The New Internship Model: Examining Skill Transfer, Project-Based Learning, and Remote Internships Post-COVID 19

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The results of two hundred forty-six (246) surveyed interns suggest that when an internship's design includes strong onboarding and goal clarity intern skills are improved and the intent to transfer skills post-internship are stronger. The findings align with the body of knowledge on problem-based learning (PBL). There were no statistical differences on any dependent variable for the autonomy condition. These findings overall suggest that internships can improve skill outcomes (skill development and intern intent to transfer skills) by intentional pre-internship designing of effective onboarding and goal setting focus. The study has implications for research and best practices for project-based, employer-based, and for remote internships post COVID-19.

Introduction

Internships have been an established talent acquisition approach for many companies. The internship program is used as a potential employee vetting process with both student and organization benefiting from the internship placement and post internship hiring connections. Industry sectors and fields in financial services, consulting, technology, manufacturing/engineering, architecture and design, and others use internship programs as a major talent sourcing for new hires (Harvard Business School, 2021).

The Traditional Internship

The internship experience has traditionally occurred the summer between the junior and senior year of college, and it is typically a 40 hours per week position lasting almost three months. In addition to the benefits of conducting a 3-month interview and "job test" many companies rely heavily on internships as a recruitment initiative for future hires and rigorously

compete for the best interns. For the intern it is an opportunity to experience a realistic job preview as well as secure a position with the partner (hosting organization or a similar company and/or position after graduation). Traditionally, programs within colleges focused on placements of students into corporate/position-based internships. Internships were "built into" the curriculum as a capstone experience and used to recruit students with promotions emphasizing the networking opportunities and connections between internships and future employment. These corporate internships report approximately 70% of employers offer their interns full-time jobs with almost 80% of those students accepting the offers (NACE, 2021), and employers identify internship experience as a differentiator when choosing between two equally qualified applicants (Zuckerman, 2020).

A fundamental aspect of the traditional internship for both intern and intern partner is whether the internship is a paid or unpaid placement. For the intern partner, it first presents a financial investment. Companies need to determine if the paid internship program is a cost-effective talent acquisition source as compared to other recruitment and candidate sourcing efforts (job databases, career fairs.)? Though paid internships are popular as a recruitment source, unpaid internships are still a reality. Organizations competing for undergraduate talent must weigh the benefits of providing a "no wage work experience" that facilitates college credit against paying students. Students usually take on these opportunities to gain industry experience and college credit without pay. However, without any wages to shoulder the cost of living, an unpaid internship ends up being an opportunity cost (i.e., summer employment). A recent study examining differences between paid and unpaid internships reported that 66.4% of those who graduated in 2019 who underwent a paid internship got job offers, and 43.7% of those who graduated in 2019 who underwent an unpaid internship got job offers. An estimated 500,000 to one million Americans work as unpaid interns every year (Zuckerman, 2020).

Factors Pressuring the Shift from the Traditional Internship

A shift in the traditional model for internship experiences has emerged on college campuses and organizations with established internship programs. Economic swings continue to disrupt the intern pipeline for both interns) and talent acquisition efforts by intern partners (campus visits, reduced or frozen recruitment into internship programs). Companies who

cannot afford paid internship programs yet seek the benefits of access to the college graduate talent pool have been recruiting interns by promoting a more engaged internship experience. Not-for-profit organizations have also more actively pursued interns. An almost simultaneous refocusing by colleges (specific majors and Career Development offices) on competencies has challenged the traditional internship model to move from "any work experience is valuable" to particular skill building experiences as important goals for internships.

An additional factor when considering the paid versus unpaid issue is the traditional internship "serves" a narrow student profile. Many students cannot afford to complete an unpaid internship based on opportunity costs. Other students who cannot compete for internships away from home (moving to city where organization is located) are also not eligible. This general profile disadvantages several segments of the college student profile including location bound students who can only intern within a short commuting distance, students working part-time during the academic year and full-time during the summer to pay for college, working adults (nontraditional aged student) seeking career advancement, single parents, and first-generation college students. With the exception of first-generation students, these student segments are typically independent students. Independent students, students not claimed as dependent on anyone else's tax form, have a median age of 29 years, 51% are parents, and are more likely to have children under the age of 18. Except for Asian students, at least half of female students of color are independent and 56% of those independent students who are parents average more than 30 hours per week caring for their children (Collins, 2020). These work, family, and college responsibilities are constraints in completing the traditional position-based summer internship. There is also a growing concern by colleges and intern partners that position-based internship interferes with diversity and inclusion efforts for traditionally aged females and students of color. A 2019 NACE (National Association of College Employers) student survey report revealed that women, students of color, and first-generation students are underrepresented in paid internships (Collins, 2020). As paid internships are stronger predictors of employment, these underrepresented students experience a 23% difference between paid and unpaid receiving job offers (Zuckerman, 2020). Colleges and organizations committed to improving diversity and inclusion are challenged to balance the realities that economic conditions limit paid internships; of those paid internships

available, women and students of color are underrepresented; and unpaid internships are not as strong as paid internships in job placement security.

Internships Developing a Focus on the "Right" Skills

Organizations have been struggling to find competent employees or employees that have the right skills for the job openings available. The human resource field has been moving to address that skill gap. The application of competency-based selection has concentrated efforts to distinguish position-specific competencies (contribute to job requirement success) and organizational competencies (contribute to organizational success) as a means to develop competency-based position descriptions (Peregrin, 2014). Competency-based selection has also advanced the use of models that aggregate the most important competencies into categories that can distinguish between low and high performers. A recent survey report from the Society of Human Resource Management (SHRM) highlights the severity of this skill gap for organizations trying to hire. The respondents were HR professionals, and 75% of those having recruiting difficulty say there is a shortage of skills in candidates for job openings while 83% say they have had difficulty recruiting suitable job candidates in the past 12 months. Over half (52%) say the skills shortage has worsened in the past two years while over one-third report a decrease in applicant quality across the board, and 45% report a decrease in quality for specific positions (Society for Human Resource Management,2019).

Conversations related to the skill gap also question whether colleges and universities are providing students with career competencies or the knowledge, skills, and abilities required to excel in the workplace. The 2008 recession (and slow growth after) put a spotlight on the higher education sector for inadequately preparing students in the skills that employers need, resulting in a gap between work force demands and workers' skills. Part of that question concerning higher education's role in the skill gap development includes identifying "what skills" to provide. Which specific skills, knowledge, and abilities should students be developing so that they can contribute in the present workplace? (Hora, 2017).
With 60% of new hires who were new graduates (NACEa, 2021), the skill gap is represented by competencies employers want and competencies newly graduated employees possess at time of hire. A NACE Job Outlook Report outlined the discrepancy between competencies employers deemed essential as compared to a proficiency rating. The gap is noticeable in

several key competency areas including professionalism/work ethic as 95.1% essential but rated hires at only 46.5% proficient. Other gaps include critical thinking/problem solving as 99% essential, hires rated at 60.4%, teamwork/collaboration 98% essential, and 85% proficient, oral/written communication 93.2% essential and 49% proficient (Job Outlook 2020, National Association of Colleges and Employers). NACE's revised 2021 "Career Readiness Competencies" included competency behavior descriptions including communication, critical thinking, professionalism, and teamwork (NACEb, 2021).

Shift from Position-Based to Project-Based Internships

Curricular changes that included internships required development of competencies employers are seeking, and an essential shift from position-based (i.e. corporate model of summer internships) to a project-based internship experience focusing on problem solving was the result. Project-based internships, where the internship is completed with a company on a workplace project as compared to a designated intern position, can be a viable response to the skill gap, the changing student profile (older, working, etc.), and provide more opportunities for disadvantaged students to intern right in their communities. An effective approach to secure a project-based internship is for students to develop a rough project plan and present that as a proposal to a possible intern partner. Another project-based opportunity for students who are already employed part-time or full-time would be to develop a project in an area of the company where they do not have responsibilities and an opportunity exists for the intern partner to accomplish project work. A project-based internship includes an additional assessment that links the planning to project performance with a measurement of the Return on Internship Investment (ROII). ROII potential impact areas include increase in customer/client satisfaction or improved operations/reduced costs or development of new products/services.

Recent Conditions and the COVID Impact

As projects increase as a viable option for internships, the matching of interns with partners has shifted as well. The traditional "set up" was 1) to have intern partners contact colleges and 2) have colleges facilitate student availability through applications or on campus interviews (internship and career fairs). Recent changes from this college/program

centric matching are facilitated by websites and apps functioning as agents between intern partners and students. Similar to "temp agencies," these internship agents recruit both intern partners and students. These agents, called Online Internship Network Platforms (OINP), are search and match sites with some specializing in types of internships such as self-paced internships like The Forage (2023), industry preferences like Chegg (2023)or even by alumni networks like Handshake (2023)

The COVID-19 pandemic had a sudden and significant impact resulting in employers hiring fewer interns. In addition, many internship jobs were canceled. CareerUp reported the following statistics in a review of student responses to COVID-19 impact on internships including 38% of students reported their internship was cancelled in 2020 and 39% of students did not even try to plan an internship as a result of pandemic while 14% reported their 2020 summer internships transitioned to remote (Milenkovic, 2021). While some OINP's had already introduced remote internships to students, colleges, and intern partners the pandemic of 2020 escalated the remote internship status to the forefront. One study reported the following findings including 83% of employers are moving their internship programs online and 84% of college students are willing to participate in a remote internship. However, 22% of students who engaged in virtual internships expressed worry that the virtual internship experience will not be as good and 12% of students who engaged in virtual internships worry that they cannot prove that they deserve a full-time role (Yello, 2020).

While the pandemic "forced" internships into the virtual space, some are already viewing the platform as an effective response to access for disadvantaged students. As reported in a 2021 study on remote internships, some scenarios have led some to view online internships as a potential equalizing force in the internship economy—as students with disabilities, those living in rural areas, low-income students, and working students, all who would theoretically be more able to access an internship from their own home and on their own schedule than if they had to commute or relocate (Hora, Lee, Hernandez, 2021; Kraft, J. and Bayerlein, L., 2019) While the structure and experiences among online internships are important to acknowledge, it is also critical to predict skill development and the impact on intern partners' organizations. A recent study on virtual internships during COVID-19 presented a definition so that colleges,

partners, and students have a common understanding of the remote internship experience.

An online internship is an experiential, work-based learning program conducted primarily via digital or online technologies, with important variations within the modality with respect to program format and compliance with experiential learning standards. Despite the important differences inherent in an online internship, the same quality and accessibility standards and considerations should apply to all internships regardless of their modality (Hora, et al., 2021)

The "real-world setting" is considerably different in 2022 after COVID. The surge of virtual learning and virtual employment necessitated by the COVID pandemic are likely to continue long after the economy returns to a new normal. As project-based internships (onsite or remote) increase and the expectations and documentation of specific returns (revenue, profit, customer satisfaction improvements, etc.) as realized by the intern partner, the balance between the educational benefit and partner benefit may shift.

This study examines the effectiveness of project-based internships in developing competencies. The basis for predicting the effectiveness of project-based internships is on problem-based learning and training transfer (skill transfer).

Literature Review

There are two theoretical constructs that this case study research is based upon, including training transfer model and problem-based learning.

Skill Transfer

Kirkpatrick's training model identifies four needed levels of training assessment to determine the effectiveness of training delivery (Kirkpatrick 1996, 1998, 2006; Barba Aragon and Sanz Valle, 2012).

The four levels of evaluation criteria include:

- Reaction criteria level – represents learners' affective and attitude responses to the training (content, delivery, physical environment, etc.).
- Knowledge criteria level – represents measures of learning outcomes.

- Behavioral criteria level – represents measures of actual work performance recognized as training transfer.
- Organizational Impact criteria level – represents measures of utility for the organization as a result of training (productivity, company profits, etc.).

Skill transfer is directly associated with the behavioral or application level in Kirkpatrick's levels of training effectiveness evaluation. Skill transfer is generally defined as the extent to which trainees can effectively apply skills learned/gained in a training session to actual job context (Baldwin & Ford, 1988). The definition has been refined to include different levels of learning such as sustained learning (Hughes, Zajac, Woods, and Salas, 2020), permanent change in behavior, or retention (Velada & Caetano, 2007) and transfer resulting in improved performance (Noe et al., 2014). Continued research in the field is organized into categories of three main influence areas and determinants of transfer: Training Design, Individual characteristics, and Work Environment (Tracy et al., 2001; Holton et al., 2000, Chen et al., 2006, Velada et al., 2007; Grossman and Salas, 2011; Blume, et al., 2010; Tonhauser and Buker, 2016; Baldwin et al., 2017).

The recent studies on transfer motivation generally find that learning and transfer motivation have significant positive impact on transfer (Bhatti et al., 2013; Chiaburu et al., 2010; Grohmann et al., 2014; Hinrichs, 2014; Lee et al., 2014; Van den Bossche et al., 2010; Van der Locht et al., 2013; Yaghi and Bates, 2020). Factors such as self-efficacy (Velada et al., 2007, Lee et al., 2014, Quratulain, Khan, Sabharwal, and Javed, 2021), goal orientation (Chiaburu & Marinova, 2005; Hoyt, 2013), motivation (Seyler et al., 1998; Scaduto et al. 2008; Yaghi and Bates, 2020), and transfer competence (Seidel, 2012) address mitigating determinants of training transfer research. A 2010 meta-analysis (Blume et al.) reported cognitive abilities to be positively associated with training transfer. A growing line of studies on personality traits, while equivocal, offer findings that support the conclusion that the Big Five main dimensions (extroversion, agreeableness, conscientiousness, openness to change, and neuroticism) have an influence on transfer (Hinrichs, 2014; Blume et al., 2010). Additional studies report findings that individuals with an expected utility or benefit from training have a significant positive influence on training transfer (Renta-Davids et al., 2014; Van der Locht et al., 2013).

Work environment determinants of training transfer research include factors such as feedback, organizational or supervisory support, and corporate culture (Clarke, 2002; Subedi, 2006; Martin, 2010; Ng and Ahm, 2011; Festner, 2012 Ng, 2013, Hinrichs, 2014;Wynen, Boon, Kleizen, & Verhoest, 2019). An earlier study also found that training transfer is also influenced by company-identification of participants (Pidd, 2004). More recent studies exploring modifiers of organization support include research findings that posit positive training transfer when there is variability of work tasks and the diverse work task environment would have more transfer opportunities (Renta-Davids et al., 2014). Additional modifiers include perceived flexibility resulting in self-initiated goal achievement in the workplace (Quratulain, Khan, Sabharwal, and Javed,2021) and supervisory coaching (Yaqub, Dutta, Chhajer & Singh, 2020). A study examining leadership training transfer found that motivation to training transfer mediates between peer and supervisor support with peer support having a stronger impact on motivation to transfer (Yaghi and Bates, 2020). An international study reported supervisory support significant in predicting training transfer, supervisory support mediates transfer design and training readiness, and feedback and coaching are the strongest predictors of training transfer (Yaqub, Dutta, Chhajer & Singh, 2020). A 2018 study also found that supervisory support in the pre-training phase suggesting that supervisors must be properly trained in design to optimize transfer (Alshaali, Hamid & Al-Ansi, 2018). Considerations such as the content relevance have addressed design determinants of training transfer research. More recently, studies in design include training material sequencing, pre-post interventions, learner control, practice and feedback during training, and delivery mediums (Sitzmann, Kraiger, Steward, and Wisher, 2006; Kraiger and Jerden, 2007; Greco, Charlier, and Brown, 2018; Hardy, Day, and Arthur, 2019). Weinhardt and Sitzmann (2018) examined design related impacts on transfer when online/remote training is conducted. Recently emerging studies on training transfer content distinguishes between generic training transfer (i.e., leadership) which benefits the individual and firm specific training transfer (i.e. proprietary software) which primarily benefits the organization (Kim and Ployhart, 2014). In addition, training transfer studies have categorized content into soft skills and hard skills (Mattingly and Kraiger, 2018; and Eby et al., 2019). Several studies have examined the design features that make a connection between the setting of learning goals and training transfer. Studies have reported the setting of learning

goals to have a significant positive impact on transfer of training (Blume et al., 2010; Johnson et al., 2012). A 2008 study found a higher transfer performance when a constructivist orientation in training design was implemented (Weisweiler, 2008). The theoretical framework for connecting external events that can be controlled by interns such as goal setting, onboarding, and autonomy to the predicting of workplace performance as based on the theory of planned behavior (Ajzen, 1987, 1991, 2012; Bosnjak, Ajzen, Schmidt, 2020).

> According to the TPB, human behavior is guided by three kinds of considerations: beliefs about the likely consequences of the behavior (behavioral beliefs), beliefs about the normative expectations of others (normative beliefs), and beliefs about the presence of factors that may facilitate or impede performance of the behavior (control beliefs). In their respective aggregates, behavioral beliefs produce a favorable or unfavorable attitude toward the behavior; normative beliefs result in perceived social pressure or subjective norm; and control beliefs give rise to perceived behavioral control or self-efficacy. The effects of attitude toward the behavior and subjective norm on intention are moderated by perception of behavioral control (Bosnjak, Ajzen, and Schmidt, 2020).

Based on the tenets of training transfer our case study will examine the impact internships, as an independent variable, have on training transfer as a dependent variable. The case study controls for project-based, employer-based, and remote/hybrid internships. The research objectives include evaluating differences between project-based and position-based internships and skill transfer; differences between employer-based vs. non-employer-based and skill transfer; and onsite vs. remote/hybrid internships and skill transfer.

Problem-Based and Project-Based Learning

Internships, as a curricular pedagogy, has roots in constructivism and the problem-based learning construct. The constructivist approach posits that learners are actively engaged in their own knowledge. Learning is the active process of constructing knowledge and requires an environment that supports the construction of knowledge (Savery and Dufffy, 1995;

DeFillipi and Mitler, 2009; Carriger 2016). The broad description of this type of learning environment is experiential, and over the years higher education has implemented experiential pedagogical forms such as action learning, community-based learning, competency-based education, collaborative learning, cooperative learning, service learning, authentic assessment, practice-based experience, evidence-based education, problem-based learning, project-based learning, and internships. More recently business education has advocated problem-based learning as a direct response to the shift in competency-based curriculum changes. Problem-based approaches are represented in a range of disciplines including Accounting (Calk, R., & Carr, 2011; Manaf, A., Aziah, N., & Wan-Hussin, 2011; Shawver, 2015; Wyness, & Dalton, 2018; Business Law Douglas, 2012 Parker, Powell, & Kilcoyne, 2017); Management (Joham & Clarke, 2012 ; Gilbert & Foster, 2013; Pyykkönen, & Kalliomaa, (2013); Welsh, & Dehler, 2013; Hogue,Percival, El-Khatib, Hayes, 2015; Carvalho, 2016; Carriger, 2016; Delaney, Pattinson, McCarthy & Beecham, 2017; Garnjost & Brown, 2018); Leadership/Entrepreneurial (García-Rosell, 2013; Wood, Márquez,& Hamilton, 2016; Jacobson, Chapman, & Van Os, 2017); Managerial Economics (Chulkov, & Nizovtsev, 2015).

All of the experiential learning approaches generally share characteristics such as learners must be engaged in inquiry, trial and error is part of learning process, reflection is an important experience during learning process, and interaction among learners focuses on comparing and examining ideas (Fosnot & Perry, 1996). The problem-based learning construct was further advanced by Newman (2005), who articulated five interrelated features of problem-based learning. First, instruction is by facilitation rather than presenting information as knowledge. Second, problem-based learning, as designed for courses, must follow a set of explicit steps to resolve the problem. Third, the use of unresolved, real-world problems must be integral component of the learning. Fourth, the unresolved real-world problem must be complex enough that an individual learner requires collaboration with others. Finally, the assessment of learning must align with the unresolved real-world problem (Newman, 2005).

Several studies have conceptualized the conditions for problem-based learning as a learner-centric approach that empowers learners to fully invest in the application of knowledge culminating in a viable solution to a defined problem. Moving from the instructor-centric approach, with passive

learner, to the learner-centric, with an active learner fully engaged with an unresolved problem, the process of engagement requires careful crafting of the unresolved problem (Savery, 2006; DeFillip and Milter, 2009; Downing, Ning, & Shin, 2011; Chulkov, & Nizovtsev, 2015; Delaney, Pattinson, McCarthy & Beecham, 2017).

Initial meta-analysis studies reporting the effectiveness of problem-based are overwhelming when comparing PBL with traditional lecture formats. Early meta-analysis studies consistently report problem-based learning as more effective in developing skills while lecture based is more effective for knowledge acquisition (Albanese and Mitchell, 1993; Vernon and Blake, 1993; Dochy, et al., 2003; Hsieh and Knight, 2008; Downing, Ning, and Shin, 2011; Bamford, Karjalainen, and Jenavs, 2012). Individual studies have examined the premises generalized by the meta-analysis work. Those studies include reported modifiers to the effectiveness of PBL on skill development including examining relationships between problem-based learning and specific applications that are categorized as course development focus or student development focused. Table 1, left column, displays those studies using the generalized PBL model in an array of applications.

Table 1: Problem-based learning and Project-based learning

Direct – student development / Indirect – course development	Problem -Based learning (PBL)	Project- Based Learning (PjBL)
Direct – student development focus	**competency assessment** (Brilingaite, et al., 2018; Ungaretti, et al., 2015 **team problem solving** (Joham and Clarke, 2012; Tan, et al. 2016); Chulkov and Nizovtsev, 2015; Carvalho, 2016; Pike, et al.,2017; Solcan, 2016; Sroufe, and Ramos, 2015; Stahl & Dunning, 2015a, 2015b); **comparing cooperative, collaborative, and PBL** (Davidson	**Skill development** (Brassler & Dettmers, 2017; Fain, et al., 2016; Kumari & Nandal, 2016; Sart, 2014) **Attitude development** (Audet & Marcotte, 2017) **Team building** (Hogue, et al., 2015) **"soft skills"** (Musa, et al., 2012)

	and Major, 2014; Wood, et al., 2016); **cross cultural** (Mohd-Yusof, et al., 2013) **professional identity development** (Tan, et al., 2016); **sustainability** (Wyness, & Dalton, 2018);	
Indirect – course development focus (student development impact assumed)	**authentic assessment** (Barbar, 2015; Batty, 2013); **pedagogical applications** (Caulk and Carr, 2011; Carriger, 2016; Delaney, et al., 2017; Dockter, 2012; García-Rosell, 2012; Manaf, et al., 2011; Schmidt, et al., 2011) **millennial learners** (Conklin, 2012 **e-tutor/elearning and PBL** (de Jong, et al., 2018; Verstegenet al.,2016) **student engagement and self-directed learning** (Douglas, 2012; Garnjost and Brown, 2018, Schawver, 2015); **problem complexity** (Jonassen & Hung, 2015); **rates of learning** (Kuruganti, et al., 2012) **cumulative learning** (Yew, et al., 2011)	**Pedagogical applications** (Arantes, et al., 2015; Conine & Peratoner, 2019; Hanney & Savin-Baden, 2013; Powell, et al., 2017; Tee, et al., 2015) **Project design** (Larmer, et al., 2015; Svihla & Reeve, 2016; Volkema, 2010) **Online delivery** (Jacobson, et al., 2017)

An outgrowth of PBL, project-based learning (PjBL), is a growing construct in its own right. PjBL is based on constructivism theory, and studies differentiate between problem-based learning and project-based learning. Individual studies on PjBL have also examined the premises generalized by the meta-analysis work on PBL. Those studies include reported modifiers to the effectiveness of PBL on skill development including the project experience to examine relationships between PjBL and specific applications that are categorized as course development focus or student development focused. The right column in Table 1 displays those studies using the generalized PjBL model in an array of applications.

As PjBL is also based on constructivism, the concept of project-based learning is very similar to problem-based learning with certain conceptual differences. PBL organizes the learning activities around achieving a shared goal (project). PjBL is a learning methodology that engages students' learning and skill development through an extended process that focuses on a complex and authentic problem that require intentional tasks and activities. Studies distinguish the differences between PjBL and PBL in several ways. Problem-based learning (PBL) is an instructional method where student learning occurs in the context of solving an authentic problem (Marra, 2014) vs an individual or team extending over a period of time, resulting in a product, presentation, or performance (Kumari, et al. 2016). Project-based learning is advantageous when a student team is creating a product or service within a limited amount of time (Arantas 2015). Perhaps the most distinguishing difference is the uncertainty of the project. The problem learning in a project includes identifying components of the problem that are changing as well as resolving the problem. Because the project "drives" the learning (knowledge, skills, attitudes required), adjustments made during the project require a refocusing of skills and knowledge to continue. Hanney and Savin-Baden's 2013 study combined both approaches to improve student engagement and criticality highlighted these differences. Case studies, simulations, and role-playing activities are approximations of real-world problems. Internships, consultancy, and intervention projects provide the ideal environment for experiential learning, based on constructionism. The most effective learning is connected to the extent that a project engages students through the four steps of Kolb's learning cycle concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb & Kolb, 2005; Audet & Marcotte, 2018).

A project that is a complex series of interactions between team members over time focuses learning on an organization as a point for the acquisition and creation of knowledge that emerges in a response to the project, problem, or challenge. The project problem presents the opportunity for the application of skills and knowledge requiring decision-making, the devising of solutions, creativity and problem solving. Projects often require interactions with outside entities and uncertain interactions (Hanney and Savin-Baden, 2013)

PBL and PjBL learning are becoming increasingly relevant as platforms for skill development for students. As the project drives activities

and requires a dynamic set of skills and knowledge to complete, it should mirror the set of skills employers' desire from college graduates as new hires. A "live" project, used as a teaching methodology enable students to develop key skills such as collaborative working, capacity, and ability to solve complex problems. (Bell, 2020 in Arantes 2015; Hanney and Savin-Baden, 2013).

The Study

Our study on internships is not intended to study differences between PBL and PjBL. We are accepting the PBL research and PJBL distinction that the internship project "drives" the learning opportunities and will effectively develop important skills that employers seek upon graduation. The dynamic condition of projects will also be examined as differences between project-based and position-based internships as well as on site and remote internships and the impact on skill development and return on internship investment (ROII).

Considering the changing dynamics of internships and the heightened emphasis on applied skills for recently graduated hires, our case study focused on examining project -based and pandemic related remote/hybrid internships. Despite a growing number of studies on PBL and a smaller but also growing number of PjBL studies and despite the "fit" of internships within both constructs, there are not studies reported on either that focus on internships as the platform for PBL or PjBL. This study will test the following hypotheses.

- H1a: Project-based internships will have larger impact on intern skill development than position-based internship
- H1b: Project-based internships will have a larger impact on intern's intent to transfer skills than position-based internship
- H1c: Project-based internships will have a larger impact on partner's return on internship investment than position-based internship
- H2a: Perceived behavioral control variables autonomy, onboarding, goal clarity will modify the strength of project-based internships on skill development
- H2b: Perceived behavioral control variables autonomy, onboarding, goal clarity will modify the strength of project-based internships on skill transfer intentions

- H2c: Perceived behavioral control variables autonomy, onboarding, goal clarity will modify the strength of project-based internships on ROII
- H3a: remote internships will have a larger impact on intern skill development than onsite internships
- H3b: remote internships will have a larger impact on intern's intent to transfer skills than onsite internships
- H3c: remote internships will have a larger impact on partner's return on internship investment than onsite internships

Methodology

The internship experience is a required course in an Applied Management program. Internships are typically completed toward the end of a student's program to optimize the alignment of career aspirations and potential to add value to the partner's organization. The semester's internship is 16 weeks and requires completing pre-internship planning documents including a project proposal that includes project background/problem, project objectives, scope, project statement, list of deliverables, and a 16-week milestone schedule with major project steps, activities to accomplish steps, and anticipated work product for each week. A learning plan is then constructed after the project proposal is approved. The learning plan requires targets for skill and knowledge development, career goals, and anticipated impact on partner's organization. All the documents are approved by the faculty supervisor and signed off by partner organization (intern supervisor and HR representative). During the internship students submit weekly activity reports and every other week submit work in progress (WIP) work product. Throughout the semester there are reflection opportunities connecting the learning plan to the internship work. Interns also complete the Strengths Finder 2.0 inventory and reflection, O*Net database search and reflection, mid-semester evaluation meeting with intern supervisor, and end of internship requirements that include a recorded simulated interview, update resume, thank you to partner, skill self-evaluation, and a final report presented to the internship partner. In addition, the intern partner must submit a skill evaluation and a signed completion affidavit confirming hours worked and project completion.

Study Design/Model

This case study examines three dependent variables: 1. Skill development, 2. Stronger intention to transfer skills post internship, and 3. Internship project outcomes impact on partner organization. Factors that impact the complexity of an internship and heighten the unresolved problem-solving environment are considered as independent variables: 1. Type of internship (project vs. position), 2. Partner-intern relationship (employer vs. non-employer), and 3. Internship locale (on site vs. remote).

An independent-samples t-test was conducted to compare skill development, intent to transfer skills, and ROII in project-based and position-based internship conditions. An independent-samples t-test was conducted to compare skill development, intent to transfer skills, and ROII in employer-based and non-employer-based internship conditions. An independent-samples t-test was conducted to compare skill development, intent to transfer skills, and ROII in on site and remote internship conditions.

A Factorial ANOVA was conducted to compare the main effects of project type, internship partner, and preference for internship and the interaction effect between project type, internship partner, and preference for internship on skill development, intent to transfer skills, and ROII. A Factorial ANOVA was conducted to compare the main effects of behavioral control factors' goal clarity, autonomy, and onboarding and the interaction effect between goal clarity, autonomy, and onboarding on skill development, intent to transfer skills, and ROII.

Participants

Table 2: Survey Respondent Profile

Profile characteristic	Total participants	Remote/hybrid (COVID era)
# of subjects	n= 160 interns	N = 86 interns
Type of internship	69% project based and 31% position based	73% project based and 27% position based
Relationship to partner	51% employer based; 31% familiar with partner; 18% first interaction	60% employer based; 28% familiar with partner; 12% first interaction
Employment /school status	33% full time student AND working full time; 44% part time student and working full time	31% full time student AND working full time; 48% part time student and working full time
Work area for internship	27% internships in operations/warehouse/distribution; 23% marketing/sales; 28% administrative office	27% internships in operations/warehouse/distribution; 24% marketing/sales; 27% administrative office
Work experience	29% full time employment 16+ years; 26% full time 2-5 years; 19% full time 6-10 years	25% full time employment 16+ years; 26% full time 2-5 years; 23% full time 6-10 years

Measures and Analysis

An end of semester survey with 17 questions and 66 items (matrix questions) was used to collect data for this study. The survey collected respondent profile information and measures for independent variables including type of internship (project vs. position), intern partner status (employer vs. non employer), and site location as onsite vs. remote (table 2). Skill development, as a dependent variable, was represented by eleven skills (O*Net, NACE, AACSB, SHRM) and interns were asked to rate "competencies developed as a direct result of internship work." This section of the survey employed a four-point scale with "significant improvement as recognized by other," "demonstrated improvement recognized by self,"

"some improvement," and "no difference between before and after internship." Intent to transfer skills, as a dependent variable, was represented by nine conditions of skill transfer including skill relevance to work responsibilities, confidence in applying skills correctly, and opportunity to apply skills after "training," etc. (Baldwin et al., 2017; Yaghi and Bates, 2020; Quratulain, Khan, Sabharwal, and Javed, 2021; Yaqub, Dutta, Chhajer & Singh, 2020). The question asked how likely the intern would be to make an extended effort after the internship to apply new skills, and the scale employed was a five-point scale from "extremely likely," "likely," "not a factor in determining intent," "unlikely," and "extremely unlikely." Return on Intern Investment (ROII), as the third dependent variable, was represented by six impact levels including problem resolved, revenue increased, profits increased, work process improved, and customer satisfaction improved. The question inquired as to the impact of the internship work as reported to intern partner in final report (oral or written). The survey questions employed five-point scale using "no positive impact reported" to "positive impact reported with verified data and residual impact." A behavioral control construct was also tested using a five-point Likert scale from "strongly agree" to "strongly disagree." The behavioral control construct examined autonomy, goal clarity, and onboarding as independent variables using accepted behavioral control measures (Ajzen, 2019b). Onboarding, with 5 items, included measures assessing review of policies, work clarifications, and culture/relationships. Goal clarity, with 4 items, assessing performance, deliverables, and quality of work targets. Autonomy, with 3 items, assessing flexibility on what, when, how for work tasks. Questions posed for possible data mining opportunities include inquiring of interns to rank most important skills from partner's perspective, describe the impact an internship had on career opportunities, and identifies the preference for internship over classroom deliveries for developing workplace skills.

Findings

Independent T-tests were conducted to determine if there were mean differences in skill development, skill transfer intention, and ROII comparing project-based and position-based internship conditions. While the results identified higher means for project-based internships there were no statistical differences between type of project and skill development, skill transfer intention, and ROII. These results suggest that the type of

project is not a design factor contributing to skill development, skill transfer intent, or ROII. The Hypotheses related to project-based internships were not supported.

- H1a: Project-based internships will have larger impact on intern skill development than position-based internship – not statistically supported.
- H1b: Project-based internships will have a larger impact on intern's intent to transfer skills than position-based internship – not statistically supported.
- H1c: Project-based internships will have a larger impact on partner's return on internship investment than position-based internship – not statistically supported.

Independent T-tests were conducted to determine if there were mean differences in skill development, skill transfer intention, and ROII comparing on-site vs. remote internship conditions. The results identified no conditions where onsite internships had a larger statistical impact on skill development, skill transfer intention, or ROII versus remote internships. The results suggest that the location of the internship is not a contributing factor to skill development, skill transfer intention, and ROII.

- H3a: Remote internships will have a larger impact on intern skill development than onsite internships – not statistically supported.
- H3b: remote internships will have a larger impact on intern's intent to transfer skills than onsite internships – not statistically supported.
- H3c: remote internships will have a larger impact on partner's return on intern investment than onsite internships – not statistically supported.

Independent t-tests were conducted to determine if there were mean differences in skill development, skill transfer intent, and ROII comparing strong vs. weak perceived behavioral control conditions. The results identified several conditions where perceived behavioral control impacted the three dependent variables. There was a statistically significant difference in skill development scores for strongly perceived behavioral control (M=22, SD=9) and weak PBC (M=17.8, SD =8.8) conditions;

t(144)=2.82, p ≤ .01. There was a statistically significant difference in skill transfer intention scores for strong perceived behavioral control (M=16.2, SD=5.1) and weak PBC (M=12.4, SD =4.3) conditions; t(147)=4.9, p ≤ .001. There was a statistically significant difference in reported ROII scores for strong perceived behavioral control (M=14.2, SD=5.6) and weak PBC (M=17.5, SD =6.9) conditions; t(137)=-3.04, p ≤ .01.

The perceived behavioral control (PBC) construct has 3 factors including autonomy, goal clarity, and onboarding. Each of these "sub-constructs" was examined as individual modifiers.

There was a statistically significant difference in skill transfer intention scores for strong goal clarity (M=16.3, SD=5.3) and weak goal clarity (M=12.5, SD =4.2) conditions; t(148)=4.87, p ≤ .001. There was a statistically significant difference in skill development scores for strong goal clarity (M=21.7, SD=8.9) and weak goal clarity (M=18.4, SD =8.9) conditions; t(145)=2.18, p ≤ .05. There was a statistically significant difference in reported ROII scores for strong goal clarity (M=13.8, SD=5.7) and weak goal clarity (M=17.5, SD =6.6) conditions; t(138)=-3.48, p ≤ .001.

There was a statistically significant difference in skill transfer intention scores for effective onboarding (M=16.5, SD=5.4) and ineffective onboarding (M=12.5, SD =4.1) conditions; t(148)=5.14, p ≤ .001. There was a statistically significant difference in skill development scores for effective onboarding (M=22.7, SD=9) and ineffective onboarding (M=17.7, SD =8.6) conditions; t(145)=3.39, p ≤ .001. There was a statistically significant difference in reported ROII scores for effective onboarding (M=13.8, SD=5.3) and ineffective onboarding (M=17.4, SD =6.9) conditions; t(138)=-3.42, p ≤ .001.

Based on the initial analysis findings, a Factorial ANOVA was conducted to compare the main effects of the independent variables goal clarity, onboarding, project-based and the interaction effect between goal clarity, onboarding, and project-based on interns' intent to transfer skills. A three-way analysis of variance was conducted on the influence of independent variables (onboarding, goal clarity, project-based) on interns' intent to transfer skills after the internship. The main effect for goal clarity yielded an F ratio of F(1, 148) = 5.27, p ≤ .05. The main effect for onboarding yielded an F ratio of F(1, 148) = 7.03, p ≥ .01. The main effect for project-based internships was not significant. The interaction effect of goal orientation, onboarding, and project-based internships was significant, F(1, 148) = 3.97, p ≤ .05. A three-way analysis of variance was conducted on the

influence of independent variables (onboarding, goal clarity, project-based) on interns' skill development. Only the onboarding main effect was statistically significant yielding an F ratio of $F(1,145) = 4.68$, $p \leq .05$. There were no interaction effects on intern skill development. A three-way analysis of variance was conducted on the influence of independent variables (onboarding, goal clarity, project-based) on partners' return on internship investment (ROII). All the main effects and interaction effects were not significant.

- H2a: Perceived behavioral control variables autonomy, onboarding, goal clarity will modify the strength of project-based internships on skill development; - Statistically supported
- H2b: Perceived behavioral control variables autonomy, onboarding, goal clarity will modify the strength of project-based internships on skill transfer intentions - Statistically supported
- H2c: Perceived behavioral control variables autonomy, onboarding, goal clarity will modify the strength of project-based internships on ROII - not Statistically supported

Cronbach's alpha is a measure of internal consistency that provides insight into how closely related a set of items are as a group. The 3 sub constructs of perceived behavioral control (goal clarity, onboarding, autonomy) were tested for internal consistency.

- Cronbach Alpha coefficient for Autonomy construct = .3 (poor reliability for 3 item construct)
- Cronbach Alpha coefficient for Goal Clarity = .73 (strong reliability for 4 item construct)
- Cronbach Alpha coefficient for Onboarding = .93 (very strong reliability for 5 item construct)

Discussion

The results suggest that when an internship's design includes strong onboarding and goal clarity, intern skills improve and the intent to transfer skills post-internship is stronger. Conversely, when onboarding and goal clarity are strong, the impact on partner's ROII is lower. There were no statistical differences on any dependent variable for the autonomy condition. These findings overall suggest that internships can improve skill

outcomes (skill development and intern intent to transfer skills) by intentional pre-internship designing of effective onboarding and goal setting focus.

The findings of this study continued the validity of the TPB in predicting skill development and training transfer in internships adding to the efficacy of this model. Perceived behavioral control (PBC) was the strongest predictor of intention to transfer skills and skill development. Some studies in the literature suggest that the efficacy of PBC in directly predicting behavior is not consistent (Canova and Mangenelli,2020). Our findings are similar to other studies that suggest that perceived control is more important in workplace settings (e.g., Littleford et al., 2014; Roslan, et al., 2021). The findings supporting onboarding and goal clarity as project structure factors that positively impact skill development and the intention to transfer skills post-internship align with similar findings including among others access to experts and goal setting (Cullen, 2017), understanding how organizations work (Carvalho, 2016), project management (Hanney, et al., 2013), and planning, preparation, scaffolding (Harmer et al., 2014). The behavioral control factors predicted intent to transfer and skill development for project internships, however, project-based internships alone (vs. position-based internships) was not a significant factor for either dependent variable. An explanation for this result also aligns with studies on PBL as well as PjBL that reported important aspects of projects that were controlled in design where projects were course projects (Larmer, et al., 2015; Svihla & Reeve, 2016; Volkema, 2010). Internships, by design, give up project control. Designing a project-oriented course allows instructor control over options available with respect to project identification, project focus and scope, team size, composition and leadership, course content, content delivery, and student project evaluation (Volkema, 2010). Non-traditional aged, working, and online students increased and the pandemic of 2020 wreaked havoc on traditional onsite internships resulting in an increased reliance on remote internships. The H: that remote internships would have less impact on skill development and skill transfer intent was primarily based on the potential to lose structural control over the internship including communication, decision making, and supervision). Our findings did not support that hypothesis; onsite internships were not more effective in developing skills or strengthening student intent to transfer than remote internships. The study was testing the assumption that remote internships would be more likely to be project-based internships and that those

projects would have to be more structured and organized to facilitate an internship not onsite. When skill targets, project work, and assignments are aligned, skills are more likely to be developed (Brassler & Dettmers, 2017; Kumari & Nandal, 2016; Sart, 2014).

Findings related to the dependent variable return on internship investment (ROII) was statistically significant but not in support of the hypotheses. Our assumption was based on the design of project planning work and setting specific goals (Johnson, et al., 2012). Project plans, including the internship plan proposals all students were required to submit for approval, include a specific section addressing anticipated benefits to the intern partner (revenue increases, profit increase, improved customer satisfaction, process improvement). The assumption was that projects would put interns "closer" to these potential outcomes, heighten awareness of connecting skills and results, and intensify the real world and unresolved organizational problem and thus impact skill development. An explanation for a statistically significant stronger ROII under position-based internship and lower perceived behavioral control conditions is difficult to interpret. The reported ROII was "self" reported but did include a required presentation to partners at the end of the internship. It is possible that the "formula" students used to determine ROII did not have full variable or fixed cost data thus projecting a contribution rather than an actual return on the project results. While the results on ROII were interesting, the data was not conclusive as to the measurable impact on the intern partners. The qualitative assessments on the shifting balance of beneficiaries could not be determined.

Implications for Research

As this is one of very few studies examining internships, quantitative studies should follow to test the tenets of problem-based and project-based learning as a result of an internship. Studies confirming internships using the PBL construct are encouraged and could examine factors such as complexity of unresolved real-world problem, set of explicit steps to resolve the problem, required collaboration with others (Newman, 2005; Delaney et al., 2017). Additionally, studies could include analyzing the comparison of results of internships including skill development, improved problem solving/critical thinking, team building, collaboration, etc. The introduction of the most recent variable, remote/hybrid internships, requires rigorous and extensive examination. As internships increase in offsite delivery and

the workplace continues to grapple with working from home employees (and trainees), new studies must confirm that generalizations from PBL, PjBL, and skill transfer adhere to this new workplace condition.

Examination of training time is typically 15 weeks semester at 120 – 150 hours for 3 credit hours as compared to the previous era of traditional internships during the summer at 600 plus hours. The variable of training time should be examined. Training transfer meta-analysis studies have examined sustainability or retention as a factor of transfer strength such as using a 90 days post training threshold before measuring transfer (Blume et al, 2010; Hughes, et al., 2020). Future research employing longitudinal design could assess the causal relation or predictive strength among impacting skill development and skill transfer.

Limitations

This study has limitations that should be considered in generalizing its results and in choosing directions for future research and interventions. In this study, organizational factors such as the level of collaboration with experts were not considered. The nature of ill-structured, real-world problems precludes individualized learning and requires collaboration (Slavery et al., 2006; Bell, 2020 in Arantes 2015; Hanney and Savin-Baden). The more complex the problem, the more likely collaboration with experts would be required to resolve the problem. An ill-structured problem, even with project planning and management, encounters uncertainty and changes that by necessity would include new collaborative situations. The level and quality of collaboration would then be a factor in project success and thus impacting skill development, intent to transfer skills, and ROII. Future studies should include measures of collaboration levels, including team projects, as modifying factors on skill development and intent to transfer skills.

This study used single-source self-reported data on skill development, intent to transfer, and ROII measures. Self-reported data can overestimate behaviors which makes the data vulnerable to social desirability, social approval bias, and retrieval inaccuracy (Canova and Manganelli, 2020). The interns, as part of this study, did have some checks and balances to minimize those biases including a mid-semester evaluation mirroring a workplace performance evaluation with a skill development evaluation sheet, reflection, and action plan that intern partners were required to sign. An end- of- internship self-evaluation survey, intern

partner skill assessment, signed completion affidavit, and required internship report were also used as assessments.

PBL requires that instruction is by expert facilitation. Project control after preplanning and once internship starts is reduced for faculty for onsite and remote internships. Faculty facilitators can ask questions of interns, but the project is no longer managed by faculty. This limitation may influence the impact of what was intended to be an ill structured problem but gravitates to a repetitive activity internship. Our efforts to control for this limitation is to require drafting a learning objects document that partners must sign off on before the internship, sign scope change documents if any project target is adjusted, weekly Activity Reports and work in process (WIP) documents are submitted for faculty review.

Training transfer studies reporting moderating factors continue to add to the body of knowledge including self-reporting transfer. Self-reporting data used to evaluate transfer has been reported to have results that are more successful transfer than may be actually achieved (Taylor et al. 2009 in Gumuseli, 2019). Other factors challenge the degree of transfer realized including the timing of when transfer is measured (Baldwin, et al. 2017). Some studies report a decrease in transfer rate as time passes (Saks, 2013) while other studies report a delay of behavior changes related to transfer taking up to a year to be apparent (Gumuseli, 2019). It is likely our measures of training transfer related to an internship have some contextual factor that impacts transfer time.

In this study skill transfer was represented by intern self-reported and intention to transfer skill. Most studies using intent to transfer as a construct regard the intention to be a legitimate surrogate for actual behavior. Very few of the thousands of studies challenge this relationship (Sniehotta, et al., 2014; Schwarzer, 2008). Recent studies use the predictive strength of intention but also recognize the value of post intentional beliefs and actual behavior measures as a remaining challenge for future TPB research (Jonge et al. 2020). However, it is important to note that intention is a valuable structure for research and the most current studies using behavior intentions demonstrate the continued interest in using the intention factor to explain and predict behavior in various disciplines. The continued research using intention also indicates that the theory is a work in progress. Researchers, including our case study on internships, continue to examine the complexities of moderating effects of perceived behavioral control and additional factors will account for the complexity of human

behavior (Bosnjak, Azjen 2020). To the degree that perceived behavioral control is accurately measured, it can serve as a proxy for actual control and contribute to the prediction of the behavior being examined (Ajzen, 2019a). However, research should note that a 2018 meta-analysis excluded intent to transfer while still using self-report of learners (Alshaali, Hamid & Al-Ansi, 2018).

Conclusions

In alignment with the principles of problem-based learning, a learner must follow a set of explicit steps to resolve the problem. Internships, while all different by location, organization, intern, project area, work process, etc. can be structured with a scaffolding approach that requires a standard briefing for students about the aims, methods, and content of the project (Harmen and Stokes, 2014). This balance of structured problem solving used with unstructured problems will be especially useful in remote/hybrid internships. There is an array of problem-solving models including quality PDSA, Theory of Constraints, 6-Sigma, LEAN, or survey design that can be used as project templates. The use of unresolved, real-world problems must be an integral component of learning and those unresolved real-world problem must be complex enough to require collaboration with experts (Hanney et al., 2013). Working with the intern partner is needed to determine an unresolved problem and should be the focus of the project proposal and the scope of the project, resources required, and a project schedule. The assessment of learning and skill development must align with the unresolved real-world problem. Finding accurate and measurable assessments on the return on intern investment (ROII) will be important yet difficult. Identifying the formula to determine return should be part of the project description proposal and signed off by the intern partner. Assessments should align with the tasks connected to the outcome targets and include both formative and summative feedback. Formative assessment should include cycles of feedback and revision and include time for reflection for students. Jacobson et al. (2017), in their study on changing workplace behaviors, recommended two assessment targets that faculty designing internship projects should consider. An authentic assessment of competencies that approximates the way competencies would be demonstrated and evaluated in the workplace. Intern projects in the real world should address competencies including analytical thinking, quantitative reasoning, and teamwork skills. Other assessments reported on

PjBL include structured reflection (Hanney & Savin-Baden, 2013) and assessing journals, portfolios, presentations, or analyzing student discussions (Harmen and Stokes, 2014).

The findings from this case study have several practical implications for stakeholders including students, organizational partners, faculty, and academic institutions. Students gain insight from an internship framework that focuses on the entire process of employability (finding, keeping, and progressing in a job). For the university, the framework's practical and policy-related implications lie in the application of the framework to rankings and evaluations. Faculty can draw lessons for internship project design by including stronger goal setting, targeting specific skills and competencies. Agile projects solve agile problems and require agile skills (Hanney et al., 2013), and while faculty and intern partners add structure to project planning, the focus should be on problem solving that requires several solution alternatives to examine. Legal considerations (benefit recipient and Department of Labor guidelines) should be reviewed based on this study's findings related to Return on Internship Investment (ROII).

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Appendix

Survey items and scales summary

The Respondent Profile section of the survey included questions on year of internship, academic term, internship type (project- or position-based), partner industry sector, employer/partner status, intern credit hour load, intern employment status, and department where internship was conducted.

The Internship Experience section measured levels of autonomy in flexibility in when and how tasks were assigned and freedom to select tasks. Goal clarity levels included performance criteria, project objectives, work deliverables, and quality of work explanations. Onboarding levels of satisfaction included presentation of policies, job related expectations, organization norms and culture, important networks and interpersonal relationships, and feedback embedded in onboarding process. All internship experience measures used a Likert scale (SA – SD).

The Career Readiness section included four questions. The first asked which competencies were developed as a result of the internship work using a five-item scale with "significant improvement as noted by others" at one end and "no difference between before and after internship" at the other end. The 11 competencies measured included critical thinking, verbal communication, written communication, software application skills, ability to work in team, quantitative skills, taking initiative, detail orientation, work ethic, flexibility, and influencing others. The second question asked respondents to describe the impact the internship had on career opportunities from the following options: experience helped land a position, helped secure more responsibilities at current employment, helped secure a new position at current employment, helped secure a position with a new employer, may help in the future, or the internship experience had no employment opportunity value at all. The third question asks respondents to compare the internship experience with other course work in their program. The options included a scale from "internship was more valuable than all other course work" to "the internship was less valuable than all other courses." The fourth question in the Career Readiness section asked how likely (5 item scale from extremely unlikely to extremely likely) the respondent would be to apply new skills when encountering the following work conditions; feedback on progress, support

from supervisor to apply new skills, company culture supports skill development, new skill is relevant to present work responsibilities, self-paced learning environment, access to further training, confidence in applying skills, recency of skill application, and having goals set to apply skills.

The Internship Impact section had two questions. The first question asked respondents to rate the impact the internship had on the partner organization using a five-item scale from “no positive impact reported” to “positive impact reported with verified data and residual impact.” The second question asked respondents to rate the skills most important to employers hiring graduating interns. The scale used was a five-item scale from “most important” to “unimportant” with respondents rating ability to work in teams, written communication, work ethic, critical thinking, taking initiative, verbal communication, flexibility, quantitative skills, software application skills, influencing others, and detail orientation.

Biographical Statements

Dr. Brian Hoyt, Professor of Management in the College of Business at Ohio University, has publications focusing on training transfer, predictive analytics, procedural rationality in decision-making, and project-based learning. His published case studies include strategic planning, operations and supply chain management, quality management, marketing, and retail. Dr. Hoyt held managerial positions in manufacturing and distribution, is a certified quality trainer, appointed as a National Baldrige Award Examiner (NIST), and is credentialed by the Society for Human Resource Management as Talent Acquisition Specialist and HR Analytics Specialist.

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