

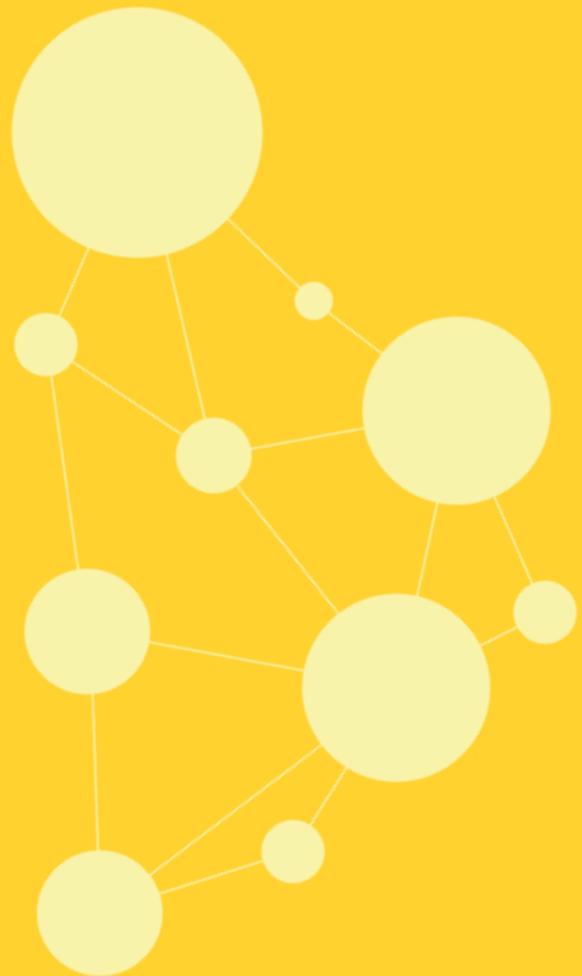
EDGE CORE COMPETENCIES

Literature Review



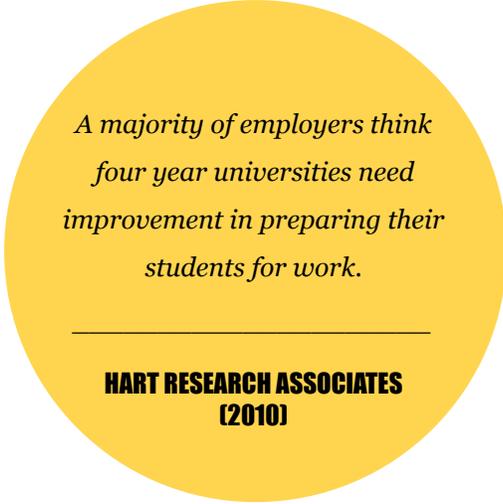
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Introduction

Experiential education is an umbrella term that describes a wide variety of learning situations that occur outside of the classroom (Garkovich, Bunch, & Davis, 2016). Students within experiential education programs are able to engage in significant tasks that have real-world outcomes and can experience deeper learning outcomes as a result (Harris et al., 1989). Some examples of experiential education programs include field placements, internships, study abroad, service learning and co-operative education. By having the opportunity to apply classroom theory to real-world problems, it is possible for students to test their knowledge and gain further skills that might not be fully developed in the classroom. Tumin (1976) highlights the learning that might only occur through experience such as developing interpersonal skills, appreciation of diversity, leadership skills and self-confidence. Finally, experiential education programs also contribute to students' vocational decisions and allows them to test out a variety of careers by experiencing the work environment themselves (Garkovich, Bunch, & Davis, 2016).



A majority of employers think four year universities need improvement in preparing their students for work.

**HART RESEARCH ASSOCIATES
(2010)**

While many different experiences can result in the positive outcomes associated with experiential education, further engagement is required in order for students to gain all of the benefits of participation. In particular, reflection exercises and a guiding framework surrounding the experience is required (Dewey, 1938). By using a framework in experiential education, it is possible to link practice and theory in more coherent ways and using competency frameworks can standardize expectations in order to create qualifications or professional standards (Gonczi, 2013). As such, programs are needed to further support the learning of students and create concrete expectations of experiential education opportunities. Scaffolding or planning for outcomes-based education is informed by what stakeholders believe are important skills for students to have and the problems currently experienced by students (Stupans & Owen, 2009). By doing so, it is possible to better support

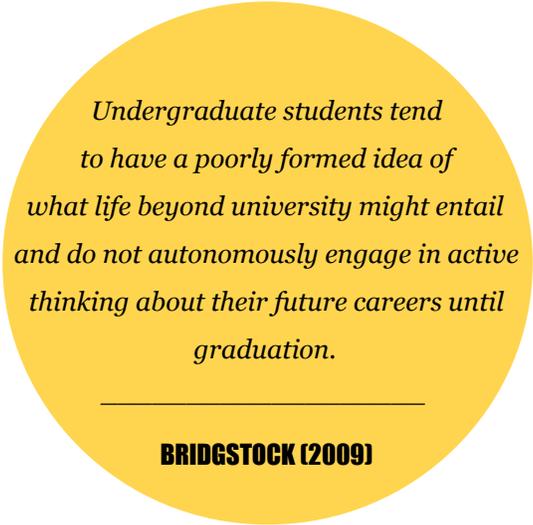
student learning and monitor the achievement of outcomes. Further, experiential placements tend to be less predictable than the classroom experience and so a planned approach through the use of a competency framework is necessary for effective student learning (Kirschner, Sweller, & Clark, 2006).

Outside of co-operative education at the University of Waterloo, there are a variety of opportunities for students to engage in experiential education. EDGE offers an opportunity for students outside of the co-operative education program to participate in experiential education within a framework that can support their learning and skill development. By providing students with clear goals for their participation in learning outside of the classroom, it is possible to better support students and prepare them for life following graduation and entering the workforce. The competency framework developed for the EDGE program is informed by surveys of employers and literature on the skills gap that currently exists between post-secondary education and the workforce. In the following literature review, each critical competency is defined and its inclusion is explained based on empirical support for the benefits of the competency and the need to fill a gap with the competency.

Literature Review

Career Management

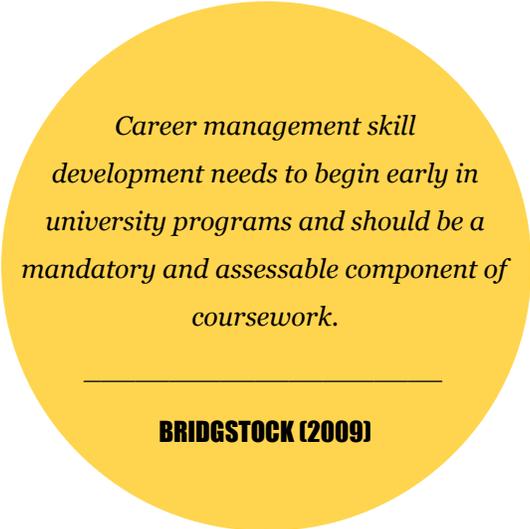
Career management is defined as the ability to build a career and manage the interaction of work, learning and other commitments throughout the lifespan (Haines, Scott, & Lincoln, 2003). It involves creating realistic and meaningful career goals, successfully identifying strategic work decisions and learning opportunities, and creating a balance between work and other areas of life (Bridgstock, 2009). Career management may be an overlooked attribute of new graduates that can contribute to their success as they transition into the world of



Undergraduate students tend to have a poorly formed idea of what life beyond university might entail and do not autonomously engage in active thinking about their future careers until graduation.

BRIDGSTOCK (2009)

work. In order to form a career, individuals need to be able to navigate the working world and manage their career building process using attributes such as lifelong learning and adaptability (Bridgstock, 2009). Career management plays a large part in how an individual determines when and where one's generic and discipline-specific skills can be learned, displayed and used at work. Given that traditional, linear career progressions are becoming less common (Arnold & Silvester, 2005), career management skills can set new graduates up for success in shifting employment (Lamb & McKenzie, 2001).



Career management skill development needs to begin early in university programs and should be a mandatory and assessable component of coursework.

BRIDGSTOCK (2009)

Benefits of improved career management abilities have been shown to contribute to individual and societal outcomes (Rychen & Salganik, 2003). A review of career education programs by Hughes, Bosley, Bowes and Bysshe (2002) demonstrated that career education programs resulting in career management skills can lead to lower unemployment rates, reduced job-search times, lower employee turnover and improved productivity in the workplace. A longitudinal study of new graduates demon-

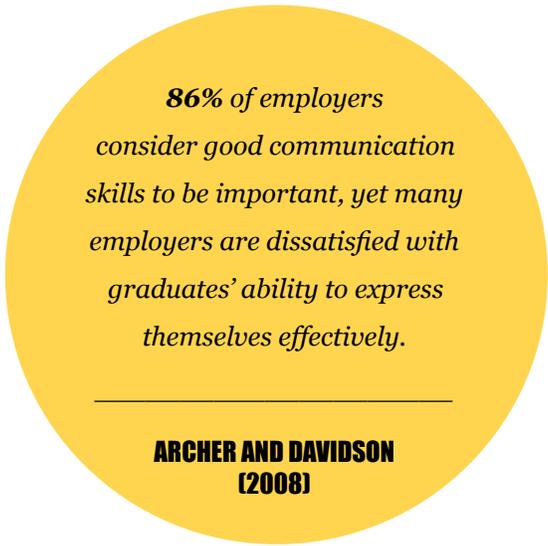
strated that there is a relationship between career management activities to further one's career in an organization and high organizational commitment (Sturges, Guest, Conway, & Davey, 2002).

As such, programs such as EDGE can target the development of career management in post-secondary students in order to maximize the success of new graduates as they enter the workforce. Career management abilities can ensure that individuals are able to navigate fluid employment and progression between organizations and that there is an appropriate match between the individual's skills and the needs of an employer. A focus on the development of students' career management skills can benefit the student, employers and the broader economy (Bridgstock, 2009).

Communication

Within an organization, communication holds many functions including information sharing, decision making, coordination and motivation (Cheney, Christensen, Zorn, & Ganesh, 2004). Communication serves to create and maintain relationships amongst team members and between those in the broader organization. It can also be used to solidify relationships with key stakeholders both inside and outside of the organization (Sias, 2009). Through both oral and written communication, individuals are able to share ideas, engage in discussion and lend expertise. The ability to effectively communicate remains an important skill within the workplace and results in important outcomes for the individual and the organization. Research has demonstrated that beyond relationship building, communication can also have effects on team and organizational performance (Greenbaum & Query, 1999) and the relationships built through individual differences in communication can directly affect employees' satisfaction and productivity (Jablin & Krone, 1994).

While written communication is often identified as a requisite skill area in the professional workplace, it is also one that graduates are reported to be lacking in (Moore & Morton, 2015). Numerous surveys have been conducted in order to investigate graduate levels of written communication abilities and their match with expectations of employers. With respect to oral communication, a qualitative survey of students revealed that many felt that their education had not equipped them with an adequate level of oral presentation skills as required in the work environment (Andrews & Higson, 2008). Further work is required in order to address this gap and ensure that employers are finding employees with the skills they need and that new graduates feel adequately prepared to enter the workforce after they have completed their formal education.

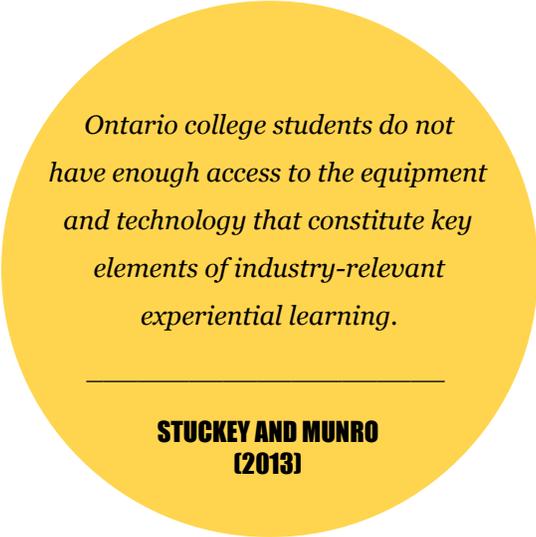


86% of employers consider good communication skills to be important, yet many employers are dissatisfied with graduates' ability to express themselves effectively.

**ARCHER AND DAVIDSON
(2008)**

Grebennikov and Shah (2008) determined that experiential learning programs might be the most effective way to bridge the gap between employer demands and graduate skills. As such, EDGE prides an opportunity for post-secondary education students to engage in learning through doing and gain the required oral and written communication skills needed to succeed in the workplace following graduation. Through exposure to opportunities to enhance communication skills and reflection exercises on skill development, students participating in the EDGE program may be able to enhance their oral and written communication competencies and better prepare themselves for life after post-secondary.

Discipline-specific Knowledge



Ontario college students do not have enough access to the equipment and technology that constitute key elements of industry-relevant experiential learning.

**STUCKEY AND MUNRO
(2013)**

Discipline-specific knowledge is that which is directly required for success within a certain domain or industry (Everwijn, Bomers, & Knubben, 1993). It represents one outcome of ability or competence-based learning which looks to develop disciplinary knowledge as well as generic skills (Molenda & Romiszowski, 1982). Discipline-specific knowledge complements domain-independent skills such as communication, interdependence and thinking skills. Together, these two areas represent knowledge acquisition and the ability to apply

knowledge properly (Everwijn, Bomers, & Knubben, 1993). Without the basic knowledge required in a given field, new graduates will be unable to succeed within the workplace even with generic skills as he or she will not know how to apply these domain-independent skills to the specific context he or she is working in. Discipline-specific knowledge underpins all educational programs and EDGE will provide a framework in which students can test out their new knowledge and determine how information in their field can be applied outside of the classroom.

Cultural Intelligence

Cultural intelligence, or CQ, is the capability to function effectively in culturally diverse settings (Early & Ang, 2003). As the globalization of organizations continues to increase, the growing cultural diversity in workplaces creates challenges for many individuals and organizations at large (Ang et al., 2007). Cultural intelligence is comprised of four dimensions: metacognitive, cognitive, motivational and behavioural dimensions. Metacognitive CQ refers to the mental processes required to understand cultural knowledge and have control over thought processes related to culture. Cognitive CQ is the knowledge of norms and practices of other cultures. Motivational CQ reflects the ability to direct attention towards learning about and functioning in situations involving different cultures. Finally, behavioural CQ refers to the capability to exhibit appropriate verbal and nonverbal actions when working with those from other cultures (Early & Ang, 2003). Each of these dimensions are statistically distinct and contribute to various outcomes for those who possess these attitudes and behaviours (Ang et al., 2007). Cognitive CQ and metacognitive CQ contribute to high quality decisions during intercultural interactions (Triandis, 2006). Motivational and behavioural CQ contribute to sociocultural adjustment and psychological well-being following adjustment (Ang et al., 2007). Finally, metacognitive and behavioural CQ enhance task performance due to their contribution to understanding cultural differences in role expectations of others (Ang et al., 2007).

As mentioned previously, the increasing globalization of organizations has increased the need for employees with cultural intelligence or intercultural experience (Simpson, 2007). Building international management experience for employees has become an important goal for filling managerial skills gaps (Simpson, 2016) and there has been a call for an increased focus on post-secondary curriculum that addresses cultural intelligence (Edwards, Crosling, Petrovic-Lazarovic, & O'Neill, 2003).



65% of international employers said professional experience overseas makes grads more employable.

**ARCHER AND DAVIDSON
(2008)**

Researchers have determined that experiential education is endorsed by employers, students and academics as a way to enhance the development of cultural skills in post-secondary graduates (Crossman, 2010). Through careful reflection upon experiences with those from differing cultures, it is possible for individuals to gain cultural understanding (Dewey, 1997). In interviews conducted with students, employers and academics, participants reported that only when experiential education opportunities are paired with rigour and are aligned with credit towards a degree is it more likely that students will gain the appropriate cultural appreciation and heighten their cultural intelligence (Crossman, 2010). This presents an opportunity for EDGE to introduce rigour to experiences gained by students in order for those who participate to acquire the greatest benefits from their experiential learning opportunities.

Leadership

Leadership includes the capacity to motivate others to achieve goals within an organization and successful leaders tend to exhibit characteristics such as responsibility, integrity, decision making, resistance to stress, human relation skills and planning/organizing abilities (Connelly et al., 2000). In particular, transformational leadership is that which emphasizes the emotions and values of others and results in higher levels of morality and motivation (Burns, 1978). Transformational leaders are able to instill greater interest of others in a goal, increased motivation, and greater awareness and acceptance of followers (Bass, 1997). Even without individuals to lead, those with leadership abilities are able to handle different situations and have been shown to perform well across various challenging situations (Connelly et al., 2000). This is because leaders can tailor their behaviour to specific situations in order to solve problems. Transformational leadership has been linked to many organizational outcomes such as organizational commitment, lower levels of job stress, increased job satisfaction and increased team performance (Barling, Weber, & Kelloway, 1996; Koh, Steers, & Terborg, 1995; Lowe, Kroeck, & Sivasubramaniam, 1996). Due to its focus on behaviours and abilities, research has



*Over **80%** of employers
look for leadership
experience on a résumé.*

NACE (2013)

posited that transformational leadership can be taught (Bass, 1997).

A study of MBA graduates and business practitioners revealed that leadership is a current skills weakness that requires further development in current educational programs (Cox & Dacko, 2006). While this study focused on MBA programs, leadership is a skill that can lead to success in numerous contexts and may require further attention outside of just MBA training. Rosenberg, Heimler and Morote (2012) determined that the ability to be an effective leader is considered to be an important factor in job performance as rated by recent graduates and human resource managers who hire them across industries. Further in this study, graduates reported having received more leadership training than human resource managers believed students were being offered. As such, students may require further support in developing leadership skills and in learning how to demonstrate these skills in the workplace.

While it was originally believed that leadership is an innate ability, it has been determined that many leadership skills can be learned and later applied (Connaughton, Lawrence, & Ruben, 2003). One strategy which researchers have identified as being effective in leadership education is through experiential learning opportunities such as workplace experiences, coaching and mentoring (Elmurti, Minnis, & Abebe, 2005). Through practical application of knowledge and skills, students are able to test out strategies in a relatively low risk environment in order to practice their transformational leadership skills and determine how to best use them in the workplace. Programs such as EDGE may provide students with further opportunities to develop and apply leadership skills and reflect upon the effectiveness of such skills in their past experiences. EDGE also exists to provide the platform for practice of leadership skills and for the reflection that must follow.

Professional Skills

Professionalism

Professionalism is a broad concept that has several different definitions (Hammer, 2006). To put it simply, professionalism is demonstrated through the conduct, aims or qualities that

characterize or mark a profession or professional person (Hammer, 2006). The types of conduct or qualities exhibited by a professional might include accountability, duty, respect for others, integrity and commitment. Professionalism allows an individual to feel as though they are a part of a given profession, can regulate their own performance and have a feeling of calling to a profession (Dinger, Thatcher, Treadway, Stepina, & Breland, 2015). One study of information-technology professionals revealed that higher levels of professionalism resulted in greater intrinsic motivation, job satisfaction and job performance for employees (Dinger, Thatcher, Treadway, Stepina, & Breland, 2015).

Compared to post-secondary students five years ago, employers think today's post-secondary students are less prepared in terms of professional maturity and professional demeanor.

GARDNER (2011)

The maintenance of professionalism can often be difficult with changing values and expectations within society and how these changes translate into the workplace. Many professions report of members engaging in unprofessional, unethical or generally negative behaviours. Further, there remains a perception that youth or students may lack respect, dress unprofessionally or not be motivated to learn the guidelines of professionalism (Hammer, 2006). While not all students exhibit un-

professional behaviours, it remains important that students or new graduates undergo professional socialization when they enter into a workplace.

Professionalism can result from professional education, experience in the workplace or socialization with those currently working in a profession (Lui, Ngo, & Tsang, 2003). Of particular value is experiential education within a professional field in order to expose students to the attitudes and behaviours expected of individuals within a profession (Hammer, 2006). Role modeling from current professionals and a positive environment may also contribute to increased professional socialization of students. Through the EDGE program, students will have greater exposure to potential opportunities where they might experience professional socialization and can learn the expectations within a professional environment. Evaluations, timely feedback, positive role models and/or the explicit

sharing of expectations will occur throughout a student's participation in experiential education and EDGE provides a framework through which students can make sense of their experiences and identify the behaviours and attitudes of a professional.

Work Ethic

Work ethic represents a commitment to the value and importance of hard work (Miller, Woehr, & Hudspeth, 2002). When an employee is lacking in work ethic in an organization, it is linked with lower job performance (Yandle, 1992), higher levels of turnover and absences (Klebnikov, 1993 as cited by Miller, Woehr, & Hudspeth, 2002) and increases in counterproductive behaviours such as unauthorized breaks and employee theft (Sheehy, 1990 as cited by Miller, Woehr, & Hudspeth, 2002). Work ethic makes up an important component of organizational commitment (Blau & Ryan, 1997) which has been linked to a number of positive outcomes such as increased job performance, job satisfaction and decreased turnover (Steers, 1977).

There have been a number of researchers who have posited that work ethic has been declining across industrialized countries (Ali & Azim, 1995; Saks, 1998). This becomes an issue because the importance of work ethic to employers is pronounced (Miller, Woehr, & Hudspeth, 2002). In a survey of hiring managers, more than 50% of participants reported being more concerned with the attitudes of prospective employees than their aptitudes (Flynn, 1994). A second survey revealed that hiring managers viewed work ethic as the most important factor when hiring, assuming the candidate had the basic skills necessary to fill the job (Flynn, 1994). It is clear that employers expect more from their employees than a mere ability to complete tasks. Employees must demonstrate a commitment to hard work within their job in order for employers to be satisfied with their performance.

Empirical studies have looked into how experiential education programs can be used to foster commitment (e.g., Adler, 2006; Huffaker & West, 2005). Using flexibility in programming and allowing students to customize their learning experiences based on their strengths, interests and goals, it is possible to foster greater student commitment (Karakas, Manisaligil, & Sarigollu 2015). While this

study merely looked at commitment to academic programs, this commitment may extend to work when the connections are made between the experience and future employment rather than just academics. Programs such as EDGE that allow students to have some customization to their experiential education can make use of this to harness student engagement in their experiences. Providing students with some choice may result in greater commitment to work and work ethic.

Self Management

Self-management refers to the ability to monitor one's own performance, be adaptable to situations and be conscientious (Goleman, 1998). It also includes self-confidence, accurate self-assessment and motivation. It represents one area of emotional intelligence known as personal competence which defines how we regulate ourselves and our performance across a variety of contexts (Promis,

2008). These abilities might also be known as intrapersonal skills and remain an important set of competencies for new graduates entering the workforce (Liptak, 2005). Regardless of the title assigned to these skills, having the ability to manage oneself has been linked to decreased stress in the workplace and greater work performance (Kauts & Saroj, 2010), greater leadership effectiveness (Boyatzis, Boyatzis, & Ratti, 2009) and improved conflict management (Godse & Thingujam, 2010).



Students need to be able to work independently. We look for self-starters, self-directed learners.

**EMPLOYER/COMMUNITY PARTNER,
SATTLER (2011)**

Emotional intelligence is an ability that organizations primarily seek in the new graduates that they are looking to hire (Matsouka & Mihail, 2016). In a survey of human resource managers, 79.3% responded that they were seeking emotional intelligence in new graduates (Matsouka & Mihail, 2016). The human resource managers were asked whether they believed that graduates possessed emotional intelligence and only 13.8% believed that graduates demonstrated adequate emotional intelligence. A 2007 study of sign language interpreters investigated practitioners' ratings of skill importance and ratings of their own competence in each skill and results revealed that

practitioners reported a discrepancy between the importance of self-monitoring skills and self-reported ability (Bontempo & Napier, 2007). It may be that this gap extends outside of the context of the study as evidenced by the survey conducted by Matsouka and Mihail (2016).

Planned interventions such as experiential learning programs can be used in order to enhance personal competence and adaptability (Harrison, 2009 as cited by Kamerade & Paine, 2014). Service learning programs have been shown to significantly increase personal competence (Morgan & Streb, 2001) along with volunteering with the purpose of increasing employability (Kamerade & Paine, 2014) and co-operative education (Fleming & Eames, 2005). EDGE is a novel program through which students can address the existing gap in adequate self management skills as perceived by human resource management professionals.

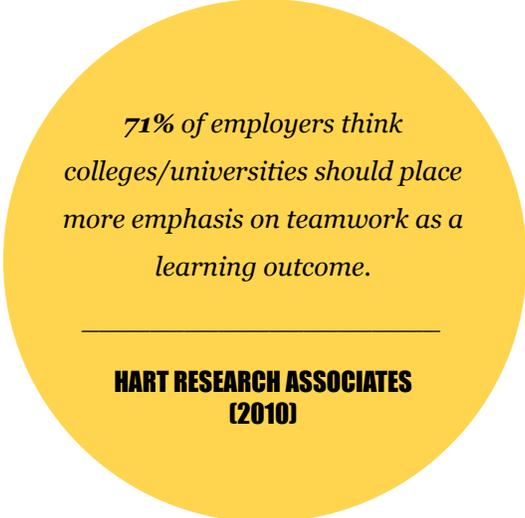
Teamwork

Also known as relational coordination in the organizational psychology literature, teamwork refers to effective coordination between individuals through frequent, high quality communication supported by relationships of shared goals, knowledge and mutual respect (Gittell, 2011). By effectively relating well with others, individuals are better able to complete interdependent tasks in uncertain conditions or under time constraints (Gittell, 2011). Through clear, thoughtful communication, individuals can better collaborate with team members and form better relationships with a group. High quality communication with team members and other organizational partners has a positive impact upon the quality of work produced and the efficiency with which work is completed. Teamwork abilities also include the ability to help others learn, resolve differences and integrate into a new group dynamic effectively (SCANS, 1991, cited by Rosenberg, Heimler, & Morote, 2012). Few employees operate alone and therefore teamwork abilities are important for success in the workplace (Dench, Perryman, & Giles, 1998).

Several reports have determined that teamwork abilities are one of the most important skills sought after by employers (e.g., Partnership for 21st Century Skills, 2008; National Association of

Colleges and Employers, 2009). The ability to effectively collaborate with others, adapt to a group and resolve conflicts respectfully are considered to be necessary skills for employment following graduation. Because of this, students need to be adequately prepared to work well within a team and positively relate with others in the workplace once they graduate from post-secondary education.

A survey of graduates from Griffith University (Crebert, Bates, Bell, Patrick, & Cragnolini, 2007) demonstrated that graduates viewed workplace learning and experiential education as a compliment to the contribution of classroom learning in developing soft skills such as teamwork. Internships, part-time jobs and leadership positions in university organizations all present skill-building opportunities (Barr & McNeilly, 2002). In particular, employers believe that teamwork skills are best developed through extra-curricular activities and may even be unattainable in the classroom (Barr & McNeilly, 2002). Through involvement with the EDGE program, students will have greater opportunities to pursue such activities in order to develop their teamwork skills in ways which may not be possible through classroom learning alone.



Technical Competence

With an increased digital culture in the workplace, employees are now required to demonstrate technical competence in order to be successful in the workplace (LeBlanc et al., 2015). Digital skills can be transferable as they are used across contexts such as education and employment (European Commission, 2012). Overall, technical skills can be defined as being able to solve problems in technology-rich environments (LeBlanc et al., 2015). Through technological skills and digital literacy, it is possible for individuals to retrieve and select appropriate information in order to solve problems (Koltay, 2011).

While it has been shown that younger generations demonstrate good digital skills, there appears to be a “digital divide” in that students struggle to transfer these skills to the workplace (Vodoz, 2010 as cited by LeBlanc et al., 2015). There appears to be a break between the social portion of information and communications technologies and the technology used in the workplace. Confirming this notion is a 2015 study investigating the technological skills of accounting graduates (Sithole, 2015). Results indicated that the technological skills valued by employers were more industry-specific while entry level graduates tend to demonstrate technological skills in more general technology (Sithole, 2015).

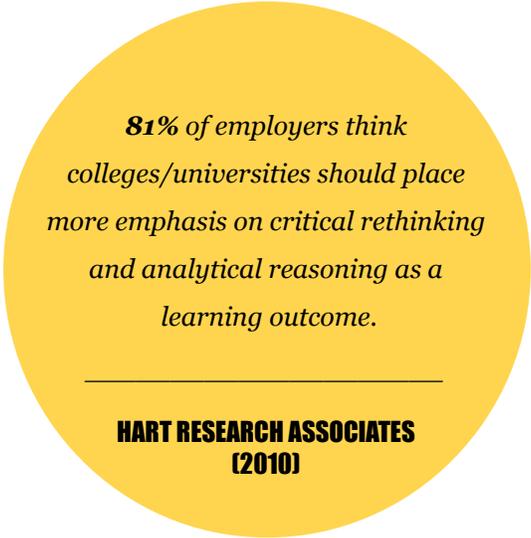
EDGE will provide a solution to the gap in post-secondary students’ understanding of how technology can be applied within the workplace through experiential education opportunities within a student’s field of interest. Internships, co-curricular opportunities, practicums and other opportunities all can offer some insight to students as to how technology is used in industry-specific settings. Students will be able to observe and learn how to use the technology required in the workplace in order to be successful and this will address a further gap currently existing in the hiring of new graduates.

Thinking Skills

Thinking skills includes the ability to think creatively, make decisions and solve problems effectively (SCANS, 1991, cited by Rosenberg, Heimler, & Morote, 2012). Individuals who engage in critical thinking analyze information given to them, evaluate the situation and the impact of various actions and make judgments based on these evaluations rather than the political consequences of decisions (Latour & Rast, 2004). Due to this, it also represents a desirable employee characteristic (Blanchard, Welbourne, Gilmore, & Bullock, 2009). Critical thinking can help employees to combat stressful situations and improves health outcomes during peak times (Dowd & Bolus, 1998). Beyond this, critical thinking can also heighten performance through continuous learning (Yeo, 2007) and may be important for improving team performance as well (Kurubacak, 2007). Thinking abilities are needed in order to complete multistep tasks, manipulate abstract symbols, understand complex

ideas, seek new information efficiently and to be a flexible thinker (Butler, 2012).

The US Bureau of Labour Statistics reports from 2010-2011 indicated that there was an increased demand for knowledge workers or critical thinkers. In a survey conducted in 2010, employers reported that 31% of new employees lack the critical thinking skills necessary for employment and 81% requested more critical thinking instruction for the current and prospective workplace. Researchers have investigated the ability to teach critical thinking skills and have determined that it is possible to learn the abilities associated with critical thinking through explicit instruction (Abrami et al., 2005). Directing learning activities in ways that highlight transferring skills across contexts and integrating reflection exercises, it is possible to effectively teach critical thinking (Butler, 2012).



Previous investigation has found that experiential learning can encourage students to engage in critical thinking when the experiential education program uses mindful instructional design which results in greater critical thinking outcomes for students (Heinrich, Habron, Johnson, & Goralnik, 2015). For example, research has determined that international study abroad and service-learning experiences can have a positive impact on critical thinking skill development (Savage & Wehman, 2014). The EDGE program will provide a framework for experiential education opportunities taken on by students and can be used to explicitly foster critical thinking development in order to address the current gap that exists in the new workforce.

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