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Core competencies for the global workplace: A cross-cultural and skill-based simulation project in accounting

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ABSTRACT

This paper examines a multi-faceted workplace simulation project as a curriculum design strategy to address the expanding core competencies that constrained accounting programmes must incorporate. The problem-based learning simulation incorporates technical content with communication and cross-cultural skills competencies. Using Q methodology, this study reveals how students perceived their engagement in the simulation project. The results indicate strong agreement amongst students regarding the effectiveness of the simulation project procedures and the usefulness of its outcomes. However, a clear disparity was evident in terms of students' perspectives on the level of acquiring the cross-cultural and team competencies that the simulation project sought to instil. Suggestions for future implementations are explored.

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Introduction

This paper addresses how academics might redesign their curricula to address the ever-expanding core competencies demanded by the profession. Recently the International Federation of Accountants (IFAC) released the latest International Education Standards (IES) that come into effect in 2021 increasing the Information and Communications Technologies (ICT) and other competency requirements for the initial professional development of aspiring accountants. Academics must now accommodate these expanded competencies in the curriculum to meet local accreditations tied to the IFAC standards. The challenge faced by academics is how to incorporate additional skill development within an already crowded curriculum (Jackson & Meek, 2020). One approach is to develop multiple layers of learning and competencies around traditional technical content. That is, to cover the technical content differently such that other competency skills are developed in the process. We provide a problem-based learning example of such a multi-faceted learning task. Our workplace simulation project incorporates consolidation and international accounting technical content with communication, teamwork, and cross-cultural management skill competencies. The strategy of a multi-faceted learning activity demonstrates how academics can design a curriculum

that addresses the expanding accreditation learning requirements within the extant capacity constraint of programme structures.

The challenge of core competency curriculum design is understudied in the accounting education literature. The review paper by Apostolou et al. (2019) urges accounting academics to empirically investigate how their accounting courses can be redesigned to emphasise core competencies such as the IFAC's revised IESs. Gittings et al. (2020) also call for more research on the transferable professional skills promulgated by the IESs as they are moderately researched and mainly based on students' subjective self-assessment. Tharapos and Marriott (2020) argue that research is urgently required on how cross-cultural team skills can be incorporated into the curricula. Bridging the gap between accounting curricula and real-world requirements, and modernising the education environment, are necessary to develop the critical core competencies required of graduates in an era of rapid changes in global business practices (Gittings et al., 2020). However, a recent study by Herbert et al. (2020) questions whether university level credentials can equip graduates for the 'new world of work' where automation and offshoring are shifting the demands in the employment marketplace. Participants in the Herbert et al. (2020, p. 19.) study challenge the assumption that educators can provide an 'authentic simulation of typical workplace behaviours' and the authors suggest that educators should focus on developing the preprofessional identity graduates need for the 'new world of work' rather than integrating skill development into the curriculum.

We demonstrate that it may be possible to develop both core competencies and graduate preprofessional identity in an appropriately designed educational activity. This study addresses the multiple challenges of expanding core competencies, curricula design, and providing a realistic workplace simulation. We document a collaboration between two universities in which students enrolled in Advanced Accounting courses work together on a cross-cultural and skill-based simulation project. The simulation adopts a problem-based learning approach and is designed to build some of the core competencies required by the IESs. The design is rooted in social constructivism and emphasises peer-to-peer and cross-cultural mentoring elements. Using Q methodology, in contrast to the typical self-assessment research methodology, this study examines how students perceive their engagement and learning in the problem-based simulation project. By investigating students' perspectives, we aim to contribute to the empirical evidence regarding *how* and *why* academics should adapt accounting education to the changing needs of the profession and the complexities of the current global business environment.

Contribution

The paper makes two key contributions. Firstly, we respond to Tharapos and Marriott's (2020) appeal for research addressing the development of cross-cultural team skills and demonstrate a simulation of international collaboration in the accounting workplace. Our simulation responds to Helliar's (2013) call for more experiential learning activities such as simulations that mimic the professional accounting world. The growth in the offshore service centre model (Herbert et al., 2020) and the increasing diversity of domestic teams means it is likely that graduates will work with multicultural teams. In this context, transferable professional skills are very critical for the accounting professional

(Gittings et al., 2020; Herbert et al., 2020; Jackson & Meek, 2020). Being able to demonstrate experience gained in working with such teams not only develops teamwork, cross-cultural and communication skills, but can form part of Herbert et al.'s (2020) preprofessional graduate portfolio. The lessons learned from the simulation and reported in this paper can help academics develop future realistic workplace simulations that contribute to student authentic learning and enhance graduate employability. Secondly, the paper contributes to the literature by utilising the Q methodology, which is more robust relative to the traditional student survey self-assessment that is typically employed. Employing this methodology addresses Tharapos and Marriott's (2020) plea for quality empirical accounting education research as well as Gittings et al.'s (2020) call for more rigorous research methods in the experiential learning research literature. Other researchers can potentially employ the Q methodology to help build a richer body of evidence.

The paper is structured as follows. In the following section, we review the accounting core competencies required to function in today's global workplace as detailed in the literature and established by global accounting associations. This is followed by a discussion of the theoretical framework underpinning the research, and then we describe our cross-cultural and skill-based simulation project in detail. The next section introduces the Q methodology as the mode of our inquiry for revealing students' perceptions of their engagement in the simulation project. After that, we present and discuss the results and findings. In the later sections, we outline limitations and suggestions for future research with concluding remarks included in the final section.

Literature review

Accounting core competencies for a global workplace

Far earlier than others, Littleton (1942) observed, 'When we think of preparation for a professional career in accountancy, two elements come to mind, which are written into most CPA laws, namely, experience and education' (p. 215). According to Littleton, accounting education has the objective of 'preparing individuals to act in certain ways with understanding' (p. 216). As such, it requires supporting individuals 'to not only be able to act but also to understand, and not only to understand but also to act' (p. 216). Littleton further stressed, 'If the "whys" are neglected, the learning process will produce only a limited ability to deal with new situations even though teaching has been concrete and objective. If the "hows" are neglected, the experience obtained will be so abstract as to be of small real usefulness' (p. 216).

Nevertheless, many decades after Littleton's remarks, research shows that current accounting education focuses on subject-specific skills (i.e. technical skills) and tends to ignore professional skills (i.e. generic, or transferable skills) (Helliari, 2013; Watty et al., 2014). This is despite the view that 'the changing role of the accountant from a backroom number-cruncher to a boardroom financial adviser requires the development of additional capabilities' (Laswad, 2013, p. 49). Current accounting education also overlooks the array of changes taking place in the dynamic environment of accounting practice, which are attributed to the increasing pace of change in financial reporting and markets, the complexity of the regulatory activity, globalisation, offshoring, automation, and technological changes (Herbert et al., 2020; Wilson, 2014).

The question then becomes, what are the core competencies required for today's accounting professional? Two distinct yet interdependent groups that address this question are: (1) the accounting academy; and (2) the accounting profession. Drawing on both of these is critical to fully capture the core competencies required in today's markets, simply because 'there is an unprecedented interdependence between educational institutions in the tertiary education sector and professional accounting bodies in the provision of professional accounting education programs' (Wolnizer, 2014, p. xxi).

The accounting academy's contribution to our understanding of core competencies is via research as well as actions in imbedding core competencies into programme design and learning standards. We will consider the research contribution first and revisit programme design standards after considering the contribution of the profession. Research firmly establishes that technical skills alone are not sufficient for a successful career in accounting (Sangster & Wilson, 2013; Watty et al., 2014). Research continues to identify gaps between the professional skills required by employers and those acquired by accounting students during their studies (Tempone et al., 2012). It is argued that 'accounting graduates must be able to think outside the box, have relevant industry knowledge and a range of generic skills to solve 'big picture' business challenges and add value for clients' (Smith et al., 2018, p. 538). Within the accounting education literature, accounting academics prescribe a list of core competencies that graduates should acquire. We summarise a sample of this research in Table 1. Our criteria in selecting the studies summarised in Table 1 was representativeness of the broad range of approaches across the literature. That is, we attempted to demonstrate how accounting core competencies can vary from one place in the world to another, and how differently they can be interpreted and emphasised by different groups of stakeholders. The table is structured in alphabetical order.

The research summarised in Table 1 highlights and exemplifies several issues. First, the definition of core competencies is vague and varies from one study to another. To illustrate, in study seven, communication skills are assumed to involve administrative skills and meeting deadlines along with written, verbal, and interpersonal skills. Yet, in the second study, communication skills are restricted to written and verbal proficiencies. Such vagueness is evident in the literature as well. For example, certain interpersonal competencies are sometimes considered the same thing as teamwork, while written and verbal communication skills are regarded as distinct competencies (Hancock et al., 2009). However, at other times, interpersonal competencies and communication skills are combined, while teamwork is treated as distinct (Smith et al., 2018). Second, the expectations of stakeholders (i.e. accounting students, accounting academics and accounting practitioners) often differ. As Watty et al. (2014) note, an expectation-performance gap is evident in the core competencies literature. Still, very few studies attempt to propose ways in which the gap may be narrowed (e.g. Bui & Porter, 2010). Third, it is apparent that the core competencies required for the accounting profession differ from one context to another. It has been argued that societal perceptions of the accounting profession (Jackling, 2007), employers' characteristics (Tempone et al., 2012), and cultural backgrounds of stakeholders (Keneley & Jackling, 2011) influence the required core competencies. Yet, 'there is largely an absence of research that specifically addresses the relationship between contextual issues and skills' (Tempone et al.,

Table 1. A sample of accounting core competencies literature.

Study	Context	Core Competencies
1. Ali et al. (2016)	In the Malaysian context, this study investigated employers' and educators' perceptions of the importance of the knowledge and competencies taught to accounting students in higher education. Questionnaires were used to survey 127 accounting educators and 95 accounting practitioners.	Finds that the most critical competencies are written communication, continuous learning, decision making, critical thinking, risk analysis, oral communication, leadership, resource management, business decision modelling and change management. Practitioners place highest weight on resource management while educators emphasised critical thinking skills.
2. Hegazy et al. (2017)	Through interviews with and questionnaires returned by 262 heads of forensic services departments or firms, this study investigated essential knowledge and competencies required in forensic accounting in the U.K.	Finds that the most critical competencies for forensic accountants in the U.K. are communication skills, analytical skills, problem solving and investigative skills.
3. Hussein (2017)	In the Egyptian context, using questionnaires, 119 accounting professionals and 126 students were surveyed to measure the importance of 21 competencies in accounting education in Egypt.	Finds that the most critical competencies are intellectual and communication, interpersonal, creative ability, organisation, research, and analytical skills.
4. Klibi and Oussii (2013)	In the Tunisian context, this study surveyed the perceptions and expectations of 81 accounting students and 48 accounting practitioners regarding the importance of various competencies for employment in accounting.	Finds that the most important skills as determined by practitioners are interpersonal, personal and intellectual skills, physical qualities and IT skills. Students focused on technical skills such as preparing financial statements and other technical bookkeeping.
5. Mandilas et al. (2014)	Through a structured questionnaire, this study investigated how 166 accounting students, 25 accounting academics and 155 companies perceive the required accounting competencies in the Greek market and whether universities are meeting the market's expectations.	Finds that all students, academics, and companies have different perceptions of required accounting core competencies. Yet, the study argued that accounting education in Greece should focus on the following competencies: general culture, oral communication and written skills, ability to think critically, ability to work under pressure and personal fit with the company's image.
6. Osmani et al. (2017)	Some 14 experienced business and management faculty at a Qatari public university were surveyed to determine their perceptions of the most critical attributes for employability.	Finds communication, teamwork, problem solving, creativity, critical thinking, time management and research skills are the most important, while accounting academics most frequently identified skills such as communication/interpersonal, information and communication technology (ICT), critical thinking, teamwork, and problem solving.
7. Smith et al. (2018)	In the Australian context, this study surveyed 90 international postgraduate Chinese accounting students' perceptions of skills required for a professional accounting position.	Finds the most critical core competencies for a professional accounting position in Australia are, according to students, communication skills, teamwork, personal skills, confidence, technical skills, and leadership skills.
8. Tempone et al. (2012)	Three Australian professional accounting bodies and 29 accounting employers representative of all industry sectors were interviewed to ascertain the most critical generic attributes required of graduates.	Finds communication, teamwork and self-management skills were considered the most critical. However, the meaning of these differed across sectors.
9. Webb and Chaffer (2016)	This study surveyed 884 graduates to examine the highly appreciated accounting competencies in the U.K.	Finds that the most needed skills for accounting graduates are personal, inter-personal (leadership), inter-personal (communication), appreciative, learning, and written communication skills.

2012, p. 44). We argue that the core competencies literature should be context-sensitive. This can be facilitated by utilising research methodologies that incorporate research informants' subjectivities, as the coming point further explains. Fourth, all the studies

presented in Table 1 utilise either questionnaires or interviews (or both, as in the second study). To a certain extent, such research instruments can impose researchers' subjectivities on research informants (Watts & Stenner, 2014). We argue for a research methodology that incorporates research informants' own constructions of their worlds, so context-sensitive data can be obtained. Finally, most studies in the literature on accounting core competencies provide general research-based recommendations but fail to demonstrate how their findings can be implemented through practical procedures that help in redesigning accounting curricula and thus address the challenge faced by academics.

In contrast, accounting professional bodies around the world have established core competency frameworks. Two exemplars are IFAC and The American Institute of Certified Public Accountants (AICPA). IFAC established the International Accounting Education Standards Board (IAESB) to enhance accounting education through the development and implementation of eight IESs. The IAESB argues, 'These standards detail the principles professional accounting organizations should follow to build a national accounting profession that is fully capable of fulfilling the complex demands economies and societies place on it' (IAESB, n.d.). The AICPA framework was 'developed by educators and accounting professionals to define a set of skills-based competencies students entering the accounting profession need' (AICPA, 2018). AICPA competencies are arranged under the following three pillars: Accounting competencies, Business competencies and Professional competencies. Under the umbrella of each of these three main competencies, AICPA describes related skills in detail.

The detailed core competencies frameworks developed by IFAC and the AICPA contrast the lack of consensus in the research literature. However, much like the research produced by the accounting academy, such frameworks provide little practical guidance on how these core competencies can be incorporated into an arguably crowded accounting curriculum (Jackson & Meek, 2020). While there is consensus in both the accounting academy and the accounting profession that accounting careers require core competencies, albeit with variations in what these are, there is less consensus on how to advance these skills in the accounting classroom.

Nevertheless, the academy has set competency benchmarks for their programmes. In some countries, like Australia, competency benchmarks have been developed at the national level. Since 2010 the Australian Business Deans Council (ABDC) has been active in developing accounting learning standards that go beyond technical accounting knowledge (Hancock et al., 2016). Responsibility for subsequent reviews was placed in the hands of the national academic association, the Accounting and Finance Association of Australia and New Zealand (AFAANZ), with endorsement rights residing with ABDC. This has resulted in academics driving revisions to the standard of knowledge and skills of accounting graduates for six threshold learning outcomes: judgement, knowledge, critical analysis and problem-solving skills, communication, teamwork, and self-management (Hancock et al., 2016). These skills are to enable graduates to work effectively in their chosen career roles and to pursue membership into professional accounting bodies (Hancock et al., 2016). The document, *Accounting Learning Standards*, is intended to inform higher education institutions in their design of accounting programmes; accounting students, to determine what studying accounting involves; and employers or professional accounting bodies, so they know what knowledge and skills to expect

in accounting graduates, and acknowledges that programmes may differ between higher education providers (Hancock et al., 2016).

At the international level, one common reference point is the learning standards issued by the Association of Advanced Collegiate Schools of Business (AACSB), which cover nearly 900 business schools in over 57 countries. The AACSB requires accredited business programmes to include ‘learning experiences that address core competencies characteristic of a successful business graduate of an AACSB-accredited school’ (Association of Advanced Collegiate Schools of Business, 2020, p. 38). Thus, while not stating the core competencies in the standard, the AACSB holds accredited programmes accountable in relation to the normally expected core competencies.

In practice accredited institutions develop their respective programme core competencies with reference to their context and this includes local educational and professional bodies. The professional accounting bodies of Qatar and Australia¹, the contexts of the study, are recognised by IFAC. The accreditation requirements of these reference professional bodies, and thus requirements of the educational programmes of accredited universities, follow IFAC’s International Education Standard 3 (IES 3) including interpersonal and communication professional skills (IFAC, 2019). Interpersonal and communication skills cover the ability to work collaboratively, including in teams and where there are cultural and language differences, and includes listening, negotiation, and consultative skills to solve problems (IFAC, 2019). IFAC does not specify how to develop these skills but encourages educators to:

... identify the most appropriate approach to learning and development for professional skills, taking into consideration the national and cultural environment. An appropriate approach is likely to include a mixture of learning and development activities which combine structured learning programs and practical experience. (IFAC, 2019, para A14)

Thus, IFAC sets the platform for developing new learning activities combining cultural and practical elements that address interpersonal and communication skills. As noted, there is limited research to guide educators (Apostolou et al., 2019) in their curriculum design. To address this, we detail the theory and problem-based learning pedagogy associated with the design and implementation of a multi-faceted simulation targeted at developing interpersonal and communication core competencies identified by IFAC.

Theoretical framework

Problem-based learning (PBL) is a pedagogy grounded in the theoretical framework of constructivism (Stanley & Marsden, 2012), which is one of the three recognised learning theories relevant to tertiary accounting education (Helliari, 2013). Constructivist learning theory focuses on students being active and independent learners whose learning is facilitated by collaboration with their peers and instructors (Helliari, 2013). In social constructivism, social engagement and interaction is essential for the learning process to be successful (Zhu et al., 2009). The social context of learning, social constructivism, incorporates learning via collaboration which is also a feature of problem-based learning (Vygotsky, 1978). PBL promotes the use of authentic, unstructured, and real-world issues to facilitate the learning process in which students are active and not passive

learners (Stanley & Marsden, 2012). Milne and McConnell (2001, p. 61) conclude that PBL 'bridges the gap between tertiary education and life as a professional'.

PBL involves problems reflective of those that may be encountered in a professional environment and incorporates activities such as self-directed learning, research, analysis, inquiry, discussion, and collaboration (Stanley & Marsden, 2012, p. 269). The development of skills relevant to these activities is consistent with the skills expected of a professional accountant. PBL provides a learning experience which has been identified by cognitive psychology as a successful mechanism for the acquisition, retention and recall of knowledge (Milne & McConnell, 2001). Adler (2014), drawing on Barrows and Tamblyn (1980), identifies several characteristics of PBL that we draw on in the design of the learning activity in this study. A key feature is that the learning is student-centered and that small groups are used to facilitate the learning. In this approach, educators act as facilitators or guides rather than traditional instructors. Students are presented with a learning activity designed to provide the motivation and stimulus for learning and the activity is designed to stimulate the development and application of problem-solving skills. As part of the design, students review their current knowledge base and its application to solving the issues identified in the learning activity. Finally, to obtain the additional knowledge required to resolve the issues identified in the learning activity, students self-direct as part of their learning and skill development.

Our cross-cultural, skill-based, simulation project incorporates these key PBL characteristics. The project presents a case (the stimulus and learning activity guidelines) that require the local students to work in small groups (teamwork), collaborate with their peers locally and internationally (language, cross-cultural and communication issues) to identify and resolve the relevant case problem, develop knowledge and insights arising from their analysis of the case and collaboration with their peers, and determine the appropriate course of action. The simulation project was designed to stimulate the acquisition of new knowledge via self-directed learning and collaboration to resolve the issues identified in the case. Consequently, the design of the simulation project is reflective of a type of problem-based learning activity (Anderson & Lawton, 2014). Consistent with the approach adopted by Stanley and Marsden (2012), the simulation project focuses on the importance of questioning to collect the necessary information to resolve the issues identified by the local students' analysis of the case.

Empirical literature outlines proposed methodologies for the successful implementation of PBL, see Breton (1999), Milne and McConnell (2001) and Tan (2007). Our simulation project adopts the five-step concise approach implemented by Stanley and Marsden (2012), which is based on the methodology recommended by Johnstone and Biggs (1998), to ensure the successful implementation of PBL within the curriculum. Broadly, students (in our case the local students) are required to firstly review the case facts, determine the issues arising therein, and gather facts and information. As part of this process, they can ask their international student peers relevant and probing questions. The second step is to generate possible solutions to the issues identified. The third step requires students to research each issue identified. The fourth step involves collaboration, sharing ideas, and determining the correct response to address the issues identified, again interacting with local and international peers. Finally, students communicate, via a written report, the results of their research (Stanley & Marsden, 2012). Upon

completion of the simulation project, we investigate how the local students perceive their engagement in the project.

Cross-cultural and skill-based accounting simulation project

The cross-cultural and skill-based simulation project addresses the third educational standard (IES 3), *Professional Skills and General Education*. The aim of IES 3 is to equip candidates with the appropriate mix of skills to function as professional accountants. These skills are intellectual, technical, personal, interpersonal, and organisational. Table A1 describes the simulation project against the backdrop of IES 3, while the following sections provide details on the nature of the project.

Cultural intelligence (CQ), the effective functioning of an individual in culturally diverse situations, has significant relevance to the accounting profession (Tharapos et al., 2019) because of today's increasingly globalised work environment. For example, the Australian higher education learning standards for accounting recognise that accounting practice is influenced by global factors (among various other factors) and note that working collaboratively in a team involves working with members coming from varying perspectives or cultural backgrounds (Hancock et al., 2016).

In our simulation project and research, cross-cultural differences are imbedded by employing two culturally and physically distinct local and international student groups. The local students are based at a Middle East university and the international students are based at an Australian university. The specific location of the two universities is not critical to the study. Rather, the two locations represent quite different cultural contexts and thus provide a significant contrast where cross-cultural intelligence matters. In that regard, the research sites are representative of the globalisation of the workplace and cross-cultural issues facing modern professionals. Table 2 presents information about both universities as well as the research codes this study uses to refer to each university.

Although there are some differences in the course content at the two universities, the project underscored common financial accounting concepts and practices. The primary goal of the simulation project is to develop some of the core competency skills required to succeed in the accounting profession while mastering the theoretical material necessary to advance to the next phase of their education. The simulation develops financial accounting, international accounting, cross-cultural, teamwork, professional mentoring, and communication skills. These map to the intellectual, technical, personal, and interpersonal competencies required under IES 3. The simulation is intended to create an international 'communication channel' for students that reflects real-life interactions among accounting professionals in a global era.

Table 2. Participating universities' information and research codes.

Research Site	Location	College	Instruction Medium	Research Codes
University One	Middle East	College of Business and Economics	Either English or Arabic (students choose language track to enrol in).	• <i>Local university</i> . • Students referred to as <i>local students</i> .
University Two	Australia	School of Business	English	• <i>International university</i> . • Students referred to as <i>international students</i> .

Both research sites operate under the International Financial Reporting Standards (IFRS) reporting regime in their respective home financial markets. However, for the purpose of the exercise, the international students are assigned the IFRS reporting regime, while the local students are assigned the US Generally Accepted Accounting Principles (US GAAP) reporting regime. This means in the simulation that each group is dealing with home country reporting standards (i.e. IFRS) as well as learning about U.S. reporting standards (i.e. US GAAP). Both the local and international students are given a case study about a fictitious corporate takeover of an Australian company by a company located in the Middle East. Although the Australian company continued to produce individual IFRS-based financial statements after the takeover, it was required to consolidate its reporting at the end of the year based on US GAAP. The latter is the reporting regime followed by the Middle Eastern (parent) company. Thus, both groups of students are learning and reinforcing IFRS technical content (financial accounting including consolidation) as well as the equivalent international accounting standards (US GAAP). In the case study, the accountants at the Middle Eastern company detect, what seems to them, some possible accounting irregularities in the financial information provided by the Australian company. The Middle Eastern company seeks consultancy from a firm in the Middle East (represented by the local students), who, in turn, collaborated with experts from a consultancy firm in Australia (represented by the international students). The case presents five accounting issues that constitute the potential irregularities (see [Table A2](#)). The case was designed as an individual task for the international students, and as a group task for the local students.

The local students ($n = 64$) play the role of junior accounting consultants seeking guidance from their counterparts in the Australian firm. It should be noted that the local students came from two separate and different language tracks of Advanced Accounting. That is, in the local university, students are given the choice to receive instruction in either Arabic or English. Taught by the same instructor, the local students in this study represent two groups: (1) a group from the Arabic track ($n = 32$) comprising 69% Qatari nationals and 31% international students with most being from Gulf Region states and (2) a group from the English track ($n = 32$) comprising 78% Qatari and 22% international students, again with most of the international students being from Gulf Region states. Although the language of instruction was different for both groups, each Advanced Accounting track used the same base content, delivery methods and assessment instruments. Typically, the local students from one Advanced Accounting track do not interact with students from the other track, even though they have the same (bilingual) instructor. Thus, for the local students, the exercise is about working with local unknown peers as well as unknown international peers. The simulation project prepares students for real-life accounting situations where they work with local and international firms and offices, but also addresses the language and communication skills in IES 3.

The international students ($n = 15$) assume the role of senior, and more knowledgeable, accounting consultants who provide guidance and mentoring to their junior, and less experienced, counterparts in the Middle Eastern firm. The international group from Australia comprise 87% domestic Australian students and 13% non-domestic students from China. In the simulation the international student groups investigate and research each of the five accounting issues to determine whether there was any cause

for concern and to provide suggestions if an irregularity is identified. The international students play the role of the senior associates for two reasons. First, they were exposed to a similar case in previous semesters and, thus, were better prepared to address the advanced aspects of the current case. Second, there were fewer international students than local students, consistent with typical senior–junior organisational frequencies.

There are several barriers to overcome in the case interaction. For the local students with their local peers, the key barrier is the language of instruction, as the case was only presented in English. In the interaction between the local and the international students, besides language and culture, the barriers to overcome include the different time zones and distance. The local students from the two different language tracks are required to work together on this team-based project. Each local student group is composed of two students from each language track. The grouping process intentionally placed two high-performing students from each language track with two low-performing students from the other track. The instructor-determined formation process balances the groups so that no one group has all high- or all low-performing students. This process reflects workplace practice, where supervisors allocate teams rather than allowing self-selection (Kelly, 2009). This process also promotes and facilitates peer-assisted learning opportunities within each group where higher-performing students can serve as mentors to other local students. Peer-assisted learning complements the PBL learning pedagogy adopted for the simulation. In particular, peer-assisted learning focuses on collaboration via student interactions to develop knowledge and critical thinking skills (Sudhakar et al., 2016). The researchers anticipated that this intentional mixed-ability grouping would reflect similar groupings in the workplace where, for example, senior employees might be paired with newer or more junior employees.

Once the roles of both the local and international students are determined, additional arrangements are made to prepare the international students to take on the role of senior associates. Most notable is the early release of the case to the international students, thereby allowing them to obtain feedback and guidance prior to making it available to the local students. Since the case is designed as an individual task for the international students, feedback from the instructor was provided to each student separately. In a sense, this simulates the senior–partner type interaction that might occur in an accounting practice. Once the international students were fully informed with respect to the possible solutions, the case is released to the local students as a group task. Upon releasing the case to the local students, they are informed that the instructor could give no additional assistance. Instead, the local students are informed that they can communicate, via email, with their ‘senior associates’ in the international university for guidance and/or mentoring. The international students are instructed not to give out the solutions directly but rather to guide and mentor the local students. To stress the importance of efficient communication reflecting real-life international business, the local students were restricted to sending a maximum of three emails to their counterparts in the international university.

An email was chosen as the communication medium between the local students and international students for several reasons. Firstly, email facilitates the inclusion of the instructor who can monitor the quality of the communication and ensure adherence to project parameters. Secondly, emails provide evidence from a quality assurance perspective to support grading. Thirdly, the time zone difference made synchronous

communications (e.g. via Skype/Zoom/Teams) difficult. Furthermore, asynchronous communication via email facilitates greater critical thinking (Warschauer, 1997) and produces a 'product-orientated output' where the content is deliberated as it is not subject to time and place limitations (Ajabshir, 2019; Baron, 2002). Finally, given that email is still the preferred communication channel in the office (Jones, 2011; Stich et al., 2019), the requirement to include instructors on the email communications is more consistent with a professional environment in which a junior accountant might include their manager or partner on communications with a client.

Research methodology

The focus of the research is how the local students perceive their engagement in the cross-cultural and skill-based simulation project. Specifically, we gain insights from the local student participants into the project procedures and materials, the process of acquiring competencies, and the outcomes from the project. Q-methodology (henceforth referred to as Q) is employed to capture the student perceptions. McKeown and Thomas (2013, p. 3) argue, a Q study allows researchers to '... discern people's perceptions of their world from the vantage point of self-reference.' Q allows for the systematic study of human subjectivities, that is, how people conceive their views, beliefs, attitudes, opinions, motives, needs, and values (Watts & Stenner, 2014). Q is a mixed method combining the insights of qualitative with the strengths of quantitative research (Dennis & Goldberg, 1996) as it statistically quantifies people's subjectivity while providing in-depth qualitative descriptions (Alkhateeb et al., 2020).

There is a close connection between Q and factor analysis. Nonetheless, while traditional factor analysis involves finding correlations between variables across a sample of subjects, Q looks for correlations between subjects across a sample of variables. Q then reduces the different resulted positions taken by the subjects to a few factors. The peculiarity of Q is that by correlating subjects, a factor analysis provides information about similarities and differences in perspectives on an issue (Sulphey, 2014). Thus, Q is a by-person factor analysis that differs from the traditional by-variable factor analysis. Because of this, Q is referred to as inverted factor analysis.

Q is a reliable research methodology in several scholarly fields (Watts & Stenner, 2014). It is considered as a 'rigorous, hermeneutic, and iterative technique that allows the researcher to surrender the monopoly of control in their relationship with the researched' (Robbins & Krueger, 2000, p. 636). Typically, Q is used to generate new ideas and hypotheses rather than testing existing hypotheses (Chen et al., 2015). Massingham et al. (2012) evaluate the usefulness of Q for accounting researchers. They conclude that Q provides advantages in data gathering (less participant burden), data analysis (deeper insight into participants' subconscious), and results (better ownership of the issue under investigation by the research participants).

Conducting a Q study starts with a detailed review of the arguments on an issue or a topic to form a *concourse*. The *concourse* contains several statements; each suggests a subjective opinion about the issue under investigation and is referred to as a *Q-item*. From the Q-items, a representative sample of the statements is selected to construct what is referred to as the *Q-set*. Then, participants (i.e. the *P-set* in Q terminology) are purposely selected and invited to rank the Q-set through a sorting activity (i.e. doing a

Q-sort). Finally, the Q-sorts are analysed using the statistical techniques of correlation and inverted factor analysis. In the coming sections, we provide details on how we applied these steps in the current study.

Q-set

As mentioned earlier, the starting point of a Q study is developing a concourse. To that effect, 60 students attended and participated in 2 focus group meetings (30 students per group). The approximate time for each focus group meeting was one hour. The focus group meetings were held after the end of a normal class, without the instructor present. The students were invited to remain for the focus group to discuss the simulation exercise. The focus groups were voluntary, and the students were not required to participate. The focus groups were held after the simulation exercise had been completed but within the same semester. Prior to embarking on the focus group meetings, we were aware that ‘research produces or intensifies an unequal relationship between [the] investigator and [the] informants: authority and control lie with the investigator more often than with the informants, and the whole process benefits the investigator much more than the informants’ (Cameron et al., 1993, p. 81). To minimise the power relation imbalance between the interviewer and the participants in this study, it was decided that the second author would conduct the focus group meetings. The second author is from a different college and is unfamiliar to the students.

During the focus group meetings, the students are asked to answer the following: ‘Talk about your experience participating in the simulation project’. The students’ answers are recorded and transcribed. This forms a preliminary concourse of 59 statements. Next, the concourse was culled to discard repetitive, marginal, idiosyncratic, or ephemeral statements (Lo Bianco, 2015). The culling process was aided by the application of Dryzek and Berejikian’s (1993) political discourse analysis matrix. Strategic sampling was applied to ensure a balanced and well-formulated Q-set (Webler et al., 2009). That is, we grouped statements under three main categories that emerged inductively from the initial analysis. These categories are *project procedures*, *acquiring competencies* and *project outcomes*. Table 3 shows the Q-items in relation to these three categories. This resulted in a reduction of the initial statements to 25 Q-items (see Table A3), which were reformulated in both Arabic and English and were given identifying numbers to facilitate data recording and analysis.

P-set

In total, 50 out of 64 local students agreed to participate in the research part of the study and were invited to complete the Q-sorting activity. The participating students took part

Table 3. Q-items matrix.

Project procedures	Acquiring competencies	Project outcomes
Q-items: 1, 7, 9, 10, 11, & 20	via interactions between international & local students 5, 6, 12, 16, 19 & 24 via interactions among the local students & 22	Q-items: 2, 13, 15, 17, 21, 23, & 25

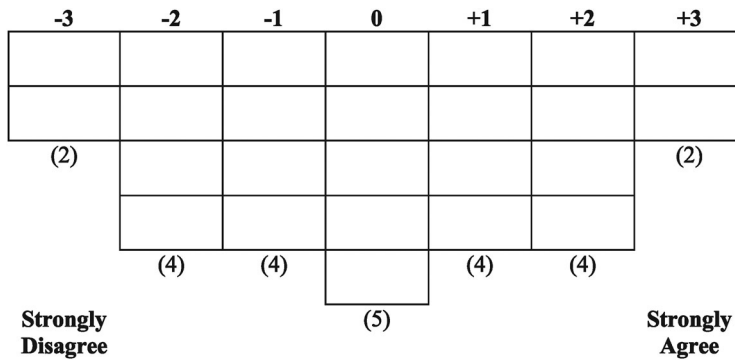


Figure 1. Q-sorting grid.

in the simulation project required as part of the course assessment. During the Q-sorting activity, the students are provided with a consent form to sign and a blank sorting grid. They are asked to sort 25 Q-items on a scale from -3 to $+3$ in response to the task, 'Rank these statements according to your level of agreement/disagreement'. The inverted pyramid-shaped grid (see Figure 1) was constructed as a seven-point forced quasi-normal distribution to reveal the students' perspectives (Brown, 1980). The rightmost column is labelled as strongly agree ($+3$), the leftmost column is labelled as strongly disagree (-3) and the central column is labelled as neutral (0). The grid limits the proportion of responses in the extreme categories in a predetermined proportion, creating an inverted pyramid shape or quasi-normal distribution of Q-items. Upon completing the sorting, the students are asked to verbally elaborate on their choices of items at $+3$ and -3 , and these responses are recorded and transcribed for further analysis. Post-sorting interviews provide additional information that aids the subsequent interpretation (Watts & Stenner, 2014).

Analysis

The resulting 50 Q-sorts are analysed using PQMethod software (Schmolck, 2014). Following the data entry, a centroid factor analysis followed by a varimax rotation is performed. After eliminating factors with insufficient statistical strength, three factors (F-1, F-2, and F-3) are extracted, explaining 42% of the opinion variance.² The three-factor solution is based on statistical criteria (e.g. the Scree test and the significant loading test) as well as on the researchers' intuitions (Watts & Stenner, 2014). Brown's (1980) equation was then used to calculate each Q-sort's significance at the $p < .01$ level: $2.58 \times (1 \div \sqrt{\text{no. of items in Q-set}})$. In this study, factor loadings of at least ± 0.51 were significant at the $p < .01$ level.

Out of the 50 Q-sorts, 37 loaded significantly on one of the three emerged factors, while 13 were null-cases. Based on the procedure of weighted averaging, all the Q-sorts that loaded significantly on the same factor emerged to a single ideal-typical Q-sort. Such shared understanding of the issue under investigation is referred to as *factor array* in Q terminology (Figures (2), (3), and (4) presented later in the discussion section present the factor arrays for the three emerging factors in this study). Using

the crib sheet method, as described by Watts and Stenner (2014), we holistically examine the Q-items in each factor array. This involves looking at each emerging factor array separately to examine the Q-items that are given the highest ranking (+3) and the lowest ranking (−3) as well as those that ranked higher in that factor than any other factor and those that ranked lower in that factor than any other. This minimises the oversight of items ranked as indifferent (or zero) (Alkhateeb et al., 2020).

Results

Each of the three factors (F-1, F-2, and F-3) extracted represents a perspective on the simulation project shared by a group of students. We label the factors (or groups) as glass full, glass half full, and glass half empty to reflect the degree of positiveness towards the learning from the simulation. Table 4 summarises the factors, including the opinion variance and significant loadings, while the Q-sort values for items are presented in Table A3.

Following Stenner and Rogers (2004), we label the emerging factors that represent the general sentience of the students. We provide a qualitative interpretation and description of the single factors. We use the Q-items and comments made by the students during the sorting activity to provide a comprehensive narrative. The figures in parentheses in the notation below represent the Q-item ranking. To demonstrate, for factor one (F-1), (3: +3) indicates that Q-item 3 is ranked in the strongly agree position by the merged average of all students loaded on this factor, while (7: −3) means that Q-item 7 was ranked in the strongly disagree position.

F-1: Glass full

In total, 22 student Q-sorts loaded significantly on F-1, accounting for 21% of the explained variance. Students loading on this factor hold a completely positive view of their engagement in the simulation project. Although they gained the most from collaborating with their peers from their own language track (3: +3), they found communicating with their local peers from the other language track and the international students reliable. This exercise enhanced their interpersonal skills (2: +2) and benefited them not only in acquiring accounting terminology in both Arabic and English (17: +2) but also in gaining new and updated knowledge about accounting standards (13: +2). For students loading on this factor, gaining such benefits was facilitated by having sufficient time to complete the project (7: +3) and, by obtaining the necessary guidance from the course instructor (20: +2). Students loading on this factor seemed to manage developing effective, collaborative relationships with peers, regardless of the cultural and linguistic diversity within the groups. They dismissed any sense of cultural discrepancies in dealing with the international students (6: −2) and any communication

Table 4. Quantitative summary of the emerging factors.

	F-1 Glass Full	F-2 Glass Half Full	F-3 Glass Half Empty	Null Cases
Explained variance	21%	9%	12%	–
Number of loadings Total: 50	22	6	9	13

challenges in negotiating accounting practices and knowledge while collaborating with their peers from the other language track (4: -3) and (8: -2). They strongly disagreed with the comment that the simulation project was challenging to accomplish with peers of various cultural and linguistic backgrounds (10: -3). They did not encounter any obstacles and hardship in performing any technical tasks, such as producing a unified report for the required task in both Arabic and English or in translating accounting information supplied by peers from the other language track (9: -2) and (11: -2). Students loading on this factor seem to understand the importance of integrating their technical and intellectual skills with the required interpersonal and communication competencies to achieve the objectives of the simulation project. Consequently, they seem to demonstrate that they developed core competency skills of professional accountants.

F-2: Glass half full

Six students loaded significantly on F-2, accounting for 9% of the explained variance. Students loading on this factor concentrated on the professional and personal benefits obtained from the simulation project. For students loading on this factor, the project was beneficial chiefly because the local marketplace necessitates accounting sophistication in both Arabic and English (23: +3). As such, they strongly contend that the simulation project exposed them to real-life workplace interactions (15: +3). For students loading on this factor, the simulation project expanded their technical competencies through introducing them to accounting terminology in both Arabic and English (17: +2). On a personal level, peer-to-peer learning permitted the students loading on this factor to enhance their interpersonal skills (24: +2). Chief among these skills is working effectively in a cross-cultural setting. For these students, effective cross-cultural communication is a necessary skill to function in their local market, which they consider as 'an international business environment'. Equally important is that for these students, the simulation project helped in acquiring additional skills that are necessary for professional accountants, such as working on high-level issues with minimal interaction with mentors (21: +2). These benefits underpin the students loading on this factor to reject any technical obstacles resulting from creating a unified report in both Arabic and English (9: -2) or from translating accounting information provided by peers from the other language track (11: -3).

Nonetheless, students here neither believe that working with peers at the international university has strengthened their accounting skills (19: -1) nor that they have advanced intellectually from engaging with peers from the other language track (14: -2). This is because, as the students loading on this factor elaborated in their comments, they share similar intellectual and cognitive abilities with both the international and local peers from the other language track. Consequently, guidance from the international peers was somewhat unnecessary and collaborating with other local peers from the other language track was not fruitful. Regardless, students loading on this factor strongly prefer the simulation project over traditional learning methods (1: -3). That is, students loading on this factor preferred the PBL simulation to learn technical course content even though they did not believe they learnt from their peers. They seem to place greater importance on the 'marketable skills' they believe are required for functioning as professional accountants in their local context.

F-3: Glass half empty

Nine students loaded significantly on F-3, accounting for 12% of the explained variance. Students loading on this factor strongly disagree that collaborating with their international peers has enhanced their accounting skills (19: -3) or added value to their functional and technical skills (5: -3). Similar to students loading on F-2, students loading on F-3 believe that they share similar intellectual abilities with their international peers. Therefore, guidance from their international peers was not essential to complete the project. Still, students loading on this factor believe that the simulation project could have paid off, in terms of boosting their collaboration skills, if there had been more back-and-forth communication with their international peers (16: -2). Although up to three emails were permitted to communicate with peers at the international university, students loading on this factor encountered delays in responding and sensed unenthusiastic attitudes. For them, technical issues such as translating accounting information and producing reports were time-consuming (11: +2). Hence, for students loading on this factor, the spirit of collaboration was absent among their peers (18: -2). In the narrative they also complained about having to work with their local peers from the other language track. These students seemed to prefer to work only with students from the same language track. The bottom line for students here is that achieving collaboration is tied to proper communication with their peers and they believe, this did not happen due to linguistic, geographical, and attitudinal issues.

Nonetheless, students loading on this factor did not perceive the simulation project as too complex to be performed (10: -2), as they were far more comfortable working with their peers from the same language track (3: +3). They were comfortable in being exposed to updated accounting standards (13: +3) and to real-life workplace interactions (15: +2). They also believed that they received enough time to complete this task (7: +2), and the necessary guidance from the course instructor (20: +2). Perhaps it is these things that offset negative elements for the students loading on this factor and led them to favour the simulation project over traditional learning methods (1: -2). In this sense, students loading on this factor developed their own *modus operandi* while working on the simulation project, mainly depending on their intellectual, technical, and functional skills.

Discussion

In general, the results indicated strong agreement among the local students regarding the effectiveness of the simulation project procedures and the usefulness of its outcomes. However, a clear disparity is evident in terms of students' perspectives on the level of acquiring the competencies that the simulation project sought to instil. This is better visually represented in Figure 2-4, which show the *factor arrays* for the three emerging factors in this study. Highlighted cells (see key to Figures 2-4) show how all the emerging perspectives gave positive scores mainly to Q-items related to the project procedures and the outcomes, with less emphasis on the competencies acquired. The next section discusses the consensus points and highlights the points of disagreement across students' perspectives, exploring the students' unassertive perspectives regarding the level of competencies acquired.

	-3	-2	-1	0	1	2	3
4	11	12	24	14	13	3	
10	6	25	19	18	20	7	
	8	5	16	15	2		
	9	1	23	21	17		
			22				

Figure 2. F-1 Glass Full.

In terms of the consensus regarding the usefulness of the simulation project’s outcomes, all students seemed to agree that the project was beneficial, mainly because it exposed the students to real-life workplace interactions (Q-item 15: 1, 2, 3). This result supports, at the student level, that educators can design learning activities that contribute to students’ development of a preprofessional identity as called for by Herbert et al. (2020). Further supportive of this, the emerging perspectives unanimously refuted the favouring of traditional learning methods over the simulation project (Q-item 1: -1, -2, -3). This result resonates with Fogarty’s (2014) view that some of the more impressive developments in accounting pedagogy occur when students assume scripted roles that portray the professional world. Students seem to agree that this opening of the door to the professional realm essentially facilitated their acquisition of certain proficiencies that are not included elsewhere in the typical overloaded accounting curriculum, which goes some way to addressing Herbert et al.’s (2020) doubts about whether educators can simulate authentic behavioural experiences. These proficiencies included self-learning of the updated accounting standards (Q-item 13: 2, 3, 0) and learning accounting terminology in more than one language (Q-item 17: 2, 1, 2). Students also unanimously refuted the perspective that this type of cross-cultural project is too complex to be performed with peers of various cultural and linguistic backgrounds (Q-item 10: -3, -2, -2), as they believe it mimics their local market. Finally, in terms of the project’s procedures, all students seem to agree that they received sufficient

	-3	-2	-1	0	1	2	3
5	18	25	8	9	15	3	
19	1	4	21	22	7	13	
	10	23	24	17	20		
	16	14	6	12	11		
			2				

Figure 3. F-2 Glass Half Full.

	-3	-2	-1	0	1	2	3
1	1	9	19	5	16	24	23
11	11	14	4	6	20	21	15
		10	7	8	22	17	
		12	3	13	2	25	
				18			

Figure 4. F-3 Glass Half Empty.

support from the course instructor to complete the project (Q-item 20: 2, 2, 1). Overall, the results provide support for the constructivism view that collaboration with peers and instructors facilitates learning for active and independent learners (Helliari, 2013; Stanley & Marsden, 2012). The results also support the proposition that authentic assessment and problem-based learning are effective at replicating the professional environment and enhancing the student learning experience (Adler, 2014; Milne & McConnell, 2001).

As for the disagreement on the competencies acquired, students seem to disagree on the level of developing a variety of intellectual, and interpersonal and communication skills. The simulation project incorporated two elements of peer learning and collaboration, (i) within group, representing local students, and (ii) the group communicating with the nominated international students. Students did not seem to be assertive regarding the level of the interpersonal competencies acquired through their interaction with their international peers and local peers from the other language track (Q-items 2: 2, 0, 1). One reason for this could be that students took different stances on the ease of communication they experienced with the international peers (Q-item 16: 0, -2, 1). Likewise, students seemed to disagree on whether the interaction with the international peers enhanced their knowledge in accounting (Q-item 19: 0, -3, -1). This can also be explained via the local students' disagreement on whether they successfully collaborated in their groups (Q-item 18: 1, -2, 0). We know that for the learning process to be successful, social engagement and interaction is essential (Zhu et al., 2009). Thus, from a social constructivism perspective the key issue for the design of such simulations is the extent to which the process facilitates sufficient engagement and collaboration as this is necessary for learning to be enhanced. Similarly, students disagreed on whether they benefited intellectually from working with their peers from the other language track (Q-item 14: 1, -1, -2), as well as whether the simulation project was mutually beneficial for both the local and international students. Students loaded on F-1 and F-2 seemed to slightly disagree, while students loaded on F-3 agreed (Q-item 25: -1, -1, 2).

One possibility is that collaboration with the international students may have been constrained due to the project design which used emails rather than synchronous or virtual face-to-face communication (e.g. Zoom/Skype/Teams) and the fact that the simulation project limited the number of emails and time allocated for collaboration. Future applications of the simulation project should explore increasing the time and alternative

channels for communication. As Ajabshir (2019) notes, synchronous communication allows more 'give-and-take' exchanges, and this may help the local and international students to get to know each other in a way that fosters a deeper understanding and a greater sense of team, contribution, and value. This is supported by the statement by F-3 students that more back-and-forth interaction would help foster building collaboration skills. Furthermore, geographical constraints of time zone differences and distance may have also been a factor. Weekends and different religious-based work schedules may have impacted the communication response times and thus the perceived commitment and value of the interaction. Again, this is a factor to consider in the design of future international collaboration projects.

Skill-based education theories also help interpret the results. The students seemed to acknowledge the required 'marketable skills' in their local context – that is, the professional competencies that employers expect accounting graduates to possess in their local market. This awareness is consistent with Herbert et al.'s (2020) concept of students developing a work context relevant 'social identity'. Based on the consensus points across students' perspectives, these competencies include bilingualism, knowledge of the updated accounting standards and functioning in a multicultural workplace. The simulation project met students' expectations by equipping them with these competencies; hence, they unanimously agreed on its effectiveness and usefulness. Yet the goal of the simulation project was not merely to assist in making students more 'marketable' in Herbert et al.'s (2020) new working world – it was also to enable them to think their way out of their 'tunnel-shaped' boxes. This implies more than just acquiring specific knowledge – it involves mobilising skills and attitudes to meet complex demands. Historically, a skill has been defined as 'a collection of behaviours' (Güneş, 2018); however, at present, it is defined as 'a collection of knowledge and cognitive processes' (Güneş, 2018). Skill necessitates knowing, activating knowledge, and performing tasks using essential cognitive and physical resources. By the end of this process, a task is accomplished, and experience is gained. This experience is later accommodated and applied to different situations (Güneş, 2018); consequently, skill improves. Thus, exercising skill is a continuous and gradual process of activating acquired knowledge. Potentially, the time frame for the project may not be sufficient to establish the gradual development of skills and competencies. It could be argued that to develop skill-based competencies in accounting education requires broadening the curriculum to encompass non-accounting content. Although there is some agreement in the literature that accounting education needs to incorporate the development of wider competencies, there are obstacles to this. There may be a lack of interest in and appreciation for doing so on the part of students and educational institutions, as they believe that such skills are developed at the expense of accounting knowledge (Fogarty, 2014). However, this may be a necessary innovation in the face of automation and offshoring changing the demand for accounting graduates and the need to broaden the portfolios of students for Herbert et al.'s (2020) new job market.

Overall, whilst social constructivism is identified as enhancing student learning experiences via collaboration, the findings suggest that the collaboration aspect of the project did not fully achieve the desired results from the students' perspective. The students' unassertiveness regarding developing the competencies the simulation project attempted to instil could relate to many factors such as the students' lack of interest in

developing specific competencies and to the lack of a continuous, gradual, and adequate core competencies framework in accounting education.

Although the local students perceived that collaboration with peers of different cultures, language persuasions and geographic locations was reflective of the local market, there is mixed evidence as to the success of collaborating with (i) peers from a different language track and (ii) the international students. There are several factors that may explain this outcome. It has been found that the extent to which students engage with a learning activity designed using social constructivism theory is influenced by cultural contexts and perceived communication norms (Zhu et al., 2009). A further consideration is that as the local students and international students were situated and educated in different geographical locations, the lack of a 'shared frame of reference' may have inhibited the collaboration process (Sarker & Sahay, 2003). Furthermore, differences in time zones have also been found to affect remote team members' view of responsiveness to queries (Sarker & Sahay, 2004) and therefore may also inhibit successful collaboration from the students' perspective. Consistent with these sentiments, another possibility is that the simulation project design requires further development to encourage additional collaboration and social interaction (Kim & Bonk, 2002) between the local students (within group) and the international students.

Regardless, for us, as accounting academics, and for our students, to avoid the danger of intellectual poverty that is inherent in vocational learning, as Mary Evans' (2004) *Killing Thinking* points out, continuous attempts should be made to teach and study accounting in the context in which it operates: that is, as a technical and social practice. PBL is one such pedagogy that achieves this outcome when structured appropriately. The simulation project responded to calls for the liberalisation of curriculum (Sangster & Wilson, 2013) and the development of non-technical professional competencies and pre-professional portfolios (Herbert et al., 2020).

Limitations and directions for future research

There are some lessons that we can learn from this study and incorporate into future assessment design. The results identify that the benefits of interacting with peers from the international university are limited. This could be due to the assessment design which limited the interaction mode and extent between the local students and the international student to three emails. To more fully encompass the benefits of problem-based learning and social constructivism, future iterations of the simulation project could present a case that is more unstructured and includes an increased limit or no limit on email exchanges, thereby increasing the potential for social interactions and thus collaboration with the international students (Zhu et al., 2009). Increased time between the release of the project simulation to local students and the submission date would need to be factored into the project design to facilitate increased collaboration.

The simulation project was implemented in the pre-COVID 19 era in which email correspondence was a typical form of communication between accounting professionals located in different geographical locations, particularly where the accounting professionals are operating in different time zones. Future iterations of the simulation project could incorporate the use of video conferencing technologies such as Zoom, Skype or Microsoft Teams to reflect the changing working landscape and communication

mediums generally used by professional accounting firms because of COVID-19 lockdowns. The use of such technologies fits within the increased emphasis on ICT core competencies under IES 3 and expectations of the profession.

The design of the simulation project assumes that the international student exposure to the content in prior semesters left them better prepared to address the advanced aspects of the case. While the international instructor worked with them to ensure they were prepared prior to release the simulation to the local students, we do not have a measure of the international students' expertise in the topic. It could be that some of the international students were not that well versed in the topics and that might explain why some of the local students did not perceive they learnt much from their international peers. Future simulations and research should control for this potentially confounding factor. Finally, the study does not measure the core competencies gained or the engagement level of the international students in the simulation project. While the scope of this study is the engagement and learning of the local students, future research would benefit from examining the merits of the simulation from both the local and international student perspectives.

Concluding remarks

The challenge faced by academics is how to add additional technical and skill development within an already crowded curriculum. We suggest one way to address this challenge is to adopt a strategy of multi-faceted learning activities within the redesigned curriculum that addresses the expanding accreditation learning requirements. Our workplace simulation PBL project incorporates traditional consolidation and international accounting technical content as well as developing communication, teamwork, and cross-cultural management skill competencies. In addition to demonstrating one way to address this problem, we also respond to scholarly calls for using experimental methods in accounting education research by examining the acquisition of core competencies in a culturally diverse learning environment. We demonstrate the Q methodology as a more robust measurement approach than the typical survey measures. This methodology offers a potential alternative metric for other researchers to employ in addressing Tharapos and Marriott's (2020) plea for more quality empirical accounting education research. In doing so this study provides impetus for the further extension of inquiry by accounting academics to capture a more complete picture of core competency integration in the accounting curriculum. It provides some answers to the dilemma faced by many accounting academics in terms of how to expand students' learning experience beyond technical content and prepare them for the ambiguous business world they will encounter upon graduation. Finally, as we learnt during the coronavirus pandemic, when many traditional educational practices were put on hold, students can work locally and internationally on common assignments. In this sense, it could be used as an example of how to deal with a new reality.

Notes

1. Respectively the Qatar Institute of Certified Public Accountants in Qatar, and in Australia, the Chartered Accountants Australia and New Zealand (CA ANZ), CPA Australia, and the Institute of Public Accountants.

2. According to Kline (1994), any solution explaining 35–40% of the study variance is a sound solution.

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Appendices

Table A1. The cross-cultural and skill-based simulation project against the backdrop of IES 3

Intellectual SkillsThe local and international students were required to locate, obtain, organize and understand information regarding specific differences between the two different accounting standards (US GAAP & IFRS). This included dealing with issues such as revaluation of assets and recognition of revenues, intangible assets and liabilities. Students were also required to inquire about information that might not have been addressed directly in the course content. That is, they had to research within the most updated versions of both US GAAP and IFRS standards to be able to answer some of the questions.**Technical and Functional Skills**Both the local and international students were required to engage in tasks that involve numeracy, decision modelling and risk analysis, and compliance with legislative and regulatory requirements. Students had to provide specific calculation-derived answers to the situations provided. They also had to make decisions based on their new-found and research-informed knowledge along with rudimentary and advanced accounting information learned in the course and the accounting program in general.**Personal Skills**The local students needed to demonstrate self-learning and self-management skills that involve conceptualizing accounting issues in two languages (Arabic and English), setting the overall direction of the project as a group and implementing the details with minimal oversight. The cross-sectional grouping structure and international collaboration demanded the local and international students to adhere to deadlines. This intricate ‘multi-participant’ situation required group members to be conscious of the fact that their timely contributions will be noticed. On one hand, the local students were required to adapt to change. That is, the simulation project was the first of its kind in their university, in the sense that it brought together students from different mediums of instruction tracks and entirely different academic institutions. The international students, on the other hand, were required to demonstrate their ability to influence others through mentoring and guiding the local students without directly revealing the answers.**Interpersonal and Communication Skills**The local student teams and international students were required to work in a consultative way, withstand and resolve conflict, negotiate acceptable solutions and agreements, work effectively in a cross-cultural setting and discuss and report their views effectively through formal emails with a sensitivity to cultural and linguistic differences.**Organizational and Business Management Skills**The business simulation nature of the case required students to make decisions and exercise professional judgment as though they were in a real-life situation. The international students were required to show skills that indicated their ability to organize and delegate tasks, motivate and develop people and lead. To execute this task effectively, the international students were required to mentor and guide the local students to determine the correct method of addressing various sections of the case without providing the answers directly. This required motivating the local students so that they could continue to explore and discover the correct answers independently.

Table A2. The simulation project Case study.

Possible Irregularities in the Accounting Records of Brisbane Company

- Brisbane Company had previously recognised property, plant and equipment and intangible assets such as trademarks using the ‘cost model’. However, at the end of 2019, the company adopted a change in accounting policy with respect to measuring trademarks using the ‘revaluation model’. On December 31, 2019, the company increased the value of its trademarks by \$10,250. It debited the account Trademarks and credited an account called Revaluation Reserve. All other asset classes classified as Plant and Equipment are measured using the ‘cost model’.
- On December 31, 2019, Brisbane Company received \$15,000 from one of its clients for services to be delivered in 2020. The payment increased the revenue figures for 2019.
- On December 20, 2019, Brisbane Company received legal notification that proceedings in relation to an unfair dismissal claim have commenced. The former employee is seeking \$60,000 in damages. The company’s lawyers have advised the claim against the company has merit and is likely to succeed. The lawyers suggest the legal claim may be settled between \$15,000 and \$5,000, however cannot provide a more definite estimate as to the likely final settlement of the claim. On December 31, 2019, the accountants at Brisbane Company recorded a \$10,000 provision for litigation (and a loss provision from litigation) in the journal.
- During 2019, Brisbane Company spent \$30,000 on designing and testing their new ‘Logarithm Driven Business Solution’. By the end of the year, the automated system was operational. The \$30,000 was capitalised as Research and Development.
- On December 31, 2019, Brisbane Company leased equipment that were deemed of ‘specialized nature’. The lease agreement did not meet any of the following: Transfer of title, containing a bargain purchase option, term is ‘major portion’ of asset’s life, or present value of minimum lease payments greater than ‘substantially all’ of the fair value of the asset. The value of the leased equipment was \$45,000, however since the first lease payment of \$15,000 also occurred on December 31, 2019, the net balance in the Lease payable account was \$30,000. It is important to note that the GAAP standard ASC 840, which became effective on January 1, 1977, does not recognize ‘specialized nature’ of assets as one of the criteria to consider the lease to be a finance lease. The accounting team at Doha Company is unsure if subsequent standards were issued after ASC 840.

Table A3. Q-sort values for items.

	F- 1	F- 2	F- 3
<i>1. I prefer the traditional learning methods to the simulation project.</i>	-1	-3	-2
2. Communicating with peers from the other language track, and the international peers enhanced my interpersonal skills.	2	0	0
3. I benefited the most from working with students from my own language track.	3	-1	3
<i>4. I found that communicating with my peers from the other language track difficult.</i>	-3	-1	-1
5. I learned some functional and technical skills from collaborating with the international peer.	-1	0	-3
6. I sensed cultural differences dealing with the international peers.	-2	0	0
7. I was given sufficient time to complete this project.	3	-1	2
8. I found that using a language other than my language track very challenging.	-2	0	0
9. Producing a unified report for this project in both languages (Arabic and English) was hard.	-2	-2	1
<i>10. This project was too complex to be performed with peers of various cultural and linguistic backgrounds</i>	-3	-2	-2
11. Translating information provided by peers from the other language track was time consuming.	-2	-3	2
12. I resorted to negotiation to resolve any disagreements.	-1	-2	1
13. This project allowed me to search within the accounting standards to find information that was unknown to me.	2	1	3
14. I benefited intellectually from the experiences of my group members who studied in other language track.	1	-2	-1
<i>15. This project exposed me to real life workplace interactions.</i>	1	3	2
16. The communication with the international peer was reliable and instantaneous.	0	1	-2
<i>17. This project made me familiar with accounting terminologies in both Arabic and English languages.</i>	2	2	1
18. I sensed the spirit of collaboration among my group members.	1	0	-2
19. The interaction with the international peers enhanced my knowledge in accounting.	0	-1	-3
<i>20. The level of support provided by the course instructor was sufficient.</i>	2	1	2
21. I realised at the end of this project that I am capable of tackling high-level issues with minimal mentoring interaction.	1	2	0
22. Although as a group, we were allowed up to three email communications with the international peers, we decided to communicate amongst ourselves to obtain the needed information.	0	1	1
23. The local marketplace requires accounting knowledge in both Arabic and English languages. That is the main reason that motivated me to conduct this project.	0	3	-1
24. Overall, I acquired important skills through assistance from my group and mentoring from the international peer.	0	2	0
25. Conducting this project was mutually beneficial for both students in my university and the international peers.	1	2	-1

Italic statements represent the consensus across the emerging factors, which represent students' viewpoints.

Reading the above table by column indicates the comparative ranking of Q-items that characterise a particular factor, while reading the table by row shows the comparative ranking of a particular Q-item across factors.