**Perceptions of online self- and peer assessment: accounting students in a large undergraduate cohort**

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**Abstract**

**Purpose** – Self- and peer assessment are considered useful tools in the development of lifelong learning and reflective skills. The researchers implemented a teaching intervention using self- and peer assessment among a large cohort of final year undergraduate students. The purpose of this study was to investigate students' perceptions of online self- and peer assessment in order to understand the differences between these perceptions and to allow instructors to adopt differentiated instruction in developing a diverse student group's professional skills.

**Design/methodology/approach** – The research design adopted a mixed methods approach through the use of surveys that were administered before and after the self- and peer assessment intervention in a taxation module taught at a large public South African university. Through the use of a series of open and closed questions students' perceptions on self- and peer assessment were analysed both quantitatively and qualitatively.

**Findings** – The findings show that students' perceptions of self- and peer assessment differed significantly, where perceptions of self-assessment were more positive than those of peer assessment. The findings indicate that self- and peer assessment present a challenge in an online context for large student cohorts despite improved tracking, faster feedback and anonymity.

**Originality** – The study contributes to the literature by analysing students' perceptions about self- and peer assessment in an accounting education context and in an online setting in South Africa.

**Keywords** – self-assessment; peer assessment; perceptions; online; higher education.

**Introduction**

The essential knowledge and professional skill sets required in accounting education have been the subject of much debate (Albrecht and Sack, 2000; Evans, 2014; Flood, 2014; Hassall, Joyce, Montaño and Anes, 2005; Jackling and De Lange, 2009; Keevy, 2020; Kirstein, Coetzee and Schmulian, 2019; Lubbe, Peta Myers and van Rooyen, 2020; Parker, 2001). Employers have emphasised a lack of adequately developed professional skills in prospective employees and are seeking a diverse range of skills and attributes (such as communication skills, written skills, interpersonal skills, critical thinking skills, and judgement and analytical skills) from accounting graduates (Ballantine and McCourt Larres, 2009; Jackling and De Lange, 2009; Kavanagh and Drennan, 2008). These skills are neither domain nor subject specific and are alternatively known as soft skills, generic skills or pervasive skills.

Commentators internationally suggest that the gap between education and practice is widening and requires curriculum change (Albrecht and Sack, 2000; Bowden and Masters, 1993; Crebbin, 1997; Jackling and De Lange, 2009; Wiggin, 1997; Yap, 1997). Consequently, accounting educators worldwide need to develop graduates with a broader set of skills and attributes, encompassing more than purely technical accounting expertise, by innovating their curriculum, teaching and assessment practices (Braun, 2004; Schmulian and Coetzee, 2019).

Further challenges are experienced by educators where large classes exist. As a result, the accounting discipline, like many others, is often plagued by little, if any, personal feedback on written work that would require a substantial cost of time and effort on the part of the academic team (Parsons, Davidowitz and Maughan, 2020, p.178). Consequently, student learning often remains limited to rote learning for summative assessment (Lubbe *et al.*, 2020, p.93) and often stifles the development of professional skills in students.

Given the advances in online technology, it is valuable to revisit how innovations in online assessment may contribute to the development of professional skills, lifelong learning

and reflective practices in large student cohorts. In light of the shift towards online assessment during the COVID-19 pandemic, these innovations are particularly relevant. Among the systems to be considered in this context, it is worth examining the perceptions of a large student cohort of online self-assessment (SA) and peer assessment (PA) in assisting in more meaningful formative assessment to develop these skills. SA and PA are considered to be useful tools in the development of lifelong learning and reflective skills, and research indicates that SA and PA also help to promote a wide range of transferable skills (for example: communication, problem solving, teamwork and leadership skills) (Boud and Lublin, 1983; Stefani, 1994). Understanding the differences in students' perceptions of SA and PA will allow instructors to adopt differentiated instruction in developing a diverse student group's professional skills (Kirstein *et al.*, 2019, p.41).

Existing SA and PA literature is extensive and encompasses many disciplines (Carvalho, 2013; Dijks, Brummer and Kostons, 2018; Hassan, Fox and Hannah, 2014, p.226; Hill, 2016; Patton, 2012; Schmulian and Coetzee, 2019; Seifert and Feliks, 2019; Sridharan, Muttakin and Mihret, 2018; Wen and Tsai, 2006; Yu, 2020). Yet few SA and/or PA studies focus on accounting education, and these studies vary in scope (either SA or PA), purpose (to examine the accuracy, the reliability and/or the validity of the assessment), and the student task (presentations, assignments, quizzes or tests). Fewer still focus on online SA and PA in the context of large student cohorts.

The current study contributes to the literature by analysing student perceptions of both SA and PA in an accounting education context and in an online setting in South Africa. The study uses both quantitative and qualitative methods to analyse student perceptions of SA and PA as development tools for lifelong learning and for developing professional skills, whereas most existing research on perceptions of SA and PA has focused mainly on quantitative methods.

This paper is presented in five parts. Following this introduction, part two includes a review of the literature relating to SA and PA and discusses students' perceptions of these forms of assessment. Part three outlines the research methods and the data collection and data analysis techniques employed. Part four then presents an analysis of the results, and finally, part five provides concluding remarks.

*Self- and peer assessment*

The ability of learners to self-assess and evaluate their own work enables them to monitor, direct and regulate their actions towards the goals of information acquisition, increased expertise and self-improvement (Lew, Alwis and Schmidt, 2010). PA is defined as "an arrangement in which individuals consider the amount, level, value, worth, quality, or success of the products or outcomes of learning of peers of similar status" (Topping, 1998, p.250). PA (an assessment of students' work by their peers) gives students a greater sense of ownership and empathy for the subjective judgements required during an assessment process (Ellington, 1996). In addition, students provide feedback (an essential ingredient of peer learning) with a comparatively small implementation effort required by the coordinating academic (Willey and Gardner, 2009, p.382).

Historically, PA was characterised by the grading of students' work by their peers (Topping, 1998), but contemporary literature encourages greater emphasis on the sharing of formative feedback between peers (Liu and Carless, 2006; Nicol, 2013; Orsmond, Maw, Park, Gomez and Crook, 2013). In this context, feedback is defined as "information given by an agent (e.g. teacher, peer, book, parent, self, experience) regarding aspects of one's performance or understanding" (Hattie and Timperley, 2007, p.81). Research reveals that students who receive more feedback on their performance better understand the criteria for assessment and the assessment processes, adapt assessment methods to learning goals, identify both strengths and weaknesses in their performances, reinforce their understanding of their discipline, and

improve future performance when PA is implemented (Ballantyne, Hughes and Mylonas, 2002). Thus, providing students with the opportunity to engage in dialogic feedback during SA and PA processes can be meaningful in terms of a learning-centred approach, because such an opportunity can activate the role of the student in both generating and providing feedback and can help students to self-regulate their learning processes (Carless and Boud, 2018; Carless, Salter, Yang and Lam, 2011; Winstone and Boud, 2019; Yu, 2020). Consequently, the SA and PA feedback-giving processes can contribute to the development of students' evaluative judgements (the ability to make decisions regarding the quality of work of self and others) (Boud and Falchikov, 2007; Tai, Ajjawi, Boud, Dawson and Panadero, 2018; Yu, 2020).

Nonetheless, research also indicates that while more PA may lead to increased opportunities for assessors to observe and receive feedback, it is also time-consuming and may influence the effectiveness and efficiency of their assessments (Seifert and Feliks, 2019; Sung, Chang, Chiou and Hou, 2005). This means that the instructor should carefully consider the number of assessments assigned to each student (Seifert and Feliks, 2019).

Existing literature has, however, revealed some difficulties and challenges of SA and PA. Some examples of these are accuracy and validity, students' insecurities regarding their peers' evaluations, difficulty of awarding a mark and the tendency of learners to over-mark or under-mark (Boud and Holmes, 1995; Topping, 2009; Wen and Tsai, 2006). Some literature has also reported some difficulties in second/foreign language contexts where limited proficiency may inhibit students' ability to provide effective peer feedback and where these students may become marginalised or even lack the competence that would enable them to effectively provide peer feedback (Lee, 2017; Panadero, 2016; Zhu and Carless, 2018). Similarly, improper feedback, unhelpful comments, misunderstandings and even conflicts are evident in second language contexts (Hu, 2019; Yu *et al.*, 2016). Cultural aspects have also presented a challenge in certain instances, as they have been found to influence students'

participation (Yu and Lee, 2016; Yu, Lee and Mak, 2016) and may generate resistance to engaging in peer feedback (Hu and Lam, 2010); students from collective culture backgrounds may even consider that giving feedback to their peers is impractical and unfeasible (Lee, 2017).

Other challenges exist where technology-assisted SA and PA are not available. For example, in a manual process, it would be time consuming for an instructor to manage the process, provide for anonymity of students and encode information. Similarly, a manual process would place limits on the time and place for face-to-face interaction with students and evaluation, require investment in printing assessments and submissions, delay the timelines of the feedback and may even restrict the number of assessments for review by peers to fewer than the desired number. These challenges are compounded where large student cohorts are involved. The use of technology-assisted SA and PA can often resolve these challenges (Seifert and Feliks, 2019) that would otherwise make the implementation of SA and PA processes impracticable, particularly when considering that feedback would only be effective and useful for student reflection if it is both timely and focused (Willey and Gardner, 2009, p.381).

*Students' perceptions of self- and peer assessment*

The existing literature is populated with multiple studies that investigate the benefits and challenges of SA and PA (Alqassab, Strijbos and Ufer, 2018; Chen, 2010; Dochy, Segers and Sluijsmans, 1999; Gatfield, 1999; Hassan, 2014; Hoffman, 2019; Levine, 2008; Lindblom-ylänne, Pihlajamäki and Kotkas, 2006; Miller, 2003; Patton, 2012; Topping, Smith, Swanson and Elliot, 2000; Wang, 2014). Nevertheless, few studies focus on students' perceptions of these forms of assessment, and where students' perceptions are reported, the results are varied (Patton, 2012).

Some research indicates that SA and PA have contributed favourably to the learning process by improving the quality of student learning and development by making students feel more confident, motivated and involved in the subject (Dochy *et al.*, 1999; Gatfield, 1999;

Levine, 2008; Lindblom-ylänne *et al.*, 2006; Paswan and Gollakota, 2004; Topping *et al.*, 2000; Vickerman, 2009; Wen and Tsai, 2006). Other research, however, has shown that students fear that they are not able to provide constructive and accurate assessment and feedback on the work of their peers and believe that this responsibility is the role of the instructor (Chen, 2010). By the same token, many students feel uncomfortable criticising their peers and consider it onerous and time-consuming (Ballantyne *et al.*, 2002; Davies, 2000; Lin, Liu and Yuan, 2001; Miller, 2003; Topping *et al.*, 2000; Tsai, Lin and Yuan, 2002). Where PA has been perceived as negative, some research indicates that evaluation has hindered students' relationships with peers and criticises the lack of objectivity in fellow students' assessments (Hanrahan and Isaacs, 2001; Lindblom-ylänne *et al.*, 2006; Planas Lladó, Soley, Fraguell Sansbelló, Pujolras, Planella, Roura-Pascual, Suñol Martínez and Moreno, 2014).

While some studies reviewed may focus on students' perceptions of SA or PA, most are not conducted with large student cohorts, are not focused on both SA and PA for individual assessments (but focus rather on group work), are not designed to develop professional and reflective skills, or are not undertaken in an online context. Given the essential roles of SA and PA in the context of this study, it is very important to understand the ways in which students think SA and PA help them learn. An understanding of these perceptions allows instructors to adopt differentiated instruction in developing a diverse student group's professional skills.

### *Current study*

The main objective of this study is to investigate students' perceptions of online SA and PA processes before and after participating in them. The following research question was examined: Did student perceptions of online SA and anonymous online PA change after a teaching intervention (an individual assessment following an SA and PA process)? This research question is answered through examining the following sub-questions:

- Did student perceptions of SA change after a teaching intervention?

- Did student perceptions of PA change after a teaching intervention?

The research design adopted a mixed methods approach through the use of surveys that were administered before and after the SA and PA intervention. Through the use of a series of open and closed questions, students' perceptions of SA and PA were analysed both quantitatively and qualitatively.

**Method**

*Participants*

Three hundred and eighty-nine (n = 389) third-year university students participated in the current research in the 2019 academic year. The original sample consisted of 664 students who were enrolled in a taxation module at the University of Pretoria. Of the respondents, 36 per cent were studying the module in their home language (English), while 64 per cent were not (English as additional language). Only 534 students completed the first survey, while 437 students completed the second, representing 80.4 per cent and 65.8 per cent of the enrolled students, respectively. This led to a sample of 389 students who had completed both surveys, which represents a 58.6 per cent response rate.

All students enrolled for the module were required to participate in the teaching intervention; however, students were given the opportunity to complete the data collection for the purposes of the research on a voluntary basis. Taking the circumstances, the focus of the study and the students' willingness to participate into account, the sample was regarded as sufficient for the purposes of this study. The majority of the students (263) were those who majored in accounting sciences (an accredited programme that forms part of the requirements for training as a chartered accountant and an auditor), while the remaining students (126) were those who majored in financial sciences (this degree combines three disciplines, namely

taxation, internal auditing and financial management). Some of the relevant demographic information about the participants is reflected in Table I.

**Table I:** Demographic information about participants

|  | **Number of participants** | **Percentage** |
|---|---|---|
| Students (accounting sciences) | 263 | 67.6% |
| Students (financial sciences) | 126 | 32.4% |
| **Total** | **389** | **100.0%** |
| Female | 245 | 63.0% |
| Male | 144 | 37.0% |
| **Total** | **389** | **100.0%** |
| Younger than 21 years old | 145 | 37.3% |
| 21 years old (mean) | 158 | 40.6% |
| 22 years old | 55 | 14.1% |
| 23 years old | 17 | 4.4% |
| 24 years old | 5 | 1.3% |
| Older than 24 years old | 9 | 2.3% |
| **Total** | **389** | **100.0%** |

*Instruments and procedure*

*Student assignments*

Students were required to complete two individual assignments. The first assignment was a case-based assignment where the students were required to calculate the taxable income of a fictitious taxpayer. Although students had worked on calculations of this type before, the online submission and the SA and PA components were new to them. The second assignment was also a case-based assignment, but in this instance, the students were required to submit a written discussion of the deductibility of expenses with reference to legislation and case law. While the students had worked on written discussion questions of this type before, they had performed poorly in such questions.

Detailed instructions for both assignments were provided to the students online via the University's learning management system. Both assignments and the SA and PA processes, together with the reasons and desired outcomes were explained to students in full via online instructor videos and materials. Additional online training in the form of instructor videos was

also made available to students before the release of the assignment cases (including videos relating to technical content, exam technique and writing skills). This clear description of the procedures and the components was aimed at building students' confidence in and appreciation for the approach.

Before the SA and PA processes, the students were allocated into groups using the online *iPeer* TeamMaker function. As a part of this process, students were asked to answer one question relating to their results from the prerequisite module. These results were used to allocate students into groups of five, so that participants could be allocated in a manner that allowed each group to consist of students whose performance in the prerequisite module varied and so that students who did not answer the question could also be evenly distributed.

### *Self- and peer assessment feedback*

Students gave SA and PA feedback through a standardised online feedback rubric that was accessed via the University's learning management system. The feedback rubric was developed by the instructors of the course and consisted of criteria that had to be rated with a four-point Likert-scale. The feedback rubric was reviewed by three experienced peer researchers and by the education consultant for the Faculty of Economic and Management Sciences, and the feedback received was used to revise and improve the rubric before use.

The feedback rubric for the first assignment contained criteria for technical content and accuracy (related to a suggested solution and mark plan), while the feedback rubric for the second assignment also included criteria related to discipline-specific language proficiency, clarity of writing, structuring of content and synthesis ability. Students were required to add specific feedback to the rating for individual criteria and had an opportunity to provide additional general feedback in the online feedback rubric.

The online feedback rubric was provided to the students alongside the assignment instructions and the instructor-created online training videos. These resources briefed the students about the SA and PA processes, the benefits of SA and PA in learning, the aims of the teaching intervention and the steps required to implement SA and PA. Detailed discussions of the advantages and disadvantages of SA and PA and examples of feedback and reflection were also provided and explained online. The peer feedback was released to students within twenty-four hours after completion, and students were encouraged to review and reflect upon the peer feedback received online.

*Self- and peer assessment perceptions*

To measure students' perceptions of SA and PA, structured surveys were developed: one survey to be completed before and the other to be completed after the SA and PA intervention. The structured surveys were developed based on a study done by Hill (2016) on students' perceptions of SA and were expanded to include questions relating to PA. The surveys included a series of closed questions to be answered using a four-point Likert scale; however, the post-intervention survey also included two open-ended questions that required qualitative responses where students could provide their views on SA and PA in their own words.

The open-ended questions were added, as they provided further context and meaning to complement the participants' perceptions of SA and PA intervention. Questions about personal details (name, age, gender, *etcetera*) were added to the survey. Both surveys were piloted by three experienced peer researchers and an independent education consultant before execution to limit the possibility of misinterpretation of the questions and establish face validity. The suggestions of these experienced peer researchers were incorporated into the final instruments.

Prior to execution, ethical clearance and approval was obtained from the Research Ethics Committee at the University of Pretoria, where the research was conducted. A cover

letter on both surveys reassured the respondents that responses to the questions would be treated as strictly confidential. While all students enrolled for the module were required to participate in the assessment exercises, students were given the opportunity to complete the surveys on a voluntary basis during a formal lecture (before and after the SA and PA intervention). Before participating in any part of the research, the students were informed, both in a written and an oral format, about the purpose and design of the research and their rights to withdraw from participating in the research. Students were also informed that data would be processed anonymously. Due to these precautions, it can be expected that the information about the research did not impact the findings.

*Data analysis*

The results obtained from both surveys were captured and processed in *Statistical Package for Social Sciences (SPSS)* software (software used for statistical analysis). The closed-ended survey questions provided Likert response options (which were mutually exclusive) that facilitated coding. These responses were then analysed by frequency. The Wilcoxon Paired Signed-Rank Test was adopted to test the difference in students' perceptions before and after the SA and PA processes. This test is used to test the null hypothesis that both samples are from the same population, in other words to test whether there is no difference in the perceptions before and after the initiative. A before and after measurement of the perceptions and actions of each student was therefore considered. The Wilcoxon test uses the standard normal distribution $z$-value to test for significance, as it creates a pooled ranking of all observed differences between two dependent measurements (Laerd Statistics, 2021b) – in this case, the perceptions of students before and after the SA and PA processes. Rejection of the null hypothesis of no statistical differences is based on a 5 per cent level of significance. Provided the ordinal nature of the data and the expectation that the data was likely not to have a normal distribution, this test was considered satisfactory, as it does not require a large normally

distributed sample like various other parametric tests (Laerd Statistics, 2021a; Laerd Statistics, 2021b).

Qualitative responses to the open-ended questions augmenting students' views about this exercise were transcribed and analysed using a thematic approach (Cooper, 2017) to identify recurring themes. The first step of open coding was to read and re-read each response to identify themes that were significant to the perceptions of the participants. During this initial analysis, the authors independently assigned descriptive codes to each statement made. Themes were developed and coded and subsequently independently checked for repetition and grouped. The coding process was repeated independently at a later point in time. The authors scrutinised and resolved discrepancies between their own initial and subsequent analyses. Thereafter, both sets of coding were scrutinised and differences were resolved through mutual consensus between the authors.

**Results and discussion**

*Students' perceptions of self-assessment*

Before the SA process, the students generally felt positive towards SA (74.3 per cent felt very or slightly positive). After the SA process, this increased to 84.3 per cent. Figure 1 illustrates the perceptions of students before and after the online SA process.
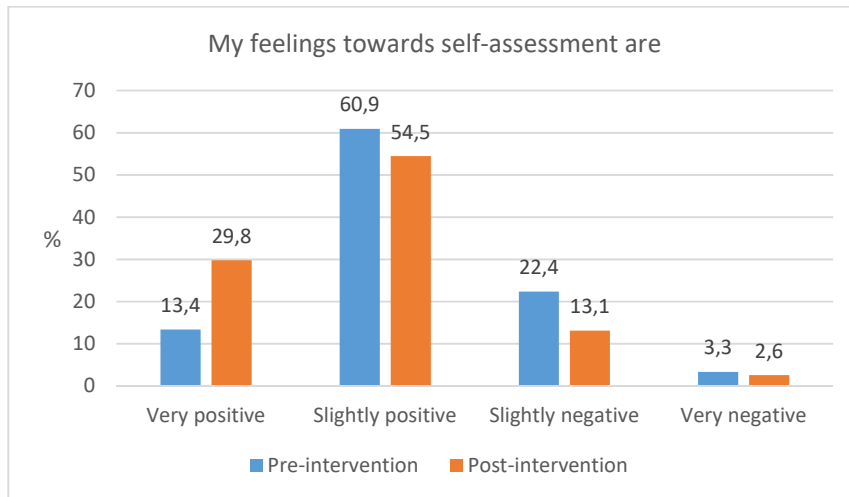
**Figure 1**: Pre- vs post- survey results regarding perceptions of SA

Interestingly, 12.6 per cent of the students who felt slightly negative before the SA process felt slightly positive after the process. Similarly, 19.3 per cent of students who felt slightly positive before the SA process felt very positive after the process. It is submitted that the positive perceptions of SA may be linked to the perception that SA aids in improving academic performance (Dochy et al., 1999). Figure 2 illustrates the perceptions of students regarding the benefits of SA in assisting them to improve their academic performance.
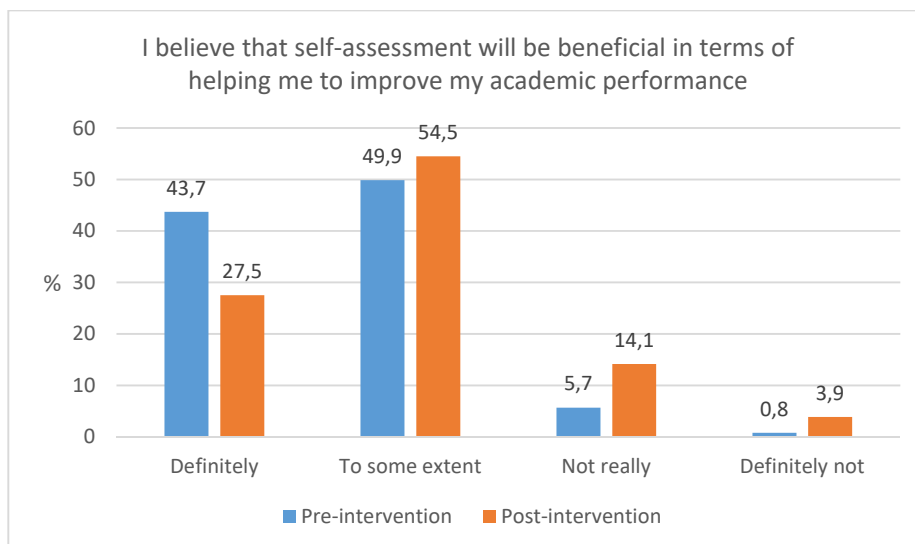


**Figure 2**: Perceptions of the benefits of SA in improving academic performance

The results indicate that despite the majority of students' feeling that SA aids in improving academic performance (both before and after the process), some students did not perceive this to be the case after the process. Analysis of the qualitative comments made by students in response to the following question revealed reasons for both positive and negative perceptions and for changes in perceptions: "Please share any further comments that you may have on the assignment's SA initiative in general." Many students pointed out the benefits of SA in helping them to understand academic content in the syllabus; for example, Participant 420 noted: "Self assessment have been largely beneficial this year as it incentivized me and likely others, to confront the mistakes and fundamental errors in understanding and application and work to rectify it, I've definitely benefited from it." Other students acknowledged the benefits of SA in improving academic performance; for example, Participant 405 noted: "Personally feel that this is a great way to improve marks because you can see the mistakes you made and can focus on what you are doing wrong and prevent yourself from making same mistakes over and over." Further, many comments from participants included an indication of a change in their perception of SA due to their acknowledgment of the benefits derived from the process; for example, Participant 169 noted: "I was not very excited in the beginning and very negative towards this initiative but I went through all the assessment. I started being more excited and positive towards it and benefits gained."

Interestingly, an important theme that was identified in the negative comments is that students felt that they may not accurately assess themselves, as they may be subjective during the SA process; this is consistent with existing literature (Hassan *et al.*, 2014, p.234). Analysis of these qualitative comments revealed that some students felt that while the SA process is beneficial, they are too critical of their own work; for example, Participant 123 noted: "I feel that it is helpful but because I am very hard on myself I make myself more negative and overwork myself on the critique that the end result are more negative than positive." Views

opposing this were also expressed by some students, as they felt that they were too lenient during the SA process; for example, Participant 205 stated: "I am biased. I favour myself. Not very effective because I always give myself more marks than I should." Participant 334 stated: "The self-assessment is time consuming and not helpful at all since I am obviously lenient when marking my own assignment." Notwithstanding the students' perceptions of SA, their perceptions of PA also revealed interesting results, which are discussed below.

### Students' perceptions of peer assessment

Before the intervention, the majority of students felt negative towards the PA process (64.8 per cent felt very or slightly negative) (Carvalho, 2013; Hoffman, 2019; Levine, 2008). After the PA process, student perceptions remained largely negative: 54.1 per cent of students who felt very or slightly negative indicates a change in perceptions to some degree. Figure 3 illustrates the perceptions of students before and after the PA process.
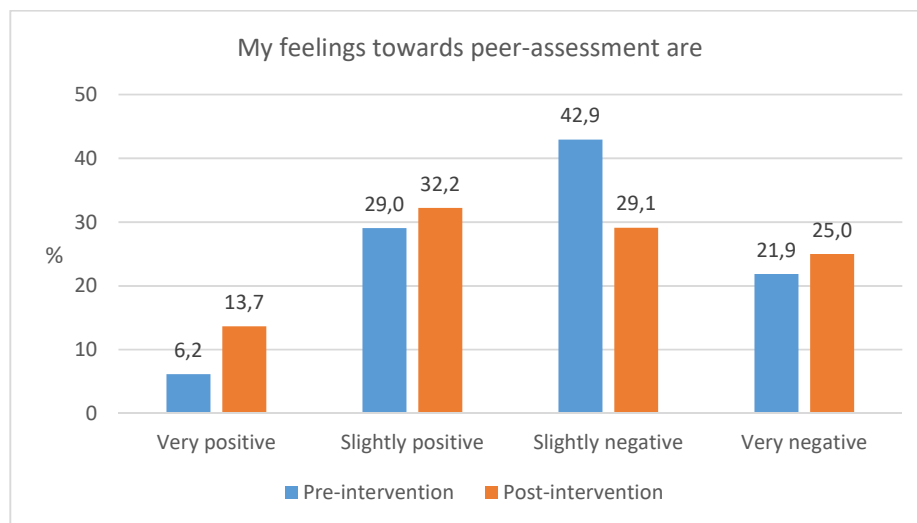


**Figure 3:** Pre- vs post- survey results regarding perceptions of PA

In comparing these results, it is evident that fewer students had negative perceptions after the PA process than before. This shift in perceptions indicates that while exposure to the online PA process may have had a positive impact on perceptions, more needs to be done to

ensure that negative perceptions do not prevent students from engaging with the PA process and developing much needed skills.

Analysis of the qualitative comments made by students in response to the following question revealed reasons for both positive and negative perceptions and for changes in perceptions: "Please share any further comments that you may have on the assignment's PA initiative in general." Even though students generally felt more negative towards the PA process than towards the SA process, many students noted the learning opportunity provided in reflecting upon the mistakes made by others; for example, Participant 233 noted: "I learnt about common mistakes that most students do during assessments. Marking other students work has really motivated me to do well and also not to repeat common mistakes made by most students." Students also acknowledged the value of PA in improving performance in future assessments; for example, Participant 200 stated: "I learnt from others mistakes. I found it to positively impact my other assessments." Further, students indicated that PA contributed to improved understanding and motivation; for example, Participant 384 related: "Peer assessing my peer's assignment is very important useful to me because it helps me gain more understanding of the work. It also motivates me to work harder to get better marks in future."

Notwithstanding the above, the qualitative feedback revealed that a lack of effort and poor quality of feedback by peers contributed to the negative perceptions of PA. For example, Participant 323 noted: "There were some peers who did not participate in the peer assessment and some gave really brief and meaningless feedback with no recommendation whatsoever. This indicated to me that they found it really not a priority and as I result I benefited very little from peer assessment." Similarly, Participant 338 pointed out: "Some people are not truly putting enough effort into marking the work of their peers and providing helpful, critical and constructive feedback. Thus, it is difficult to benefit, fully from this learning experience."

Some students indicated that the PA process requires a significant investment of time, and others indicated that they had a lack of adequate time due to other responsibilities. For example, Participant 279 noted: "It is time consuming, especially given the fact that we already have a lot of work from our other modules as well." Based on these responses, it appears that rushed feedback played a part in the lack of effort and quality feedback noted above. In addition to the recurring themes of "lack of effort by peers", "poor quality feedback", "time-consuming process" and "time constraints", there were also instances where students expressed a preference for either SA or PA in their qualitative responses; for example, Participant 19 indicated a preference for PA: "I think as much as going through your work and seeing what mistakes you made, the self assessment is really not beneficial that much because sometimes we are not too honest to ourselves as human beings so I think you should only let our peers assess us. It is much better and easier that way." Participant 460, however, indicated a preference for SA: "The peer assessment was not as beneficial for me since the feedback received wasn't in detail on [where] I went wrong and how to improve. The self-assessment helped more than the peer review."

While it is evident that the students felt more positive towards the SA process than the PA process, there is an indication that students did find value in the PA process when considering the response to the question: "When I receive a marked assessment (test or assignment) back from my lecturer, I do the following with my assessment". Figure 4 illustrates the perceptions of students before and after the SA and PA processes. [Figure 4 here]
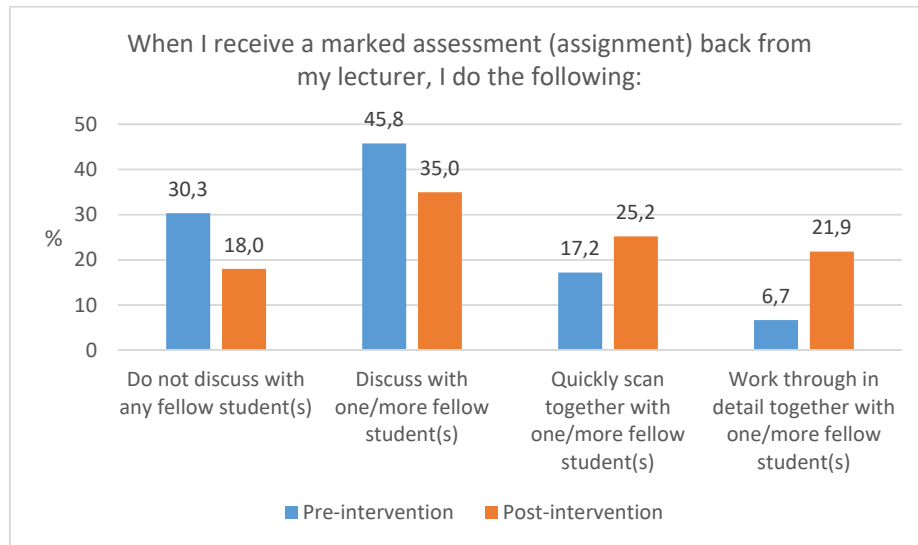
:18

**Figure 4**: Perceptions of self-reported future behaviour

The results reveal that a greater number of students after the SA and PA processes believed that they would enter into some form of PA than before. This indicates that the initiative had a positive influence on self-reported student behaviour, but there is still room for improvement.

*Differences in perceptions: pre- vs post- survey results*

To test whether there is no difference in the perceptions before and after the SA and PA processes (the null hypothesis that both samples are from the same population), the Wilcoxon Paired Signed-Rank Test was adopted. Table II illustrates the differences in perceptions pre- and post-SA and PA processes.

**Table II:** Differences in perceptions pre- and post-SA and PA processes

| Main statement | Z test statistic | *p*-value | Result for $H_o$ |
|---|---|---|---|
| My feelings towards self-assessment are: | -5.858 | 0.000 | Reject null hypothesis. |
| I believe that self-assessment will be beneficial in terms of helping me to improve my academic performance. | -6.299 | 0.007 | Reject null hypothesis. |
| My feelings towards peer assessment are: | -2.690 | 0.000 | Reject null hypothesis. |
| I believe that peer assessment will be beneficial in terms of helping me to improve my academic performance. | -1.359 | 0.174 | Do not reject null hypothesis. |
| When I receive a marked assessment (assignment) back from my lecturer, I do the following: | -7.414 | 0.000 | Reject null hypothesis. |

The Wilcoxon Paired Signed-Rank Test shows that the observed differences between students' responses before and after the SA and PA processes are significant for the student cohort as a whole, with the exception of the statement regarding the benefits of PA. Thus, the null hypothesis that both samples are from the same population can be rejected for the other four statement pairs. At a 5 per cent level of significance, there was a statistically significant shift in perceptions before and after the SA and PA processes. The only statement where there was not a statistically significant shift for the group as a whole is the one concerning the benefits of PA, as this was statistically insignificant given a *p*-value of 0.174.

**Conclusions, limitations and future research**

This study aimed to investigate students' perceptions of online SA and PA processes in an accounting education context. It contributes to the discourse on SA and PA because it used both quantitative and qualitative methods to analyse student perceptions of online SA and PA as development tools for lifelong learning and professional skills. While research undoubtedly

reveals that SA and PA can assist students in developing the skills required of accounting graduates, understanding students' perceptions of SA and PA is important in order to allow instructors to develop online SA and PA processes and adopt differentiated instruction in developing a diverse student group's professional skills. Although the research was conducted before COVID-19, before online teaching became prevalent, the results of the study offer valuable insight into the practical aspects of the development and implementation of online SA and PA processes that may be applied during pandemic restrictions.

This study's results reveal that students perceived SA positively, while perceptions of PA were largely negative (Figures 1, 2 and 3) (Carvalho, 2013; Hoffman, 2019; Levine, 2008). The results also reveal that students perceived that SA and PA helped them to learn from their own mistakes and from those of their peers, which supports existing literature (Planas Lladó *et al.*, 2014, p.603). These findings indicate that students believed that SA is a beneficial process for the purposes of improved academic performance; however, PA still presents a challenge in an online context for large student cohorts, despite improved tracking, faster feedback and anonymity. The research affirms that while students valued the SA process for reflection, they recognised the possibility of lack of accuracy and bias. Meanwhile, students recognised that the PA process requires a significant investment of time, and they questioned the benefits of the process in that they often felt that their peers did not provide them with valuable feedback.

For this study, students had a limited number of days to complete their SA and the PA of their peers within a reasonable timeframe from when the assignments were submitted. The allocation of five students per group did allow for increased opportunities for each student to observe and receive feedback, but the allocation of five students was also time-consuming and may have influenced the effectiveness and efficiency of the PA feedback (Seifert and Feliks, 2019; Sung *et al.*, 2005) and influenced the perceptions of the PA process. Future implementation of online SA and PA processes will include earlier reminders of upcoming

deadlines, including increased emphasis on the quality of the feedback and the investment of time required. Additionally, future implementation will make use of smaller group sizes (three to four students per group). With these needed adjustments in mind, the results confirm that even though the instructors may carefully consider the number of assessments assigned to each student (Seifert and Feliks, 2019), this number may need to be reconsidered for future implementation.

Further, the SA and PA processes (combined) were worth 6 per cent of each student's continuous assessment mark, which counted 3.3 per cent towards each student's final grade for the module. This is another consideration for future implementation, as the instructors felt that this weight may have unintentionally indicated that this was not an important component of the module and therefore resulted in a lack of effort from students, thereby influencing perceptions regarding the PA process in particular. Future implementation of the SA and PA processes will thus include an examination of a larger weight towards the final grade of the module. Instructors also felt that, while training for the SA and PA processes was mostly provided online asynchronously, it may be more appropriate in future implementations to include some components of synchronous online training to improve student engagement and the quality of peer feedback.

While the results and practical implications are useful for those who may be interested in using online SA and PA initiatives in large student cohorts, this study was not free of limitations. The study revealed instances in which online assessment in a developing country is challenging (i.e. students with a lack of access to internet and computers when off campus and the challenge of scheduled and unscheduled electricity outages). In this regard, the authors have identified the impact of access to the internet and computers as an area of future research in the context of online SA and PA. In other instances, students did not submit their assignments and were thus unable to receive peer feedback. Some students did not perform the SA or PA

processes, which could have resulted in some students' receiving feedback from fewer peers than other students. This required the instructor to perform manual allocations of assignments via the learning management system to ensure that each student could receive sufficient feedback from peers.

Another important point to recognise is that students' perceptions of SA and PA processes may not in fact align with the actual benefits derived from these processes (the development of professional skills and improved academic performance). The authors have thus identified this as an area of future research and plan to analyse the impact of SA and PA on academic performance, learning outcomes and the development of professional skills. The use of focus groups and interviews for the purposes of collection of qualitative data has similarly been identified for future research in future implementations.

In light of the findings and conclusions described above, this study highlights the features that influence students' perceptions of and participation in online SA and PA processes using quantitative and qualitative data.

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## Disclosure statements

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