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Student learning opportunities in traditional and computer-mediated internships

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Abstract

Purpose: This paper provides a student learning outcome focused assessment of the benefits and limitations of traditional internships, e-internships, and simulated internships to evaluate the potential of computer mediated internships (e-internships and simulated internships) within higher education from a student perspective.

Design: The paper undertakes a systematic conceptually based assessment of the extent to which computer mediated internships are able to replicate the cognitive, skill-based and affective learning outcomes of traditional internships. In addition, the key limitations of traditional internships from a student perspective are identified, and the potential ability of computer mediated internships to address these limitations is assessed.

Findings: The findings of this paper highlight that computer mediated internships are able to replicate most of the benefits of traditional internships, whilst concurrently addressing many of their limitations. However, the current paper also identifies a number of important limitations for student learning in computer mediated internships, and provides advice that aims to assist students in maximising their learning outcomes in these situations.

Originality/value: The paper is the first to provide a systematic student learning outcome focused comparison of traditional internships and computer mediated internships. In addition, the paper establishes the high potential of simulated internships for student learning in higher education, and provides students, higher education providers and researcher with learning outcome focused criteria sets that enable the empirical evaluation of computer mediated internships in future research.

Keywords: simulated internships, virtual internship, e-internship, learning outcomes, higher education, work integrated learning

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1. Introduction

Many higher education degree programmes have traditionally been focused on the transfer of technical knowledge, because such knowledge is seen to transcend the boundaries of different workplaces (Guile and Griffiths, 2001). More recently, the development of skills and knowledge required for students' successful transition from education to the workplace has received growing attention (for example, see: Arum and Roksa, 2011; Rosenberg *et al.*, 2012; Jackson *et al.*, 2014). A subset of this literature argues that students are unlikely to be prepared for contemporary workplace challenges if their degree focuses on the transfer of a finite set of knowledge (Coll and Zegwaard, 2006; Fleming, 2008; Bayerlein, 2015; Jackson *et al.*, 2017). A modification of traditional knowledge focused degree programmes that is thought to address this shortcoming is the integration of internships into the curriculum (Business Industry and Higher Education Collaboration Council, 2007; Knouse and Fontenot, 2008; Burritt *et al.*, 2010). Internships are expected improve the graduate employability of students because they assist in the structured transition from the world of education to the world of work (Knouse *et al.*, 1999; Guile and Griffiths, 2001).

Prior literature argues that internships are beneficial for students in almost all disciplines (Candy and Crebert, 1991; Maertz *et al.*, 2014). Benefits arise because internships prepare students for the demands and rigour of the workplace (Guile and Griffiths, 2001; Rosenberg *et al.*, 2012; Wilton, 2012; Jackson, 2015), relate classroom knowledge to practice (Hergert, 2009) and demonstrate the application of technical skills in complex workplace settings (Kavanagh and Drennan, 2008; Jackson *et al.*, 2014). In addition, internships improve students' professional skills (Orrell, 2011; Maertz *et al.*, 2014; Smith and Worsfold, 2015), employment opportunities (Hergert, 2009) and enable the self-assessment of a student's suitability for their chosen career (Rothman and Sisman, 2016).

Although prior literature indicates that all forms of internships have the potential to improve the connection between higher education and the world of work (Candy and Crebert, 1991; De Lang and Watty, 2011; Jackson *et al.*, 2017), their application in contemporary degree programmes continues to be limited (Guile and Griffiths, 2001; Fleming, 2008). In addition, the long-standing disconnect between classroom learning and workplace practice continues to be perpetuated (Rowland and Hall, 2010). The limited integration of traditional internships into contemporary degree programmes reflects a number of issues, including the insufficient number of available placements in a given industry or geographical location (Wray and McCall, 2007; Jackson *et al.*, 2017), and concerns about the variable quality of internship placements (Maertz *et al.*, 2014). Whilst the impact of these issues on traditional internships is likely to be substantial, new technological solutions have enabled the creation of virtual work environments (Zander *et al.*, 2013) whose features are well suited to replicate the benefits of traditional internships, whilst concurrently addressing many of their key limitations.

The current paper aims to provide students, higher education providers (HEPs) and employers with a systematic conceptually focused comparison of the similarities and differences of computer mediated internships (CMIs) and traditional internships. To achieve this outcome, the potential benefits and limitations that arise from the theoretical underpinnings of three key internship formats are assessed against the learning outcome matrix of Kraiger *et. al.* (1993). The current paper focuses on the conceptual similarities and differences between CMIs and traditional internships because prior literature (Hergert, 2009; De Lang and Watty, 2011; Rosenberg *et al.*, 2012; Jeske and Axtell, 2014; Bayerlein, 2015) has thus far been limited to explorations of the uniqueness of different internship formats, and failed to provide a

systematic comparison of these formats against an established set of student learning outcome focused criteria. The current paper focuses on the conceptual underpinnings of CMIs and traditional internships, rather than an assessment of specific empirical data, because this enables a holistic comparison of the potential of each internship format, rather than an assessment of the differences arising from specific implementation choices within and across the analysed formats. Given its conceptual focus, the current paper makes two important contributions: Firstly, this paper establishes a set of expectations against which future empirical assessments of different internship formats are possible; and secondly, the paper provides information that enables students, HEPs and employers to make informed decisions about the general suitability of the analysed internship formats within their own specific circumstances.

The next four sections of this paper identify the theoretical foundations for the highly positive student learning experiences in traditional internships, and establish the criteria against which all internship formats that are analysed in this paper will be assessed. In addition, a short introduction to each analysed internship format is provided, and the student learning outcomes, benefits and limitations that are likely to arise in each internship format are compared. The final section of the paper provides an overall conclusion and highlights the paper's contribution to the literature.

2. Students' internship learning experience

The current paper views all internship formats as structured student learning experiences (Beenen and Rousseau, 2010) that should enable students to transition from formal classroom learning into the predominantly informal and/or accidental learning environment of contemporary workplaces (Candy and Crebert, 1991). To master this transition successfully, internships should be specifically designed to support students in the development of cognitive, skill-based and affective learning outcomes (Kraiger *et al.*, 1993). The current paper utilises the assessment strategy of Kraiger *et al.* (1993) to evaluate the potential that key student learning activities are available within each analysed internship format because their three criteria are conceptually aligned with other assessment approaches (for example, see: Abeysekera, 2006), and the individual nature of each criterion enables a criterion-by-criterion assessment not available in other assessment matrices.

Cognitive learning focuses on the development of students' mental skills to improve the assimilation and organisation of theoretical knowledge (Kraiger *et al.*, 1993). Cognitive learning outcomes for students are consequently related to the creation of improved (technical) knowledge, the organisation of that knowledge and the development of knowledge management strategies that are applicable in a given setting (Kraiger *et al.*, 1993). Well-designed internship programmes enable students to achieve these learning outcomes through a structured exposure to the behaviours required to develop, organise and manage technical knowledge (Eyler and Giles, 1999; Watson *et al.*, 2016). A key consideration for the overall success of cognitive learning within an internship relates to the modelling of the required cognitive processes by colleagues and supervisors (Eyler and Giles, 1999).

Skill based learning focuses on the development of practical workplace skills, and skill-based learning outcomes are consequently focused on the assimilation of the practical processes and activities required in a given workplace (Kraiger *et al.*, 1993). Internships are able to create skill-based learning outcomes because they encourage students to apply theoretical knowledge in practical situations (Kavanagh and Drennan, 2008; Hergert, 2009; Jackson *et al.*, 2014).

Although skill-based learning could by itself be viewed as a vocational activity, it represents an educational process that allows students to move from the lower levels of Bloom's taxonomy (Bloom, 1956) towards the higher levels. Well-designed internships enable students to develop skill-based learning outcomes because they support a gradual horizontal movement between an educational setting and the world of work (Guile and Griffiths, 2001).

Affective learning outcomes are focused on the acquisition of professional attitudes, values and identities within a given workplace or industry (Kraiger *et al.*, 1993). Students in well-designed internship settings achieve affective learning outcomes by observing others (in person, online or in a simulated environment) perform tasks, and through interactions with, as well as the guidance and advice from, colleagues and/or supervisors. (Kraiger *et al.*, 1993). Whilst all available internship formats have the potential to create affective learning outcomes for students, their development is likely to be best supported in internships that enable extensive opportunistic and/or accidental learning opportunities for students (Candy and Crebert, 1991).

3. Introduction to predominant internship formats

The term internship itself has a variety of meanings and interpretations (Maertz *et al.*, 2014). Following prior literature (Jeske and Axtell, 2014; Maertz *et al.*, 2014), the current paper utilises a higher education student focused definition of internships, where all available internship formats are described as temporary (non-permanent) work placements that reflect a period of transition from higher education to the world of work.

Internships are by no means a new curriculum development. However, the emergence of new technologies has resulted in an extension of internships into new dimensions where such experiences may either be based on a traditional internship format, or be predominantly computer mediated (Jeske and Axtell, 2014; Bayerlein, 2015; Jackson *et al.*, 2017). Although each HEP and/or employer may develop their own discrete interpretation of an internship, all available internship versions are aligned with one of three anchor formats: (1) traditional internships, and CMIs, comprising (2) e-internships, and (3) simulated internships. The current paper utilises the labels "e-internships" and "simulated internships" to distinguish between the two available CMI formats. The two CMI labels were selected to highlight the origin of these formats as predominantly computer mediated traditional internships (e-internships), as well as simulations of real-world experiences (simulated internships). However, it is important to note that prior literature (for example, see: Jeske and Axtell, 2014; Bayerlein, 2015) has sometimes referred to both types of CMIs as virtual internships.

Traditional internships

Traditional internships are still the most common internship format in the higher education sector. Traditional internships are real-world work placements within organizations that are defined by extensive face-to-face on-site interactions between interns and other employees. Traditional internships are established learning experiences with extensively researched benefits. For example, prior literature highlights benefits related to students' preparation for the world of work (Guile and Griffiths, 2001; Rosenberg *et al.*, 2012; Wilton, 2012; Jackson, 2015), and the application of technical classroom based learning in practical settings (Kavanagh and Drennan, 2008; Hergert, 2009; Jackson *et al.*, 2014). In addition, traditional internships are seen to provide students with improved graduate employment opportunities (Hergert, 2009), improved professional skills (Orrell, 2011; Maertz *et al.*, 2014; Smith and

Worsfold, 2015), as well as the opportunity to assess their own suitability for their chosen career (Rothman and Sisman, 2016).

The learning outcomes of traditional internships arise largely because interns are extensively integrated into a physical workplace. Being bound to a specific location supports the development of interpersonal/communication knowledge and skills (Taylor, 1988). In addition, students in traditional internships are also able to receive extensive guidance and advice from colleagues and supervisors (Heron, 1999). These interactions allow students to develop the technical knowledge that is required for their placement, and to apply this knowledge in practice (Jackson, 2015). In addition, the extensive integration of location bound interns into the social environment of their workplace (Konradt and Schmook, 1999) is likely to result in extensive informal and/or accidental learning opportunities. Given that such opportunities are important for the development of affective learning outcomes (Candy and Crebert, 1991), well-designed traditional internships are likely to provide a well-rounded learning environment for students (also, see: Spell, 2001).

Despite their extensive use in higher education, traditional internships exhibit a number of important limitations. The most important limitations of traditional internships relate to their location-boundedness, the limited number of existing placements (Wray and McCall, 2007; Jackson *et al.*, 2017) and the variable quality of the available traditional placements (Maertz *et al.*, 2014). The location-boundedness, which represents the distinguishing feature of traditional internships, creates issues for students because the geographical locations of available placements in a student's field of interest or study may not match their own geographical location. This issue is likely to be particularly challenging for students from low social-economic backgrounds, students with caregiving responsibilities, disabled students and online students located in rural and remote locations. The challenges for these students are further compounded if internship placements are unpaid, because students may lack the means to relocate for the duration of an internship (Wray and McCall, 2007; Brough *et al.*, 2015; Moore *et al.*, 2015).

The limited number of available placements in traditional internships is also closely linked to the location-boundedness of this internship format. Issues around the number of placements in a given industry at a given location arise due to resourcing constraints of employers. For students, these constrains translate into a more extensive competition for placements, and a lower likelihood of remuneration. Given the availability constraints of traditional internships, in combination with the growing importance of work-experience for graduate employability, students may be increasingly likely to accept placements that create sub-optimal learning outcomes or placement that are predatory in nature (for example, see: Perlin, 2012). As a result, the quality of internship placements is becoming a major concern for students and HEPs alike (Maertz *et al.*, 2014). Prior literature provides some evidence of this situation, because although most students are generally satisfied with their work placement experience, existing student complaints are typically related to low quality internship arrangements (Jackson, 2015).

E-internships

E-internships are real-world work placements where the interactions between the intern and their employer are predominantly computer-mediated. The main feature of this internship format is its ability to connect interns and employers across different geographical locations, and e-internships may connect locations in different countries and time zones (Jeske and Axtell, 2016a).

A unique benefit of e-internships relates to the likely propensity for computer mediated graduate work environments, as well as the increasing importance of self-employment and freelancing for future graduates (Gandini, 2016). Given this propensity, it is critical for current students to develop effective online/virtual communication skills, and to be able to present ideas, concepts and work products effectively in a computer mediated environment. Although traditional internships may also support the development of these skills, the computer mediated nature of e-internships ensures that these skills represent a cornerstone of the e-internship learning experience.

E-internships are also associated with a number of limitations. Limitations are predominately related to the high level of technical competence and intrinsic motivation interns are required to possess, and the limited acceptance of e-internships by HEPs and graduate employers. Students within an e-internship setting must possess a skillset that is similar to that of students in online study (for example, see: Xiao, 2012) and employees in telework environments (for example, see: Workman *et al.*, 2003). Specifically, students should possess a high level of technical competence and be self-directed and self-motived workers, because they are unable to rely on extensive personal interactions with supervisors (Heron, 1999). Students who are not confident users of technology, as well as students who are not proactive in their learning, may feel isolated from their employer organisation (Konradt and Schmook, 1999; Workman *et al.*, 2003). Given the absence of a physical workplace in which the intern and the employer organisation interact, students in e-internships are also less likely to receive opportunistic and/or accidental learning opportunities than traditional interns. Given these limitations, students may not be able to close all skill and knowledge gaps that impede their work performance without assistance (Spell, 2001; Ilgen *et al.*, 2005). As a result, students in e-internships may have to be more proactive to develop the full range of learning outcomes commonly associated with traditional internships. In addition, the support that interns receive from employer organisations and HEPs must be more systematic, timely and proactive than the support that is typically provided in a traditional internship setting.

A second limitation of e-internships arises because this format represents a fairly recent innovation that is not yet widely understood by employers and HEPs. Given this lack of understanding, clear guidelines regarding the creation of support structures and learning opportunities within e-internships are still unavailable. As a result, many HEPs may be unwilling to recognise e-internships as credit bearing learning activities, and employers may sometimes be reluctant to recognise e-internships as valid work experience.

Simulated internships

Simulated internships represent structured learning experiences in which students are placed in an immersive virtual environment that replicates a real-world internship setting (Bayerlein, 2015). Students undertaking a simulated internship assume the role of interns and are made responsible for a specific work programme, either individually or in a team with other interns. Simulated internships differ from other internship formats because they are usually attached to HEP based blended/online learning programmes, rather than being located with an external employer organisation.

A unique benefit of simulated internships arises due to their conceptual origin in case-based instruction (Bayerlein, 2015). This foundation enables students in simulated internships to bridge the education/practice gap through the systematic application of proven educational

processes in a simulated workplace setting (Bayerlein, 2015). Students draw extensive benefits from such learning activities because they are able to develop skills and knowledge that are normally excluded from traditional classroom learning activities, whilst remaining in a well-supported higher education setting.

Limitations of simulated internships relate to the skills that students need to possess to be successful in a simulated setting, and the authenticity of the simulated internship environment. Students undertaking a virtual internship should possess skills that are similar to those of teleworkers (for example, see: Workman *et al.*, 2003) and distance learners (for example, see: Xiao, 2012), because the work/learning challenges in these settings are similar to those of virtual internships. Prior literature highlights teleworkers must be able to tolerate ambiguity, and be able work in isolation from their colleagues and supervisors (Workman *et al.*, 2003; Xu and Tracey, 2014). Similarly, successful distance learners must be highly motivated, have a strong internal locus of control, strong self-efficacy and be able to tolerate a substantial level of anxiety in the learning process (Xiao, 2012). Students who do not possess these skills are less likely to fully engage in simulated internship experiences, and are unlikely to fully achieve all learning outcomes that are available in this format.

The second limitation of simulated internships relates to the impact of unauthentic workplace simulations. This issue arises because more realistic simulations are more likely to achieve learning outcomes that are comparable to those of traditional internships (Bayerlein, 2015). However, the increasing removal of educators from the work environment into which graduates will enter (Fleming, 2008; Jackson and Chapman, 2012) means that HEPs may not have the capacity to develop authentic workplace simulations without extensive industry assistance (Bayerlein, 2015). As a result, the creation of an authentic workplace simulation, as well as the identification of the skills and knowledge that students should develop within the simulation (de la Harpe and David, 2012), requires extensive interactions between employers and HEPs. However, even well intentioned collaborations between employers and HEPs are likely to be difficult because the impact of internships on student learning is most extensive if they possess a clear focus (Rothman, 2007), whilst the number of potentially available career pathways for students entering a simulated internship experience is large. Given the large number of career pathways in most discipline areas, prior literature (for example, see: Bayerlein, 2015) highlights the importance of structuring simulated internships as umbrella programmes in which students are able to develop the skills and knowledge that are most relevant to their personal career goals.

4. Comparative analysis of the three main internship formats

CMIs enable students to develop many of the learning outcomes and benefits of traditional internships discussed above (also, see: Guile and Griffiths, 2001; Kavanagh and Drennan, 2008; Hergert, 2009; Burritt *et al.*, 2010; De Lang and Watty, 2011; Rosenberg *et al.*, 2012; Jackson *et al.*, 2014). In addition, the descriptions of e-internships and simulated internships provided in the current paper highlight that CMIs are also able to address many of the limitations of traditional internships. A comparative summary of the extent to which both CMIs are able to achieve the learning outcomes, and to address the limitations, of traditional internships is provided in Table 1.

Table 1: Comparative analysis of internship formats

	Learning outcomes			**Traditional internship limitations**		
	Cognitive	Skill-based	Affective	Location bound	Placement number	Placement quality
Traditional internship	●●●	●●●	●●●	n/a	n/a	n/a
E-internship	●●●	●●○	●●○	●●●	●●○	○○○
Simulated internship	●●●	●●●	●○○	●●○	●●●	●●○

Note: the number of "full dots" within each of the learning outcome categories (left hand side of table) indicates the extent to which a particular internship format is able to support the development of a particular learning outcome; and the number of "full dots" within each traditional internship limitation category (right hand side of table) indicates the extent to which a particular internship format is able to address a particular limitation of traditional internships.

E-internships are expected to be very successful in supporting students' cognitive learning outcomes (3 out of 3) and successful (2 out of 3) in supporting students' skill-based and affective learning outcomes. The cognitive learning outcomes of e-internships are likely to be extensive because interns are required to develop well-rounded independent work and problem solving skills to be successful in an e-internship. Whilst this particular feature of e-internships may have a substantial positive impact on students' future work and study practices, the risk that interns do not develop the required level of skill is substantial. Interns are most likely to develop cognitive learning outcomes if they are self-directed learners with a strong internal-locus of control and motivation prior to commencing the internship placement. Interns require these attributes to be successful because even well-designed e-internships assign the predominant responsibility for asking questions and seeking advice to the intern. Whilst similar expectations may exist in traditional internships, the supervisors of e-interns are unable to observe the day-to-day activities and challenges of their mentees as closely and extensively as is normally the case in traditional internships.

E-internships are assigned a medium rating for their ability to support the skill-based learning outcomes because of the geographical location differences between interns and their employer. The absence of a common workplace location is likely to hinder an intern's access to normal workflow processes and reduce the amount of guidance and support that is provided to manage these processes. Whilst well-designed e-internships will provide interns with extensive support through modern communication and learning/workflow technology, interns must be technological competent proactive learners to utilise these support structures effectively. Furthermore, e-interns may require good prior knowledge of key workplace processes before commencing their placement to succeed without the extensive ad-hoc advice and support from colleagues and supervisors that is available in traditional location bound internships.

The affective learning outcome criterion is rated as 2 out of 3 because the full integration of e-interns into the social environment that surrounds their workplace is difficult. Difficulties arise because affective learning outcomes are the result of the extent to which interns experience and internalise the feeling of being part of the workplace. In addition, the development of affective learning outcomes is usually linked to the extent to which interns are able to access informal and/or accidental learning opportunities. Given the absence of a common physical workplace, e-internships are required to covey a realistic virtual workplace experience to support students in developing affective learning outcomes. Well-designed e-internships are likely to achieve this outcome, either because telework/geographically distributed working arrangements are part of normal industry/workplace practices, or because the e-internship experience is highly interactive. However, it is unlikely that all workplace situations are equally conducive to the creation of high quality e-internship placements.

Whilst e-internships may not be able to replicate all learning outcomes that arise in traditional internships, they are very successful (3 out of 3), and successful (2 out of 3) in addressing the location-boundedness and placement number issues of traditional internships, respectively. The computer mediated nature of e-internships enables interns and employers to reside at virtually any geographical location. This e-internship feature improves the placement opportunities for previously disadvantaged student groups. For example, students with disabilities or care giving responsibilities who may be unable to relocate to gain a traditional internship placement, may utilise e-internships to participate much more fully in work experience programmes than was previously possible. Furthermore, e-internships are able to address an important resource constraint of employers, because employers do not need to provide interns with a physical workspace. As a result, e-internships are likely to increase the overall number of available internship opportunities. However, the potential increase in placement numbers is limited because interns must still be adequately supervised by industry professional (also, see: Jackson, 2015). A related limitation of e-internships arises due to their inability to address the rising quality concerns of traditional internships. In fact, e-internships are likely to create additional quality concerns for students and HEPs because placements are likely to be in emerging industries and/or start-up firms (Jeske and Axtell, 2016b). In addition, the geographical spread of employer organisations is likely to be large, which may reduce the level of familiarity between students/HEPs and the employer organisation.

Simulated internships, which represent the second CMI format analysed in this paper, are likely to be very successful (3 out of 3) in supporting the development of cognitive and skill-based learning outcomes for students, but only moderately successful (1 out of 3) in supporting students' affective learning outcomes (Table 1). The development of cognitive and skill-based learning outcomes is very well supported because the connective learning model (Guile and Griffiths, 2001) that underpins this internship format requires students to complete a hierarchical learning programme whilst continuously relating theory to practice (Bayerlein, 2015). In addition, the simulated internship environment requires students to develop applied and theoretical knowledge through the application of educational processes in practical workplace situations (Bayerlein, 2015), which fosters the development of students' skill-based learning outcomes. Simulated internships are highly successful in developing these outcomes due to their foundation in online/blended learning, both of which are highly conducive to the assimilation and practice of knowledge and processes.

Simulated internships are only moderately successful in developing students' affective learning outcomes because they are conducted in an educational setting, and are focused on specific

learning objectives. Simulated internships may be able to mimic many of the social and professional interactions within traditional internships through immersive multimedia, virtual reality gaming and/or story telling approaches (Bayerlein, 2015). However, such interactions are likely to be narrowly focused and extensively scripted. Given these features, the informal and/or accidental learning opportunities through which interns learn about the social fabric of a workplace are largely excluded from the simulated experience. Well-designed simulated internships may be able to partly address this issue through the provision of extensive peer/supervisor feedback opportunities. However, even well designed feedback and/or peer interaction activities are unlikely to replicate all of the social aspects of a real-world workplace.

Although simulated internships are only moderately successful in supporting students' affective learning, this limitation is partly offset in other areas. For example, simulated internships are very successful (3 out of 3) in raising the number of available placements, and successful (2 out of 3) in addressing the location-boundedness and quality limitations of traditional internships. The number of placements in simulated internships is virtually unlimited because they represent online (or blended) learning experiences that do not require external placements or one-on-one workplace supervision. As online/blended learning experiences, simulated internships also reduce (blended) or eliminate (online) the location-boundedness limitations of traditional internships. Whilst fully online internship simulations are not bound to any specific location, blended experiences combine the virtual online workplace simulation with location (and time) specific face-to-face activities. Such blended workplace simulations are particularly well suited to support the transition of students in traditional knowledge focused degree programmes towards self-directed and self-motivated workplace situations. Simulated internships are able to achieve this outcome because they require students to undertake extensive cognitive and skill-based learning without fully removing traditional classroom support structures. In addition, both blended and online internship simulations are likely to successfully address the quality (variability) concerns that represent important limitations of other internship formats (also see: Maertz *et al.*, 2014). Simulated internships are able to address these concerns because they are HEP controlled learning environments, and HEPs have extensive experience in teaching and assessing student activities in such environments.

5. Conclusion

The current paper presented the findings of a conceptual literature review that compares the cognitive, skill-based and affective learning outcomes (Kraiger et al., 1993) that are expected to feature within the three analysed internship formats. In addition, the paper provided a conceptually based assessment of the extent to which e-internships and simulated internships are likely to be able to address the main limitations of traditional internships. Using these assessments, the paper developed a specific set of learning outcome expectations for each internship format, aimed at informing students and HEP personnel about the benefits and limitations of each format. In addition, the expectation sets developed in this paper may also inform future research in this area because they provide a basis against which CMIs may be assessed empirically.

Prior literature has highlighted that internships are most successful in delivering student learning outcomes if the internship programme is tailored to the needs of the student and employer (Marsick, 2009; Cunningham and Hillier, 2013; Hoyle and Deschaine, 2016). The current paper suggests that the rise of CMIs adds another layer of complexity to students'

decisions about the suitability of a particular internship offering to their personal needs and expectations. The current paper assist students in assessing the extent to which different internship formats are likely to meet their needs through a literature review based comparison of the learning outcomes and learning challenges that are expected to arise within each internship format.

The conceptually based comparative analysis of traditional internships, e-internships and simulated internships within the current paper highlighted that CMIs are theoretically able to replicate many of the benefits of traditional internships, whilst concurrently addressing several important limitations. However, the literature review on which the current paper is based also identified limitations for both analysed CMI formats. For e-internships, limitations were associated with difficulties in supporting skill-based and affective learning outcomes for students, as well as the difficulty of this internship format to address the quality concerns associated with traditional internships. Drawbacks for simulated internships were predominantly related to the format's limited ability to support the development of affective learning outcomes for students, and concerns related to the authenticity of simulated internship placements.

The current paper also drew on existing literature to highlight that students are likely to maximise their learning outcomes within a CMI if they possess a specific set of skills. Students, as well as HEP personnel charged with supporting students before and during their internship placements, may assesses an individual's suitability for a CMI through cultural self-awareness (Canady *et al.*, 2011) and multicultural competency (Manese *et al.*, 2001) evaluations. Students who are self-motivated independent learners with a high tolerance for remote work conditions are likely to be successful in both e-internships and simulated internships. Students in both internship formats may maximise their learning outcomes through the proactive use of all available support services. The proactive use of peer/supervisor support enables interns to develop strong theoretical and practical knowledge of their workplace. In addition, the proactive use of such offerings is likely to maximise informal and/or accidental learning opportunities, which have previously been shown to be critical for the development of affective learning outcomes in all internship formats.

The current paper makes an important contribution to the literature because it provides a conceptually based assessment of the extent to which CMIs are able to replicate the key learning outcomes of traditional internships. In addition, the current paper shows that e-internships and simulated internships have clear advantages and disadvantages for students when compared to traditional internships. Whilst this paper does not attempt to argue towards a wholesale replacement of traditional internships with CMIs, the presented information demonstrates that both CMI formats are able to provide high quality learning opportunities for students in the contemporary higher education environment.

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