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Authors:

**Dr. Wendy Mason Burdon, Senior Lecturer, Newcastle Business School
(Northumbria University)**

**Dr. Kirsty Munro, Lecturer, Newcastle Business School (Northumbria
University)**

We confirm that this manuscript has not been published previously, or being simultaneously considered for publication elsewhere.

Simulation – is it all worth it? The impact of simulation from the perspective of accounting students.

Keywords

Audit Education, Simulation

Abstract

Module and programme leaders within higher education strive to improve module materials to enhance engagement and learning outcomes. However, questions remain whether these improvements are really seen as a benefit by the student cohorts. Simulations have been discussed within the literature, and a number of institutions have implemented a range of business games and simulations as enhancement initiatives.

The audit simulation that has been developed in this case, is not a game, but has been designed to simulate the environment of a working audit. This research evaluates the perceptions of student using the simulation. Data has been collected across two student cohorts (final year accounting students): the first cohort having access to basic audit documentation materials, and the second cohort experiencing full access to an enhanced simulation model. Both cohorts are asked to comment on their use of the learning material, and perceived benefits and drawbacks of using simulations.

The research will make a valuable contribution to the existing literature by offering a student perspective of the benefits (or drawbacks) of implementing simulation to the practical topic of audit. This will be of interest to other universities and professional training providers who are considering the adoption of simulation within teaching practice.

Highlights

- The literature review highlights the importance of technology enhanced learning as opposed to traditional lectures for student engagement.
- The design and implementation phase of an in house developed simulation is presented for other institution considering embedding simulation within modules.

- Qualitative feedback on simulations evidences a range of, highlighting the pitfalls of embedding such simulations within module design.
- Positive and negative themes are identified, acting as key consideration points for institutions embedding simulation within teaching strategies.
- Another key finding is the importance of linking simulation activities to the overall assessment of student, to ensure engagement with the materials.

1.0 Introduction and context of the 'Northumbria' simulation

Audit can be a difficult subject to teach, due to the practical nature of the subject, and the unfortunate pre conception by some students that “auditing really is boring” (Power, 1999, p. xii). To avoid these issues, there have been innovations in the past within the auditing module at Newcastle Business School (NBS), at the University of Northumbria, including the use of corporate associate partners (Slack, Loughran, & Abrahams, 2014), which complements the delivery of module materials by academics who have previously worked in audit practice. Case study material has also been used within classes to try to bring the subject to life further, with practical application by students using examples of audit documentation. Other initiatives to increase student engagement have included guest lectures (Deloitte/KPMG), in order to bring the topic into real life context. These guest lecturers are asked to prepare a discussion on current issues/reforms within the sector, which then enables the students to start questioning what it is like to work within the audit environment.

The previous initiative of using corporate partners included visiting seminar activities from a local firm (Ryecroft Glenton) who carried out a number of tasks with students, based on the case of a multinational client (Slack, Loughran & Abrahams, 2014; Sanchez, Agoglia & Brown, 2012). The implications of these initiatives, however, included cost, timetabling and resourcing implications (which the practitioners dictated) and in some cases students became critical of the visiting practitioners (with comments including ‘they are not proper teachers’).

In April 2014, the module team attended the UK Higher Education Academy (HEA) event at University of West of England (UWE) which promoted the use of online environment to host an audit simulation. The reasoning behind attending this event was to explore other teaching methods, as despite the introduction of the case materials and use of corporate partner, the students were still feeding back that they could not always visualise how these documents were used in practice. The simulation case study presented at the HEA event was a user friendly and more advanced case study, using Second Life to guide students through the audit engagement. This simulation took the use of audit documentation a step further by incorporating a virtual reality including avatars of the characters/videos/recorded telephone conversations.

Once the team returned from the HEA event, resource funding (staff time) was applied for to develop an in house audit simulation. The rationale to develop our own simulation was to improve the student learning experience. Whilst the learning outcomes would remain unchanged, the delivery using technology enhanced learning was considered an important step to ensure continuous improvement within the module delivery, and ultimately using simulation to engage students' learning (Bell and Loon, 2015). Feedback from students indicated that they enjoyed reviewing the case of real life documentation, however, engaging purely with documentation can be difficult to appreciate in light of real life 'career' sometimes. Reflection is seen to be a key part of the learning process within simulations (Hughes and Scholtz, 2015). Students enter higher education with expectations that their programme will "enhance career prospect" (Byrne *et al.*, 2012). Given these increasing expectations of students, the university needed to keep up to date with latest technologies to compete with other institutions delivering similar modules, alongside overall objectives to maintain/improve student satisfaction¹. Consistent with these requirements, a team was formed between the module tutors and the Technology Enhanced Learning (TEL) support team and the idea to create an audit simulation using some virtual technology was initiated.

The objectives of this case study paper are twofold. Firstly, this paper aims to reflect on the experiences of the module teaching team during the design, development and implementation stages of the simulation. These reflections may facilitate other educators' decision making when adopting such initiatives. Secondly, this paper provides evidence of students' perceptions on the simulation, through feedback data collated from students during and after the implementation of the simulation, of which the team believe will aid in providing some understanding of the work involved and the benefits of adopting such an approach. These perceptions are synthesised against the current literature base, in order to update current thinking around adopting such approaches within curricula. An important aspect of this paper is the presentation of some of the perceived drawbacks, and pitfalls that the teaching team have encountered during set up of this teaching initiative. These will provide

¹ As measured in internally administered module evaluation satisfaction surveys, and externally administered surveys such as the NSS in the UK, see <http://www.thestudentsurvey.com/>.

reflection for other academics, who should consider these prior to implementation of similar teaching enhancements.

In Section 2.0 the prior literature is reviewed. The design phase of the simulation is then briefly introduced in Section 3.1, with details of implementation included in Section 3.2, and the final incorporation of assessment in Section 3.3. The qualitative feedback comments and simple quantitative analysis is presented in Section 4.0 for each of the affected cohorts of students. An overall analysis of the perceived benefits and drawbacks from the students' perspective is reviewed in Section 5.0. Finally, in Section 6.0, conclusions are drawn and learning points for other academics are detailed.

2.0 Literature

As discussed in the previous section, audit presents a challenging and somewhat tiresome subject to teach (Beattie, Fearnley & Hines, 2012). Students have identified that it is hard to engage and grasp the reality of audit in practice and thus traditional lecturing techniques may not be the most effective learning mechanism (Deneve and Heppner, 1997; Lane and Harris, 2015). A recent review of the accounting education literature, by Apostolou, Dorminey, Hassell and Rebele (2015, p. 73), indicated that reviews of educational technology accounted for 15% of the 256 articles reviewed. However, on further review the topics explored included online course management systems, course delivery and technology assessment (rather than considering concepts of simulation). Abed (2014) also reviews the content of technology enabled learning within accounting courses, although, again this is not focussed specifically on simulation. Within the limited literature available, focussing on simulation, there is recognition of the need for real-life appreciation and application within the classroom in order to bring the subject to life (Boyce *et al.*, 2001; Drake, 2011). As has been previously explored by this institution, the involvement of practitioners is something which the literature recognises as beneficial for the subject and serves to create links between theory and practice in developing students ready for employment (Wells *et al.*, 2009; Sanchez, Agoglia & Brown, 2012).

2.1. Simulation

Lean, Moizer, Warren (2015) contend that whilst there is a range of literature discussing the benefits of simulations, there is limited research evidencing the impact of their use. Earlier studies have focussed specifically on the link between simulation on experiential learning theories (Kachra and Schneitz, 2008; Hughes and Scholtz, 2015; Blackford and Shi, 2015). Aside from the use of practitioners within teaching of accounting course, the use of simulation is something which over the years has been said to increase performance and understanding of the accounting subject (Faria, 1987). Papers have explored the impact of this adoption with one in particular focusing on the use of 'The Accounting Game' (Smalt & Selden, 2005). Smalt and Selden's study looked to explore the significance of 'The Accounting Game' (1983) on student performance studying a accounting based degree. The findings supported the hypothesis that simulation increases understanding and thus performance driven by the game and virtual realities philosophy of younger generations. However, there has been an absence within the European literature exploring the adoption of simulations specifically within the subject of auditing. It is believed that given its success in accounting standards and account preparation subjects that its introduction within auditing would follow a similar path. A recent study in the US (Buckless, Krawczyk & Showalter, 2014) focuses on the use of second life as a medium to simulate inventory count procedures (as part of the overall audit). The arguments made for adoption of simulation were through the knowledge gains of students in preparing for interviews, work papers and application of professional scepticism (Buckless *et al.*, 2014, p. 400). However, Tiwari, Nafees and Krishnan, (2014) found that the introduction of a simulation within their subject field led to a notion of 'thrill (immediate gratification)' as opposed to sustainable learning. This study however did use the simulation in an intensive learning simulation as opposed to instructed and independent learning tasks throughout the teaching period. The intention of this case study is to explore and hopefully discover that the use of simulation improved sustainable learning and skills which thus can be transferred into future employment.

2.2. Employability

The biggest argument for introducing such methods into audit teaching at undergraduate level is the need to bring the subject to life and to encourage employability skills within accounting students. Employability in accounting graduates is something that has faced increased attention (Stoner and Milner, 2010); Maelah, Aman, Mohamad & Ramli, 2012; Paisey & Paisey, 2010). Therefore, some academics have explored personal skills development through the accounting curriculum (Gammie, Gammie & Cargill, 2002). The market of graduate jobs is increasingly difficult and with numbers of accounting students engaging in work experience or placement years remaining low the success rates in obtaining jobs after graduation are bleak. Gracia (2009) argues that despite the contention that placement/work experience impacts employability, relatively little is understood of the socio-cultural interplay that impacts accounting students during placement (i.e. gender/context of work environment). The lack of engagement from accounting students in placements is something, which remains fairly misunderstood. It is believed this little motivation roots from the attitude of the student wanting to graduate from university as soon as possible to begin their training contracts with their chosen firms (which typically in the UK is three years). The need therefore for more interactive teaching methods and real life skills to be acquired is increasingly important to students. Past studies such as Kavanagh and Drennan (2008, p.3), have identified “graduate attributes being developed during accounting programs should now go well beyond disciplinary or technical knowledge and expertise and include qualities that prepare graduates as life-long learners; as ‘global citizens’; as agents for social good, and for personal development in light of an unknown future (Bowden & Marton, 1998; Barrie, 2004). The literature recognizes that whilst employers do place some emphasis on technical skills, there is more importance placed on the softer skills (Andrews and Higson, 2014; ACCA, 2016) and personal characteristics thus explaining why over the past decade there has been an increase in the employment of other disciplines into graduate accounting and auditing positions. Critical thinking and creativity alongside interpersonal communication skills and writing have been indicated as skills which are highly sought after by employers (AAA, 1986; AECC, 1990; IFAC, 1996; Adler & Milne, 1997a). Gabric and McFadden (2000) place importance on skills such as timekeeping and communication alongside

teamwork and public presentation skills. The identification that technical knowledge is no longer the sole knowledge or skills which graduates require offers opportunity for the university sector to use other forms of teaching in order to meet these demands.

2.3. Skills/training impacting audit quality

With accountants calling for many years for an understanding from students beyond knowledge and instead problem solving, on the spot thinking and dealing with difficult situations (Perspectives, 1989; Jackling and De Lange, 2009) change needs to occur at university level. Original accounting courses focused on the understanding of concepts and thus this was recognised as enough. However, given the shift in practice and the situations arising (recent crisis with a focus on auditors) which go beyond the application of knowledge and more around ill-structured problems and personal skills development (Churchman, 1971; Gammie, Gammie and Cargill, 2002) accounting students with this concept understanding are unprepared. Springer and Borthick (2004) call for students to be able to construct their own understanding and create solutions of their own rather than inheriting their lecturer's/ training providers word. A lack of training results in "dysfunctional behaviour" within the audit field impacting audit quality, whereby, through a lack of knowledge/competence the auditor may accept "weak client explanation" (Svanstrom, 2016, p. 42).

Another stream of the literature focuses on communication as an essential skill for accounting students. Gray and Hamilton (2014, p. 17) comment on the Big 4's focus on communication skills, in the form of "written expression of technical analyses is vital to success in accounting". Peurseem, Samujh and Nath (2015) comment on the importance of linking computer assisted learning with development of communications skills, alongside decision making processes. This would indicate the value of seminar activities by "putting students in control of their own learning through CAL" (Peurseem *et al.*, 2015, p. 2). Plant and Slippers (2015) argue that communication skills course should be embedded within postgraduate study for (internal audit) students. This moves away from the concept of simulation in its practical sense, but reflects that communication should be considered across the curricula.

2.4. Assessment

One of the main disadvantage of introducing any new method of teaching is the uptake and success, which is often monitored via student satisfaction. Studies have identified that effort can be put into trying to promote better use of skills as well as development of new skills, however, if the student does not engage fully in the activity then it is deemed useless. Past experience has found (Slack, Loughran & Abrahams, 2013) that unless the student sees some reward be it through the form of a mark awarded/ assessment/ opportunity for employment then engagement and satisfaction remains low. The form of assessment itself is not so much of an issue, but as alluded to in the previous section, communication skills are of vital importance to our students if they wish to have a future career in audit. With this in mind the literature calls for university to take on board the need for these new skills and to introduce modules, teaching methods and teaching materials which invite demonstration of these skills.

Following the review of the extant literature, the following suppositions are proposed:

Supposition 1 – students will perceive benefits to their learning experience, due to the real life aspects of the audit simulation. (Drake, 2011; Buckless et al., 2014; Springer and Borthwick; 2004; Svenstrom, 2016)

Supposition 2 – students will engage with simulation materials in order to improve employability skills, and ultimately employability prospects. (Skills development: Gammie, Gammie and Cargill, 2002; Andrews and Higson, 2014; ACCA, 2016. Employability: Wells et al. 2009; Sanchez, Agoglia and Brown, 2012)

Supposition 3 – students will benefit from group working skills i.e. communication whilst carrying out audit simulation exploration and completion. (Gray and Hamilton, 2014; Plant and Slipper, 2015)

The next section will discuss the way in which the simulation was developed in Northumbria University in order to help students to use the skills the practitioners are increasingly asking for, alongside the evolution of the simulation from non-assessment, to assessment embedded design.

3.0 Designing and implementing the simulation – Newcastle Business School Case Study

3.1 Design and Development

Scherpereel (2015) argues that the design objectives impact the effectiveness of simulation within module delivery, whilst focussing on decision making. The design of this simulation focuses on the environment of the audit client to embed 'naturalistic decision making' (Scherpereel, 2015).

Following attendance at the UWE/HEA event the module team met to propose a local project to create a simulation environment which would complement our audit module delivery. Resource requirements were considered and included a range of staff time for development of material:

- o Advice from business advisory group² (including audit firms)
- o Teaching team to prepare scenarios/associated material
- o Teaching team to prepare 'audit documentation'
- o IT time to set up online environment/support upload and maintenance of material (utilising Cl3ver and Sketch Up³)

A major part of the workload for the module team was the preparation of a fully integrated set of documentation ready to audit. A preliminary listing of the required documents is listed in Appendix 1. The preparation of these documents was completed before the end of semester 2⁴ in order to get some feedback on the simulation from the existing cohort (who had already had access to the case study audit material to date). This demand on workload is seen in the literature as one of the inhibitors to innovation, and use of technology within accounting education

² The accounting and finance department within the business school have developed and maintain relationships with practice through regular meetings within a 'Business Advisory Group' which is attended by both local business representatives and members of academic staff.

³ See technology platforms at <https://www.cl3ver.com/> and www.sketchup.com respectively. Accessed June 2017.

⁴ At present, the students are taught over two twelve week semesters at this institution.

(Watty, McKay and Ngo, 2016). It must be acknowledged though, that this is an initial workload demand and should not be seen as a barrier to innovate.

Given the university's location, it was decided that a port/shipyard would be used as the simulation. The client would be central to this location and would allow us to demonstrate to students the complexities of 'real life' business. The shipyard has a number of buildings and offices for students to explore, with the intention of the teaching team to expand this further in the coming academic years. The material, as can be seen in Appendix 1, included key audit documents and client documents acting as audit evidence, including planning documents, sale invoices, purchase invoices, inventory listings, non-current asset registers, wage slips etc. This is intended to mirror real life client documentation, and those which would be required to carry out an audit. The next stage was to identify a number of individuals within the client organisation who the auditor would be required to talk to or who would hold valuable information for the audit. The students were given access to these voice recordings, which held the information along with a background to each individual. Again the intention of the teaching team is each year these voice recordings and personal backgrounds could be changed to make the scenario/issues different.

The unique selling point of this particular simulation is that the cost to the university has been simply that of staff time (for the initial set up of the simulation, integration into the module teaching delivery, and then the on-going updates to the system). Whilst there are 'off the shelf' simulations available, the advantage of this approach is to tailor the simulation to the professional experiences of teaching staff and to cover the 'whole audit'⁵.

3.2 Implementation

The audit simulation was set up as a directed learning activity for the 2015/16⁶ cohort with the following main stages set out for students on our e-learning portal to

⁵ As mentioned previously, this was seen to be one of the disadvantages of 'off the shelf' simulations. For example one of the simulations available to purchase did not cover inventory, whereas other simulations in literature focus on inventory count alone.

⁶ Feedback has been gained from two cohorts as discussed in Section 4. The first feedback was obtained from the 2014/15 Cohort prior to full implementation and assessment being delivered to the 2015/16 Cohort.

complete:

Stage One: Students to enter the client site and explore. Visit the audit room first for 'audit documents' and then explore client site and collate evidence from each building/room.

Stage Two: Seminar activities to review audit procedures and audit evidence. Seminar activities split into 4 distinct themes; Planning and Risk Assessment activities, Review of Income Statement activities, Review of Balance Sheet activities, and Audit Completion activities.

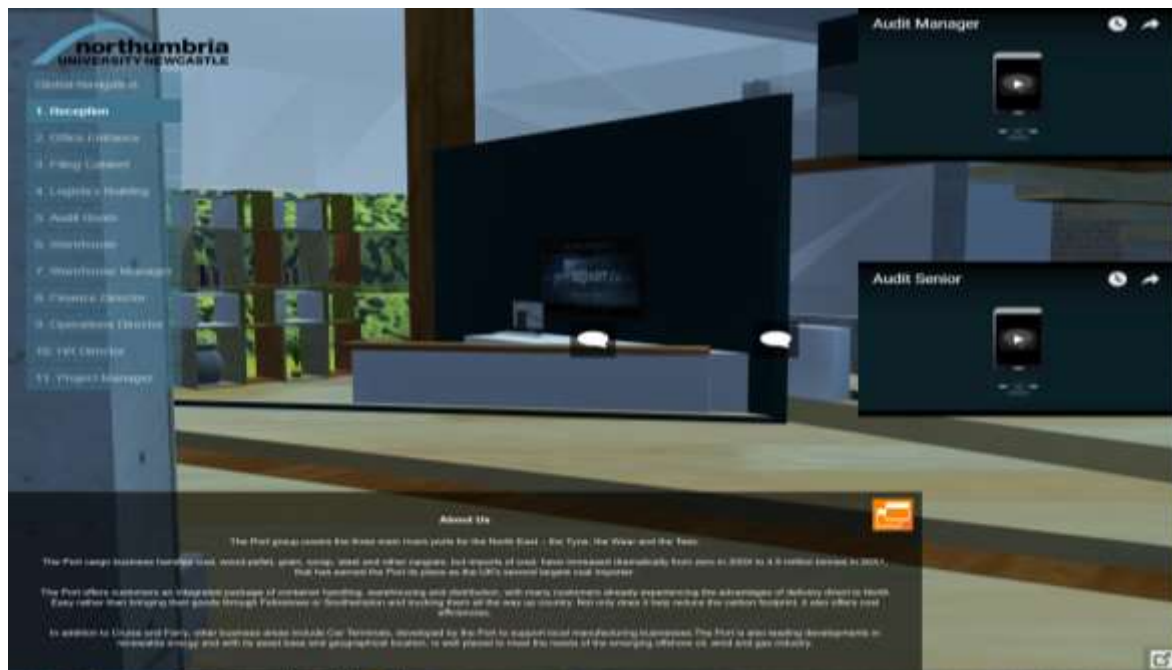
Stage Three: On-line assessment. There will be a short on line activity to complete. This will assess knowledge gained throughout the first semester of the module (and contribute 20% of the overall mark for the module). This could be on a variety of topics relating to client relations and audit completion, but the assessment will be open book to replicate the environment you would face in practice.

There were also certain seminar tasks, which had been devised to encourage students to engage with the simulation. The simulation was looked at during seminars and then students were directed to complete the tasks and retrieve information from the simulation as a directed learning activity outside of the classroom.

Figure 1 shows a screen shot of the audit simulation client. This area shows the reception area of the client. The simulation has been set up with a global navigation for students to move to key areas of the simulation, for example, the audit room, the filing cabinets and various staff offices. In contrast to some other simulation using Second Life, our simulation case does not use avatars. Instead key documents have been embedded for download and samples of recordings were developed to pass on key message from audit and client staff as detailed in previous section. The argument for use of avatars is to develop communication skills, which of course is a valid employability skill (and core competency of accounting graduates Apostolou et al., 2015, p.80). However, within this environment communication skills are developed outside of the simulation during seminar activities within groups (which may be argued as more 'real life' than using simulated avatars). One benefit of our

method is the allowance for group work skills to be used/developed as would be experienced in future employment.

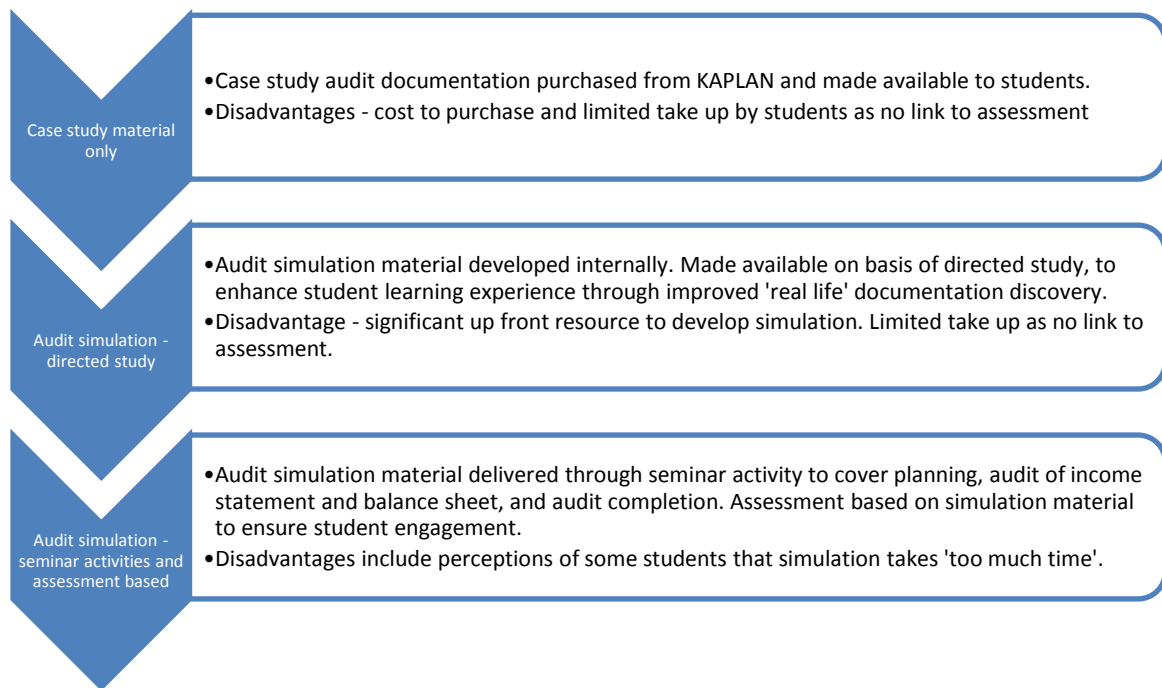
Figure 1 Screen shot of reception area of the audit simulation client



3.3 Continuous improvement activities to embed simulation documentation in the audit module

Continuous improvements to the module have been gradually implemented and delivered to students in stages, as a result of feedback on both the module and the simulation through the course of this research. Figure 2 summarises the delivery of material from 'case study' through the development and delivery of audit simulation. The feedback from students is discussed in the next section.

Figure 2 Summary of stages of delivery of materials, evidencing continuous improvements to the module and the audit simulation design



4.0 Feedback from students

In order to understand students' perceptions of the value of the simulation, feedback data was collated from two cohorts (2014/15 and 2015/16). The first cohort of students (2014/15) were introduced to the simulation late in semester 2 following development of the simulation, as a 'taster session', to allow the teaching team to gain some feedback before full implementation (2015/16).

An outline of the qualitative questionnaire that was distributed to both sets of students is set out in Appendix 2. The survey responses are summarised in Table 1.

Table 1 Summary of survey responses for 2014/15 and 2015/16 cohorts (pre assessment)

How often have you referred to the audit simulation documents?	Weekly		Monthly		Rarely		Not at all	
	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16
	10%	5%	5%	18%	70%	77%	15%	0%
Do you feel audit simulation documents add to your understanding of 'audit' module material?	Strongly Agree		Agree		Disagree		Strongly Disagree	
	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16
	5%	5%	85%	91%	10%	5%	0%	0%
Do you feel that audit simulation documents add value to the module compared to other 'practical' modules?								
	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16
	0%	5%	78%	74%	22%	21%	0%	0%
Do you consider the new audit simulation to improve on current materials (i.e. lecture notes/seminar activities)?								
	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16
	15%	0%	85%	70%	0%	20%	0%	10%
Would you consider your access to the audit simulation to be of benefit during job applications and interviews (for reference								
	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16
	11%	0%	79%	41%	11%	53%	0%	6%
Preferred mode of delivery	Embedded in Seminar		Directed Study		Individual Study		Group Study	
	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16	2014/15	2015/16
	95%	95%	5%	5%	53%	40%	47%	60%

The resulting data has been analysed separately in Sections 4.1 and 4.2 for each cohort, and then discussed collectively in Section 5. For the 2014/15 cohort 20 responses were received. For the 2015/16 cohort 22 responses were received. However, students did not always fully answer all of the survey questions (a manual survey was used to enable completion during class time). The reasons for non-completion of questionnaire included:

“I don't feel I have fully engaged enough with the audit simulation to agree/disagree” (Y2 P1⁷)

In addition, the responses to two questions regarding ranking of importance of materials and skills gained are not presented here as the results are not supported by qualitative feedback from the students (thus, limited insight is provided by the quantitative averages for these responses).

⁷ The participants have been denoted as year 1 2014/15 (Y1) and year 2 2015/16 (Y2) for reference of reader.

4.1 2014/15 Cohort feedback data with simulation as directed learning (no assessment)

In the first year, as detailed earlier, the simulation was delivered as directed learning with no assessment component. Feedback on both the existing materials and the introduction of the new audit simulation material was mostly positive from this cohort. Some highlights from the completed survey questions are presented below including the percentage of agreement (for example, strongly agree/agree/disagree/strongly disagree), and associated qualitative comments.

Question: Do you feel the audit simulation documents (current) aid your understanding of module materials?

A significant majority (90 per cent) of students strongly agreed/agreed that the audit simulation aided understanding with qualitative feedback including:

“they [materials] help to provide examples of actual audit work, but I don’t use them unless I have to for class” (Y1 P4)

“[It] allows you to relate the theory to real life” (Y1 P8)

These quotes align to the rationale for using simulation i.e. providing practical, real life learning to support the theory from lectures.

Question: How often have you referred to audit simulation documents?

Disappointingly, 85 per cent of students responded that they used the simulation rarely or not at all. Qualitative feedback included:

“[I] felt it was there to improve understanding if needed... [however, I] used lecture notes more” (Y1 P12)

“too much work to do to work on non-assessed materials” (Y1 P14)

“I didn’t know they were there” (Y1 P17)

“[I] wasn’t aware of them or their value” (Y1 P19)

These comments were rather disappointing for the team, given all of the effort which had gone into the development of the simulation. There was initial indication here that unless it was used more directly in sessions or part of the assessment then it

would be ignored. However, questions had to be asked about when we introduced the simulation to the students (late in semester 2) and how we used it in our classes (direct learning material, supplementary). These results nevertheless are not surprising given the literature around assessment and student engagement and the need to make the tools worthwhile for the students (assessment). The next question, which was asked, helps to demonstrate this.

There was mixed feedback from students when asked about their preferred mode of study (when asked about directed learning as opposed to embedding in seminars, and when asked about group work as opposed to individual study).

Question: Would you prefer to see audit simulation materials embedded in seminars?

A strong preference for materials to be embedded in seminars was evident, with 95 per cent of students strongly agreed/agreed. Qualitative feedback included:

“easy to ask questions [in seminar] and gain more understanding when directed by tutor” (Y1 P13)

“[I] typically don’t do directed study unless assessed” (Y1 P4)

“as an international student [I] prefer it to be embedded in seminars” (Y1 P1)

“too much directed study besides other workloads” (Y1 P20)

Once more we have indication here that unless the student has to engage for assessment purposes there will be no interest.

When asked around the mode of the work which would needed to be done i.e. individual and group work, 53 per cent of students preferred individual study as opposed to group work (an even split). Qualitative feedback was contrasting, including:

“[I] work better on my own” (Y1 P14)

“[I] think you get more from group work, [it] teaches you more than just seminar material and can boost morale” (Y1 P17)

This was qualified with:

“a productive group is very beneficial, but it is easy to get distracted” (Y1 P17)

“bad groups could negatively impact learning” (Y1 P4)

The preliminary results indicate some issues around the notion of group work as assessments and the concerns raised by practice of working in teams.

Question: Would you refer to audit simulation documents more often if direct summative assessment required?

95% strongly agreed/agreed. Qualitative feedback included:

“I would need them and therefore would have to engage more with them” (Y1 P18)

“if they were directly linked to my assessments I would use them regularly” (Y1 P19)

As a result of this, the module assessment profile was changed from 100% examination, to 80% examination and 20% associated with a simulation task, for the 2015/16 cohort in order to improve engagement and for the value of the simulation to really be appreciated, this will be discussed in the next section.

In terms of employability students were asked to reflect on:

Question: Would you consider your access to the audit simulation to be of benefit during job applications and interviews?

Within this group of students there was positive agreement that the simulation would benefit them during recruitment, with 90 per cent of students strongly agreed/agreed with the statement. Some of the qualitative feedback included:

“[It] gives you an idea of what is involved, which can help you explain why you are applying to a particular role” (Y1 P12)

“might help to have in depth knowledge of audit” (Y1 P7)

“[you] gain an understanding of the sort of work you would be expected to do” (Y1 P8)

These comments pose very positive results for the researchers, given the intention

and the purpose for introducing such enhancements. Whilst there was initial disappointment in terms of engagement by students, on reflection students saw the benefits for employability.

4.2 The introduction of assessment

During the summer of 2015, the electronic assessment process for the simulation was developed given the previous cohorts feedback. To continue the online theme, students were required to submit documents through the electronic learning portal (which is in this case is Blackboard). The students were requested to pick from a selection of practical tasks (mainly involving report/memorandum type delivery to rest of audit team), which were linked to their findings of the review of the client. Students were prepared during seminars prior to release and submission of the assessment. Students were then asked to complete the assessment within 5 working days of release to simulate the environment of a short-term audit visit. Marking was completed electronically by academic staff, with students receiving marks and feedback (annotated within the assignment submission) back through the online learning portal.

4.3 2015/16 Cohort feedback data with simulation learning delivered with assessment

Following the introduction of the assessment for this cohort of students, students were asked for feedback pre and post assessment to look at the impact on engagement with the simulation compared to the previous cohort (without assessment). The highlights of the survey responses are as follows.

Question: Do you feel the audit simulation documents (current) aid your understanding of module materials?

Overall the simulation documents were seen to positively aid understanding, where 96 per cent of students strongly agreed or agreed with this statement. Qualitative feedback included:

“I believe that a practical task would enable most of the individuals to understand how audit risks are assessed and audit procedures applied” (Y2 P2)”

“[simulation] gives insight into an audit situation” (Y2 P5)

“nice to see real life examples” (Y2 P9)

“shows the kind of documents faced and helps tie the theory and practice together” (Y2 P17)

The one student who disagreed did not provide qualitative answers, so the reason for disagreement is not clear. These results represent a slight increase from the previous cohort (90%) showing as a cohort they see the value of such tools.

Question: How often have you referred to audit simulation documents?

Consistent with the prior cohort, the response to this question was disappointing, with 77 per cent confirming that they had used the simulation rarely or not at all (compared to 85%). Positive qualitative feedback included:

“the more practice we do before the task the less time it will take to finish it later” (Y2 P2)

This came from a student who was referring to the simulation weekly (identified in the questionnaire). The rationale behind this comment was the embedding of assessment within the audit simulation, however given previous cohorts comments regarding workload there could be seen to be a relationship here. This supports comments with regard to student anxiety by earlier researchers where students may feel ‘overwhelmed’ by workload (Hughes and Scholtz, 2015; Bell and Loon, 2015).

Another student agreed that:

“I should have used it a lot more” (Y2 P5)

A potential reason for the rare use of the simulation may have been due to the timing of the questionnaire (mid-semester) as one student commented:

“[I] will look in more detail nearer the time of the exam” (Y2 P9)

This response was not expected by the tutors, as specific emphasis was placed on use of the simulation during semester 1. The students were reminded weekly of the simulation with lecturers during lectures/seminars to demonstrate points and two of the semesters seminars were designed specifically to discuss the simulation (one session on risk assessment/planning and one session to prepare for a range of audit

completion tasks).

Nevertheless, the comments were mainly positive when students were asked about whether the simulation added value compared to other modules, and whether the simulation added value to existing lecture/seminar materials.

Question: Do you feel that audit simulation documents add value to the module compared to other practical modules?

A significant proportion of responses (79 per cent) confirmed students strongly agreed/agreed.

Question: Do you consider the new audit simulation to improve on current materials (i.e. lecture notes/seminar activities)?

Again there were a higher proportion of students (70 per cent) who strongly agreed/agreed that the simulation material was an improvement on existing lecture/seminar activities with comments including:

“it gives the module a sense of realism, an insight into what is the case on completion of the course... the next step” (Y2 P5)

“[It] feels like [you’re] actually completing a real audit” (Y2 P9)

“it reinforces the theory learnt in class and gives it a purpose” (Y2 P16)

“helps put the theory into practice, helps understanding of concepts discussed” (Y2, P17)

“never had a chance to consider a working environment before” (Y2 P18)

Those who disagreed or strongly disagreed with the simulation adding value, or improving on current materials did not provide qualitative feedback, so it is not possible to comment on the reasoning behind the non-agreement. However, the assumption is made that this was due to lack of engagement.

Consistent with the prior year cohort there was mixed feedback from students when asked about their preferred mode of study (when asked about directed learning as opposed to embedding in seminars, and when asked about group work as opposed to individual study).

A majority (95 per cent) of students (consistent with previous cohort) would prefer to see audit simulation materials embedded in seminars. Qualitative feedback included:

“I work better with some directions” (Y2 P11)

“[I] concentrate better in seminars” (Y2 P12)

“[We] get a chance to go through it with lecturer” (Y2 P18)

“easier to ask questions in seminars than to email to and fro” (Y2 P20)

40 per cent wanted individual study as opposed to group work (still a reasonably even split, consistent with prior year cohort, 53%). Qualitative feedback included:

“I prefer a set question to work through for seminar and discuss in class” (Y2 P1, indicating preference for individual study, but qualitatively discussing preference for group discussions).

“I can concentrate more when I study alone” (Y2, P2)”

“can discuss work with others and get new ideas” (Y2 P9)

“I feel like it forces me to keep on top of work (Y2 P11, preference for group work)

“can bounce ideas off each other, more support” (Y2 P16, preference for group work).

Although not a significant difference (53% to 40%) in the amount of students who prefer individual work, these results do show the different preference in cohorts with regard to mode of study/assessment.

In terms of employability students were asked to reflect on:

Question: Would you consider your access to the audit simulation to be of benefit during job applications and interviews?

Only 41 per cent of students strongly agreed/agreed, where 53 per cent disagreed or strongly disagreed that the simulation would be of benefit for discussion in interviews and applications. This was a shift in opinion compared to prior cohort. The positive qualitative feedback included:

“employers would like us to talk about a practical task we had recently related to the job position” (Y2 P2)

“[We] have a better idea of the work an auditor does” (Y2 P9)

However, those that disagreed stated:

“not sure how impressed an external organisation would be” (Y2 P5)

“I don’t feel employers will see this as an important factor when other applicants will have actual experience” (Y2 P18)

“I don’t think it would come up in an interview” (Y2 P21)

These results indicate that still students value real life experience over practical lessons at university, which is not disagreed with. However, the indication by some that it helps to inform them of the work of auditors and provide insight demonstrates the value of such tools.

4.4 2015/16 Feedback post assessment

A final survey was issued to the 2015/16 cohort post assessment to consider whether their views on the simulation changed following assessment. The survey responses are summarised in Table 2.

Table 2 Summary of responses post assessment (2015/16 cohort only). Note PA indicates post assessment.

	Weekly		Monthly		Rarely		Not at all	
	2015/16 PA	2015/16	2015/16 PA	2015/16	2015/16 PA	2015/16	2015/16 PA	2015/16
How often have you referred to the audit simulation documents?	15%	5%	35%	18%	45%	77%	5%	0%
	Strongly Agree		Agree		Disagree		Strongly Disagree	
	2014/15 PA	2015/16	2014/15 PA	2015/16	2014/15 PA	2015/16	2014/15 PA	2015/16
Do you feel audit simulation documents add to your understanding of ‘audit’ module material?	10%	5%	80%	91%	5%	5%	5%	0%
Would you consider your access to the audit simulation to be of benefit during job applications and interviews (for reference	0%	0%	60%	41%	30%	53%	10%	6%

Only three questions were asked post assessment. The first repeated the question of how often the simulation was used. There was a moderate improvement in results to

weekly/monthly to 50% of respondents (as opposed to 23% pre assessment). However, this still indicates that 50% of students were using the simulation rarely or not at all with qualitative comments to support this of:

“[I use] for revision purposes only” (PA 3)

“only when writing assessment” (PA 9)

“only really looked for assignment in January” (PA 11)

These comments suggest that 50% of the cohort (if the survey results were extrapolated) would not choose to engage with the simulation as a learning tool unless required by assessment. These results once more support the literature (Slack, Loughran & Abrahams, 2013) and indicate that in order for these initiatives to work there must be some sort of output/assessment.

The majority of comments continued to be positive about the benefits of the simulation (90% agree/strongly agreeing with the benefits to understanding).

“going through actual data (financial statements) etc. helps to get a better understanding for the exam” (PA 1)

“the simulation demonstrated to me how a real audit would take place and helped prepare me for the future” (PA 5)

“I found it was a good short assessment that helped me apply what I had been learning and helped cement it” (PA 8)

The last comment is particularly reassuring as this was the main rationale for staff to develop the simulation to assist and embed learning through application.

For the final question the idea of linking the simulation to employability was re-explored post assessment. There was a slight improvement in overall results with 60% of students now considering the simulation to benefit during application/recruitment (as opposed to 41% pre assessment). The comments to support this agreement included:

“Yes it allowed me to write a document better” (PA 12)

“During the job interview you can talk about audit simulation as more practical

knowledge you have” (PA 1)

Again this is reassuring as the intention would be to provide students the view of what audit client engagement would involve. Many of the students with the cohort had not engaged with placement opportunities and so had no prior experience of ‘real world’ accounting, so the simulation was seen as a way to introduce students to working in accounting practice. It is felt that the difference in the agreement levels pre and post assessment could be due to not having seen the output of such a task/engagement when the initial survey was answered. By the students having, at the point of the second survey, completed the assessment they may have begun to recognise the value.

4.5 Drawing the data together

There are three main findings from the feedback for both cohorts, aligning to the suppositions introduced in Section 2.

Supposition 1 – students will perceive benefits to their learning experience, due to the real life aspects of the audit simulation.

The first main finding indicates that whilst students largely agree that the audit simulation material aids understanding and adds values, the majority of students are only using the material rarely for the purposes of assessment in most cases. This supports the calls for real life within the curricula (Drake, 2011; Buckless et al., 2014; Springer and Borthwick; 2004; Svenstrom, 2016). However, this finding then raises the issues of engagement by students – whilst they appreciate the real life application benefits (Bell and Loon, 2015; Hughes and Scholtz, 2015; Blackford and Shi, 2015), they are, in majority of cases, either unable (due to conflicting time pressure) or unwilling to engage.

Supposition 2 – students will engage with simulation materials in order to improve employability skills, and ultimately employability prospects.

To summarise the findings around the perceptions of employability, the first cohort (2014/15) was more positive about the usefulness of the simulation around employability (90 percent agreeing/strongly agreeing a benefit). However, the latest cohort (2015/16) was less convinced of the benefit with only 41 per cent considering

the simulation a benefit during the recruitment process. These perceptions were seen to improve post assessment process (60% of students considering a benefit to employability), and this perhaps reflects how students were using the simulation at point of survey delivery. More students engaged with the simulation for the purpose of assessment, and considered the application skills necessary to benefit their learning and ultimately providing context for their interviews/recruitment processes (Gammie, Gammie and Cargill, 2002; Andrews and Higson, 2014; ACCA, 2016). Overall this finding supports the calls for 'improvement' in accounting student's employability skills (Wells et al. 2009; Sanchez, Agoglia and Brown, 2012).

Supposition 3 – students will benefit from group working skills i.e. communication whilst carrying out audit simulation exploration and completion.

When considering preferred delivery of material, there was consensus between cohorts that the material should be embedded within seminars (as opposed to directed study). This also supports Peursem et al., (2015, p. 3) argument that "there is greater pedagogical value in drawing students more fully into a CAL programme providing integrated audit lessons". There is a split in opinion around individual as opposed to group work. This seems to depend on individual learning styles. However, ultimately the preference for embedding the activities in seminars will support development of communication skills, as discussed by Gray and Hamilton (2014), and Plant and Slipper (2015). What however may concern both academics and practitioners is the hostility students have toward group work. With audit work in practice predominantly taking the form of group task work this would seem to demonstrate a potential weakness in students leaving university. The simulation task allows students to develop their communication skills however this is done on an individual level if the piece of work is not conducted in a group context.

5.0 Summarising overall perceptions on benefits and drawbacks of the simulation

Both cohorts were asked to provide qualitative comments on their views of the major benefits and drawbacks of use of the simulations. The resulting comments are summarised and set out into themes in Figure 2, with the overall responses from

each cohort, displayed benefits and drawbacks within Appendix 3. An initial finding on review of the qualitative comments is that the volume of feedback comments on benefits and drawbacks is more evenly discussed by the 2014/15 cohort (7 out of total of 12 comments (58 percent) relate to benefits). However, the 2015/16 (pre assessment) are more focussed on drawbacks, with 10 out of the 14 qualitative (71 percent) of comments focussed on issues.

The comments have been reviewed and allocated to themes as per Figure 2. Several positive comments were made specifically around understanding and learning benefits, in support of other feedback comments to other questions about the benefit of learning within the simulation environment. This also linked into positive comments around linking theory to practice. These comments recognise the “interactive” nature of the simulation environment and the ability to “expand knowledge”, and “helps with understanding”. However, not all of the comments were positive, with students highlighting that it may be frustrating, or difficult to understand references about the simulation by tutors without “a live version in front of us”. Therefore, this links to the importance of planning of delivery and associated IT facilities (and also links to the evident desire of students for the simulation to be embedded in seminars as discussed in Sections 4).

Figure 3 Themes of feedback on benefits and drawbacks

<p>Theme: Understanding and learning</p> <p>Aid easier understanding (Y1 P5)</p> <p>It will help to learn the module (Y1 P7)</p> <p>Interactive (Y1 P6)</p> <p>People might not understand it properly (Y1 P18)</p> <p>Expands Knowledge (Y1 P20)</p> <p>The system is useful, but seems outdated (Y2 P10)</p> <p>Helps with understanding of what is taught by preparation of the documents (Y2 P17)</p> <p>Sometimes difficult to relate to the audit simulation when the lecturer/tutor refers to it in class without a live version in front of us (Y2 P16)</p>	<p>Theme: Time restraints</p> <p>Time consuming in comparison to revision (Y1 P8)</p> <p>Time consuming for marks awarded (Y1 P10)</p> <p>I think sometimes it is a lot work for little credit (Y1 P17)</p> <p>Bit complicated and awkward but getting there (Y2 P15)</p> <p>Takes time to load (PA 1)</p>	<p>Theme: IT issues</p> <p>Always IT issues, can be frustrating (Y1 P12)</p> <p>Sometimes it does not work, and sometimes slow, so we must rely on the IT system in order to complete task (Y2 P2)</p> <p>Drawback is can only access through google chrome (Y2 P6)</p> <p>Quite a lot of technical issues (long time to load/doesn't work on home computer).</p> <p>The only problem I had was accessing...sometime the programme would run slowly which was frustrating as well. (PA 5)</p>
<p>Theme: Theory and practice</p> <p>Can put audit theory into context (Y1 P8)</p> <p>Could be of great benefit, and help students understand the practical side that is more difficult in an exam (Y1 P17)</p> <p>Put's the theory into a practical scenario, which is very helpful (Y2 P5)</p>	<p>Theme: No real benefits</p> <p>We are to use at our own leisure, therefore do not "have" to use it and are not checked to see how often far through it we are (Y2 P1)</p> <p>People might think it is a waste of time (Y2 P13)</p> <p>I don't think it benefits much as no figures etc. to show what happens in real life. Also not many things on control in the simulation (Y2 P14)</p>	<p>Theme: Just give us the documents</p> <p>The simulation is just a fancy way of giving us documents. They could just as well be posted on Blackboard for our use. Also not accessible through desktop anywhere as its doesn't have google chrome (Y2 P7)</p> <p>Simulation seems unnecessary, if the task was the same but we were given access to information in "normal" folders on blackboard, it would give the same learning experience (Y2 P22)</p> <p>The amount of documents is overwhelming (PA 10)</p>

One unusual comment was that the system whilst “useful” appears “outdated”. This is surprising given the simulation was a brand new technology product based on a recent set of accounts of a similar company. Although the teaching team thought this comment was mis-informed, this does highlight the importance of keeping documents up to date.

However, some the students identified drawbacks to the simulation. These comments are of particular significance to institutions who have already/or are considering implementation of their own simulations. One of the concerns highlighted by students related to the time and effort involved in engaging with the simulation. The perceptions highlighted in these comments were that too much time was required for “limited credit”, indicating perhaps that a 100% exam would be the preference. However, the diversity of students now demands engagement with alternative teaching and assessment environments. Examinations of course will always have their place within modules, however, the application of practical skills through simulation tasks will provide an alternative opportunity for students to demonstrate their learning within the module.

IT issues were also highlighted as a major concern for students. Moreover, this is something that the module team can work with IT services to resolve in future delivery. Some of the comments were considered to be a little unrealistic, for example, “drawback if can only access through google chrome”. This is not really seen as an issue by the teaching team as different browsers are recommended on a number of other university applications for optimal performance, and therefore, these are easily downloadable (with technical checklists provided within the simulation already).

One comment by a student was considered by the teaching team to completely miss the aims of the simulation:

“Bit pointless to scroll around the office when doesn’t add any information. Would be better to access documents with greater ease. Hard to know if you have seen all documents” (Y2 P9)

The teaching team designed the simulation to provide students with a real life experience of having to search for documents, whilst considering the concept of

scepticism (and having a questioning mind). It is always the case during audit that you would continually question whether you have seen all the documents. The simulation was set up under this concept of scepticism, requiring students to maintain a questioning mind and explore the client environment for documentation to support their work. This is also in contrast to other student comments who saw the benefit of 'real life' learning, therefore, it must be acknowledged at this point that a simulation environment could never be designed to keep all students 'happy'.

6.0 Discussion and Conclusion

The contribution of this paper is to share the experiences of design, development and implementation of simulation within teaching. Through survey research, the perceptions of students have been collected and presented to inform other institutions considering implementation/and or improvements to module design, as to whether the benefits endorsed within the literature feed through to the students' experience. This paper may act as an enabler for accounting educators to embrace technology, as recent literature suggests that accounting educators are sometime 'slow' to adopt technology (Watty, McKay and Ngo, 2016).

The findings indicate that the majority of students consider the use of simulation material to aid understanding and to add value. However, students have confirmed that they do not fully engage with the material with over 50% admitting to use being rare or not at all (even following assessment). Therefore, this contradictory finding needs to be developed further for this case. This also supports the importance of reflection within the simulation process (Hughes and Scholtz, 2015), which is seen as limitation within this case study simulation. Despite embedding in assessment students would need to be encouraged further to fully engage, and reflect on the materials and activities.

The analysis of perceptions of benefits and drawbacks indicated a number of feedback themes. Whilst there were positive comments relating to understanding and relating theory to practice, there were more negative comments relating to time and IT issues. These negative comments are consistent with the findings of Buckless, Krawczyk and Showalter (2014, p. 403). These issues were still encountered despite careful planning by the team to include clear instructions and IT support to avoid such problems for the students. In addition, certain students did not want to engage

with the simulation as a learning tool arguing that there was no real benefit, or to simply just provide documents to look at. Whilst the IT and time restraints could be worked on incrementally to improve the student experience, there is no real strategy in the literature on how to deal with non-engaged students, perhaps an area for future research. This is an inevitable failing in any learning enhancement project – some students will simply dislike or refuse to engage with the non-standard learning environment, however, it was evident to see that in this case majority were positive.

Although the teaching team have experienced some negative perceptions from student cohorts, and problems during the setup of this teaching initiative, we would not wish this to deter other academics from pursuing simulation within modules. The purpose of this case study was to highlight the value of such teaching tools as well as some of drawbacks that we have encountered as a teaching team, which others can reflect upon (and avoid). We do not consider this case a failure, but rather an evolving teaching tool, which does facilitate the majority of students learning and engagement with the module.

The main things to take from the implementation of the simulation within our audit module is those students who engaged with the initiative enjoyed the experience and perceived it added to their understanding of the topic, and that skills such as communication and management were improved. Therefore, we would suggest more research to explore the provision of such initiatives within audit teaching. One major limitation of this paper is that this research has not assessed the impact on student learning outcomes. However, in the authors view it is difficult to quantify the impacts of the audit simulation on the overall results of student performance within the module (given natural deviations in student abilities between cohorts, and the blended learning across the module between lecture, seminar and simulation materials). Therefore, we would call for further research in this area to identify means of gathering data beyond student perceptions, and instead focussing on student performance.

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Appendix 1 List of documents and categories of audit area

Planning

Engagement Letter

Client Background Documents

Financial Statements

Template for students to complete: Analytical Review, Audit Strategy Document, Sources of evidence

Revenue/Sales System Review

Procedure notes

Sales invoice

Sales order

Customer notification

Sales day book

Trade receivable listing – including credit limits

Credit notes

Templates for students to complete: Audit procedure templates

Cash Receipt System/Cash Payment System

Procedure notes

Receivable ledger

Extracts from cash book

Bank statement

Templates for student to complete – Audit procedure template

Purchase system

Purchase System notes

Purchase invoice

Purchase order

Purchase audit programme

Payables ledger

Template for students to complete – purchase audit procedures

Wages and Salary audit

Authorised pay listing

Bank statement

System notes for new starters and leavers

Employment contract – NEW STARTER

Audit programme wages and salaries

Template for students to complete – audit procedures

Inventory audit

Purchase invoice – inventory

Inventory listing (including ageing)

Provision calculation

System notes inventory

Inventory count sheets

Audit programme inventory

Template for students to complete – audit procedures

Receivables audit

System notes receivables

Receivables ledger – including aging

Provision calculation

Circularisation documents

Prepayments listing

Cash receipts after date

Audit programme receivables

Template for students to complete – audit procedures

Cash and bank audit

Cash book

Bank statement

Bank reconciliations

System notes cash payments and receipts

Audit programme cash and bank

Template for students to complete – audit procedures

Payables audit

System notes payables

Payables listing

Accruals listing

Supplier statements

Audit programme payables

Template for students to complete – audit procedures

Non current assets audit

System note non current assets

Title deeds

Project listing – reconciliation of costs

Revaluation document – external surveyor report extract

Additions listing

Disposal listing

Fixed Asset Register including Depreciation calculation

Audit programme non current assets

Template for students to complete – audit procedures

Share capital and reserves

Audit programme share capital

Extract Board Meeting Minute

Audit completion – going concern, related parties, fraud and completion

Summary of unadjusted audit differences

Management letter

Opinion/Audit Report

Written representation

Appendix 2 Questionnaire Structure

Draft Questionnaire for Audit Simulation Year 1 data collection (adapted in Year 2 to exclude 'Case Material')

Consider the questions below and circle relevant responses. We would appreciate if you could add narrative (in overall comment box) to aid our understanding of your responses. Please note that all responses will be treated as anonymous. Results will be used to improve future cohorts experience, and may be shared via publication for use by other interested parties.

Gender: Male/Female

Age Group: 18-21, 22-25, 26-30, 30+

Case Material

1. Do you feel audit simulation documents add to your understanding of 'audit' module material? Please comment.

Strongly Agree	Agree	Disagree	Strongly Disagree
Overall Comments			

2. How often have you referred to the audit simulation documents? Please comment.

Weekly	Monthly	Rarely	Not at all
Overall Comments			

3. Would you refer to audit simulation documents more often if direct summative assessment required? Please comment.

Strongly Agree	Agree	Disagree	Strongly Disagree
Overall Comments			

4. Do you feel that audit simulation documents add value to the module compared to other 'practical' modules? Please comment.

Strongly Agree	Agree	Disagree	Strongly Disagree
Overall Comments			

Online Audit Simulation

1. Do you consider the new audit simulation to improve on current materials? Please comment.

Strongly Agree	Agree	Disagree	Strongly Disagree
Overall Comments			

2. Which elements of the material do you consider to be most beneficial? Rank 1-5 with 1 being the most beneficial.

Background materials/documents to understand clients	
Walking through client and understanding relationships	
Reviewing audit procedures/evidence	
Material prompting questions to ask tutor	
Availability of online material to study in own time	

3. If you were to repeat the module would your learning benefit most from material to be embedded within seminars OR to be directed independent study?

Embedded in seminar	Please Comment
Directed Study	Please Comment

4. If you were to repeat the module would your learning benefit most from material to be worked through on an individual or group basis?

Individual study	Please Comment
Group Study	Please Comment

5. Which skills do you think that the audit simulations develops most?

IT skills	
General business understanding	
Accounting knowledge	

Preparation for professional exams	
Preparation for professional workplace	

6. Would you consider your access to the audit simulation to be of benefit during job applications and interviews (for reference purposes)?

Strongly Agree	Agree	Disagree	Strongly Disagree
Overall Comments			

7. Please can you comment on what you consider are the major benefits/drawbacks of using the audit simulation within the module.

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Appendix 3 Table of responses to Q7 from each cohort (Qualitative feedback on benefits and drawbacks of using simulation)

	Benefits	Drawbacks
2014/15 cohort	Aid easier understanding (Y1 P5)	Time consuming in comparison to revision (Y1 P8)
	Interactive (Y1 P6)	Time consuming for marks awarded (Y1 P10)
	It will help to learn the module (Y1 P7)	Always IT issues, can be frustrating (Y1 P12)
	Can put audit theory into context (Y1 P8)	I think sometimes it is a lot work for little credit (Y1 P17)
	Practical and engaging (Y1 P10)	People might not understand it properly (Y1 P18)
	Could be of great benefit, and help students understand the practical side that is more difficult in an exam (Y1 P17)	
	Expands Knowledge (Y1 P20)	
2015/16 Cohort	Easy to gain [assessed marks] of overall grade.	We are to use at our own leisure, therefore do not “have” to use it and are not checked to see how often far through it we are (Y2 P1)
	Practical task that you can refer to in a job interview (Y2 P2)	
	Put’s the theory into a practical scenario, which is very helpful (Y2 P5)	Sometimes it does not work, and sometimes slow, so we must rely on the IT system in order to complete task (Y2 P2)
	The system is useful, but seems outdated (Y2 P10)	Drawback is can only access through google chrome (Y2 P6)
	Helps with understanding of what is taught by preparation of the documents (Y2 P17)	The simulation is just a fancy way of giving us documents. They could just as well be posted on Blackboard for our use. Also not accessible through desktop anywhere as its doesn’t

Benefits	Drawbacks
	<p>have google chrome (Y2 P7)</p> <p>Quite a lot of technical issues (long time to load/doesn't work on home computer). Bit pointless to scroll around the office when doesn't add any information. Would be better to access documents with greater ease. Hard to know if you have seen all documents. (Y2 P9)T</p>
	<p>People might think it is a waste of time (Y2 P13)</p> <p>I don't think it benefits much as no figures etc. to show what happens in real life. Also not many things on control in the simulation (Y2 P14)</p>
	<p>Bit complicated and awkward but getting there (Y2 P15)</p> <p>Sometimes difficult to relate to the audit simulation when the lecturer/tutor refers to it in class without a live version in front of us (Y2 P16)</p>
	<p>Simulation seems unnecessary , if the task was the same but we were given access to information in "normal" folders on blackboard, it would give the same learning experience (Y2 P22)</p>