

Using peer review to develop professional competencies: an Ubuntu perspective

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Abstract

There is a paucity of literature investigating peer review as an aspect of accounting and auditing education. This study investigates students' perceptions of peer review as a method to develop professional competencies. It reports on a peer review intervention, the so-called TUTBuddy, introduced in an undergraduate auditing course. A mixed method approach was followed that showed that students perceived the intervention as having positively influenced the development of their competence in nine areas. A positive relationship was found between the students' perceived development of these competencies and their own academic performance. The study also draws attention to students' interpersonal perspectives, and suggests Ubuntu dimensions that can be emphasised to promote interconnectedness between an individual student and their peers. The study contributes to the peer review literature by showing its application in the auditing discipline, and by suggesting that an interpersonal frame of reference be considered to strengthen peer review as a social process.

Keywords: Accounting and auditing education, interpersonal perspectives, peer review, peer feedback, professional competencies, Ubuntu

It is long tedious

To some perilous

Some never get involved

Others swim against the tide

(From Road to liberation by Mzi Mahola). (Mbigi & Maree, 2005, p. 57)

Introduction

Peer review can be a troublesome issue for students. In the poem prefacing this report, Mzi Mahola argues that challenging circumstances (in the context of this paper, evaluating and providing critical, yet constructive, feedback on your peers' work) can be troublesome because some become disengaged while others get side-tracked. This study investigates peer review as a pedagogic approach, and aims to answer the following overarching research question: What are students' perceptions of peer review as a method to develop professional competencies?

Peer review is a formative process during which students evaluate peers' work to provide feedback, but without necessarily being required to grade it (Boase-Jelinek et al., 2013). Pedagogical reasons for employing peer review relate to its benefits: these include its ability to deepen understanding of quality work (Ballantyne et al., 2002; Hounsell et al., 2008) and

of subject matter (Adler & Milne, 1997; Liu & Carless, 2006); the provision of benchmarking and monitoring opportunities (Evans, 2013; Hanrahan & Isaacs, 2001) and its effectiveness in streamlining teamwork by curtailing free riding, minimising conflict and improving individual contributions to group work (Sridharan et al., 2018). When they include constructive feedback, peer review or peer assessment helps to develop employment-relevant skills (Cassidy, 2006; Dochy & McDowell, 1997; Evans, 2013; Hancock et al., 2013; Nicol et al., 2014; Sridharan et al., 2018).

This study addresses the following knowledge gaps in the literature. While peer assessment is a well-researched topic in various fields (Falchikov & Goldfinch, 2000; Phillips, 2016; Van Zundert et al., 2010) and implies peer review, it differs from peer review in that it is used for summative rather than formative purposes and generally requires grading (Boase-Jelinek et al., 2013). Peer review is however notably absent from accounting education research (Hassan et al., 2014; Hassan et al., 2014; Sridharan et al., 2018). Furthermore, very little is known about peer assessment (with specific reference to peer review) as a social process (Cheng & Tsai, 2012; Van Gennip et al., 2009, 2010). Only a few studies have referred to students' interpersonal perspectives during peer review. Recent studies exploring interpersonal perspectives (psychological safety, value diversity, interdependence and trust) on students' beliefs and approaches to peer assessment show that researchers should include interpersonal perspectives as variables in peer assessment research and have called for further research in this regard (Cheng & Tsai, 2012; Van Gennip et al., 2009, 2010).

This study reports on a peer review intervention, called TUTBuddy, in which the core activity was to give feedback to and receive feedback from peers (Van Gennip et al., 2009), but without individuals grading their peers' work. It aimed to develop nine professional competencies which are described in professional pronouncements as intellectual, interpersonal, communication, personal and organisation skills, and are essential to become a professional (IAESB, 2019). In education literature these skills are variously referred to as employability skills, graduate attributes, and generic or soft skills (Adriaensen et al., 2019; Bunney et al., 2015; Suleman, 2018; Webb & Chaffer, 2016). Professional competencies promoted by professional accounting bodies (Stephenson, 2017), are developed during university education and workplace experience (Crawford et al., 2011; Evans, 2013; Jackling & De Lange, 2009; Plant et al., 2019; Watty et al., 2010). Following a 'work-ready' narrative, extant literature shows that employers are dissatisfied with the quality of professional competencies students develop while at university (Bui & Porter, 2010; Hancock et al., 2009; Kavanagh & Drennan, 2008; Kunz & De Jager, 2019; Tempone et al., 2012; Van Romburgh & Van der Merwe, 2015); a handful of education scholars have suggested ways in which these expected professional competencies should be developed (Bui & Porter, 2010; Crawford et al., 2011; Howieson et al., 2014). However, these studies seldom, if ever, refer to peer review or peer assessment even though they offer an important pedagogical strategy that promotes student participation (Liu & Carless, 2006; Nicol & Boyle, 2003) and development of professional competencies (Evans, 2013; Sridharan et al., 2018).

This study follows a mixed method approach and draws data from students' online logbooks recording their experiences of the peer review intervention. It uses two sub-questions to answer the overarching research question. The first sub-question addresses students' perceptions of the influence of peer review on the development of their professional competencies: a quantitative method was employed to analyse the data extracted from students' logbooks that relate to the rating of the nine previously identified professional competencies. The results revealed a positive relationship between the students' perceived development of these competencies and their own academic performances.

The second sub-question was intended to interpret how students went about peer review; a qualitative method was used to analyse students' logbook comments regarding interpersonal perspectives. The data analysis process was based on an Ubuntu worldview, encapsulated in the isiXhosa phrase *umuntu ngumuntu ngabantu* which can be translated as 'I am because we are' (Mbigi, 1997, p. 2). Ubuntu, used to understand interpersonal perspectives in teamwork (Poovan, 2005; Poovan et al., 2006), highlights the centrality of peers' role in learning and assessment (Letseka, 2016), and implies that individuals do not function in isolation: 'through mutual support they can help each other to complete themselves' (Letseka, 2016, p. vii). Making use of Ubuntu dimensions (spirit of solidarity (or collectivism), survival, compassion, respect and dignity (Mbigi, 1997; Mbigi & Maree, 2005)) as an analytical frame for analysis, this study suggests that students follow these dimensions when they are involved in peer review. These Ubuntu dimensions were not specifically discussed with students, nor were these purposefully incorporated in the teaching, pedagogy or assessment of the auditing course.

Contribution

The study offers two distinct contributions. The first contribution is with respect to understanding peer review as an element of learning in the auditing discipline, itself an abstract field that comprises vast amounts of theoretical knowledge needing to be internalised before any synthesis or understanding can be demonstrated (Buckless et al., 2014). The peer review intervention implemented in this study employed some pedagogical components (such as small groups, linking peer review with other learning elements, and emphasis on feedback), and some technological components (such as uploading comments and reflections to an online system), could usefully inform auditing education's efforts to develop professional competencies.

The second contribution relates to peer review theory, particularly as a social process with interpersonal perspectives (Kollar & Fischer, 2010). The study thus casts a light on students' interpersonal perspectives and suggests Ubuntu dimensions (Beets & Le Grange, 2005; Mbigi, 1997; Seroto, 2016) might be usefully embraced to promote interconnectedness (Pieterse, 2014) between individual students and their peers. Additionally, these dimensions could be used in designing ongoing peer review interactions to strengthen peer review as a social process. This notion builds on the view of (Beets & Le Grange, 2005, pp. 1200 & 1201) that an Ubuntu worldview unlocks possibilities for a more nuanced understanding of assessment practices, as 'assessment is not only about making a judgement (in an aloof manner), but rather about being with the learner every step of the way and being prepared to recognise learning difficulties in a respectful and dignified way', because the student is not only 'aware of [their] own being, but also of [their] duties towards [their] neighbour'.

The remainder of this paper is structured as follows: the next section discusses peer assessment as an element of learning. This is followed by a presentation of the Ubuntu dimensions used as the analytical frame in the study. Thereafter, the peer review case (the TUTBuddy intervention), is described. Subsequent sections then explain the research approach and methods, and report the findings related to the sub-questions. This is followed by a discussion of the study's broader findings. The paper concludes by identifying areas for future research.

Peer assessment, including both peer review and peer feedback, as learning elements

Over the past few decades, a conceptual shift has occurred in assessment practices (Strijbos & Sluijsmans, 2010) including a renewed interest in formative assessment (Gielen

et al., 2010). The traditional narrow conception of the lecturer-directed assessment perspective has broadened to involve students in the assessment process (Boud, 2001; Evans, 2013). Following a constructivist view, the testing culture has shifted towards becoming an assessment culture (Evans, 2013). Formative assessments have become an integral part of the learning process, allowing students to become actively involved (Mulder et al., 2014) in cognitive, affective and social aspects of their learning (Strijbos & Sluijsmans, 2010). Peer assessment, where students evaluate the performance or achievement of peers by using previously identified criteria (Topping, 2005), is a useful tool in formative assessment. It embeds assessment in the learning process through which a wide range of professional competencies can be developed (Dochy et al., 1999; Evans, 2013; Hassan et al., 2014).

Peer assessment literature in some disciplines is extensive (Evans, 2013; Hassan et al., 2014; Van Zundert et al., 2010). However, in accounting and auditing education there is a paucity of this type of research (Hassan et al., 2014; Sridharan et al., 2018). Also, across diverse fields very little research has been done on peer assessment or peer review as a social process (Cheng & Tsai, 2012; Van Gennip et al., 2009, 2010). The literature does however suggest that peer assessment is beneficial to students (Ballantyne et al., 2002; Hanrahan & Isaacs, 2001; Hassan et al., 2014; Mulder et al., 2014). With reference to peer feedback, the primary concern is not grading but on providing richly detailed comments on peers' work (Liu & Carless, 2006). Students then engage in reflective criticism of their own and their peers' work or performance, a practice which mirrors some informal assessment activities in the workplace where workers, sometimes in conjunction with their peers and managers, judge whether learning has occurred and to what extent (Boud & Rooney, 2015). Students are required to engage with assessment criteria when they act as peer reviewers. Such engagement could deepen their understanding of quality work (Ballantyne et al., 2002; Hounsell et al., 2008) and subject matter or content (Adler & Milne, 1997; Liu & Carless, 2006). By comparing their work to that of others, students can benchmark their own work (Hanrahan & Isaacs, 2001) and monitor their own progress (Evans, 2013).

Research has shown positive learning benefits accrue from peer review and these have been ascribed to reflective knowledge building, and the development of critical reading and problem-solving skills (Nicol et al., 2014). In conveying feedback, peer assessment or peer review becomes a constructive way for students to develop professional competencies. These include interpersonal, communication (Evans, 2013; Hancock et al., 2013), organisation or team building (Sridharan et al., 2018) and intellectual skills (problem solving (Sridharan et al., 2018), self-evaluation and self-criticism skills (Dochy & McDowell, 1997)). Peer review and peer assessment as forms of assessment are also considered strategic for the development of life-long learning (Hancock et al., 2013), evaluative judgement (Nicol et al., 2014) and employability skills (Cassidy, 2006). Peer review also presents structured opportunities to 'close the gap between the receipt of feedback and its application' (Nicol et al., 2014, p. 104). After presenting an initial attempt to complete an assignment, a student can rework the assignment based on peer feedback, and then resubmit the same assignment for more formal assessment (Nicol et al., 2014). Practical benefits of peer assessment or peer review include increased frequency (Gielen et al., 2010), speed and extent of feedback to students (Liu & Carless, 2006); simultaneously workloads of lecturers are brought back to manageable proportions because peer assessment/review increases the number of feedback opportunities and of assessors (Hanrahan & Isaacs, 2001). It is particularly useful when lecturers' workloads are constantly increasing due to the massification of higher education (Ballantyne et al., 2002; Opdecam & Everaert, 2018; Søndergaard & Mulder, 2012).

In contrast to the above benefits of peer assessment (mainly its enhanced peer feedback component (Liu & Carless, 2006)), the accuracy, validity and fairness of peer assessment grading have been variously questioned in the literature (Dochy et al., 1999; Hassan et al., 2014; Liu & Carless, 2006): Hassan et al. (2014) strongly suggest that peer assessment should be used as a tool in formative rather than summative assessments. Furthermore, past research agrees that peer assessment holds benefits chiefly when the validity, fairness and accuracy of the peer assessment grading process is inherent in the process (Dochy et al., 1999; Sridharan et al., 2018): however, no clear picture is yet apparent in the literature of the effect of peer assessment on the effectiveness of students' learning processes (Evans, 2013; Gielen et al., 2011; Van Gennip et al., 2009). This mixed bag of results illustrates the diverse, and often incomparable, practices reported and evaluated in the literature (Gielen et al., 2011; Van Gennip et al., 2009).

Extant literature on peer assessment (referring to both peer review and peer feedback) as a social process remains scant (Cheng & Tsai, 2012; Van Gennip et al., 2009, 2010), and is mostly silent on students' interpersonal perspectives. The studies elaborating on students' attitudes toward peer assessment refer to friendship bonds (Dochy et al., 1999), trust issues (Ballantyne et al., 2002; Dochy et al., 1999; Sluijsmans et al., 2002) and the emergence of a shared understanding (Falchikov & Goldfinch, 2000). Three more recent studies have explored interpersonal perspectives (psychological safety, value diversity, interdependence, and trust) on students' beliefs regarding approaches to peer assessment. These studies highlighted the importance of interpersonal perspectives as variables in assessing the success of peer assessment processes, and have called for further research in this regard (Cheng & Tsai, 2012; Van Gennip et al., 2009, 2010).

Where peer review is considered as a social process, and the roles of reviewer and reviewee are assigned to individual students (as in the peer review intervention at the core of this study), the issue of interdependence comes to the fore (Prins et al., 2005). This is encapsulated in social interdependence theory (Deutsch, 1949; Lewin, 1947), which posits that interdependence exists between members of a group working towards a desired goal (Singh, 2013). Thus, an individual's outcomes (achievements) are affected both by his/her own efforts and by the actions of others (Johnson & Johnson, 2009). Ubuntu articulates social interdependence (Letseka, 2012) as it expresses the central notion of interconnectedness (Pieterse, 2014), which thus justifies the use of Ubuntu dimensions (Mbigi, 1997; Mbigi & Maree, 2005) as an analytical frame of reference for interpersonal perspectives of peer review. In the context of this study, social interdependence means that a student's development of professional competencies is affected by his/her role as reviewer of another student's work, and from having his/her own work reviewed (as reviewee) by another student.

Interpersonal perspectives from an Ubuntu worldview

An Ubuntu worldview encompasses togetherness (Mbele et al., 2015) and group solidarity notions central to the survival and liberation of African communities, in terms of which group care is preferred ahead of individual self-reliance (Mbigi & Maree, 2005). It is, according to Venter (2004, p. 156), 'a concrete manifestation of the interconnectedness of human beings'. Through Ubuntu one is able to demonstrate reciprocity, harmony, mutual trust and respect (Heuvel et al., 2006; Mbele et al., 2015). From an education perspective, Ubuntu is characterised by cooperation (Pieterse, 2014; Singh, 2013). Learning then shifts from being an individual effort to a collective effort (Mbigi, 1997, 2000). This notion is evident in peer review: students care how other students in their group are doing, are 'generous with advice and comments', share their knowledge and skills, are 'critical, intellectually honest and yet

compassionate' in their feedback, and believe the success of each individual in the group is linked to the success of the group as a whole (Samuel & Vithal, 2011, p. 84).

The five dimensions displayed in Figure 1 underpin Ubuntu: spirit of solidarity (or collectivism), survival, compassion, respect and dignity (Mbigi, 1997; Mbigi & Maree, 2005). These dimensions, together with their constituent elements (indicated in italics below), have been described as fundamental to the formation and development of relationships (Poovan et al., 2006; Sigger et al., 2010). Collectivism, or a spirit of solidarity, promotes improved teamwork in a non-competitive environment by means of a collective mind-set (Seroto, 2016). Closely related is survival, which presupposes mutual concern for their individual existence (Seroto, 2016). When members of the group work together as a collective to solve the problems faced by individual members, each group member takes responsibility by contributing his unique knowledge, skills and abilities to the group's efforts (Poovan et al., 2006). Such a 'climate of collegiality' (Poovan, 2005, p. 43) exists when group members are helpful and cooperative (Seroto, 2016). Compassion relates to a deep recognition and acceptance of the interconnectedness of group members (Seroto, 2016). It is about demonstrating sympathy, where needed (Mashile & Matoane, 2016), and achieving a deep caring for and understanding of each other (Poovan et al., 2006). It is important for each student to be an active, open-minded listener (Poovan et al., 2006). Various authors have combined respect and dignity as one dimension (Mashile & Matoane, 2016; Poovan et al., 2006; Seroto, 2016; Sigger et al., 2010). Trust is closely related to the dimension of respect and dignity, and arises in response to frequent and meaningful interaction, resulting in group members feeling comfortable with one another and with the group as a whole, and where, with patience, the sharing of individual insights and concerns is tolerated (Poovan et al., 2006).

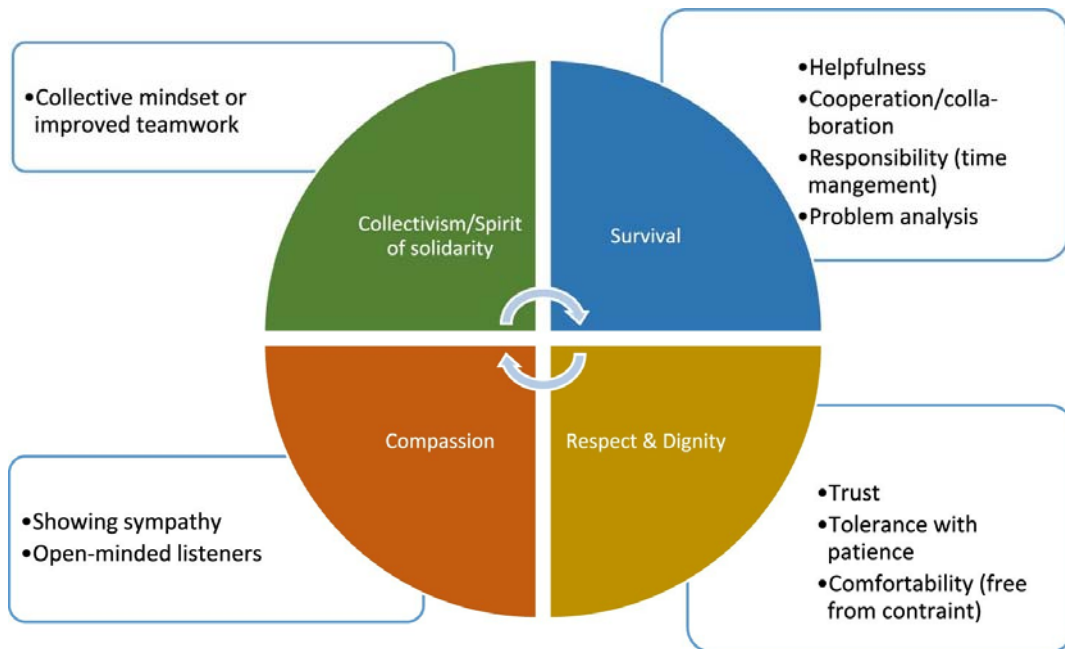


Figure 1. Ubuntu dimensions for peer review (adapted from Beets & Le Grange, 2005; Mbigi, 1997; Seroto, 2016).

Figure 1 forms the analytical frame used in this study to answer sub-question 2 as it provides appropriate structure to the investigation of students' views on the interpersonal perspectives of the peer review intervention.

The peer review case: the TUTBuddy intervention

The case considered in this study was a peer review intervention (referred to as TUTBuddy by auditing lecturers and participating students), aimed at developing students' professional competencies, namely students' ability to (i) analyse information/ideas, (ii) integrate information/ideas, (iii) identify problems, (iv) develop solutions, (v) manage time, (vi) communicate clearly, (vii) develop listening skills, (viii) act with honesty and integrity, (ix) meet assignment deadlines. In contrast to extant education literature that predominantly examines peer assessment as a collaborative process in relation to group task outcomes (Chen & Lou, 2004; Cheng & Tsai, 2012; Gupta, 2004; Hanrahan & Isaacs, 2001; Sridharan et al., 2018; Sridharan et al., 2018; Van Zundert et al., 2010), this study's peer review intervention had no direct connection with any specific group task or project requiring collaborative inputs. Its core activity was to give feedback to and receive feedback from peers (Van Gennip et al., 2009) without requiring the grading of individual work. The abovementioned Ubuntu dimensions were not specifically discussed with students, nor were these purposefully incorporated in the teaching, pedagogy or assessment of the auditing course.

The intervention involved two student cohorts studying auditing as part of the BCom Accounting Sciences degree at a South African university. These students took the auditing course (a module that runs over the duration of a full academic year) during the second and third (final) years of their undergraduate studies. The study was conducted over a three year period (2014 to 2016), thereby taking into account the perceptions of four academic year groups of students who were enrolled for the second year auditing year course in 2014 and third year auditing year course in 2015 (cohort 1) and those enrolled for the second year auditing year course in 2015 and third year auditing year course in 2016 (cohort 2). Our study was carried out from 2014 to 2016, a period which was challenging and volatile at times in higher education in South Africa, and that culminated in a nationwide wave of student protests (Karodia et al., 2016; Ngidi et al., 2016; Pillay, 2016).

For the period under review, compulsory tutorial sessions in auditing courses (each attended by between 60 and 100 students) supplemented the large formal classes (542 to 670 students per class). Each tutorial session addressed topics dealt with during the preceding week's formal lectures, and focused on a case study or a set of problem-based questions provided to the students during the previous week's formal lecture. The large tutorial groups were divided into small groups of five or six students each. These small groups (known as TUTBuddy groups by lecturers and students) were the basis of the peer review intervention.

Students were required to attempt dedicated assignments (a case-based or problem-based question without a suggested solution, and referred to by students and lecturers as the TUTBuddy assignment) for peer review at various stages during their courses (depending on the year group). Students had to first attempt the dedicated assignment on their own, and thereafter they were to exchange their attempts with a fellow TUTBuddy group member. The suggested solution and assessment criteria for the assignment were then made available electronically on the course's webpage. In their own time, students had to evaluate the work of their peers and prepare feedback based on the suggested assessment criteria. Each student thus effectively became both a reviewer of a peer's work, and a reviewee because his/her work was being reviewed by that peer. The two group members who had exchanged and evaluated each other's work met face-to-face, in their own time, to discuss insights gained from peer review (evaluation of their peer's work, and preparing of feedback). Students were supposed to develop professional competencies such as time management, communication, listening skills and the ability to act with honesty and integrity, and to gain

Table 1. Attributes of the TUTBuddy peer review intervention.

The use of the peer review intervention: types of tasks and output of the review	
<i>Object</i>	Case study or problem-based questions based on real life scenarios that incorporate various audit topics relating to the audit process.
<i>Output</i>	Students were expected to complete a dedicated TUTBuddy assignment ready for submission to lecturers. They were also expected to develop professional competencies during their efforts to formulate their responses.
<i>Frequency</i>	Peer reviews took place at regular intervals during the course; frequency varied according to year group (refer to Table 2).
<i>Experience</i>	Second year students were novices, while third year students had been exposed to such an intervention during their second year.
<i>Goal</i>	To provide students with the opportunity to develop nine professional competencies. Thus, students could gain insights from the peer review that would assist them to strengthen their formal submission. The assignment was then discussed in a tutorial session.
Link between peer review and other elements in the learning environment	
<i>Alignment</i>	Topics covered in the peer review had already been dealt with in formal lectures. The assignment and peer review thereof were intended to enhance participation in forthcoming tutorial sessions, thus supporting the learning process.
<i>Relationship with other assessments</i>	The peer review intervention formed part of the student's formative assessment.
<i>Scope of involvement</i>	The peer review was guided by a prescribed solution that included formal assessment criteria.
Interaction between peers	
<i>Output</i>	The assignment was not graded, but students received a participation mark when they had fulfilled their roles both as reviewer and reviewee.
<i>Role of reviewer and reviewee</i>	Students had to actively interact, discuss differences of opinion, obtain clarification when needed, and seek ways to improve their learning habits.
Composition of groups	
<i>Matching</i>	Using their own preferences all students assigned themselves to TUTBuddy groups, except for the 2015 third year students who were randomly assigned to groups by lecturers. Groups remained unchanged during all peer review interactions in an academic year, but the number of group members differed between year groups.
<i>Constellation of reviewers and reviewees</i>	The reviewer/reviewee pairings always involved members of the same group but pairings changed for each tutorial, to ensure each group member's work had been reviewed by each of their fellow group members by year end. Pairings had to make their own arrangements to meet to exchange assignments and to provide feedback.
Management and review procedure	
<i>Format</i>	Lecturers used a fixed format for guiding the peer feedback; this comprised a suggested solution to the assignment and assessment/review criteria
<i>Requirement and reward</i>	Peer feedback was compulsory and students' participation mark contributed towards their final mark. Students had to keep electronic logbooks in which to: <ul style="list-style-type: none"> – Record particulars of their fellow group member (referred to as a TUTBuddy), including reviewee name, time of exchange and interaction – Rate their development of nine professional competencies after the peer review intervention – Post a photograph online, taken during the interaction with his/her peer, as evidence of the interaction – And voluntarily add comments on interpersonal perspectives.
<i>Training guidance</i>	Particulars of the peer review intervention were explained in students' study guides and lecturers and tutors provided further guidance during formal lectures and tutorial sessions. Students were informed about the requirements for developing professional competencies prescribed in the SAICA competency framework: the framework provides a definition and explanation of each of the required professional competencies.

insights from the peer review to strengthen their own TUTBuddy assignments for submission for formal review by the lecturers, and discussion in a subsequent tutorial session.

After each peer review interaction, student pairs had to post a photo (as proof of the engagement) and also record their perceptions of the peer review intervention in an online logbook. The latter required students to rate nine professional competencies, thus indicating their perceptions of the effect of the peer review intervention on their development of these professional competencies. In addition, they were invited to comment on interpersonal perspectives (posting these additional comments was voluntary). TUTBuddy group member pairings had to rotate for subsequent assignments in order to ensure that each student in the group was a reviewer of each of the other members' work during the year.

Table 1 presents the attributes of the TUTBuddy peer review intervention based on Topping's (1998) typology for peer assessments as revised by Van den Berg et al. (2006) and Gielen et al. (2011).

Research approach and methods

Research approach

The study forms part of a comprehensive study on auditing education conducted by the Department of Auditing at the university where it was performed. Ethical clearance to conduct the comprehensive study was obtained from the university. This includes assuring students' confidentiality, their anonymity and giving them the voluntary right to participate in the study. The study followed a sequential mixed method approach, which was deemed most appropriate to answer broad research questions (Botes et al., 2014). First, a quantitative method was used to answer the first research sub-question (What is the relationship between students' perceptions of the effect of the TUTBuddy intervention on the development of their professional competencies and their academic performance?). Second, a qualitative method was followed to provide more depth to the analysis and thereby answer the second research sub-question (What are students' views on the interpersonal perspectives of the TUTBuddy intervention?). Both quantitative and qualitative methods used participants' online logbooks as their data source.

Participants

The participants in the study were students enrolled for the second- and third-year undergraduate courses in auditing and who sat auditing examinations in the aforementioned undergraduate year courses during the period 2014 to 2016. Table 2 provides information on the population of the two student cohorts (N = number of students enrolled), participating students as sample (n = number of students sitting examination, also expressed as a percentage), the average course mark, course throughput (pass) rates, and number of peer review interactions held during the period of the study. The increase in the number of students that proceeded from the 2nd year group to the 3rd year group in both cohorts was due to third year students repeating the third-year auditing course because they had failed it the previous year or had elected to improve their marks to qualify for admission in one of the university's post graduate programmes. Auditing courses had substantial enrolments and a relatively high percentage of students gained admission to the year-end examinations; nevertheless, while the average course marks were relatively low, throughputs (percentage pass rates) were in the mid-seventies, which were within the university's targets (refer to Table 2).

Table 2. Population, participants and other particulars of the two cohorts.

Year	Year group	N	N	% of enrolled students sitting for exam	Average course final mark	Course throughput rate	Number of interactions
COHORT 1							
2014	2nd	578	541	94%	57.19%	73%	10
2015	3rd	670	592	88%	57.89%	76%	6
COHORT 2							
2015	2nd	542	481	89%	56.74%	80%	10
2016	3rd	658	595	90%	56.03%	76%	5 ^a

^a5 instead of 6 peer review interventions were held. One was cancelled due to campus unrest. Peer review interventions of other student cohorts were not disrupted.

Quantitative method

After each peer review interaction respondents rated, on a five point Likert scale, the perceived extent to which the peer review had contributed to their development in the nine professional competencies (refer to Table 3) (5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree). The data was transferred from online logbooks to an Excel spreadsheet for both cohorts, each year. Based on the number of group interactions an average rating was determined for each of the competencies per respondent, and final marks for respondents were imported from the university's records. This formed the data set for analysis.

Table 3. Competencies considered by respondents.

No	Competency	SAICA Competency framework (SAICA, 2014)	Prior studies
1	Analyse information/ideas	Critical thinking	Awayiga et al. (2010), Barac (2009a, 2009b), Crawford et al. (2011), Low et al. (2013)
2	Integrate information/ideas	Integrated thinking	
3	Identify problems	Problem solving	Hancock et al. (2009), Tempone et al. (2012)
4	Develop solutions	Problem solving	Hancock et al. (2009), Tempone et al. (2012)
5	Manage time	Time management	Barac (2009b)
6	Communicate clearly	Communication skills	Barac (2009b), Bui and Porter (2010), Hancock et al. (2009), Jackling and De Lange (2009), Kavanagh and Drennan (2008), Low et al. (2013), Tempone et al. (2012)
7	Listening skills	Communication skills	
8	Act with honesty and integrity	Ethical behaviour and professionalism	Awayiga et al. (2010), Kavanagh and Drennan (2008)
9	Meet assignment deadlines	Self-management	Hancock et al. (2009), Jackling and De Lange (2009), Tempone et al. (2012)

The nine competencies were based on the South African Institute of Chartered Accountants' (SAICA) competency framework (SAICA, 2014) because the auditing courses form part of a SAICA-accredited programme (UP, 2018). The university programme is known for the close alignment between its course syllabi and the SAICA requirements (Venter & De Villiers, 2013). These nine professional competencies are also well represented in prior studies on professional competence requirements for prospective accountants and auditors (Table 3); their mastery also influences student performance. Competencies 1 through 4 represent cognitive skills which directly impact on participants' academic performance, whilst the remaining competencies (competencies 5 to 9) are considered to be soft skills. Past research has found a positive association between student academic performance and their time management practices (Moore, 1994), and has also shown that their listening skills have an influence on their performance (Eggenberger, 2021). Dishonesty or cheating can

hinder learning (Bouville, 2010), which could influence student performance, and although prior research has found that the effect of deadlines on student performance was small, the use thereof reduces incidents of prolonged student procrastination (Ostermaier, 2018).

Qualitative method

After each peer review interaction participants could voluntarily comment on interpersonal perspectives to illustrate a particular attitude towards or approach to peer review. These comments were transferred from participants’ online logbooks to a Word document for both cohorts each year. The data analysis process was guided by the analytical frame on Ubuntu dimensions (refer to Figure 1). It involved identifying related themes which were refined using ‘sensitising concepts’ (Martin et al., 2017) from existing literature on the Ubuntu worldview. The analysis was done by a team of three individuals (the second and third authors and one research assistants), independently reviewed by the first author, and all differences of interpretation were discussed and resolved collectively.

Findings of the study

The findings of the study are presented below, first those pertaining to the quantitative analysis, and thereafter the findings of the qualitative analysis.

Findings based on the quantitative analysis – the relationship between students’ perceived development of professional competencies and their academic performance

Table 4 (which should be read in conjunction with Table 2) presents the descriptive statistics of respondents’ perceptions. Both cohorts of third-year respondents’ high average mean scores show that the peer review interactions contributed to the perceived development of all nine professional competencies (mean scores > 0.4). This was also the case for both cohorts of second-year respondents, except for the development of time management skills which they perceived to be only moderate (means scores of 3.91 and 3.83 respectively). For both cohorts, all third-year respondents rated the perceived effect of the peer review interventions to be greater than they did as second year respondents.

Table 4. Descriptive statistics of respondents.

Competencies – mean scores		Cohort 1		Cohort 2	
Year		2014 – 2nd	2015 – 3rd	2015 – 2nd	2016 – 3rd
1	Analyse information/ideas	4.11	4.47	4.16	4.58
2	Integrate information/ideas	4.06	4.40	4.13	4.50
3	Identify problems	4.09	4.39	4.17	4.51
4	Develop solutions	4.04	4.33	4.08	4.48
5	Manage time	3.91	4.26	3.83	4.35
6	Communicate clearly	4.18	4.44	4.16	4.50
7	Listening skills	4.20	4.47	4.22	4.46
8	Act with honesty and integrity	4.32	4.57	4.40	4.62
9	Meet deadlines of the assignment	4.09	4.32	4.15	4.44

Mean scores were further analysed by stratifying each group in accordance with performance based on the distribution of the final marks (refer to Table 2): thus respondents were designated as high performers (achieving >60%), medium performers (50-60%) and low performers (<50%). These results are presented in Table 5. The mean scores of high performers are higher for most competencies than those of other performance bands, and ratings of medium performers were higher than those of the low performers. Thus, it appears

Table 5. Further analysed through stratification.

Competency	1 Information/idea analysis	2 Information/idea integration	3 Identify problems	4 Develop solutions	5 Time management	6 Communicate clearly	7 Listening skills	8 Act with honesty and integrity	9 Meet deadlines of the assignment
Cohort 1									
<i>Second year 2014 – (101 (low) + 246 (medium) + 194 (high) = 541 (n))</i>									
Low	3.96	3.90	3.91	3.95	3.72	4.00	4.01	4.18	3.97
Medium	4.14	4.06	4.09	4.03	3.90	4.22	4.22	4.34	4.09
High	4.16	4.14	4.19	4.08	4.02	4.21	4.27	4.37	4.15
F statistic	3.394*	3.814*	4.809**	1.231	4.739**	4.455*	4.790**	2.872	2.076
Pairwise comparison	c	c	c		c	a, c	a, c		
<i>Third year 2015 – (91 (low) + 265 (medium) + 236 (high) = 592 (n))</i>									
Low	4.37	4.29	4.32	4.22	4.04	4.36	4.36	4.53	4.14
Medium	4.47	4.42	4.36	4.32	4.27	4.44	4.48	4.59	4.32
High	4.50	4.42	4.45	4.38	4.34	4.48	4.51	4.57	4.40
F statistic	3.003	2.615	3.018	2.644	8.089**	1.973	3.040*	.597	5.836*
Pairwise comparison					a, b, c		c		a, b, c
Cohort 2									
<i>Second year 2015 – (79 (low) + 234 (medium) + 168 (high) = 481 (n))</i>									
Low	4.03	4.05	4.03	3.86	3.71	4.02	4.12	4.29	4.04
Medium	4.20	4.16	4.18	4.12	3.84	4.20	4.26	4.42	4.16
High	4.16	4.13	4.22	4.13	3.87	4.16	4.23	4.42	4.20
F statistic	3.216*	1.554	3.940*	7.129**	2.298	4.204*	2.147	1.864	2.795
Pairwise comparison	a		c	a, c		a			
<i>Third year 2016 – (114 (low) + 298 (medium) + 183 (high) = 595 (n))</i>									
Low	4.46	4.37	4.38	4.33	4.04	4.30	4.24	4.46	4.22
Medium	4.58	4.50	4.51	4.49	4.37	4.51	4.48	4.62	4.43
High	4.65	4.59	4.61	4.55	4.50	4.60	4.56	4.71	4.59
F statistic	6.151**	7.175**	7.164**	7.750**	19.420**	12.374**	10.920**	11.039**	13.533**
Pairwise comparison	a, c	a, c	c	a, c	a, c	a, c	a, c	a, c	a, b, c

* $p < 0.05$, ** $p < 0.01$; a indicates statistical significance between low and medium group, b between medium and high group, c between low and high group

Table 6. Correlations between final marks and perceived effect on competencies

	Competencies									
	1	2	3	4	5	6	7	8	9	
Final mark	Information/idea analysis	Information/idea integration	Identify problems	Develop solutions	Time management	Communicate clearly	Listening skills	Act with honesty and integrity	Meet deadlines of the assignment	
COHORT 1										
<i>Second-year 2014, n = 541</i>										
Pearson correlation	1	.114**	.136**	.140**	0.083	.160**	.127**	.149**	.111**	.108*
Sig (2-tailed)		0.008	0.002	0.001	0.053	0.000	0.003	0.001	0.010	0.012
<i>Third-year 2015, n = 592</i>										
Pearson correlation	1	.087*	0.080	0.071	.095*	.169**	.100*	.098*	0.031	.158**
Sig (2-tailed)		0.035	0.052	0.084	0.021	0.000	0.015	0.017	0.455	0.000
COHORT 2										
<i>Second-year 2015, n = 481</i>										
Pearson correlation	1	.112**	.104**	.174**	.148**	.126**	.124**	.097*	.116*	.149**
Sig (2-tailed)		0.014	0.022	0.000	0.001	0.006	0.006	0.033	0.011	0.001
<i>Third-year 2016, n = 505</i>										
Pearson correlation	1	.142**	.153**	.148**	.153**	.240**	.191**	.190**	.187**	.220**
Sig (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

as if high performers agree more strongly than do medium and low performers that the peer review interactions contributed to the perceived development of their professional competencies. This tendency was less prominently found for the medium performers in relation to low performers.

Table 5 shows that one-way ANOVA tests revealed a statistically significant difference (at both 0.05 and 0.001 levels) between most group means per cohort per year, but this was not equally so for all categories. Post hoc tests (pairwise comparisons) were performed to explore the data for differences between groups. The detail of these results is not presented, but significant mean differences at the 0.05 level were found (also refer to Table 5).

Further statistical analysis (Pearson’s correlation) was done to determine the strength of the linear relationship between the final marks of respondents and the contribution made by the peer review on the perceived development of the nine professional competencies (refer to Table 6). A statistically significant correlation between most of the professional competencies and the final marks was obtained, except for cohort 1, second-year respondents (2014) regarding competency 4 (develop solutions), and for third-year respondents (2015) regarding competencies 2 (integrate information/ideas), 3 (identify problems) and 8 (act with honesty and integrity). The latter group was the only one for which group members were randomly assigned by lecturers; all other groups were self-selected according to students’ own preferences.

Findings based on the qualitative analysis – students’ views on the interpersonal perspectives of the peer review intervention

Following the analysis of quantitative data without a priori theory, the researchers used an analytical frame based on an Ubuntu worldview (refer to Figure 1) to analyse participants’ comments.

Comments written by participants (1133 students (541 + 592) in cohort 1, and 1076 students (481 + 595) in cohort 2 (refer to Table 2)) were analysed and 4471 comments (phrases or sentences) could be aligned with Ubuntu dimensions. Table 7 provides particulars per cohort, per year.

Table 7. Comments on interpersonal perspectives and Ubuntu dimensions.

Competencies – mean scores Year	Cohort 1		Cohort 2	
	2014 – 2nd	2015 – 3rd	2015 – 2nd	2016 – 3rd
<i>Collectivism/Spirit of solidarity</i>				
Collective mindset/teamwork	80	398	435	540
<i>Survival</i>				
Helpfulness	128	122	92	72
Cooperation/collaboration	108	102	54	21
Responsibility (time management)	254	266	200	226
Problem analysis	128	174	91	123
<i>Compassion</i>				
Open-minded listeners	121	166	136	118
Showing sympathy	1	–	–	–
<i>Respect and dignity</i>				
Trust	15	11	9	9
Tolerance	59	48	58	81
Comfortable (free from constraints)	6	8	8	3
Total comments amounted to 5432	900	1295	1083	1193

Most comments made by participants aligned with the collectivism dimension of Ubuntu, except for cohort 1 (2015 2nd year). These comments mainly alluded to the dynamics of improved teamwork (e.g. shared goal and function as a whole). Representative quotations

follow: How to work better in a team with my tut-buddy ... we worked together as a team to identify other problems in the case study and not to only answer the required questions (Cohort 1, 3rd year). Working as a team ... to reach the same conclusion at the end, and I learned that as a team you need to be united, there must not be one weak link (Cohort 1, 2nd year). Everyone's input made a big contribution to getting the answer, as each person approached the question in a different way and reasoned differently (Cohort 2, 2nd year).

Concerning the survival dimension of Ubuntu, cohort 1 students had more comments than cohort 2 students on all four elements (helpfulness, cooperation/collaboration, own responsibilities and problem analysis). Representative comments for the helpfulness element illustrate willingness to offer and receive help. Thus: My [TUT]Buddies helped me with exam technique (Cohort 1, 3rd year), and [a buddy] helped me identify areas where I was being a bit slack (Cohort 2, 3rd year). Comments on cooperation/collaboration indicate peers' willingness to work with each other. Representative examples: Learnt to get work done despite being tired and emotional and having an equally stressed TUTBuddy (Cohort 1, 3rd year), and while marking my TUTBuddy question I realized we left out a lot of the same control activities and motivated me to share questions I have with my TUTBuddy, as he most likely is struggling with the same concept (Cohort 2, 2nd year). Participants commented on their own responsibilities, especially to meet deadlines: To prepare thoroughly for the [peer review] session in order to contribute properly to the discussion. Plan my time more efficiently, so that I don't fall under pressure to meet the deadline (Cohort 1, 2nd year). Analysing others' work to see if it is in line with the memorandum. Coordinating work to be done in order to have the assignment due before the deadline (Cohort 2, 3rd year). In relation to problem analysis, representative comments include: My buddies helped me analyse the questions better, identifying problems together does help (Cohort 1, 3rd year), and Looking at problems from another person's perspective (Cohort 2, 3rd year).

Concerning the compassion dimension of Ubuntu, participants mostly commented on them being open-minded listeners. Only one participant (Cohort 1, 2nd year) recorded having empathy. The following representative comments illustrate respondents' perceptions of being open-minded listeners: To listen to your TUTBuddy in an objective manner without your own opinion getting in the way (Cohort 1, 2nd year), I was able to listen more attentively to differences in opinion and try to understand different perspectives, and I have learnt people think differently, and it is okay if you don't agree with someone; you just have to explain and listen to theirs (Cohort 2, 3rd year). Another participant commented: be more understanding and open-minded when it comes to seeing someone-else's side (Cohort 1, 3rd year).

Table 7 shows there were fewer comments on the dimensions of respect and dignity than for the other Ubuntu dimensions. Although participants did not specifically comment on trust, some comments related to respect implied recognition of this dimension. Thus, for example: Being respectful towards my TUTBuddy, I have learned to respect the opinions and judgements of my fellow students (Cohort 1, 2nd year). Explain to someone how you see something. In such a manner that it is with respect ... respecting them and giving them a chance to explain themselves (Cohort 2, 2nd year). Representative comments identifying tolerance and patience are: I have learned to tolerate and respect other people's opinions (Cohort 1, 2nd year). To be patient when the TUTBuddy does not understand as well as you do ... I've learned how to be more patient in a group situation (Cohort 1, 3rd year). To understand each other and be patient with one another ... patience and understanding as other people's ways of working is different (Cohort 2, 3rd year). Illustrative comments on being comfortable include: Share views and opinions in the group but in a way that does not

offend others' beliefs (Cohort 1, 2nd year); agree to disagree (Cohort 1, 3rd year); and how to settle disagreements amicably (Cohort 2, 3rd year).

Discussion of findings

This study set out to investigate students' perceptions of peer review as a method to develop professional competencies. Using quantitative data, the study found a positive relationship between students' perceptions of the effect of the TUTBuddy intervention on the development of their professional competencies and their academic performance, which addresses the first research sub-question. Unpacking this result shows the peer review interactions contributed to the perceived development of respondents' professional competencies in nine areas. This also agrees with literature that demonstrates that peer assessment (and peer review) contributes to skills development (Dochy et al., 1999; Evans, 2013); and its success is ascribed to the design of the peer review intervention, as it included many of the various pedagogical components suggested by prior research (Ballantyne et al., 2002; Evans, 2013; Sluijsmans et al., 2002). Some examples: it was a component with a formative purpose in a holistic auditing assessment strategy; it had a lecturer-generated set of assessment criteria; peer review submissions were spread throughout the year (to manage students' workloads); the process was explained in students' study guides, and guidance was provided on specific peer review assignments during formal lectures and tutorial sessions. During these tutorial sessions students could evaluate the quality of feedback they had received from their peers, an arrangement which mitigated their concerns that their peers were not experts in auditing (Strijbos & Sluijsmans, 2010). It also assisted lecturers to embed feedback in the learning process, thus overcoming resource and capacity constraints (Hanrahan & Isaacs, 2001; Liu & Carless, 2006).

In both cohorts the mean scores of competencies of third-year respondents are higher than for second-years. This could be explained from past research (Ballantyne et al., 2002; Van Zundert et al., 2010) which has shown the importance of prior peer assessment experience on students' attitudes towards peer assessment (Van Zundert et al., 2010).

Further statistical analysis revealed that perceived development of professional competencies through the peer review intervention correlates with respondents' overall academic performance; nevertheless, it does differ between high, medium and low performer strata, and between year groups within cohorts. Significant differences were found between high, medium and low performers in year groups of cohorts. According to higher performing respondents the peer review intervention made a greater contribution towards the perceived development of their professional competencies than it did for low performing respondents. Prior research suggests higher achievers demonstrate a higher level of peer assessment skill (Yu et al., 2005), which could have positively influenced the perceived development of these competencies. Lower performing students tend to be less critical in peer assessment situations (Davies, 2006) and this could explain the lower perceived benefit identified by this group of respondents, as demonstrated by their lower perceived levels of competencies development. Even though lower performing students perceived the peer review intervention to have contributed towards the perceived development of their professional competencies it appears not to be to the same extent as that perceived by higher performing respondents, and there is an opportunity for improvement in both student performance and in depth of preparation needed from lecturers. A recent study performed by Berkling and Neubehler (2019) found a higher number of ignored feedback issues resulted in lower student performance based on final grades. Thus, a possible strategy to assist lower performing students to obtain the maximum benefit from peer review, is to encourage them to carefully reflect on all feedback issues. The latter could require strengthening lower

performing students' abilities to act in the role of the reviewer, a skill which has been found to prompt greater reflection (Gaynor, 2020).

Our study found that a significant positive relationship existed between all the professional competencies perceived to be developed by the peer review intervention, and this was most apparent in the performance of cohort 2 respondents; however, it was not always as evident for cohort 1 respondents. In the absence of specific research, one reason could be that the lecturers randomly assigned students to their groups in 2015: in light of research conducted elsewhere, it was found that an increase in effectiveness of cooperative learning occurred when students selected their own groups (Van der Laan Smith & Spindle, 2007). Gupta (2004) ascribes this notion to problems which could arise when groups are formed by lecturers: thus, for example, where student pairings are not compatible any resulting conflict is not easily resolved. However, freedom of choice can also lead to a decline in group discipline (Ballantine & McCourt Larres, 2007). In all instances, the strength of association is small, which indicates that the association with the final mark is not because of development of a particular professional competency.

The study used qualitative data to answer the second research sub-question by interpreting how participants went about peer review. Analysis of participants' comments revealed the presence of all Ubuntu dimensions. This should be seen against the background that Ubuntu dimensions were neither specifically discussed with students, nor were these purposefully incorporated in the peer review. It therefore appears that a peer review activity that involves interactions between at least two peers (Kollar & Fischer, 2010), and requires a form of collaborative learning (Hanrahan & Isaacs, 2001; Van Gennip et al., 2010) echoes an Ubuntu worldview in education that implies collaboration or interconnectedness (Letseka, 2016). As interconnectedness is a central notion of Ubuntu (Pieterse, 2014), the worldview articulates social interdependence (Letseka, 2012). Social interdependence theory encapsulates the idea of interdependence (Deutsch, 1949; Lewin, 1947) and from this perspective the outcome of peer review (the perceived development of professional competencies as argued in this paper) as it expresses the central notion of interconnectedness is affected by both the student's own efforts and the actions of others (reviewers and reviewees) (Johnson & Johnson, 2009).

The qualitative analysis showed that most comments could be aligned to collectivism or a spirit of solidarity and survival dimensions. These dimensions promote a collective mind-set for improved teamwork (Seroto, 2016) to collectively solve the problems of individual group members, whilst maintaining individual responsibility to contribute to the group's efforts (Poovan et al., 2006), and group members are helpful and cooperative (Seroto, 2016). This finding is not surprising because TUTBuddy groups were formed so that each group member could benefit from receiving comments from and giving input to peers (teamwork and cooperation). During peer review interactions paired group members met, sat together and focused their attention on one another, and whilst discussing the specific assignment they displayed coordinated patterns of behaviour (Poovan et al., 2006). This was done so that students could help each other to better prepare for tutorial sessions and to 'survive' academically. These aspects are related to interdependence which previous studies have identified as indicative of effective interpersonal interaction (Cheng & Tsai, 2012; Van Gennip et al., 2009, 2010). They also indicate the implementation of cooperative learning techniques, where students work together to accomplish shared learning goals, and where each student only achieves his/her learning goal if the other group members achieve their learning goals (Johnson et al., 1998). The latter resonates with social interdependence theory (Johnson & Johnson, 2009).

Some participants commented on being open-minded listeners. This finding can be ascribed to the peer review intervention being done with a formative purpose in a cooperative context, as past research has found that more open-minded listening occurs in a cooperative context than in a competitive context (Johnson & Johnson, 2009). An unexpected finding was that only one participant commented on the element of showing sympathy (compassion dimension), even though student protests reached a high point of disruption during 2015 and 2016 (Karodia et al., 2016; Ngidi et al., 2016; Pillay, 2016).

Concerning the dimensions of respect and dignity, a few participants linked tolerance with patience in their comments. However, even fewer participants commented on trust and comfortability or being free from constraint. Trust, an interpersonal factor, has been discussed in several peer assessment studies in the context of students' perceptions of the shared responsibility for the process of evaluating and grading peers' work (Cheng & Tsai, 2012; Van Gennip et al., 2009, 2010). Participants' lack of comment on trust in our study should be seen against the background that grading was not part of the peer review intervention, and that as TUTBuddy assignments were discussed in subsequent tutorial sessions, participants could benchmark information from these discussions with the feedback that they had received from their peers. Furthermore, only a few participants commented on comfortability in the peer review process. The dimension respect and dignity resonates with psychological safety in teamwork literature. Psychological safety, 'the shared belief that it is safe to take interpersonal risks in a group' (Van Gennip et al., 2010, p. 282), reduces a group member's concerns about negative reactions from other group members when they expresses an opinion (Cheng & Tsai, 2012). It enhances collaborative learning in peer assessment as group members view differences as opportunities, rather than disagreements (Van Gennip et al., 2009, 2010).

Conclusion

In responding to the dearth of research into peer assessment in auditing education, this study attempts to answer the following research question: What are students' perceptions of peer review as a method to develop professional competencies? Results agree with the literature that TUTBuddy, the peer review intervention in our study, influenced the perceived development of students' professional competencies in nine areas. A positive relationship was found between the perceived development of the professional competencies and students' own academic performance, but differences were found between and within groups. This led to the first contribution of the study; namely to provide a better understanding of peer review in the auditing discipline. Some pedagogical components (such as small groups, linking peer review with other learning elements and emphasis on feedback) and some technological components (such as uploading comments and reflections to an online system) of the TUTBuddy can be useful in auditing education to develop professional competencies.

The study further suggests students' perceptions of interpersonal perspectives of peer review represent Ubuntu dimensions (collectivism/spirit of solidarity, survival, compassion and respect, and dignity) and that these can be emphasised to promote interconnectedness (Pieterse, 2014) between the individual student and their peers. The study's second contribution is that it adds to peer review theory by suggesting that using an interpersonal frame of reference, based on Ubuntu dimensions, can be useful to strengthen peer review as a social process. Our study shows that the peer review design, incorporating quality attributes identified in the literature (Gielen et al., 2011; Topping, 1998; Van den Berg et al., 2006), potentially embed dimensions of collectivism/spirit of solidarity and survival. Elements for the dimensions of compassion, and respect and dignity (except for open-minded

listeners) were much less frequently commented on and one could argue that strengthening these dimensions in a peer review design could foster a climate more conducive to collaboration or interconnectedness (Pieterse, 2014; Seroto, 2016). This opens up areas for future study. Future experimental research, across disciplines, could use Ubuntu dimensions to determine the impact of a peer review climate on learning. It would be interesting to compare students' perceptions of learning outcomes (or development of professional competencies) in courses with peer review components, requiring students to use Ubuntu dimensions, and those in a control group with peer review without the aforementioned requirement.

Beets and Le Grange use dimensions of Ubuntu as a frame of reference for lecturers to engage with students in the assessment process (Beets & Le Grange, 2005). They argue that lecturers' humanness towards and attitude of caring for students captures the spirit of any assessment, and that students will thus receive an assessment in a positive light if they believe lecturers are aware of their fears and difficulties (Beets & Le Grange, 2005). Respect in an assessment process requires that lecturers and students are clear about what is to be assessed and on what demonstrates achievement, while sharing and compassion demonstrate a lecturer's social commitment 'to share with others what he/she has gained through the efforts of others' (Beets & Le Grange, 2005, p. 1202). This paper did not focus on the lecturers' role in peer review and future studies could use the aforementioned Ubuntu dimensions to determine the impact lecturers have on peer review initiatives. While the COVID-19 context highlights the need to explore ways to provide social care to accounting students (Sangster et al., 2020), it would be interesting to determine whether and how teaching/pedagogy/assessment in the accounting or auditing fields shifted towards a care orientation that reflects the Ubuntu worldview.

Accounting programmes have been criticised for the disjunction of their assessment and feedback processes (O'Connell et al., 2010). In our study we suggest a way in which peer review can be used to facilitate students' reflection and critical analysis of their own work as preparation for and participation in tutorials, a process that was seen to improve student performance and engagement (Cohen et al., 1982; Gordon, 2009; Topping, 1996). Due to the high course enrolments (from which respondents were drawn), student tutorial groups were also large, (ranging between 60 and 100 students per group), which is much higher than the one-to-one or one-to-few tutor-to-student norm discussed in the literature (Beukes, 2018). Future studies should investigate whether these bigger tutorial classes could be optimised and justified when they are preceded by a peer review activity. Such an insight could impact on allocation of teaching resource to tutorials and make them a more effective option.

The study is not without limitations. It was done in South Africa during a period of significant student protest. Although 2016 results, during heightened student unrest, show a much stronger relationship between perceived achievement of competencies and student performance, no conclusive results were found to determine the impact of student unrest on students' perceptions, nor on their performance. This opens up areas for future research; studies could determine the effect of student unrest on learning and peer review. Another area for investigation is suggested by the fact that the TUTBuddy groups were lecturer-assigned for cohort 1 third-year respondents, while respondents assigned themselves in the formation of all other groups. There does not appear to be an optimal way to assign students to groups for a cooperative learning activity (Saleh et al., 2005). Although the literature shows that student-assigned groups are more positive about cooperative learning, results also indicate that such groups sometimes lack discipline (Ballantine & McCourt Larres, 2007); and while homogeneously grouped students (based on marks) outperform

heterogeneously grouped students (Baer, 2003; Saleh et al., 2005), more work needs to be done on the effects of the various group assignment considerations on the mastery of competencies. In parallel with this, the question arises: what is the impact of group formation on Ubuntu dimensions in peer review; and how does the method of assignment to groups impact on peer assessment and peer feedback effectiveness?

Returning to Mzi Mahola's poem we used as a preamble (Mbigi & Maree, 2005, p. 57), assessing and providing feedback on a peer's work can indeed be seen as a long, tedious process. So, while peer review presents an opportunity for students to participate in assessments, some students still prefer not to get involved while others may deliberately 'swim against the tide'. We argue that an Ubuntu-influenced peer review process could present a more widely accepted student activity to participate in learning through mutual support.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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