stakeholders. Findings can be presented in a number of different formats, including a formal write-up, oral presentation or poster presentation as a few examples. An effective presentation of evaluation findings should consider the message the evaluator wants people to remember, the medium that carries that message, and be tailored to the audience for which the message is intended (Wholey, Hatry & Newcomer, 2010). The way the evaluation findings are delivered matters, as the report is meant to have impact and lead to action and positive change.

This chapter will focus specifically on steps 1-3. For more information on developing evaluation tools, data collection, data analysis, and final write-up and/or presentation, please see the following resources:

- Mathison, S. (2005). *Encyclopedia of evaluation.* Thousand Oaks, CA: Sage.
- Mertens, D. M., & Wilson, A. T. (2012). *Program evaluation theory and practice: a comprehensive guide.* New York: Guilford Press.
- Stufflebeam, D. L., & Coryn, C. L. S. (2014). *Evaluation theory, models, and applications (2nd ed.)*. San Francisco, CA: Jossey-Bass.
- Wholey, J. S., Hatry, H. P., & Newcomer, K. E. (2010). *Handbook of practical program evaluation (3rd ed.)*. San Francisco, CA: Jossey-Bass.
- Yarborough, D. B., Shulha, L. M., Hopson, R. K., & Caruthers, F. A. (2011). *The program evaluation standards: a guide for evaluators and evaluation users (3rd ed.)*. Thousand Oaks, CA: Sage.

REFLECTION QUESTIONS

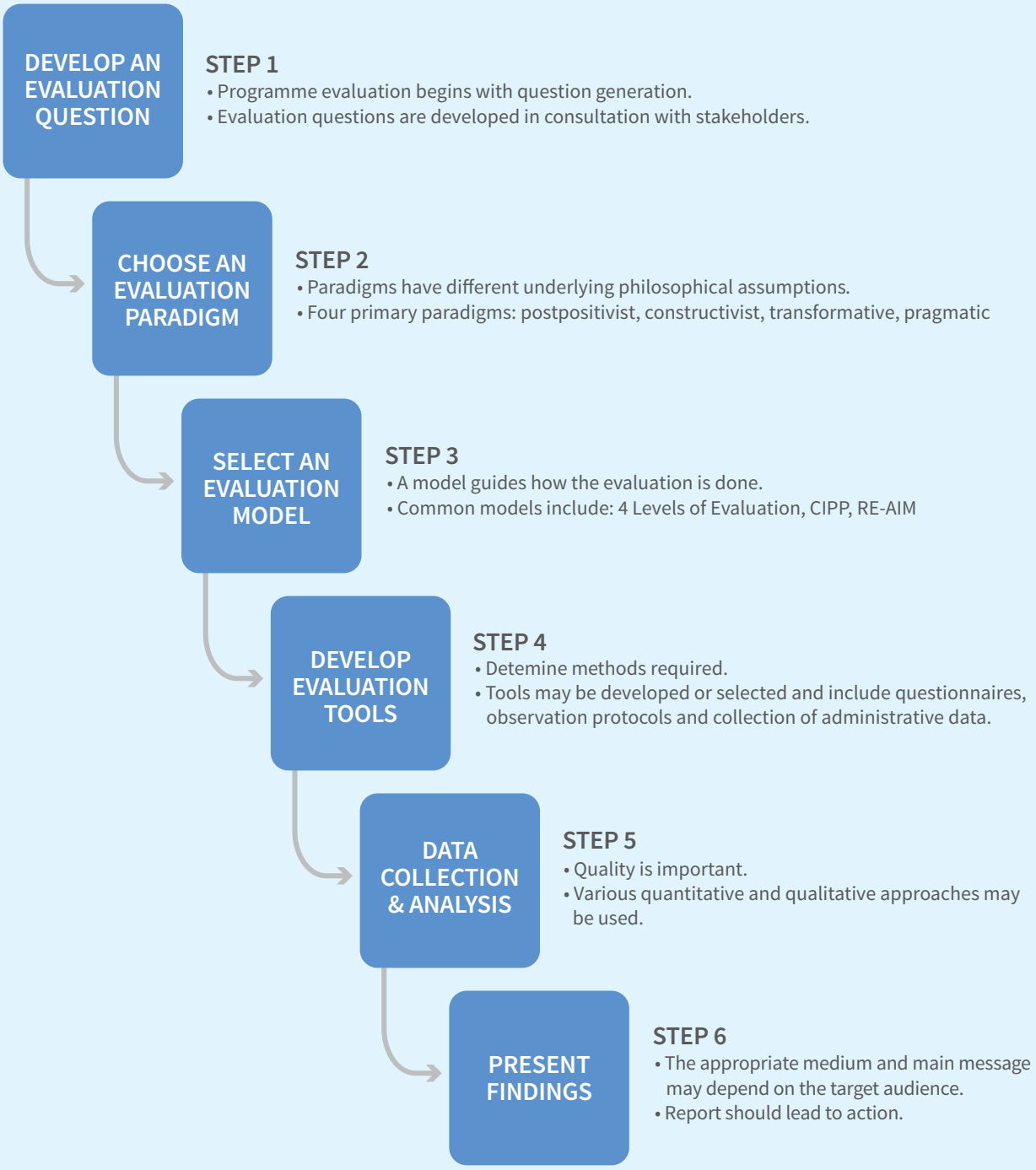
Are we currently evaluating our WIL programme? If yes…

- Why? What is the purpose?
- Is the evaluation being conducted for research or evaluation purposes?
- What information is being collected? From whom?
- What step are you at in the evaluation (e.g., data collection and analysis; reporting findings)?
- What was the process that got you to this point in the evaluation?
- How do you intend to use the information collected?
- What challenges may you face?
- How can your programme evaluation be improved?

Are we currently evaluating our WIL programme? If not…

- How could your WIL programme benefit from evaluation?
- What would be the best timing to begin a programme evaluation of WIL?
- Who would you include?
- What do you intend to do with the information collected?
- What are the steps required for you to begin the evaluation process with your WIL programme?

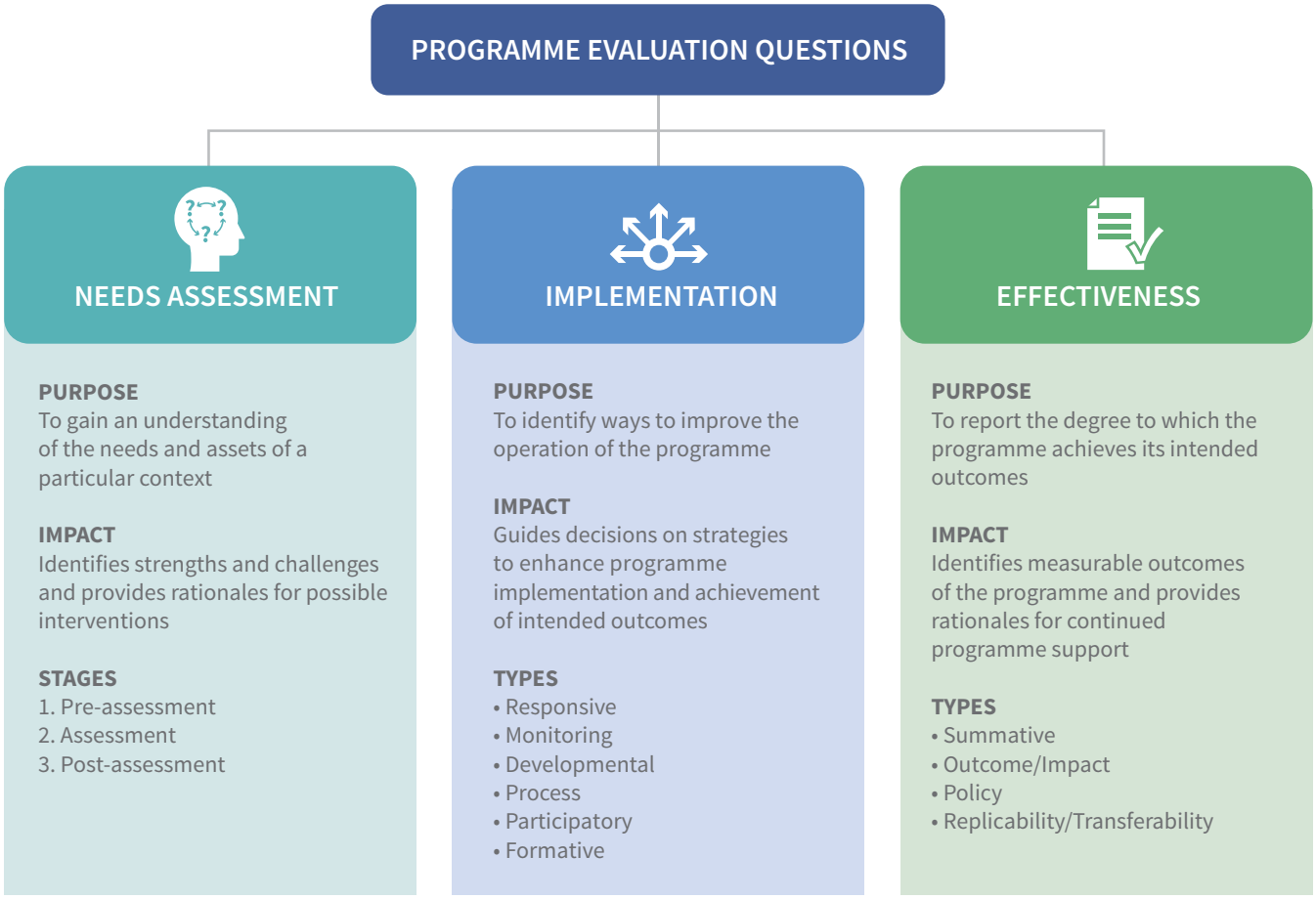
The Evaluation Process



WIL PROGRAMME EVALUATION QUESTIONS

For what purpose is the work-integrated learning programme being evaluated? An important first step in the evaluation process is to establish the evaluation question and the purpose for which a programme evaluation is being conducted.

Having clear and relevant findings begins with identifying the purpose of the programme evaluation and defining a clear evaluation question. There are three common purposes for evaluation: 1) To gain a better understanding of the needs within a particular context (needs assessment); 2) To identify ways to improve the implementation of the programme (implementation); and 3) For the purpose of reporting the degree to which the programme achieves its intended outcomes (evaluation of programme effectiveness). Evaluation questions are developed based on the category or categories of programme evaluation that suit the programme evaluation needs, recognizing that a programme evaluation may have more than one purpose and thus more than one evaluation question.



Needs Assessment

A common use for evaluation is to gain insight into the needs within a particular context. This type of evaluation, called needs assessment evaluation or needs and assets assessment, is typically done at the beginning of the programme planning process to provide a picture of the community (context); identify strengths and areas in need of further support; and provide guidance in the prioritization and use of resources (e.g., funding, time, personnel) (Mertens & Wilson, 2012; Rossi, Lipsey & Freeman, 2004). The focus of the needs assessment evaluation can either be a context in which a work-integrated learning programme may be implemented or the work-integrated learning programme itself. A needs assessment evaluation is valuable for recognizing the government/industry/community/societal needs in the development stages of a new work-integrated learning programme, with the intent of building mutually beneficial partnerships and aligning the student work with a recognized need. For existing work-integrated learning programmes, a needs assessment evaluation is useful when there is a desire to rationalize, confirm or amend intended outcomes and programmatic directives of the programme by demonstrating alignment with a recognized need. It is also useful for identifying any challenges, needs and/or resource requirements of the work-integrated learning programme itself and developing recommendations for resolution.

As an example, an instructor leading a course on how to teach physical literacy to children conducts a needs assessment evaluation of the local community to identify a gap in children's physical activity programming and the ways in which students may fulfill this gap. The findings from this needs assessment evaluation are used to inform the development of a course-based placement programme. Another example is as follows: Completion of a structured work internship exists as a programme requirement in the school of business management. The class size has doubled, so a needs assessment evaluation is performed to determine the sustainability needs of the internship programme. Findings from the evaluation are used to rationalize and prioritize the need for further institutional resources. Ultimately, needs and assets assessment questions are concerned with "establishing whether a problem or need exists and describing that problem" and "making recommendations for ways to reduce the problem; that is, the potential effectiveness of various interventions" (Fitzpatrick et al., 2011, p. 26).

In carrying out a needs assessment evaluation, there are three phases one should consider: pre-assessment, assessment and post-assessment (Mertens & Wilson, 2012). In the pre-assessment phase, evaluators review the status of the program or organization to identify information that is already known or available regarding its needs and assets. In the assessment phase, evaluators collect new information about the programme. Finally, in the post-assessment phase, the information taken from the first two phases is integrated to inform the design of possible interventions.

NEEDS ASSESSMENT QUESTIONS ARE CONCERNED WITH ESTABLISHING WHETHER A NEED EXISTS AND MAKING RECOMMENDATIONS TO ADDRESS THE NEED.

IMPLEMENTATION QUESTIONS ARE USED TO IDENTIFY WAYS IN WHICH THE OPERATION OF A WORK-INTEGRATED LEARNING PROGRAMME MAY BE IMPROVED AND INFORM STRATEGIES TO ENHANCE ACHIEVEMENT OF INTENDED PROGRAMME OUTCOMES.

Implementation

Evaluations that focus on ways to improve the programme implementation, including the processes, materials, staffing, etc., are termed implementation evaluation (Mertens & Wilson, 2012). Implementation evaluation can be used to inform ways in which the operation of a work-integrated learning programme may be improved and inform strategies to enhance achievement of intended programme outcomes.

Questions that fall under the category of implementation evaluation are useful when looking for ways to enhance student learning outcomes achieved through participation in a work-integrated learning programme. Fixsen, Naoom, Blasé, Friedman and Wallace (2005) divide implementation evaluation into three questions: 1) Were the required resources available? 2) To what extent was the programme implemented according to the core components described in the plan? and 3) How competent were the service providers, with specific reference to the programme's core competences? Other questions you might include in an implementation evaluation include: "What aspects of the implementation process are facilitating success or acting as stumbling blocks for the work-integrated learning programme?"; "To what extent is the programme serving the intended participants? Who is being excluded and why?"; "How is the programme being implemented and how does that compare to the initial plan for implementation?"; and "What changes might be necessary in organizational structure, recruitment materials, support for participants, resources, facilities, scheduling, location, transportation, strategies, or activities to better enhance programme implementation?" (WKKF evaluation handbook, 1998, p. 24).

As an example, a coordinator of a long-standing co-op programme might conduct an implementation evaluation to assess students' and employers' satisfaction with various aspects of the co-op programme, such as the quality of students/co-op positions available, the ease of the interview process, the type and quality of work performed, the duration of work, compensation, support provided by the academic institution and recommendations for improvement. Information collected through this evaluation study is then used to inform strategies for enhancing the implementation of the co-op programme in alignment with the intended outcomes.

There are several types of implementation evaluation, including responsive evaluation, monitoring, developmental evaluation, process evaluation, participatory evaluation

TYPES OF IMPLEMENTATION EVALUATION	
Responsive evaluation	Congruency between planning and delivery
Monitoring	Progress towards intended outcomes
Developmental evaluation	Focus is on programme development/adaptation
Process evaluation	Effectiveness of implementation
Participatory evaluation	Multiple stakeholders on evaluation team
Formative evaluation	Includes multiple stakeholders and informs any need for improvement
(Mertens & Wilson, 2012)	

QUESTIONS OF PROGRAMME EFFECTIVENESS ARE COMMONLY USED IN ORDER TO PROVIDE INFORMATION ON MEASURABLE OUTCOMES OF THE PROGRAMME AND AN EVIDENCE-BASED RATIONALE FOR CONTINUED PROGRAMME SUPPORT AND/OR EXPANSION.

and formative evaluation (Mertens & Wilson, 2012). These types focus on why (or why not) desired outcomes are achieved, and what needs to be changed to enhance achievement of intended outcomes.

Responsive evaluation asks questions about the congruency between what was planned and what was delivered, the strength of the treatment (e.g., how much of the intervention was actually delivered), and changes in the programme from beginning to end (Stake, 1991).

Monitoring involves an ongoing assessment of a programme's progress towards intended outcomes (Mertens & Wilson, 2012). For example, in monitoring, one might ask the questions: is the work-integrated learning programme achieving its objectives? Or, is the programme measuring up against performance standards?

Developmental evaluation focuses on ongoing development and is distinct from the other types of implementation evaluation in that it seeks to develop something, e.g., a programme, through means of ongoing adaptation (Donaldson, Patton, Fetterman & Scriven (2010).

Process evaluation assesses the effectiveness of a programme's implementation and is arguably the most frequent form of program evaluation (Rossi, Lipsey & Freeman, 2004). This type of evaluation investigates how well the programme is operating, how consistent the services are with the goals of the program, whether services are delivered to appropriate recipients, how well service delivery is organized, the use of programme resources, etc. (Rossi, Lipsey & Freeman, 2004).

Participatory evaluation is where we see the involvement and representation of one or more stakeholder groups constituting the evaluation team (Greene, 1988). This involves stakeholders' participation in directly planning, conducting and analyzing the evaluation in collaboration with the evaluator (Rossi, Lipsey & Freeman, 2004). This approach emphasizes close collaboration with those who will use the evaluation findings to ensure that the evaluation meets their needs and produces useful information (Patton, 1997).

Finally, the purpose of ***formative evaluation*** is to inform improvement of any aspect of the programme, such as the programme's design, its implementation, its impact or its efficiency (Rossi, Lipsey & Freeman, 2004; Wholey, Hatry & Newcomer, 2010). Similar to participatory evaluation, the evaluator usually works closely with stakeholders to produce timely, concrete and immediately useful information (Rossi, Lipsey & Freeman, 2004).

Effectiveness

The third purpose of evaluation is to assess a programme's effectiveness. Questions that fall under this category seek to answer the degree to which the programme achieves its intended outcomes. Questions of programme effectiveness are commonly used in order to provide information on measurable outcomes of the programme and an evidence-based rationale for continued programme support and/or expansion.

As an example, for several years a department has run a directed research programme, in which students work as research lab assistants and complete an independent project in alignment with their area of study. The research programme is very popular, with both strong student and workplace interest. It has also received positive attention from administrators outside the department because of its alignment with the strategic mandate of the institution – to enhance students' research skills. There is discussion about expanding the programme's availability to students across the institution. However, before making this decision, the programme coordinator is asked by the institution's senior administration to provide empirical support of the outcomes achieved by this programme. In order to provide this information, the programme coordinator evaluates the students' knowledge and

skills in research methodology and methods, data collection and analysis techniques, and approaches for research dissemination pre- and post- participation in the directed research programme.

Evaluation of programme effectiveness ultimately seeks to produce evidence-based support of the impact of the work-integrated learning programme. This category includes summative evaluation; outcome/impact evaluation; policy evaluation; and replicability/transferability evaluation (Mertens & Wilson, 2012).

Summative evaluations are done at the end of or upon completion of a programme and assess skills development, knowledge gain, and/or attitude and behaviour changes by program participants (Mertens & Wilson, 2012).

Outcome/impact evaluations are typically used to assess short-term (outcome) and long-term (impact) results of a programme (Mertens & Wilson, 2012). Results can be considered at the individual level (e.g., what difference did the work-integrated programme make in the lives of the individuals who participated in it?) or at a much broader level (e.g., impact of the programme on the workplace organization, community, society or academic institution). Questions that evaluators can ask when conducting an outcome/impact evaluation include: what are the critical outcomes the programme is trying to achieve? What impact is the programme having on the students, the employers, the institution and the community? Or, what unexpected impact has the programme had? (WKKF, 1998).

TYPES OF EVALUATION TO ASSESS EFFECTIVENESS

Summative evaluation	Knowledge, skill, attitude gain during programme
Outcome/Impact evaluation	Short-term (outcome) and long-term (impact) results
Policy evaluation	Change in policy
Replicability/ Transferability evaluation	Use in another setting or context

(Mertens & Wilson, 2012)

Policy evaluations are used specifically to assess the effectiveness of programmes for changing policy (Mertens & Wilson, 2012). Evaluators doing this kind of evaluation may ask: what types and levels of policy need to be changed? Which persons, agencies, etc. need to be contacted and influenced? Or, what do stakeholders need to hear? (WKKF, 1998).

Finally, ***replicability/transferability evaluations*** are important because they assess whether a programme can be transferred to another setting or context (Mertens & Wilson, 2012). For example, a replicability evaluation may test whether a piloted co-op education programme in a hospital setting would be successful in an educational or clinic setting. Important questions to consider when conducting a replicability evaluation include: what is unique about this programme? Can the programme be effectively replicated? What are the critical implementation elements? (WKKF, 1998).

IT IS IMPORTANT TO IDENTIFY THE APPROPRIATE EVALUATION PARADIGM AND EVALUATION MODEL IN ORDER TO GUIDE HOW THE EVALUATION IS CONDUCTED, THE INTERPRETATION OF THE EVALUATION FINDINGS, AND THE STANDARDS BY WHICH TO EVALUATE THE QUALITY OF THE PROGRAMME EVALUATION ITSELF.

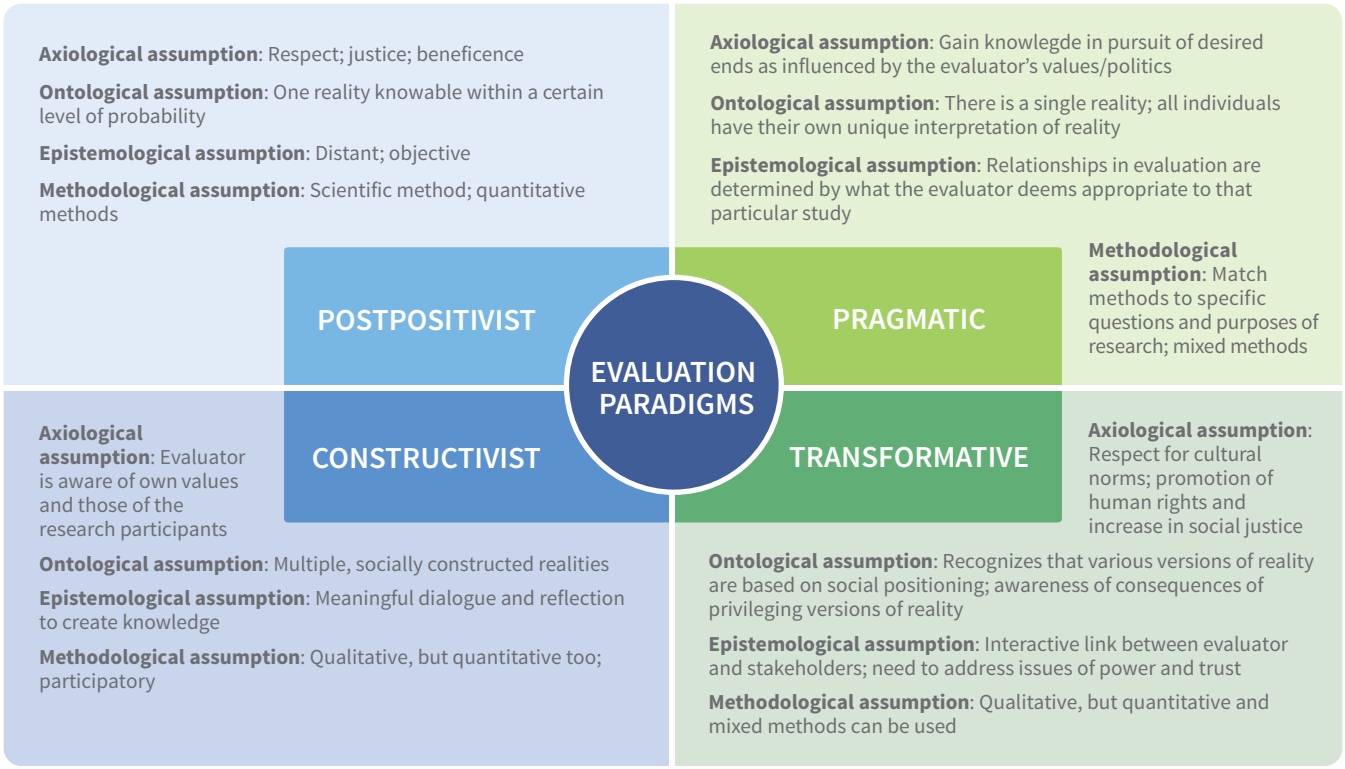
PARADIGMS AND MODELS FOR EVALUATING WIL PROGRAMMES

After developing an evaluation question or questions, the next steps in the evaluation process are to choose an evaluation paradigm and select an evaluation model. Every evaluation is guided implicitly or explicitly by a set of beliefs in the evaluation process.

These evaluation beliefs, termed paradigms, are described by Guba and Lincoln (1994, p. 105) as the "basic belief system or worldview that guides the investigator" and are made up of four sets of philosophical assumptions about underlying values (axiology), the nature of knowledge (ontology), the way knowledge is produced (epistemology) and the approach used for knowledge production (methodology) (Guba & Lincoln, 1989; 2005). The four paradigms that are common in today's evaluation world, and thus will be presented below, include: postpositivist, pragmatic, constructivist and transformative paradigms (Mertens & Wilson, 2012).

A number of evaluation models have been developed within each of the four evaluation paradigms. An evaluation model provides "a set of rules, prescriptions, and prohibitions and guiding frameworks that specify what a good or proper evaluation is and how it should be done" (Alkin, 2004, p. 5).

Understanding the evaluation paradigm underlying each evaluation model, and contrasting its assumptions with the viewpoints of the evaluation team, can assist in selecting the model with the best fit. Also, it is important to identify the appropriate evaluation paradigm and evaluation model in order to guide how the evaluation is conducted, the interpretation of the evaluation findings and the standards by which to evaluate the quality of the programme evaluation itself.



(Mertens & Wilson, 2012)

Postpositivist: Kirkpatrick Model for Evaluating Training Programmes

The postpositivist paradigm is viewed in the social sciences as a means of improving society by applying scientific methods to explore laws about human behaviour (Mertens & Wilson, 2012). The ontological belief of postpositivists is that there is only one reality and that reality can be known within a certain level of probability (Mertens & Wilson, 2012). Epistemologically and methodologically, postpositivists believe that distance from the subject/object being studied avoids biases and that reality is best studied using quantitative approaches (Fielding, 2009; Mertens & Wilson, 2012). According to Jennings and Callahan (1983), good research under a postpositivist paradigm reflects "intellectual honesty, the suppression of personal bias, [and] careful collection of empirical studies" (p. 159).

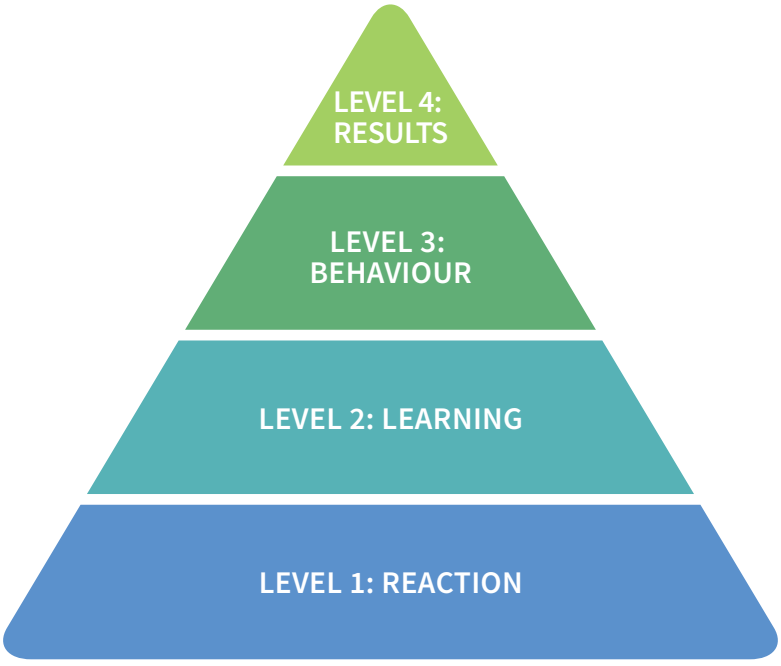
One of the most notable postpositivist evaluation theorists is Donald Kirkpatrick, well known for the development of the ***Kirkpatrick Four Levels Model*** for the evaluation of training programmes. The Kirkpatrick model has four levels on which participants are evaluated: reactions, learning, behaviour and results (Mertens & Wilson, 2012; Kirkpatrick & Kirkpatrick, 2006; 2007). According to Kirkpatrick and Kirkpatrick (2006), the four levels represent a sequence of ways to evaluate programmes. The first level, ***reactions***, focuses on participant satisfaction and is a measure of how those who participate in a programme react to it (Kirkpatrick & Kirkpatrick, 2006). Questionnaires are commonly employed to explore whether participants found the programme relevant, interesting, enjoyable, worthwhile and/or appropriately conducted (Mertens & Wilson, 2012). The second level, ***learning***, is measured based on the extent to which participants change attitudes, improve knowledge and/or increase skills as a result of attending the programme (Kirkpatrick & Kirkpatrick, 2006; Mertens & Wilson, 2012). The third level, ***behaviour***, refers to changes in performance (behaviour) in an actual job setting or simulated situation based on the participant's participation in the programme (Kirkpatrick & Kirkpatrick, 2006; Mertens & Wilson, 2012). Finally, the fourth level, ***results***, refers to the impact of the programme in terms of its ability to achieve its objectives, or it can measure the final results that occurred because the participants attended the programme (Kirkpatrick & Kirkpatrick, 2006; Mertens & Wilson, 2012). While this model could be used to answer any category of evaluation questions, given the purpose for which it was developed, it is commonly ***used to answer questions about implementation and effectiveness*** in programme evaluation.

POSTPOSITIVIST PARADIGM

Focuses primarily on quantitative designs and data

(Mertens & Wilson, 2012)

As an example, to evaluate and report on an eight-month long internship programme facilitated during the school year, one might use *reaction* surveys (with both quantitative and qualitative measures and questions) to gauge student satisfaction with the programme; an online test covering the intended learning outcomes of the programme for knowledge acquisition to assess student ***learning***; role playing scenarios to evaluate ***behaviour***; and mentors' written feedback as well as student reflective journals to evaluate ***results***.



Kirkpatrick Four Levels Model

GIVE IT A TRY!

Sample WIL Student Questionnaire: Evaluation *Reaction*

Please provide honest reactions and comments. Your feedback will help to evaluate this WIL programme and improve future WIL programming.

1. How do you rate the WIL programme? (interest, benefit to your academic learning, quality of work you completed, etc.)

   ◯ Excellent ◯ Very good ◯ Good ◯ Fair ◯ Poor

   Comments and suggestions:

2. How do you rate your mentor? (knowledge of field, ability to communicate, supportive, likeable, etc.)

   ◯ Excellent ◯ Very good ◯ Good ◯ Fair ◯ Poor

   Comments and suggestions:

3. How do you rate the facilities in which you completed your WIL placement? (e.g., building/clinic/ landscape, location, comfort, convenience, etc.)

   ◯ Excellent ◯ Very good ◯ Good ◯ Fair ◯ Poor

   Comments and suggestions:

4. How do you rate your work load and schedule? (amount of work, number of hours, etc.)

   ◯ Excellent ◯ Very good ◯ Good ◯ Fair ◯ Poor

   Comments and suggestions:

5. How do you rate the WIL programme as an educational experience to enhance your academic degree?

   ◯ Excellent ◯ Very good ◯ Good ◯ Fair ◯ Poor

   Comments and suggestions:

6. How pertinent was the WIL placement to your needs and interest?

   ◯ Not at all ◯ To some extent ◯ Very much

   Comments and suggestions:

7. What would have improved your experience?

(Adapted from Kirkpatrick & Kirkpatrick, 2006)

GIVE IT A TRY!

Sample WIL Student Interview Guide: Evaluation *Behaviour*

Process:

The interviewer reviews the WIL placement with the student(s) and highlights the behaviours that the placement encouraged. The interviewer then clarifies the purpose of the interview, which is to evaluate the students' placement experiences so that improvements can be made in the future. Specifically, the interview will determine the extent to which the suggested behaviours have been applied. If they have not been applied, the evaluation will seek to learn why not.

Interview questions:

1. What specific behaviours were you taught and encouraged to use?
2. When you were in your placement, how eager were you to change your behaviour(s)?
3. From your perspective, how well equipped were you to do what was asked of you during your placement?
   - If you are not doing some of the things that you were encouraged and taught to do, why not?
4. To what extent do you plan to do things differently in the future?
5. What suggestions do you have for making your WIL placement more helpful?

(Adapted from Kirkpatrick & Kirkpatrick, 2006)

Pragmatic: CIPP Model

Unlike the postpositivist paradigm, the pragmatic approach rejects the claim that 'truth' can be discovered through scientific methods, instead valuing common sense and practical thinking (Mertens & Wilson, 2012). Pragmatists see the value of conducting an evaluation in the results produced and how they are used (Christians, 2005; Mertens & Wilson, 2012) rather than simply performing an evaluation for the sake of it. Ontologically, pragmatists believe that there is one reality but that it is interpreted in different ways by different individuals. The epistemological belief belonging to the pragmatic paradigm emphasizes studying what is of interest or value to an evaluator (Tashakkori & Teddlie, 1998) and not detaching yourself from the data. Finally, the methodological preference of pragmatic evaluators is mixed methods, reinforcing the idea that the method should always match the purpose of the study (Patton, 2002).

One of the founding theorists in this paradigm is Ralph Tyler, who is known for the ***Objectives-based Evaluation Approach*** (Christie & Alkin, 2005). Objectives-based evaluation entails:

a) Formulating a statement of educational objectives

b) Classifying these objectives into major types

c) Defining and refining each of these types of objectives in terms of behaviour

d) Identifying situations in which students can be expected to display these types of behaviours

e) Selecting and trying promising methods for obtaining evidence regarding each type of objective

f) Selecting on the basis of preliminary trials the more promising appraisal methods for further development and improvement

g) Devising means for interpreting and revising the results (Christie & Alkin, p. 281)

PRAGMATIC PARADIGM

Scientific method is insufficient to discover truth; use common sense and practical thinking

(Mertens & Wilson, 2012)

This approach links program objectives with outcomes measures and is the forerunner to Stufflebeam's CIPP model for programme evaluation. Daniel Stufflebeam began his career in the mid-1960s developing objectives for educational programmes and then measuring the outcomes to see if those objectives had been achieved. Based

on this original work, Stufflebeam developed the ***CIPP model*** – context, input, process and product (Stufflebeam, Foley, Gephart, Guba, Hammong, Merriman et al., 1971). The work of Stufflebeam and the CIPP model changed the focus of evaluation from the measurement of objectives to "a process for identifying and judging decision alternatives" (Stufflebeam, 1982, p. 16). The CIPP model is ***used to answer needs assessment, implementation and effectiveness questions*** in programme evaluation, with the quality of the evaluation judged based upon the usefulness of the evaluation results. In this model, the stakeholders and their need for information are considered and incorporated into the evaluation process.

CIPP is an evaluation model (and acronym) made up of four core concepts aimed at evaluating the context, inputs, processes and products of a programme. Mertens and Wilson (2012) describe ***context evaluation*** as providing the big picture within which a programme and its evaluation exist. More specifically, context evaluation can be used to assess the needs, problems, assets or opportunities of an organization in order to plan a structured work experience suitable for that organization (Mertens & Wilson, 2012; Stufflebeam & Coryn, 2014). ***Input evaluation*** requires collecting information about a programme's mission, goals, plan, constituents, staff, timetable, resources, progress to date, accomplishments and/or recognitions (Stufflebeam, 2002). An input evaluation of a work-integrated learning programme could examine the goals of the programme, plans for recruiting new worksites, or the timetable for matching students with worksite supervisors and structured work experiences. These data could then inform allocation of resources and programme plans for the upcoming academic year. Where input evaluations focus more on programme planning, process evaluations target the quality and appropriateness of a programme's implementation (Mertens & Wilson, 2012; Stufflebeam & Coryn, 2014). ***Process evaluation*** is useful in determining whether a programme's possibly deficient outcomes are due to the programme itself or to its inadequate implementation (Stufflebeam & Coryn, 2014). In performing a process evaluation of a work-integrated learning programme, an evaluator may examine if and how intended learning outcomes of the programme are being achieved, as well as possible strategies for improvement. Lastly, ***product evaluation*** helps to identify and assess a programme's intended and unintended outcomes (Stufflebeam & Coryn, 2014). Feedback about the outcomes of a work-integrated learning programme may be useful for reporting programme effectiveness and justifying continued or enhanced support. Product evaluation feedback is important both during and at the conclusion of the work-integrated learning experience and may be collected through various means including surveys, group interviews, case studies, concrete examples (e.g., written pieces or work products), comparisons against a comprehensive checklist, or comparisons with itself at different points

throughout the programme. Combining these four concepts together, the CIPP model can and should be used in both formative and summative evaluations of work-integrated learning programmes.

The CIPP model can be helpful in evaluating the development and conduct of a work-integrated learning programme or in judging its positive and negative outcomes. According to Stufflebeam and Coryn (2014), the CIPP model "embodies the contention that societal groups cannot make their programs, services, and products better unless they learn where these are weak and strong" (p. 336). As an example, in evaluating areas for improvement in a co-op programme using the CIPP model, you might distribute surveys to participating workplace supervisors and include questions such as: To what extent did this programme meet the needs of the workplace organization? (*context*); How well were the learning outcomes of the programme converted to a sound, feasible learning plan for students in your organization? (*input*); To what extent was the learning plan carried out as planned? (*process*); Were there any unanticipated negative or positive side effects as a result of the work-integrated learning programme? (*product*).

Another popular evaluation model is ***the RE-AIM framework*** (reach, efficacy, adoption, implementation and maintenance). The RE-AIM framework, developed by Glasgow et al. (1999), is gaining popularity in the field of implementation science as a way to help plan research-based intervention programmes and improve their chances of working in a real-world context (http://www.re-aim.hnfe.vt.edu). This framework is used for considering both internal validity and transferability of a programme to different contexts (Glasgow, Vogt & Boles, 1999), and may be ***used to answer questions about needs assessment, implementation and effectiveness*** in work-integrated learning programme evaluation. Within this framework, ***reach*** refers to the proportion of the target population that participated in the work-integrated learning programme and the characteristics of these programme participants (e.g., proportion of student population, student demographics) (Glasgow et al., 1999). ***Efficacy*** refers to the positive and negative consequences of programme participation (Glasgow, et al., 1999). For work-integrated learning, positive outcome measures might include factors such as the learning outcomes achieved, student and worksite satisfaction, workplace productivity and employment following graduation. As well, examples of negative outcomes measures include issues in the workplace, and consequences of the time commitment/effort directed to the structured work experience. ***Adoption*** refers to the proportion of settings that plan to adopt the programme (Glasgow et al., 1999). For work-integrated learning programme evaluation, this could include adoption of the programme across the institution or across worksites. ***Implementation*** refers to the extent to which the programme is implemented as intended (Glasgow et al., 1999). For work-integrated learning programme evaluation, this could entail an examination of how closely the programme's operations align with its original plans, and strengths and challenges in the process of programme implementation. Finally, ***maintenance*** refers to the extent to which a programme is sustained over time (e.g., WIL programme duration, partnership sustainability, etc.) (Glasgow et al., 1999). Using this framework, programme effectiveness is considered to be a combination of efficacy and implementation (Glasgow et al., 1999).

The RE-AIM framework may be used for the purpose of evaluating a work-integrated learning programme. It may also be used to evaluate the implementation of the structured work experience of the student(s) in achieving the intended outcomes of the workplace population/setting – particularly those work experiences in which there is a strong focus on applying theory to practice for the purpose of implementing change.

REFLECTION QUESTIONS

Context

- To what extent does your work-integrated learning programme target important community and beneficiary needs?
- What contextual factors help to facilitate work-integrated learning success? What factors act as stumbling blocks?

Input

- What are the most promising approaches to work-integrated learning in meeting set learning outcomes and goals?
- How can the most promising approach be effectively designed, funded and implemented?
- What might be some barriers to effective implementation?
- To what extent are the structure, procedure and plan of your work-integrated learning programme consistent with your academic institution's values, mission statement and objectives?

Process

- What are the critical components and/or activities of the structured work placement (both explicit and implicit)?
- How do these activities connect to the goals and intended outcomes of the academic curriculum?
- What aspects of the implementation process are facilitating success or acting as stumbling blocks for the work-integrated learning experience?

Product

- What are the learning outcomes you are trying to achieve through the structured work experience?
- What impact does work-integrated learning have on students, workplace supervisors/workplace organizations, the academic institution and the broader community?
- What unexpected impact has the work-integrated learning had on students, workplace supervisors/workplace organizations, the academic institution and/or the broader community?

(Adapted from Mertens & Wilson, 2012; Stufflebeam & Coryn, 2014)

Constructivist: Scriven's Goal-free Approach to Evaluation

The constructivist approach to evaluation attempts to understand meaning from the perspective of the persons who have the experiences (Schwandt, 2000). The act of evaluation, then, is to make visible these understandings for stakeholders involved in the evaluation process. Accordingly, the axiological position of constructivists is that evaluators operating within this paradigm should be aware of their own personal values and how these values influence the research process and outcomes (Ponterotto, 2005). Constructivists also hold that it is not possible to remove the values of the evaluator from the research process, but rather that these should be an integral part of the research process (Mertens & Wilson, 2012). The ontological perspective of constructivists is that there are multiple, socially constructed perspectives and views of reality (Guba & Lincoln, 2005). Reality and knowledge are co-constructed under a constructivist paradigm, specifically through interactive and meaningful dialogue between the researcher and the research participants. Therefore, the epistemology of constructivists "requires close, prolonged interpersonal contact with the participants in order to facilitate their construction and expression of the 'lived experience' being studied" (Ponterotto, 2005, p. 131). Finally, to be able to co-construct reality and have meaningful interactions with research participants, researchers often use qualitative methods (e.g., interviews, observation, document review) (Mertens, 2010; Mertens & Wilson, 2012), although researchers are not limited to qualitative data collection (Lincoln, 2010). Common methodological approaches include, as a few examples: narrative evaluation, ethnography, autoethnography evaluation, oral history and phenomenology.

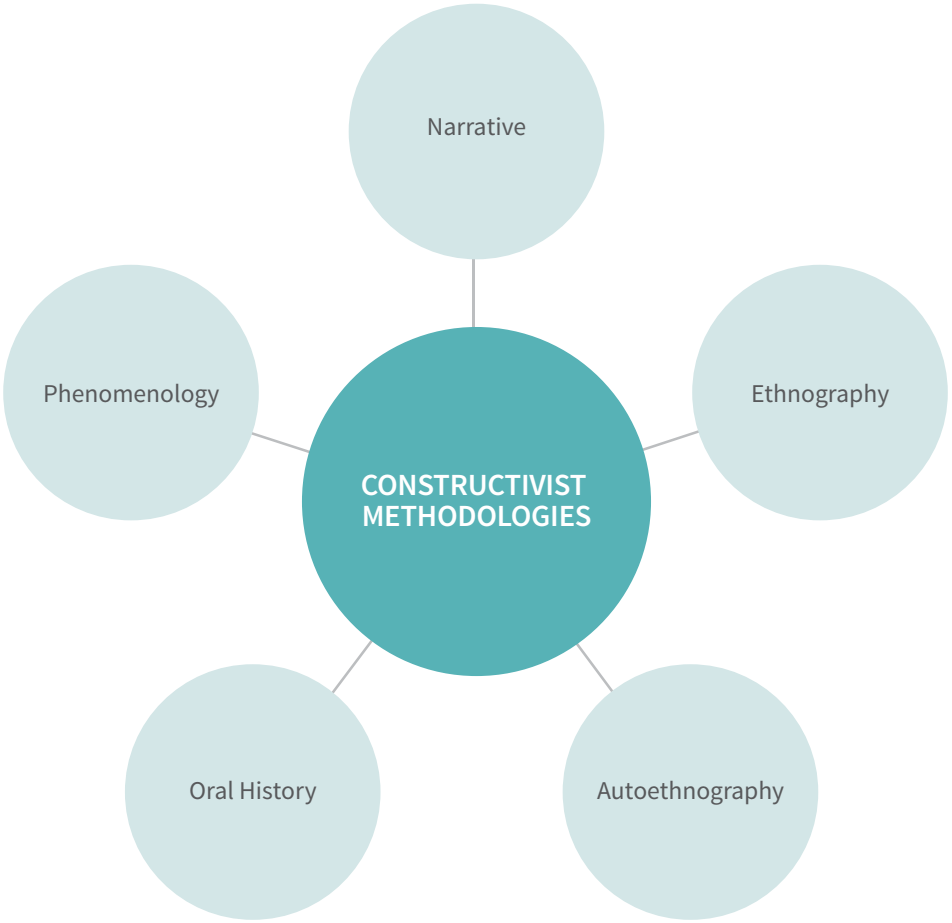
CONSTRUCTIVIST PARADIGM

Focuses on identifying multiple values and perspectives

(Mertens & Wilson, 2012)

While no programme evaluation model exists that has been derived specifically from the work of constructivist theorists, ***Scriven's goal-free approach to evaluation*** falls under the constructivist paradigm and applies well to the evaluation of work-integrated learning programmes.

The goal-free approach to evaluation is an approach or a position taken by the evaluator in the evaluation process and is not necessarily a formalized stand-alone evaluation model like those previously discussed postpositivist and pragmatic paradigms. Aligned with the core values of the constructivist paradigm, Michael Scriven's goal-free evaluation approach



suggests that evaluators should limit their role in examining whether programmes achieve their stated objectives or not and instead be open to uncovering unanticipated outcomes of a program (Mertens & Wilson, 2012; Stufflebeam & Coryn, 2014). Therefore, the purpose of evaluation under a goal-free approach is to determine the merit and worth of the programme under study, irrespective of the intended programme outcomes (Mertens & Wilson, 2012). As a part of this approach, there is also an emphasis on including novel perspectives in the programme evaluation process – particularly additional evaluators who are ignorant to the programme's stated goals and therefore search for all effects of a programme regardless of its developer's set objectives (Stufflebeam & Coryn, 2014). The rationale behind this approach is, "If a program is doing what it is supposed to do, then the [goal-free] evaluation should confirm this" (Stufflebeam & Coryn, 2014, p. 348).

As an example, you might solicit external evaluators who are not aware of the specific goals and intended learning outcomes of the work-integrated learning programme to conduct the programme evaluation. The evaluators may then conduct focus group interviews and observations to determine what outcomes the workplace supervisors and students view as having been achieved. Examples of goal-free questions might include: What positive and negative effects flowed from the programme? What was learned? How are these effects judged regarding criteria of merit, such as quality of collaboration within the community? And how significant were the programme's outcomes compared to the needs of the involved students and surrounding community?

A second approach to evaluation under the constructivist paradigm is the ***case study approach***. Case studies can be used to gain an understanding of day-to-day activities of a particular programme as a means to uncover hidden meanings (Mertens & Wilson, 2012). The signature feature of this approach is an in-depth, noninterventionist examination of the case in its natural setting and subsequently providing an illuminative report (Stufflebeam & Coryn, 2014). Under this approach, the evaluator would work closely with the primary stakeholders of the programme to carry out the evaluation, including co-constructing recommendations for the programme as a result of evaluation findings. Ultimately, the evaluator "prepares and issues an in-depth report on the case, with descriptive and judgmental information, perceptions held by different stakeholders and experts, and summary conclusions" (Stufflebeam & Coryn, 2014, p. 292). As an example, if you have received negative feedback from students year after year who participate in a field experience at the same community organization, you may choose to perform a case study evaluation to develop a full understanding of the organization and its contributions relative to the facilitation of student learning. As such, an evaluator might interview students about their experiences, conduct focus groups with employees of the organization and the work-integrated learning supervisor(s), as well as make unannounced visits to the clinic. A detailed account of the clinic and of students' and workplace supervisors' experiences during the field experience could be used to inform whether or not it is a worthwhile partnership to maintain moving forward.

Transformative: Participatory Transformative Evaluation

The transformative paradigm focuses primarily on addressing issues of power and inequity in the pursuit of furthering human rights and social justice (Mertens & Wilson, 2012). Theoretical perspectives that address issues of power inequities, the impact of privilege and the consequences of these for achieving social justice include critical theory, feminist theory, postcolonial and indigenous theory, queer theory, Marxism, critical race theory and disability theory. Denzin and Lincoln (2005) write, "This paradigm… articulates an ontology based on historical realism, an epistemology that is transactional, and a methodology that is both dialogic and dialectical" (p. 187). The axiological assumptions of the

TRANSFORMATIVE PARADIGM

Focuses on viewpoints of marginalized groups and interrogating systemic power structures

(Mertens & Wilson, 2012)

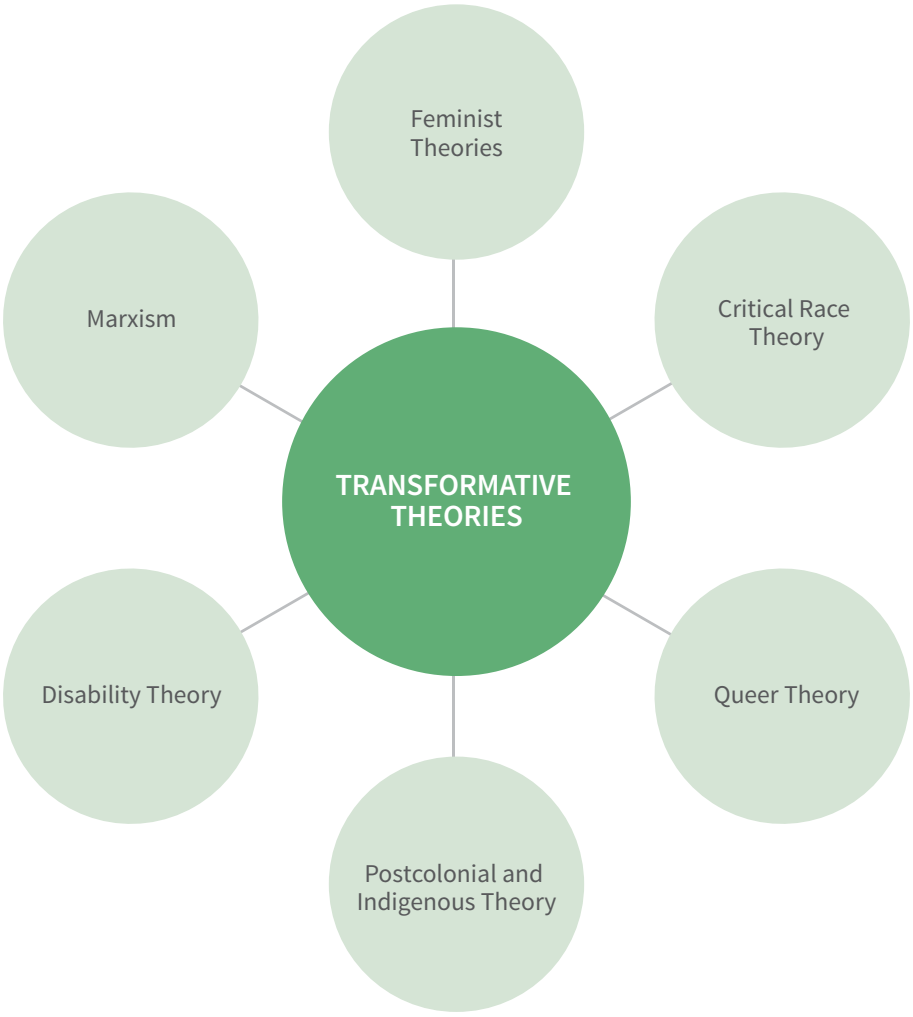
transformative paradigm hinge on four principles: 1) the importance of being culturally respectful; 2) the promotion of social justice; 3) the furtherance of human rights; and 4) addressing inequities (Mertens, 2009). The ethical principles of ethics, respect, beneficence and justice are relevant to a transformative evaluator (Mertens & Wilson, 2012). The ontological perspective of a transformative evaluator is that reality is multifaceted and many different opinions exist as to what reality is (Mertens & Wilson, 2012). The transformative paradigm "interrogates versions of reality on the basis of power inequities and the consequences of accepting one version of reality over another" (Mertens & Wilson, 2012, p. 169). The epistemological assumption held by transformative evaluators is that knowledge is constructed within a context of power and privilege, with consequences attached to whichever version of knowledge is being given privilege (Mertens & Wilson, 2012). This requires evaluators to have a close, collaborative and cooperative relationship with stakeholders. Finally, the methodological position of a transformative evaluator supports that no single methodology best represents this paradigm. Instead, methodological decisions are made to facilitate the use of the process and findings to enhance social justice; identify systematic forces that support the status quo; and acknowledge the need for a reflexive relationship between the stakeholders and the evaluator (Mertens & Wilson, 2012).

Similar to the constructivist paradigm, there are no specific evaluation models that exist in this paradigm. Rather, any number of theoretical approaches with the lens of enhancing social justice may be applied to the programme evaluation, thus aligning the evaluation within the transformative paradigm. Examples of applicable theories include feminist theories, critical race theory, queer theory, and postcolonial

and indigenous theories (Mertens, 2009). One approach within this paradigm that may be useful for work-integrated learning programme evaluation is the ***participatory transformative approach to evaluation***.

The participatory transformative approach to evaluation has largely been developed by the work of Donna Mertens. Mertens and Wilson (2012) describe this approach as "conducted with the intent to stimulate action that is directly related to the furtherance of social justice" (p. 211). This type of evaluation includes marginalized groups of people in an effort to address power inequities and is rooted in the proposition that all knowledge claims are situational (Mertens & Wilson, 2012; Stufflebeam & Coryn, 2014). Under this approach, mixed methods are common, both qualitative and quantitative, and evaluation questions are often derived from marginalized groups within a particular programme. Transformative participatory evaluation requires an interactive and collaborative relationship between the evaluator and programme participants. Therefore, it is critical that at every stage of the evaluation – planning, conduct, analysis, interpretation and use of findings – the participants are included (Stufflebeam & Coryn, 2014). The value of a transformative approach to evaluation is that it can lead to changes in policy that may bring about desired outcomes in a programme towards greater social justice.

For example, an evaluator visits a summer internship programme worksite where students are employed as interns with an investment management firm. The evaluator notices that the power structure is comprised predominantly of male staff in director roles and female staff performing administrative work, roles that are also mirrored among the male and female interns. After conducting interviews with the staff at the worksite, the evaluator writes a final report focusing on the finding that female staff members and female interns are not given equal opportunities to direct decisions made at the worksite. As a result of the report, the firm revises its policy around equity and equality, hires more females into director roles and balances the work of male and female interns in the firm.



SUCCESS STORY

University of Waterloo

The first formal review of the co-operative education programme at Waterloo was conducted in 2004-2005. As the university headed into its 50th anniversary celebration, the prominence and importance of co-operative education made it appropriate and necessary to undertake a review. The two main goals of the review were to be accountable to stakeholders about the current status of the programme and to identify opportunities for improvement.

The structure for the first review was similar to an academic programme review process. A self-study was prepared and an external committee reviewed the self-study documents, visited the campus to conduct interviews and prepared a report on their findings. As the operation of the co-op programme is centralized with connections in each of the faculties, the self-study involved reports from each of the faculties as well as the centralized "Co-operative Education and Career Services" department. Following the report from the external reviewers, a committee with representation from each of the faculties, two student leaders and chaired by the associate provost, academic and student affairs, prepared a final report with 48 recommendations for the university with regards to the co-operative education programme.

One of the recommendations of the first review was to conduct reviews of co-op on a seven-year cycle, as is done for academic programs. As such, the second review was conducted in 2011-2012. Many changes had occurred in co-op at Waterloo as a result of the first review. For example, a Co-operative Education Council (CEC) had been established, which includes an associate dean responsible for co-op from each of the faculties, directors from the co-op unit and elected student leaders. Terms of reference for the second review were prepared by the CEC, with specific objectives to be investigated. A sub-committee of the CEC was established to collect and analyze data related to the objectives of the review. This group prepared a self-study document that was given to a team of external reviewers, following which a final report was prepared with recommendations.

The benefits of both of these reviews have been numerous. The review process itself has raised awareness of the strengths and challenges for co-op at Waterloo among its many stakeholder partners both on and off campus. The recommendations have provided both a focus for continuous improvement and a framework for tracking progress.

There are challenges to conducting a review of this nature, most centering around the limited time that people have to devote to this type of activity. The process needs to be endorsed, if not led, by senior leaders within the institution to ensure that there will be resources associated with the accountability and tracking of actions as a result of the recommendations, and so the significance of the activity is conveyed to those involved and consulted.

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Director, Centre for the Advancement of Co-operative Education (WatCACE)
University of Waterloo

ETHICAL CONSIDERATIONS

Although it is not feasible to provide a full summary of all the literature published on effective practices in programme evaluation, the chapter would not be complete without touching upon a few ethical considerations to think about when conducting an evaluation of a work-integrated learning programme.

Before initiating an evaluation of the work-integrated learning programme, it is recommended that you seek consultation with your institution's research ethics board to discuss the ethical considerations of your specific evaluation and potential requirements for ethics approval. Although several authors note that ethical issues are present throughout all stages of the evaluation process, concerns are particularly salient when it comes to issues in sampling (Hatry, Wholey & Newcomer, 2010; Mertens & Wilson, 2012). More specifically, evaluators should be aware of and pay close attention to issues of informed consent, confidentiality and anonymity (Mertens & Wilson, 2012; Rossi et al., 2004; Wholey, Hatry & Newcomer, 2010). Informed consent is often obtained by providing participants with a letter that gives information about the study, what is being asked of the participant, potential risks and/or benefits derived from participation, compensation (if applicable), and the right of the individual to withdraw from the study at any point. Mertens and Wilson (2012) describe that informed consent includes knowing what a person would want to know in advance of giving consent (informed) and explicitly agreeing to participate (consent). Ensuring that informed consent is properly solicited and given is a critical step to maintaining good ethical practice in programme evaluation. Special consideration is required for facilitating informed consent with specific groups, such as children, seniors, people with mental illness, and/or indigenous and postcolonial groups (Mertens & Wilson, 2012).

KEY TERMINOLOGY

Confidentiality means collecting, analyzing, storing and reporting data in such a way that the data cannot be traced back to the individual who provides them.

Anonymity means that no uniquely identifiable information is attached to the data.

(Mertens & Wilson, p. 415)

SUCCESS STORY

Conestoga College

Conestoga College offers over 50 co-op programs in a variety of fields including, as a few examples: architecture, business administration, community and criminal justice, computer engineering technology, electronic systems engineering, human resources management, public relations, and woodworking technology. At Conestoga we have a team of individuals working constantly behind the scenes to ensure that these programs offer a valuable educational experience for students. Programme evaluation is an important part of delivering a work-integrated learning programme. As a former research ethics board chair, I encourage those responsible for data collection for programme evaluation to consult their research ethics departments. While program evaluation is outside the jurisdiction of research ethics boards according to the TCPS, there are many ethical issues inherent in data collection. Your REB can assist you in identifying these concerns and designing processes that generate useful data in the most ethical way.

Jane McDonald, PhD
Professor, School of Health and Life Sciences and Community Service
Conestoga College

SEEK CONSULTATION WITH YOUR INSTITUTION'S RESEARCH ETHICS BOARD TO DISCUSS THE ETHICAL CONSIDERATIONS OF YOUR SPECIFIC EVALUATION AND POTENTIAL REQUIREMENTS FOR ETHICS APPROVAL.

Anonymity and confidentiality are also prudent concerns in the programme evaluation process because of the interaction between evaluators and the participants/stakeholders (Mertens & Wilson, 2012). ***Confidentiality*** means "collecting, analyzing, storing, and reporting data in such a way that the data cannot be traced back to the individual who provides them" (Mertens & Wilson, 2012, p. 415). ***Anonymity*** means "that no uniquely identifiable information is attached to the data; no one, not even the evaluator, can trace the data to the individual" (Mertens & Wilson, 2012, p. 415). Both of these concepts can be challenging. However, evaluators must practice the (basic) ethical principle of respect (see Rossi et al., 2004, list below for further principles in conducting program evaluation) to minimize issues of confidentiality and anonymity (Mertens & Wilson, 2012; Rossi et al., 2004).

In general, there are five principles that can be used to guide evaluators through the work-integrated learning programme evaluation process.

RECOMMENDATIONS AND GUIDELINES

Ethical Considerations in Programme Evaluation

Principle	Explanation
1. Systematic inquiry	Evaluators conduct systematic, data-based inquiries about whatever is being evaluated.
2. Competence	Evaluators provide competent performance to stakeholders.
3. Integrity/honesty	Evaluators ensure the honesty and integrity of the entire evaluation process.
4. Respect for people	Evaluators respect the security, dignity and self-worth of the respondents, program participants, clients and other stakeholders with whom they interact.
5. Responsibilities for general and public welfare	Evaluators articulate and take into account the diversity of interests and values that may be related to general and/or public welfare.

Rossi et al. (2004)

SUMMARY OF EFFECTIVE PRACTICES FOR WIL PROGRAMME EVALUATION

- Despite the variation in terminology used to describe evaluation, it can be defined as judging the worth or merit of something (Scriven, 1967).
- The difference between evaluation and programme evaluation is that programme evaluation "is a *profession* that uses *formal methodologies* to *provide useful empirical evidence* about *public entities* (such as programs, products, performance) *in decision-making contexts* that are inherently *political* and involve multiple often conflicting *stakeholders*, where *resources* are seldom sufficient, and where *time pressures* are salient" (Mertens & Wilson, p. 248).
- Programme evaluation, as discussed by Fitzpatrick et al. (2011), is important in developing good programmes; helping deliver programmes to changing stakeholders in changing contexts; and helping find interventions that are successful in achieving goals.
- Differences between evaluation and research include: purpose, approach taken, generalizability of results, criteria by which they are judged for adequacy, and the preparation of those who work in each.
- The evaluation process includes six steps:
  1) Develop an evaluation question.
  2) Choose an evaluation paradigm.
  3) Select an evaluation model.
  4) Develop evaluation tools.
  5) Collect and analyze the data.
  6) Present findings to stakeholders.
- There are three common purposes for evaluation:
  1) To gain a better understanding of the needs within a particular context (needs assessment evaluation)
  2) To identify ways to improve the implementation of the programme (implementation evaluation)
  3) For the purpose of reporting the degree to which the programme achieves its intended outcomes (evaluation of programme effectiveness)
- Paradigms for evaluating WIL programmes include:
  - Postpositivist – The postpositivist paradigm is viewed in the social sciences as a means of improving society by applying scientific methods to explore laws about human behaviour, owing to the belief that there is one reality knowable within a certain degree of probability.
  - Pragmatic – Unlike the postpositivist paradigm, the pragmatic approach rejects the claim that 'truth' can be discovered through scientific methods (Mertens & Wilson, 2012). Alternatively, evaluators test the effectiveness of an intervention through the collection of results that provides a warrant for conclusions about a particular intervention (Morgan, 2007).

- Constructivist – The constructivist approach to evaluation attempts to understand meaning from the perspectives of the persons who have the experiences. The act of evaluation is to make visible these understandings for stakeholders involved in the evaluation process.
- Transformative – The transformative paradigm focuses primarily on addressing issues of power and inequity in the pursuit of furthering human rights and social justice (Mertens & Wilson, 2012).

- Ethical considerations in programme evaluation include informed consent, confidentiality and anonymity.
- Five guiding principles to conduct ethical programme evaluations include:

1) Systematic inquiry
2) Competence
3) Honesty and integrity
4) Respect for people
5) Responsibilities for general and public welfare

“Let’s be excited about the progress we are making. Keep moving forward!”

– ANONYMOUS

7

MOVING FORWARD WITH WIL

Included in this chapter are recommendations to consider in moving forward with work-integrated learning programming. Suggestions on how to better connect work-integrated learning with higher education curriculum are posed. As well, the importance of building collaborative partnerships with workplace organizations is essential to every step of the work-integrated learning process, and suggestions are made for enhancing these relations.

CONNECTING WIL WITH THE CURRICULUM OF THE ACADEMIC PROGRAMME

This guide has focused on ways to enhance the educational quality of the structured work experience, including the planning and development of learning outcomes; assessment and activities for the work experience; ways to facilitate student reflection throughout the work-integrated learning; the integration of theory; the provision of opportunities for experimenting with new ideas; and approaches for programme evaluation.

COHESIVE APPROACH

Work experience is tied to learning outcomes mapped across the academic curriculum; focus is on ongoing learning

SCAFFOLDING APPROACH

Multiple work experiences that are increasingly challenging and tied to the same learning outcomes; focus is on deep learning

TARGETED APPROACH

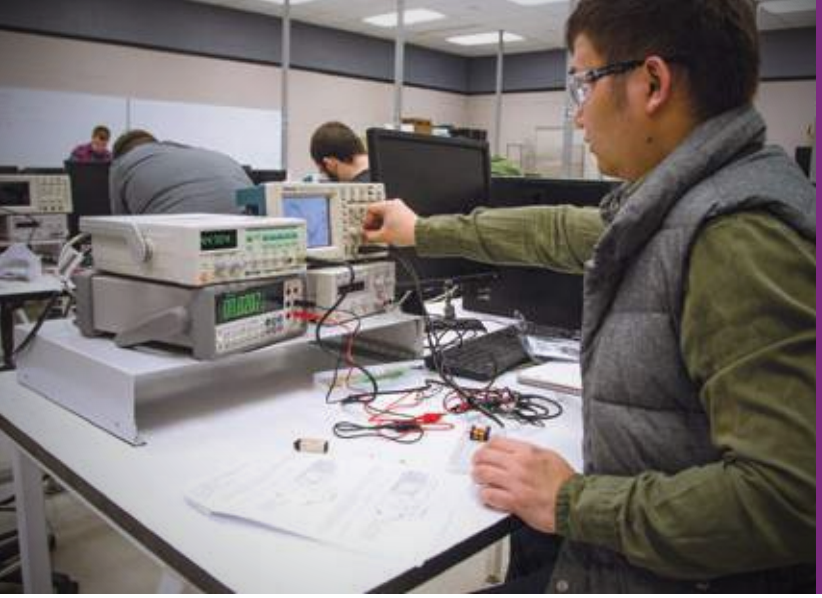
Work experience is tied to the learning outcomes of a specific course or subject area; focus is on enriched learning

DIVERSE APPROACH

Multiple work experiences in a range of contexts tied to the same learning outcomes; focus is on breadth of learning

While all of these recommendations are beneficial for enhancing the curriculum of the work-integrated learning programme, it is suggested that in moving forward with WIL, work-integrated learning programming could be enhanced further through deliberate integration within the curriculum of the academic programme(s). More specifically, the impact of work-integrated learning pedagogy on higher education student learning and development would be enhanced further through the creation of sound pedagogical links horizontally and vertically throughout the academic curriculum. Done in this way, the potential for work-integrated learning as a pedagogical approach in higher education institutions is greatly strengthened. Embedding work-integrated learning programming within the curriculum of the academic programme would augment the breadth and depth of learning outcomes that may guide the structured work experience, and would align classroom and work-based pedagogies in higher education. Supporting this assertion, Orrell (2011, p. 20) states, "WIL programs should be integrated into the curriculum so that they have clear educational expectations, and are a vehicle for integrating theory and practice learning."

Adapted from Campbell et al. (2014), four different approaches to the integration of work-integrated learning within the curriculum of academic programmes are proposed, including the cohesive approach, the scaffolding approach, the targeted



WORK-INTEGRATED LEARNING PROGRAMMING COULD BE ENHANCED FURTHER THROUGH DELIBERATE INTEGRATION WITHIN THE CURRICULUM OF THE ACADEMIC PROGRAMME(S).

approach and the diverse approach. Although presented as distinct, in many instances multiple approaches may coincide and complement one another.

- ***Cohesive approach*** – The cohesive approach, also called the whole-of-program approach, refers to the mapping of work-integrated learning and/or the learning outcomes of the work-integrated learning across various courses in an academic programme "in a cohesive, integrated way to ensure ongoing development of knowledge, skills, practice and confidence" (Campbell, Russell & Higgs, 2014, p. 21). In this approach, the learning outcomes of the work experience are embedded vertically within the academic programme curriculum. The work experience itself may occur alongside or within the student's theory courses, be interjected at multiple points in the curriculum, or may be a single culminating work experience that integrates and enhances the learning outcomes progressively developed within the academic programme.
- ***Scaffolding approach*** – The scaffolding approach builds multiple work experiences into the academic curriculum and enables deep learning through "progression from simple to increasingly complex and challenging experiences" (Campbell et al., 2014, p. 21). For the scaffolding approach, the focus is on specialization and depth of learning through the provision of increasingly challenging work experiences tied to the same learning outcomes within the academic curriculum. In the scaffolding approach, the multiple work experiences may occur within the same workplace/context but with increasingly challenging roles and responsibilities, or may occur across different workplaces/contexts.
- ***Targeted approach*** – The target approach refers to the "explicit alignment of work-integrated learning activities with learning outcomes and assessment" (Campbell et al., 2014, p. 21), within a particular course or related to a specific subject matter. This approach allows for greater enhancement of learning outcomes through work experience that is tied to a specific topic. While the course and associated learning outcomes would exist within a broader academic curriculum, in the targeted approach the learning outcomes are not built vertically into the curriculum with the intention of ongoing development. Instead, the targeted approach is an opportunity for enriched learning on a specific topic of interest related to the student's programme of study.
- ***Diverse approach*** – The diverse approach "exposes students to a range of industry and community partners and contexts" (Campbell et al., 2014, p. 21). For the diverse approach, the focus is on breadth of learning and experience through the provision of diverse work experiences tied to the same learning outcomes within the academic curriculum.

★ SUCCESS STORY

George Brown College

[At George Brown College], work-integrated learning is closely linked to the curriculum of students' programme of study and the students' progress within the programme. Thus, a first-year student may be focused on gaining familiarity with the workplace culture and be performing basic tasks. A third-year student will be functioning much more independently, using the concepts and skills learned in his or her programme of study. Students apply the theoretical material and practice the skills they have learned in their courses. In many programmes, students receive detailed evaluations as well as grades for their work-integrated learning, so this is an important part of the students' grade point average and their progress toward achieving their credential.

Georgia Quartaro, PhD
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George Brown College

REFLECTION QUESTIONS

In what ways can the integration of the WIL programming and the curriculum of the academic programme(s) be further enhanced at our institution?

- How can the structured work experience be mapped across the curriculum of the academic programme to contribute to ongoing student learning and development?
- How could the work-integrated learning be structured so that it provides multiple work experiences that are increasingly challenging and tied to the same learning outcomes of the academic programme(s)?
- How could the work-integrated learning be structured so that it provides multiple work experiences in a range of diverse contexts tied to the same learning outcomes of the academic programme(s)?
- How could the work-integrated learning be structured so that it is tied to the learning outcomes of a specific course or subject area?

GIVE IT A TRY!

Sample Curriculum Map

Time Period and Curriculum Options (opt)/ Requirements (req)	Learning Outcomes	Specific Content	Assessments	Activities (e.g., readings, assignments, work experience)
Term 1 • Orientation (req) • Course XX (req) • Course XX (req) • Course XX (opt) • Course XX (opt) • Other (opt)				
Term 2 • • •				
Term 3 • • •				
Term 4 • • •				

BUILDING IMPACTFUL PARTNERSHIPS WITH WORKPLACE ORGANIZATIONS

An important part of advancing a work-integrated learning programme is being able to build and sustain impactful partnerships with those workplace/community organizations that host students.

According to Hands (2005) and Sanders (2001), community organizations may include businesses, health care facilities, not-for-profit organizations and/or individuals. Work-integrated learning programmes require academic institutions to work in partnership with workplaces because both organizations own domain-specific knowledge and expertise that contribute significantly to educational work experiences for students (Choy & Delahaye, 2010). For example, academics may have expert knowledge related to content and theory, whereas the application of this knowledge in distinct workplace contexts may rely heavily on the knowledge and expertise of the workplace supervisor. Therefore, collaborative self-interest, transparency and negotiability must be central in any work-integrated learning partnership (Smith & Betts, 2000).

The nature of the relationship between academic institutions and workplace organizations, and the potential for an impactful partnership between them, has been the subject of much research and advocacy in the field of work-integrated learning (Reeve & Gallacher, 2005). Although traditionally academic institutions have displayed greater authority over the content, learning activities and outcomes of work-integrated learning, the "productive application of these… is premised on the socio-cultural environment and relies heavily on the tacit knowledge of the workers" (Choy & Delahaye, 2010, p. 158). So in building impactful partnerships with workplace organizations, successful

WORKPLACE ORGANIZATIONS SHOULD BE INTEGRALLY INVOLVED IN THE PLANNING, DESIGN, IMPLEMENTATION, EVALUATION AND CELEBRATION OF THE WORK-INTEGRATED LEARNING CURRICULUM.

work-integrated learning relies on a learning partnership in which the authority over curriculum and pedagogy is shared (Choy & Delahaye, 2010).

Building upon this recommendation for enhanced partnership, Seifer (2002) suggests that workplace organizations should be integrally involved in the planning, design, implementation, evaluation and celebration of the work-integrated learning curriculum (Seifer, 2002). In this way, community workplaces are not merely "'placement sites' for student learning but are genuine partners" (Seifer, 2002, p. 431). The following table summarizes good principles outlined in Seifer (2002) to help inform the development of workplace partnerships.

Moving forward with work-integrated learning, it is recommended that academic institutions and workplace organizations should work in partnership at each stage of work-integrated learning – student recruitment and admission, curriculum development, student orientation, assessment, evaluation, improvement, and recognition (Seifer, 2002) – to ensure a genuine partnership.

RECOMMENDATIONS AND GUIDELINES

Effective Practices for the Development of Workplace Partnerships

Recommendation	Explanation
1. Common goals	Partners have agreed on the mission, values, goals and measurable outcomes for the partnership.
2. Respect	The relationship between partners is characterized by mutual trust, respect, genuineness and commitment.
3. Equality	The partnership balances the power among partners and enables resources to be shared among partners.
4. Open communication	There is clear, open and accessible communication among partners, making it an ongoing priority to listen to each need, develop a common language, and validate or clarify the meaning of terms.
5. Collaboration/ agreement	Roles, norms and processes for the partnership are established with the input and agreement from all partners.
6. Feedback	There is feedback to, among and from all stakeholders in the partnership, with the goal of continuously improving the partnership and its outcomes.
7. Improvement	The partnership builds on identified strengths and assets, but also addresses areas that need improvement.
8. Recognition	Partners share credit for the partnership's accomplishments.
9. Growth over time	Partnerships take time to develop and evolve over time.

Adapted from Seifer (2002)

GIVE IT A TRY!

Focus Group Invitation for Prospective Workplace Partners of a WIL Programme

Dear [Name],

We are hosting a focus group meeting to discuss the development of a work-integrated learning programme [OR the enhancement of our WIL programme] at [name of institution]. Your participation in this meeting would be highly valued and appreciated.

Date/Time/Location: TBD

Background Information:

There is growing recognition of the value of "learning outside of the classroom" to consolidate the theoretical content students learn in lectures with real-world practical experience. Community engagement provides an excellent opportunity for student learning and development, and at the same time, if done right, should be a benefit to the community.

To this end, we are in the early stages of developing a [OR enhancing our] work-integrated learning programme for students. The intention of this programme will be [is] for students to consolidate their previously learned knowledge and skills gleaned throughout the curriculum and further enhance their learning in a real work context. As we are in the early stages of programme development [OR enhancement], we are interested in learning about the perspectives of representatives from workplace and community organizations. We would like to gather your feedback on what you would like future work with students to look like and discuss ways in which we can design [OR enhance] this programme so that the student work is truly a benefit to the workplace and greater community.

Some of the questions we are looking forward to discussing include:

- *How could students contribute to the work you do in your organization?*
- *What would you like the students to learn through their experience in your organization?*
- *What would be the ideal timing of the student work and the total minimum and maximum number of student hours that would be meaningful and helpful to your organization?*
- *What student projects may be of benefit to your organization (e.g., design and facilitate a programme, programme evaluation, research/education needs assessment, curriculum development project)?*
- *What previous or concurrent preparation/training would you like to see the students receive so that they may effectively contribute to your organization?*

Again, your contribution to this important session would be greatly appreciated.

Many thanks,

[Name]

SUCCESS STORY

University of Toronto Mississauga

The University of Toronto Mississauga (UTM) Experiential Education Office (EEO) works in partnership with the undergraduate academic departments, faculty, staff and students engaged and interested in experiential learning at UTM. The EEO provides various levels of support to the academic experience in the form of academic internships, community-engaged service learning courses, and the research opportunity program, in addition to community outreach activities that we support and help foster. We also provide assistance and guidance to our many other academic and non-academic experiential learning opportunities on campus, and work closely with those departments and units collaboratively.

The EEO provides support, assistance and guidance to UTM students in their pursuit of experiential learning opportunities. We help to place students in work-based environments and can assist in identifying different experiences that are available, along with additional resources on campus that can aid in making sure that students are well aware of, prepared for and ready to engage in those opportunities.

The EEO is also very hands-on with the local community and within the Region of Peel. We have extensive and longstanding relationships with many community partners and are always looking to forge additional long-lasting and meaningful relationships with the community. We work alongside our partners to ensure that they too are having a terrific experience working with the EEO and with UTM as a whole.

It is important to identify early on and before the student is selected for an interview the roles and responsibilities that each of our partners have with respect to student placement in an internship setting or within a community service learning environment. This approach assists in finding common ground and identifies expectations from the onset so as to avoid any misunderstandings down the road. Additionally, it has been effective for us that communication with the course directors concerning the project and what those expectations are also assists in identifying the roles and responsibilities of the supervisor. This dual approach is appreciated by our community partners and placement sites, as they have a clear understanding up front and know who to contact in case questions arise.

Melissa Berger
Community Outreach Coordinator
Manager, Experiential Education Office
University of Toronto Mississauga

SUMMARY OF EFFECTIVE PRACTICES FOR MOVING FORWARD WITH WIL

7

- Work-integrated learning programming could be enhanced further through deliberate integration within the curriculum of the academic programme(s) (Orrell, 2011).
- There are four approaches to integrating work-integrated learning into the curriculum of an academic programme:
  - Cohesive approach – Work experience is tied to learning outcomes mapped across the academic curriculum; focus is on ongoing learning
  - Scaffolding approach – Multiple work experiences that are increasingly challenging and tied to the same learning outcomes; focus is on deep learning
  - Targeted approach – Work experience is tied to the learning outcomes of a specific course or subject area; focus is on enriched learning
  - Diverse approach – Multiple work experiences in a range of contexts tied to the same learning outcomes; focus is on breadth of learning
- WIL requires postsecondary institutions to work in partnership with workplaces because both organizations own domain-specific knowledge and expertise that contribute significantly to productive WIL experiences (Choy & Delahaye, 2010).
  - E.g., academics may hold expertise in content and theoretical knowledge, whereas workplace employers may have expertise in the application of this knowledge in the workplace context.

"I never teach my pupils;
I only attempt to provide the conditions in which they can learn."

– ALBERT EINSTEIN

8

CONCLUDING RECOMMENDATIONS

This closing chapter provides a brief overview of the summary guidelines provided in each of the previous chapters. As well, concluding recommendations are shared for enhancing the educational quality of a work-integrated learning programme.

ENHANCING THE EDUCATIONAL QUALITY OF THE STRUCTURED WORK EXPERIENCE

Summarizing the content presented in the preceding chapters, it is recognized that the work-integrated learning experience offers numerous benefits to students, workplace supervisors and employers, higher education institutions, and industry, government and community partners (Sattler & Peters, 2012).

However, the benefits of work-integrated learning are not implicit within the work itself, but rather arise with the integration of theory and practice facilitated through the structured work experience (Billett, 2009; Cooper et al., 2010). Accordingly, it is important to ensure that this integration is achieved most effectively by deliberately structuring the programme and grounding it in empirical learning theory.

Kolb's experiential learning cycle is composed of four major modes of learning: experience, reflection, integrating theory and practice, and experimenting with new ideas. Looking individually at each learning mode, effective practices for facilitating purposeful experience include determining the learning emphasis of the work experience (i.e., learning outcomes, learning assessment and learning plans). The subsequent delineation of the specific form (e.g., practicum, internship, co-op) and design (i.e., project implementation – work experience) of the structured work experience should align with the learning emphasis of the work-integrated learning programme. Furthermore, in order to enhance the educational quality of the student's experience, the learner's physical and social learning environment must be considered, including considerations for diverse learners, managing risk and facilitating mentoring relations.

Effective practices for facilitating reflection include fostering the autonomy of the learner in the structured work experience and ensuring that students are provided with relevant challenges, consistent and appropriate feedback, and opportunities for collaboration with peers (Eyler et al., 1996; Seibert & Daudelin, 1999). Reflection activities should draw upon the students' personal experiences and growth, connect theory and practice, align with the students' learning outcomes, include goal setting and achievement, be sensitive to the diverse contexts in which the work-integrated learning may occur, and allow for a combination of inductive and deductive learning. One model that is useful for guiding reflection is Ash & Clayton's (2009) three-step D.E.A.L. Model for Critical Reflection.

Effective practices for facilitating the integration of theory and practice include assuring bi-directional integration. The integration of theory and practice is a shared responsibility between the student, workplace supervisor and the academic instructor/coordinator. It should be built into the students' learning outcomes, learning assessment and learning plans, and should be intentionally facilitated through integrative activities before, during and after the work experience. One way to enhance students' integration of theory and practice is through self-directed learning, including assuring students' self-management, self-monitoring, and motivation within their structured work experiences.

Effective practices for facilitating students' experimentation with new ideas include developing experimentation plans, and enabling students to be creative, adaptive and push the boundaries of what is possible in the work environment.

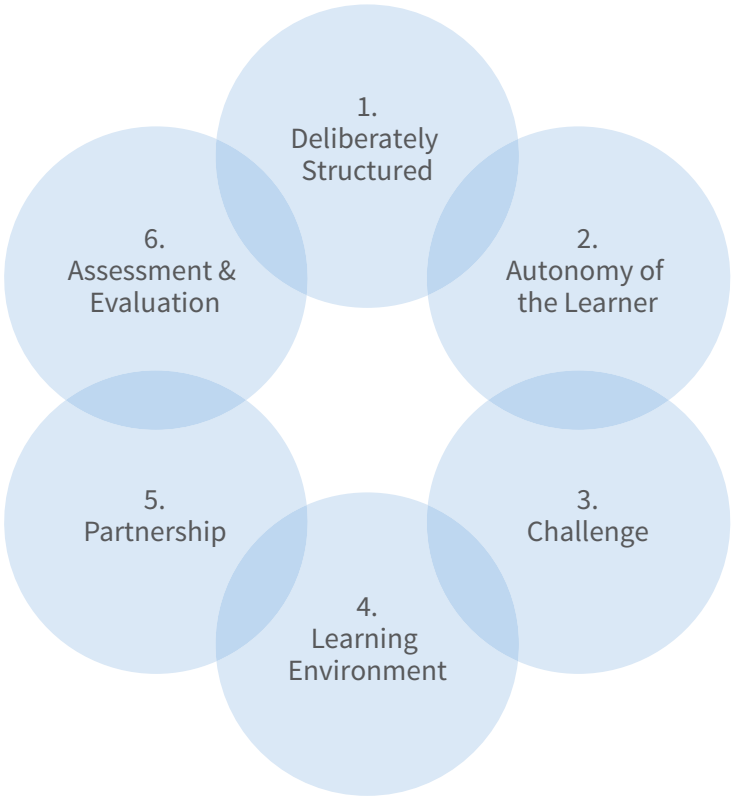
Furthermore, effective practices for work-integrated learning programme evaluation include following the evaluation process (i.e., develop an evaluation question, choose an evaluation paradigm, select an evaluation model, develop evaluation tools, collect and analyze data, and present findings to stakeholders). There are three common purposes for evaluation, including to gain a better understanding of the needs within a particular context (needs assessment evaluation), to identify ways to improve the implementation of the programme (implementation evaluation), and for the purpose of reporting the degree to which the programme achieves its intended outcomes (evaluation of programme effectiveness). In all programme evaluations, it is recommended that you seek consultation with your institution's research ethics board to discuss the ethical considerations of your specific evaluation.

Finally, in moving forward with work-integrated learning, it is recommended that work-integrated learning programmes be integrated deliberately within the curriculum of the academic programme(s). As well, postsecondary institutions should be working in partnership with workplaces, because both organizations possess domain-specific knowledge and expertise that significantly contribute to effective work-integrated learning experiences.

SIX MAIN QUALITY CRITERIA

Integrating all the recommendations described above, six main criteria are outlined for ***enhancing the educational quality of the structured work experience***. These quality criteria integrate Kolb's four learning modes with each other and with programme evaluation recommendations and recommendations for moving forward with work-integrated learning.
They include:

1. Deliberately structure the work-integrated learning programme.
2. Empower the learner with autonomy in the structured work experience.
3. Provide students with relevant challenges in the workplace.
4. Consider the learning environment.
5. Work in partnership with students and the workplace organization.
6. Ensure continual assessment of student learning and evaluation of the work-integrated learning programme.



SIX MAIN CRITERIA ARE OUTLINED FOR ENHANCING THE EDUCATIONAL QUALITY OF THE STRUCTURED WORK EXPERIENCE.

Enhancing the Educational Quality of the Structured Work Experience

Recommendation	Explanation
Deliberately structure the WIL programme.	• Ground work-integrated learning programming and content in theory. • Clearly define the learning emphasis (i.e., learning outcomes, learning assessments, learning plans). • Delineate the form of structured work experience. • Intentionally design the structured work experience along the continuum of project implementation to work experience, in alignment with the learning emphasis of the student/programme. • Structure reflection activities that integrate theory and practice before, during and after the work experience. • Develop a plan for experimentation. • Embed work-integrated learning within the broader curriculum of the academic programme.
Empower the learner with autonomy in the structured work experience.	• Promote opportunities for authentic experience. • Encourage independent reflection. • Facilitate students' determination of personal learning goals and achievements. • Encourage students to engage in self-assessment. • Enable students' self-directed learning (i.e., self-management, self-monitoring and motivation with the structured work experience).
Provide students with relevant challenges in the workplace.	• Facilitate appropriate challenges to foster reflective practice. • Promote student creativity and adaptability when faced with challenges in the workplace. • Encourage students to push the boundaries and embrace appropriate challenges in structured work experience.
Consider the learning environment.	• Facilitate learning spaces. • Enable mentorship and positive relations in the workplace. • Consider the needs of diverse learners. • Manage risk.
Work in partnership with students and the workplace organization.	• Advocate the shared responsibility of the student, workplace supervisors and the academic instructor/coordinator over student learning. • Promote the shared responsibility of all stakeholders for integrating practice and theory. • Ensure mutual respect and benefit. • Support partnership sustainability with workplace organizations.
Ensure continual assessment of student learning and evaluation of the work-integrated learning programme.	• Ensure that students receive continual feedback and assessment in the structured work experience. • Clearly define the purpose of the programme evaluation. • Follow the programme evaluation steps (i.e., develop an evaluation question, choose an evaluation paradigm, select an evaluation model, develop evaluation tools, collect and analyze data, present findings). • Be cognizant of ethical considerations (e.g., privacy, confidentiality, informed consent).

REFLECTION QUESTIONS

After reading through this guide, it is useful to develop specific ***ACTION STEPS*** for further enhancing the educational quality of your work-integrated learning programme by asking: "What will we *START* doing in the work-integrated learning programme?"; "What will we *CONTINUE* doing in the work-integrated learning programme?"; and "What will we *STOP* doing in the work-integrated learning programme?" For each question, try to list a few points using the reflection questions and main summary points included in each chapter. For these action steps, try to develop goals that are specific, measurable, attainable, relevant and time-bound.

In our WIL Programme

We will START...

We will CONTINUE...

We will STOP...

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APPENDIX: SAMPLE LEARNING EXPERIENCES FOR TEACHING

LEARNING EXPERIENCES FOR TEACHING

Sample exercises that engage students in various practices attending to each of the modes of Kolb's theory of experiential learning are proposed throughout the guide. In addition to these exercises, teaching students the knowledge and skills in the various topics covered throughout the guide may further enhance students' understanding and engagement with each learning mode, thus contributing to effective student learning and development in the work-integrated learning experience.

Teaching students about experiential learning would enhance their understanding of their preferred learning style and their own process of learning during the work-integrated learning experience. Knowledge and skills of critical reflection would make students better able to self-direct reflective practice in the workplace and would give students the foundational knowledge and skills to structure formative and summative reflection assignments (e.g., essays, exit interviews, workplace narratives). Likewise, teaching students about specific transferable skills (e.g., communication, teamwork), and the skills of creativity and adaptability required for active experimentation in the workplace, would further enhance their ability to connect theory and practice and to test new ideas.

The following sample learning experiences are included for:

- Teaching students about ***experiential learning***
- Teaching students about ***reflection***
- Teaching students about ***nonverbal communication***
- Teaching students about ***teamwork***
- Teaching students about ***creativity***
- Teaching students about ***adaptability***

These experiences are written as if they are being delivered in a classroom learning environment but can be adapted to be delivered in an online format or as individual professional development activities offered by the postsecondary institution.

GIVE IT A TRY!

Sample Learning Experience: Experiential Learning

Overview

1. Introduction: What is experiential learning?
2. Puzzle exercise
3. Review Kolb's Learning Cycle and debrief puzzle exercise
4. Online video
5. Kolb's Learning Style Inventory
6. Review of learning styles

Reading

Evans, N. J., Forney, D. S., Guido, F. M., Patton, L. D., & Renn, K. A. (2010). Chapter 8: Kolb's theory of experiential learning. In *Student development in college: Theory, research, and practice* (2nd ed.) (pp. 137-152). San Francisco, CA: Jossey-Bass.

1. Introduction: What is experiential learning?

- Definition of experiential learning
- This is an important topic to understand, as it is serves as the theoretical basis for your own learning during your work experience.
- More specifically, if you can understand how you learn through experience, it may help you to be more cognizant of your own learning during your work experience and may help you identify ways in which your learning can be enhanced.
- Arguably the best way to introduce the subject of experiential learning is to experience it.

2. Puzzle exercise

- Have students form groups of 4-6.
- Learning and knowledge construction are analogous to piecing together parts of a puzzle to form a particular image.
- The goal of this exercise is to put together your puzzle and determine what the image is.
- You will have 30 minutes to work on the puzzle. [Exercise works best with 200-300-piece puzzles].
- Give each group a puzzle to work on. Do not give the students an image of the puzzle at this point – just the puzzle pieces. [Students may have to move to different parts of the room/hall in order to have enough space to do the puzzle].
- As students work on the puzzles, you can circle the groups to make sure they are on task. As the students are working, ask individual groups the following questions:
    - *Do you know what the image is?*
    - *If so, what makes you think that? How did you come to that idea?*
    - *Does anyone in the group have a different idea?*
    - *Did anyone in the group come to the same idea differently?*
- After 20-25 minutes, hand out the puzzle pictures (solution) and give the students 10 minutes to finish their puzzles using the image as a guide.

3. Review Kolb's Learning Cycle and debrief puzzle exercise

- Review Kolb's Learning Cycle, including:
    - The model describes the four modes of learning: Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC) and Active Experimentation (AE).
    - There are two ways in which you can take in experience: CE and AE.
    - There are two ways in which you can deal with experience: RO and AC.
    - You may begin the learning process in any of the four learning modes.
    - Most effective learning occurs when the learner uses all four modes of learning.

Sample Learning Experience: Experiential Learning (cont'd)

- Ask the class how their group addressed each mode in the learning cycle in their puzzle exercise. [Note: Depending on the learning styles of the group members, groups may not have addressed each learning mode but should be able to speak to at least a few].
- Answers:
    - Concrete Experience (feeling): Related to other people; Talked with other group members about their feelings and thoughts on what the image may be; Was sensitive to other group members' suggestions of what the image is and/or how to piece the puzzle together
    - Reflective Observation (watching): Observed parts of the puzzle coming together before making judgements; Reflected on how different sections of the puzzle may fit together to inform the total picture; Sat back and watched more than did other group members
    - Abstract Conceptualization (thinking): Systematically matched up pieces with the same colour/pattern; Grouped puzzle pieces into sections; Did the border first to get an understanding of the situation; Analyzed the puzzle picture to get an intellectual understanding of the final image and help finish the puzzle; Very logical in piecing together the puzzle
    - Active Experimentation (doing): Dove right in and tried to fit puzzle pieces together; Took risks and tried to fit pieces together that may or may not have worked; May have taken the lead in the group and influenced the group puzzle building with an action-oriented approach to determining the final image

4. Online video

- Go to http://learningfromexperience.com/ and play video titled 'What is Experiential Learning.'
- STOP VIDEO at 16:30, 'What about Teaching Styles.' [Note: Time counts down from 26:03].

5. Kolb's Learning Style Inventory (LSI)

- The LSI was designed to help identify your preferred learning style.
- Describe the learning styles in relation to each learning mode.
- Hand out LSI and give students 10 minutes to complete. [The LSI can be purchase from http://learningfromexperience.com].

6. Review of learning styles

- Describe each learning style: Diverging, Assimilating, Converging and Accommodating.
- Discussion questions:
    - According to the LSI, what is your preferred learning style? Do you agree? Why or why not?
    - Do you feel your preferred learning style is the same in all contexts?
    - How does this apply to your work experience? What tasks do you feel most comfortable/enjoyable doing at the worksite?
    - Although you may have a preferred learning style, we know that each learning mode should be addressed in order for learning to be most effective. How can you challenge yourself to use your non-dominant learning modes? What activities could this include at your worksite?
    - What are the strengths and challenges of each learning style in your field of work?
    - Workplace teams are most productive and successful when they include team members with diverse learning styles. Why is this the case? How is your individual learning style an asset to your work team/environment?

GIVE IT A TRY!

Sample Learning Experience: Reflection

Overview

1. Introduce reflection and D.E.A.L. model
2. Origami exercise (with peer assessment)
3. Group discussion

Reading

Ash, S. L., & Clayton, P. H. (2009). Generating, deepening, and documenting learning: The power of critical reflection in applied learning. *Journal of Applied Learning in Higher Education, 1*, 25-48.

Rogers, R. R. (2001). Reflection in higher education: A concept analysis. *Innovative Higher Education, 26*, 37-57.

1. Introduce reflection and D.E.A.L. model

- Definitions
- Antecedents and characteristics
- Three-step process
- D.E.A.L. Model of Critical Reflection

Word Search:
Locate words reflecting the five characteristics of quality reflection.

[Answer – CONTINUOUS; COMMUNITY; CONNECTION; CHANGE; INDUCTIVE/DEDUCTIVE]

P Z K S W U P Y T B I
D A D M T V O S C D A
C O N N E C T I O N S
D T P Q Q M Z O J U Y
I E V I T C U D E D O
S U O U N I T N O C R
N I N D U C T I V E S
U Z C O M M U N I T Y
A Y E D C H A N G E L
D F V T L Q S L P E D

Sample Learning Experience: Reflection (cont'd)

2. Origami exercise

- Handout exercise sheet [below], along with origami sheets and instructions. [Origami paper can be purchased or hand cut; Printable origami instructions are accessible online at www.origami-fun.com].
- After giving students time to follow the origami instructions and build at least one figurine, have them fill in their exercise sheet.
- Have students pair up and share their answers completed on the exercise sheet.
- Have students provide each other with feedback: identify at least one strength of the reflection and one area for improvement. Contrast exercise of reflecting on origami composition with reflection on the work experience.

Origami exercise sheet: Using the D.E.A.L. model

Intended learning outcome(s):

Define your specific learning objective for this task.

Intended Learning Outcome	
Learning Outcome What do I intend to learn?	How to build a _____ with origami paper
Strategies and Resources What resources are available?	Origami paper; origami instructions; peers
Criteria for Evaluation How will my goal be assessed?	Resemblance to image; difficulty of instructions; originality; number

Description of experience:

Reflection prompts associated with the Describe step address such issues as:

- When and where did the experience in question take place?
- Who was and was not present?
- What did you and others do or not do?
- What did you see, hear, etc.?

Description of Experience

Sample Learning Experience: Reflection (cont'd)

Examination:

Examination of experience is linked to the intended learning outcomes. The Examine step uses prompts such as:

- What were my initial feelings about this activity/intended learning outcome (LO)?
- What experiences informed my initial feelings?
- How did this experience make me feel (positively or negatively) in relation to the LO?
- How has my perspective/thoughts on this LO changed in light of my experiences?
- What specific situations/experiences may be attributed to this change?
- In what ways did I succeed or do well in this experience in relation to my defined LO?
- In what ways was I challenged in this experience in relation to my defined LO?

Examination of Experience

Articulation of Learning:

The Articulate Learning step of the D.E.A.L. model consists of four prompts:

(a) What did I learn?; (b) How did I learn it?; (c) Why does it matter?; and (d) What will I do in light of it?

Articulation of Learning	
What did I learn?	How did I learn it?
Why does it matter?	What will I do in light of it?

3. Group discussion

- As a group, discuss the following questions:
    - How does this exercise apply to your structured work experience?
    - How can reflecting on your experiences in the work-integrated learning programme benefit your workplace engagement? Capacity to learn? Knowledge and skill building? Future experiences?
    - How will you include reflection in your work-integrated learning experience?
    - When and where will it occur? How often? What questions will you ask yourself?
    - How will you demonstrate learning at the end of your work experience?

GIVE IT A TRY!

Sample Learning Experience: Nonverbal Communication

Overview

1. Introduction: Nonverbal communication
2. Charades
3. "You don't say"
4. TED Talk video
5. Class discussion

Reading

Wood, J. T. (2010). Chapter 5: The world beyond words. *Interpersonal communication: Everyday encounters* (7th ed.) (pp. 117-141). Boston, MA: Wadsworth.

1. Introduction: Nonverbal communication

- Definition of nonverbal communication = all aspects of communication other than words
- Similarities and differences between verbal and nonverbal communication
- Principles of nonverbal communication:
    - Nonverbal communication may supplement or replace verbal communication
    - Nonverbal communication may regulate interaction
    - Nonverbal communication often establishes relationship-level meanings
        - Responsiveness, liking, power
    - Nonverbal communication reflects and expresses cultural values

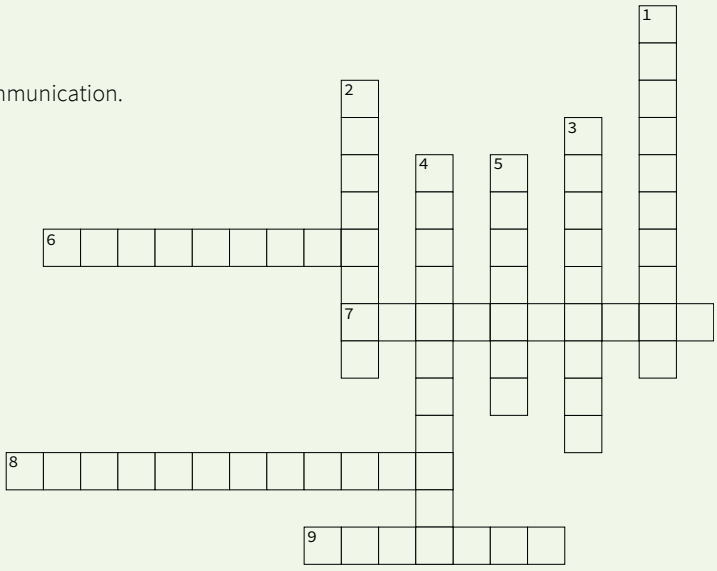
2. Charades

- Have students form groups of 4-6 and then pair up with a second group (total group size 8-10).
- Distribute charades board game. [Board games can be purchased at any games store].
- Have groups play against one another.
- After 30 minutes, stop game and have class discussion on how nonverbal communication is being used during the game.
- Review "Nine Types of Non-Verbal Communication" (see Wood, 2010).
- Have students re-start their games. This time, before each turn the student must also draw a card that indicates the type of nonverbal communication they may use to act out the word.

Crossword Puzzle:

Locate words reflecting the nine types of nonverbal communication.

[Answers – KINESICS; HAPTICS; APPEARANCE; ARTIFACTS; ENVIRONMENT; PROXEMICS; CHRONEMICS; PARALANGUAGE; SILENCE]



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Sample Learning Experience: Nonverbal Communication (cont'd)

3. "You don't say"

- Inform students you are shifting focus from general nonverbal communication to nonverbal communication in a professional setting.
- Ask for a volunteer to come to the front of the class.
- Give volunteer a cue card with an action to act out.
- Have the class interpret the action and meaning. For each action and meaning identified, ask students to provide an example of when they may have seen this or interpreted this message in the workplace.
- Actions to write on cue card: 1. Leaning forward in a chair; 2. Learning back in a chair, arms folded; 3. Resting chin in both hands; 4. Yawning; 5. Smiling; 6. Frowning; 7. Smiling and nodding; 8. Rubbing your temples; 9. Glancing at watch; 10. Looking around the room; 11. Tapping fingers on the table.

4. TED Talk video

Go to http://www.ted.com/talks/amy_cuddy_your_body_language_shapes_who_you_are.html and play video "Your Body Language Shapes Who You Are."

5. Class discussion

- Can you think of a situation in your work setting when verbal communication does not suffice?
- Nonverbal communication can convey three dimensions of relationship-level meaning. Can you think of an example of nonverbal communication that occurred in your professional placement that conveyed "responsiveness"?
- Can you think of an example of nonverbal communication that occurred in your professional placement that conveyed "liking"?
- Can you think of an example of nonverbal communication that occurred in your professional placement that conveyed "power"?
- Are there any examples of nonverbal communication (i.e., touch, space, eye contact, timing, etc.) that are specific to the culture of your work setting/organization? How do you manage your own nonverbal communication to conform to these cultural values?
- What environmental factors are used in the workplace as a form of nonverbal communication (i.e., colours, room design, temperature, sounds, smell)?
- Can you think of an example when you may have used paralanguage in your communications in your work experience? What was the message that was conveyed through this behaviour?

Sample Learning Experience: Teamwork

Overview

1. Introduction: Teamwork
2. Scavenger hunt
3. Class discussion

Reading

Kayes, A. B., Kayes, D. C., & Kolb, D. A. (2005). Experiential learning in teams. *Simulation & Gaming, 36*, 330-354.

1. Introduction: Teamwork

- Definition of teamwork
- Pitfalls of teamwork in organizations (i.e., social loafing; groupthink; overdependence on a dominant leader; overcommitment to goals; diffusion of responsibility)
- Six aspects of team development (i.e., purpose; membership; role leadership; context; process; action)

2. Scavenger hunt

- Create a list of recognizable locations across campus. Using this list, develop a scavenger hunt by identifying a location for a group photo and the number of points assigned to each photo location. Points should be higher the farther away the location is from the classroom. Be sure to have more items than is possible to complete within the time allotted. High point items should be in locations of great distance from one another, so that teams have to negotiate their route and items for the challenge. By including a combination of group (higher points) and individual photos (lower points), groups may also plan to divide and conquer by assigning specific photos to specific group members and then setting up times/locations to meet for the high point group photos. [E.g., Group photo sitting in an empty lecture room (10 points); Photo of a team member in front of a slushy machine (6 points); Photo of a team member with a campus security officer (4 points); Photo of a team member holding today's newspaper (2 points)].
- Distribute scavenger hunt instructions and rules. Be sure to set a deadline and have an enticing prize for the winning group.

- **Instructions:**
    - Below is a list of photo locations.
    - Work as a team to get a photo of a team member at as many locations as possible.
    - Each location is assigned a point value.
    - The team with the greatest amount of points is the winner.

- **Rules:**
    - You must work in teams of 4-6.
    - Try to gain as many points as possible. The team with the most points win.
    - The entire team must return in 1 hour. Late teams will be DISQUALIFIED.
    - In the event of a tie, the winning team will be the team with the quickest time.

Sample Learning Experience: Teamwork (cont'd)

- Following the scavenger hunt, have each group complete the following debrief questions:

SCAVENGER HUNT DEBRIEF EXERCISE
Congratulations! You have completed the scavenger hunt. Please take a few minutes to answer the following questions as a group.

PURPOSE

1. What was the team's purpose in the scavenger hunt?
2. Did any individual team members have a different goal than that shared by the team? If yes, please describe.
3. List the specific goals your team developed (i.e., What was the plan the team came up with in order to get the most scavenger points possible within the hour?).

MEMBERSHIP

4. Who was included in your team (list each student's name)?
5. Did the group work well together? Please explain.

ROLE LEADERSHIP

6. What role did each team member play? Please assign each team member at least one of the roles below. You may have more than one team member per role.

12 Team roles:

Interpersonal
#1 - Leading: Team member(s): _____
#2 - Relationship-building: Team member(s): _____
#3 - Helping: Team member(s): _____

Information
#4 - Sense-making: Team member(s): _____
#5 - Information gathering: Team member(s): _____
#6 - Analyzing information: Team member(s): _____

Analytic
#7 - Theory-building: Team member(s): _____
#8 - Working with quantitative data: Team member(s): _____
#9 - Using technology: Team member(s): _____

Action
#10 - Goal-setting: Team member(s): _____
#11 - Action-taking: Team member(s): _____
#12 - Taking initiative: Team member(s): _____

CONTEXT

7. What resources were available?
8. Were tasks divided among team members? If so, what task was each member assigned?

PROCESS/ACTION

Please add up your scavenger points. **Total points =** _____

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Sample Learning Experience: Teamwork (cont'd)

3. Class discussion

- Describe a situation in which you were asked to work as part of a team in your work placement.
- What are the benefits of teamwork in your work placement?
- In your experience working in teams (in your work placement or another setting), what are the limitations of teamwork? How does you experience compare with the five pitfalls of teamwork in organizations listed by Kayes et al. (2005)?
- How does your learning style compare to the learning styles of the other team members you work with in your work placement? How does this affect your learning? How does this affect the effectiveness of the team? Is this consistent with the research reported by Kayes et al. (2005)?
- Describe an effective and an ineffective experience with teamwork in your work experience. What was the difference between these experiences? What were the differences in team size, diversity and compatibility, cohesion, trust and psychological safety, and inclusion?
- What role do you generally play on a team in the workplace? Does this change in different scenarios/settings? If so, how? What influences the role you play?

GIVE IT A TRY!

Sample Learning Experience: Creativity

Overview

1. Introduction: Creativity
2. Creativity activities
3. Core competencies of creativity
4. Class discussion

Reading

Dietrich, A. (2004). The cognitive neuroscience of creativity. *Psychonomic Bulletin & Review, 11*, 1011-1026.

Simonton, D. K. (2000). Creativity: Cognitive, personal, developmental, and social aspects. *American Psychologist, 55*, 151-158.

1. Introduction: Creativity

- Creativity = The ability to produce work that is both novel (i.e., original, unexpected) and appropriate (i.e., useful, adaptive concerning task constraints)
    - List any examples of creativity you may have observed in your structured work experience.
    - Why is creativity important in the workplace?
- Creativity myths
- Four types of creativity (i.e., Deliberate mode – Cognitive structures; Deliberate mode – Emotional structures; Spontaneous mode – Cognitive structures; Spontaneous mode – Emotional structures)

Sample Learning Experience: Creativity (cont'd)

2. Creativity activities

Have the class divide into four groups. Four activities should be set up. Each group of students will rotate through the four activities, spending 15-20 minutes at each activity station.

Activity #1: Lego

- In groups of 3-4, work together to assemble the Lego set.
- Use the photos on the back of the set to guide your decisions on what to build.
- Feel free to add creative elements to your Lego design.
- If time permits, rotate through multiple Lego sets.

Activity #2: Optical Illusions

- Work through the "Illusions: Experiential Exercises" booklet. [A booklet of optical illusions and puzzles can be assembled by searching for illusions online].
- Record your answers on the separate answer sheet (please do not write in the booklets).
- Once you have completed the exercises, discuss your answers in groups of 3-4.

Activity #3: Tetris

- Take 2-3 minutes to complete the quiz provided. [The quiz should include general questions that the students should know the answers to, but are not easily remembered. E.g., In what town was the book "Anne of Green Gables" set?; What is the equation for the Pythagorean Theorem?; Name the five Great Lakes; Who was the first prime minister of Canada?].
- Leave any answers you do not know blank. You will have a chance to return to this quiz later.
- DO NOT discuss your answers with others.
- Using your computer, play online Tetris for five minutes [http://www.freetetris.org/index.html].
- After five minutes of game play, return to the quiz and try to answer any questions on the quiz you left blank.
- Take time to think about the following questions:
    - Did any answers pop into your head as you were playing Tetris?
    - Did any other ideas pop into your head while you were playing Tetris?

Activity #4: Play Doh

- Using the Play Doh provided, create a sculpture representative of each of the following items/themes:
    - Yourself
    - Your favourite vacation destination
    - A religious event
    - An important person in your life
    - Your favourite song
    - A love story
    - A fairy tale
    - A children's game
    - A season
    - Your professional placement

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Sample Learning Experience: Creativity (cont'd)

- Create one sculpture per item/theme listed.
- You will have approximately 60 seconds for each sculpture.
- Be sure to share your creations with your peers.

Debrief:

- Which basic type of creativity were you practicing in each activity station?
- What tasks were easy for you?
- What tasks were challenging?
- How do you think you could improve your creativity?
- How can you improve your creativity in your work experience?

Core competencies of creativity

- Explain core competencies of creativity (i.e., capturing, challenging, broadening, surrounding).
- For each core competency, have students identify how they may improve this competency in order to increase their professional creativity in their structured work experience.

Class discussion

- List any examples of creativity you may have observed in your work experience.
- Why is creativity important in your work placement?
- What aspects of the interpersonal, disciplinary and sociocultural environment of your work site encourage creativity?
- List an example of creativity for each of the basic types of creativity outlined by Dietrick (2004).
- Based on what we know about creativity and age, why is it good for professional organizations to continually hire "new young minds"? How could you use this to your advantage when looking for a career in your work organization?

GIVE IT A TRY!

Sample Learning Experience: Adaptability

Overview

1. Introduction: Adaptability
2. Case studies
3. Class discussion

Reading

O'Connell, D. J., Neely, E., & Hall, D. T. (2008). Unpacking personal adaptability at work. *Journal of Leadership & Organizational Studies, 14*, 248-259.

Pulakos, E. D., Arad, S., Donovan, M. A., & Plamondon, K.E. (2000). Adaptability in the workplace: Development of a taxonomy of adaptive performance. *Journal of Applied Psychology, 85*, 612-624.

GIVE IT A TRY!

Sample Learning Experience: Adaptability (cont'd)

1. Introduction: Adaptability

- Definition of adaptability = "the capacity to change, including both the competence and the motivation to do so"
- Review eight dimensions of adaptive performance.
- As a class, discuss which dimension of adaptive performance is applicable to different job descriptions.
- Antecedents of personal adaptability (i.e., individual characteristics, human capital factors, work environment)

2. Case studies

- Have students form groups of 4-6.
- Assign each group a dimension of adaptive performance.
- Instruct students to put together a case study or hypothetical case study illustrating this dimension of adaptive performance in any one of their placement settings.
- Each group should prepare a three-minute presentation on their case study and how they would adapt to the situation.
- Students should:
    - Describe the scenario.
    - Explain how they would respond.
    - Explain why they think this may be the best response.
    - Identify what dimension of adaptive performance was employed in the case.
- Give the students time to prepare (e.g., 15-20 min).
- After students have prepared their presentation, call each group up one at a time to present their case. As each group comes to the front of the class, give the students a cue card that indicates the situation to which they must adapt in their presentation. Be creative [e.g., The presentation must be done in rhyme; Each student must present a section of the case study, presenting in alphabetical order of the students' first names; The students cannot talk – they must present the case as a dance; The presentation must be conducted as a song; The presentation must be conducted in a language other than English or French].
- Give each group a minute to adjust its presentation based on the instructions on the cue card. The intention is for the students to be forced to adapt to changing circumstances on the spot. Note: This is a learning activity. It will work best without marks assigned.

Case study debrief:

- How challenging was the exercise?
- What made the exercise challenging?
- What made it easier?

3. Class discussion

- What changing circumstances may be occurring in your work placement that require professionals to be more adaptive?
- What are some of the new or changing circumstances to which you have had to adapt in your professional placement?
- How has your workplace supervisor supported you and enhanced your own personal adaptability in your placement setting?
- What emergency-type situation could occur in your place of work? How would you respond if you encountered this type of situation?
- What would you identify as your strongest dimension of adaptive performance? Please provide an example of how you may have used this in your work experience?
- What would you identify as your weakest dimension of adaptive performance? How could you strengthen your abilities in this area?

Work-integrated learning is a pedagogical practice whereby students come to learn from the integration of experiences in educational and workplace settings.

This guide is intended to serve as a resource to enhance student learning and development in higher education through the structured work experience.

- Work-integrated learning has emerged as a key pedagogical strategy to enhance student learning and development.
- Integrating curricular learning with workplace experience provides students with an opportunity to combine theory and practice in a real-world work environment, deepening students' knowledge and understanding, and enhancing work-related capabilities.
- Work-integrated learning is becoming increasingly popular in higher education.
- Almost half of the postsecondary students in Ontario direct-entry programmes will experience work-integrated learning by graduation. This does not take into account the vast number of work-integrated learning opportunities offered by second-entry/graduate programmes.

Higher Education Quality Council of Ontario
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