LAW E-ASSESSMENT PILOT STUDY

This report presents findings of the LL205 & LL4K9 pilots 2014-2015

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Executive Summary

This study evaluates the pilots of LL205 & LL4K9, both of which were timed, take-home formative mock exams at LSE led by Learning Technology and Innovation (LTI) and the Department of Law. Given the LL205 and LL4K9 pilots were designed to explore students' perceptions with typing versus handwriting exams, this report considers the impact of the latter on the students and LSE academic and academic support staff who were involved in the process. It also captures evidence about how best to facilitate the development of assessment and feedback with technology practices at LSE through collaboration between academics, academic support staff and students.

Overall, the pilots were successful in allowing academic and academic support staff at LSE to uncover a broad range of student views and preferences pertaining to typed exams while further providing an opportunity to test the ExamSoft software. The findings reveal a general willingness on the part of students to engage with typed exams but highlight the importance of having adequate training and support to facilitate any shift toward e-assessment practice. The pilots further illustrate the coordination and communication required with and amongst various stakeholders at LSE to ensure security, regulations and facilities can support the implementation of e-assessment practice.

This report details findings of the two pilots and includes a discussion on student views and the overall software experience. In summary:

Students

- Students welcome online exams but student feedback, technical advice, and pedagogical insight may point to providing students with an opportunity to choose between handwriting and typing exams.
- The timed component of formative assessments is highly valued as an effective simulation of the final exam. The software's provision of a timer is highly utilised feature.
- Students value training (i.e. the opportunity to test the technology used).
 Therefore, it is necessary to make available a practice exam to those students who would like to experiment with the platform prior to any formal examination.
- The adequate provision of technical support for students during assessment periods is a key concern for scaling-up e-assessment practice. This is of particular relevance in the case of assessments taking place out of office hours (e.g. over the weekend).
- Coordination among all relevant stakeholders in e-assessment processes is crucial to ensuring students receive clear communications in a timely manner.

LSE

- Clear decisions as to which platform is utilised depending on the type of assessment is of importance in ensuring the technical platform is well aligned to support the necessary learning outcomes and assessment objectives.
- Relatedly, logistical issues around location for those students who want to find a
 quiet place to take the exam (or equally in the case of invigilated on-campus
 exams) must be considered for the future.
- Security and data protection proves to be of significant importance to all parties involved and must be an area well explored prior to the implementation of eassessment practice.
- Further attention ought to be directed to planning for and allocating the relevant resources to ensure the variety of student support queries are met in a timely manner.
- Clear partnership agreements between staff and faculty involved are critical to ensuring coordinated implementation efforts.
- Regulations may need substantial overhaul to facilitate various models of assessment.
- Provision in case students cannot use their own device must be accounted for prior to implementation.
- Adequate student support and training prior to any summative assessment.

Introduction

This report presents findings of the LL205 & LL4K9 pilots taken place in 2014-2015.

- LL205 an undergraduate course on Medical Law
- LL4K9 a Masters level course on European Capital Markets

The report is based on feedback from both students and staff (Law and LTI). The pilot is part of a wider project to enhance assessment and feedback with technology, led by LTI.

Background

As compared to the traditional practice of handwriting exams, the broad aim of the pilot was to investigate students' perceptions of typing essay questions in exams. The pilot was meant to support relevant stakeholders in identifying the strengths and weaknesses related to this model of delivery while further providing an opportunity to test the platform, ExamSoft.

Students taking the above two courses participated in a timed take-home formative assessment using their own computers to type answers to essay questions, hereafter the *formative mock*.

LL205 had 2 formative essays (one in Michaelmas term and one in Lent Term) while LL4K9 had one formative essay due in the Michaelmas term. Both courses had 100 percent of the mark assessed via a final exam, which took place in a standard written examination format.

88 students registered for LL205 and 30 students registered for LL4K9 in the academic year 2014/2015.

Process

Students were informed about the pilot by their teachers during their face-to-face classes. Teachers explained to students the aim of the formative mock and the nature of their participation (compulsory). It was explained that while responses did not count towards their final grade, feedback would be made available.

From the moment the formative mock was opened, students were given access to the 3 questions from which they could choose 1. For both pilots (LL205 & LL4K9), students were required to type 1 essay response in ExamSoft within an allotted 2 hours. The formative mock was open for 5 working days (9am on Monday 16 February 2015 to 5pm on Friday 20 February 2015 for LL205 and 9am on Monday 6 March 2015 to 5pm on Friday 10 March 2015 for LL4K9)¹. Within this time frame, students had 2 hours to complete the assessment.

¹ Extensions were given for both LL205 & LL4K9

^{3 |} Law e-Assessment pilot study 2014-2015

In preparation, students were asked to take an optional *SoftTest practice run*, 1 week before the actual formative mock. The SoftTest practice run was intended to give students the opportunity to download/install SoftTest, familiarise themselves with the platform, and report and resolve any issues prior to the actual formative mock. The SoftTest practice run consisted of three questions similar to the ones of the formative mock.

The LTI support email (lti.support@lse.ac.uk) was given to students to report any issues during the SoftTest practice run and throughout the pilot period.

Evaluation Methodology

Students who took part in the pilots were contacted via email, and focus groups were scheduled on 18 March & 20 March 2015.

Students were offered a £10 Amazon voucher each as an incentive for their participation.

Due to low focus group attendance, an online questionnaire was distributed to yield more feedback around the pilots.

Law and LTI staff were also invited to provide feedback.

An independent research assistant was employed to help with the evaluation of the pilot.

Focus groups

Three focus groups, each lasting one-hour, were conducted to provide students an opportunity to openly discuss and elaborate on points pertaining to the law pilots. The format of the discussion was divided in two parts – the first 30 minutes focused on students' views pertaining to the assessment experience (preparation for the formative mock, experience of handwriting versus typing in exams etc.) while the latter 30 minutes invited participants to discuss their views on the software experience (the platform, access and usability etc.). Details of the latter are available in Appendix A.

A total of 9 students volunteered to participate in the focus groups.

Surveys

Surveys were distributed online to all students in LL205 and LL4K9 to supplement focus group responses, yielding 11 and 5 responses respectively. The survey consisted of 15 questions that required short-text responses – details of which are available in Appendix B. The small number of respondents limits the degree to which findings are representative but can nevertheless be used to understand the student experience and

complement the focus group findings.

Limitations

A total of 25 students volunteered to participate in the focus groups and online surveys – less than 22 percent of students enrolled in the courses. As such, while insights conveyed are of relevance and importance, the views expressed cannot be taken as a representative sample. The sample is further subject to selection bias given focus group participation was on a voluntary basis. Moreover, considering the survey was anonymous, we do not know that the students who participated in the focus groups were different to those who completed the survey; there is a chance that some students did both. Nevertheless, the relative consistency between focus group findings and survey responses allows for a degree of triangulation that can in some way, affirm the veracity of findings herein.

Part 1 of this report focuses on findings from students, Part 2 integrates feedback and comments from teachers, departmental staff and LTI staff involved in the process, and Part 3 covers software functionality and use. Part 4 presents a summary of the concluding remarks.

Part 1: Student Views

1. The assessment experience

1.1 Timed formative assessment

Students consistently voiced an appreciation for the timed element of the formative mock for its effective simulation of the final exam.

"As someone who struggles with time management due to anxiety and perfectionism, I would really have benefitted from this format... ...it leaves no room for the usual thoughts of self-doubt that I experience and is the closest thing to practicing for an exam as you can get. I think the way in which we were able to prepare was also a great balance given that this was a formative assessment."

While students found it beneficial to practice writing under time constraints, there were relatively mixed views on the use of an online platform for assessments. In fact, a number of students expressed uncertainty with a potential shift to take-home summative assessments and cited cheating as a principal concern.

"If you do it at home, someone else can just do it for you."

Overall however, students were satisfied with the pilot format and particularly found the combination of unseen questions and the timed component to be of benefit in preparing for the summative assessment.

"It gave me an incentive to revise in depth as opposed to the normal formative assessment."

1.2 Typed versus handwritten exams

Students had genuinely differing preferences for writing and typing. One non-native English speaker for example, stated typing made it considerably easier to navigate the essay and convey thoughts. Others also noted the opportunities available with typewritten exams, including the ability to use spellcheck and edit responses; handwritten papers on the other hand, are seemingly more suitable to minor changes.

"It made it much easier to edit... ... what I wrote down that I dislike can easily be deleted and also more can be written in less time."

"I prefer typing in any case - it allows for slight adjustments and modification (easier to insert a sentence if you think of an important detail for the part which you have already written) and I type faster than I write."

Others however, felt handwriting invoked a more critical thought-process and led to a more clarified focus on analysis. Similarly, as findings from previous pilots suggest, cognitive processes and the way students' structure their answers may vary depending on the medium (screen or paper).

"I dislike typing compared to writing; I think differently and more clearly when writing as opposed to when I type."

Students also highlighted uncertainty around the quality of typed exams and the potentially varied teacher expectations between typed versus handwritten exams. To this end, the shift to typed essays was seen as potentially leading to higher performance criteria, namely with regards to teachers placing greater weight on essay structure as opposed to analysis itself. Given typed exams are more legible and marking is easier compared to bad handwritten exams, students voiced anxiety in considering how these variations would affect grading.

"...it made me anxious as I wondered whether this meant examiners will then be entitled to expect better quality essays even though it is still done in exam conditions."

For essay-based exams ExamSoft recommends writing or typing be made optional to students – a current practice of their customers. This is an issue that requires more discussion as departments may have different views. While some may argue that offering the option to choose raises potential equity issues around marking, research

suggests, 'No significant differences [can] be identified due to the format in which the students ... [write] their answer'².

The change in practice may create training needs in answering questions in timemanaged exam conditions.

"I think we would need lots of practice and feedback in typing essays in timed conditions and be very clear about the difference in quality that would be expected of us compared to a handwritten examination."

This confirms findings of Mogey and Hartley (2015) that if moving to word processed exams, institutions need to ensure that "students practice typing in (mock) exams, in order to build general confidence, and to get a feel for what an exam essay looks like on screen when it is typed". Moreover, "markers and students develop a shared understanding of what is expected in exam essays for particular disciplines in terms of style, length and the balance of argument and content"³.

1.3 Formative mock as preparation for the summative

When asked to comment on the preparation process for the formative mock, students stated their revision was *similar to that of preparing for a general exam* and overall, encompassed a period of research, review, and compilation/structuring of ideas into an outline. Despite the general sense that preparing for an assessment involves similar processes, students presented various views when reflecting specifically on the amount of time spent preparing for typical essays versus the formative mock.

Students who deemed the typical take-home formative essay as a lengthy process of researching, writing, and revising found the formative mock a far more favourable option. When commenting on a typical take-home essay for example, one student noted:

"You can go into so much detail you can almost trip yourself up."

Others however, felt the formative mock preparation was more "intense" due to the greater degree of uncertainty; while possible essay topics were provided prior, the subset of topics available on the formative mock were unknown until the moment students would start. As a result, some students felt they prepared more rigorously:

² Mogey N., Paterson J., Burk J., Purcell M. (2010). Typing compared with handwriting for essay examinations at university: letting the students choose. Research in Learning Technology, Vol. 18, Issue 1, pp. 29-46.

³ Mogey,N and Hartley, J (2015) 'To write or to type? The effects of handwriting and word-processing on the written style of examination essays' Innovations in Education and Teaching International, 2013 Vol. 50, No. 1, pp. 85–93.

"It was intense in the sense that you didn't know what to expect; therefore I was more ruthless in preparation."

Interestingly, a few others stated they spent much less time on preparing for the online assessment despite not knowing the exact topic as they knew there were choices provided.

"You don't know the topic but you know that there are choices on topics so you choose what to prepare."

Formative assessment strives to *increase* student achievement, contrary to summative assessment, which strives to *document* student achievement. The variance of views highlights mixed levels of engagement, mixed approaches to learning (deep and surface), and multiple strategies in preparing for the exam.

"With an assessed essay, there is more time to do research and less time to delve into analysis/evaluation. Since it was only 2 hours, I focused more on my analytical skills and how to effectively answer the question."

"I would have spent a lot more time on an assessed essay – possibly double the time. There is a lot more research on the specifics if it was an assessed essay. However, this is more a realistic simulation of the exam."

Moreover, the above highlights the students' focus on the final grade rather than the actual learning outcomes and learning itself. This point is reinforced by Mogey and Fluck (2015):

"Students appreciate that an academic essay should be scholarly and show both critical thinking and reasoned discussion. But in the time constrained pressures of an unseen examination, different factors take priority consideration for many students. Universities need to foster the skills of examination essay writing, to focus on such things as developing strong arguments and presenting critical thinking clearly and rationally. In turn, this implies that quality enhancement processes need to focus on ensuring it is these qualities, rather than factual content, which gain marks."

Of those students who completed the online surveys in each respective class, the majority seemed agreeable to having this type of assessment applied to other courses while others expressed uncertainty or 'dislike'. Within the focus groups, one student who was pleased with the feedback received from the formative mock stated the online assessment gave them the assurance that similar preparation could be applied to the

⁴ Mogey , N and Fluck, A (2015) Factors influencing student preference when comparing handwriting and typing for essay style examinations, British Journal of Educational Technology Vol. 46 No. 4, p.p. 793–802.

final exam context as well. As such, there seemed to be clear linkages between the formative mock and the final exam.

Excerpts of the survey responses in relation to extending e-assessment practice as piloted with other courses are available in Appendix C.

1.4 Location (on-campus versus take-home)

The primary concern regarding exam location was finding a "quiet spot"; students recognised and assumed ownership of this task. In one focus group, 2 of the 3 students completed the exam on campus and affirmed no difficulty in finding a space. The basement of the Old Building was cited as helpful in this regard.

One student in an alternate focus group opted to complete the exam at home but, "Did not like the fact that it was at home; it did not have the same kind of pressure," thereby again revealing the diversity of student preferences.

There were no logistical problems as it was a take-home mock exam. However, departments should take into consideration LSE facilities in case of on-campus delivery, as it may raise significant logistical issues pertaining to space, wi-fi, and regulatory concerns. To this end, some of the assessment regulations may need substantial overhaul to facilitate various modes of assessment; a wide range of LSE stakeholders need to be consulted and be engaged in discussions if e-assessment is to become mainstream.

1.5 Timing of formative mocks

The undergraduate course offered the formative mock during Reading Week while the postgraduate course formative mock was carried out during the Lent term. Both courses had deadlines extended to include a weekend.

While a variety of views were put forward with regards to having the assessment during Reading Week or otherwise, the key factor seemed to be associated with the inclusion of a weekend. Under the general sentiment that there is not necessarily a "good time" for assessments, the provision of a weekend seemed to be an important component in catering to student needs and time preferences. Ensuring dispersion with deadlines further proved important as some students highlighted the weeks assigned for the pilots as particularly busy, with multiple deadlines coinciding.

With regards to the 2 hours allocated for the formative mocks, it was deemed to be "about right," as it allowed students a bit of time to explore the system, comfortably finish the assignment, and subsequently do final edits.

"2 hours is longer than we would have in an exam but it's good because some people are slow typers."

"2 hours was right because I needed to get into the head space."

"2 hours was good for me because it was a new approach; you have a bit of time to muck around and get to know the software"

1.6 Communication

Students received an email from the platform provider (ExamSoft) with their log-on credentials (username/password) followed by an email from the department with the pilot instructions. Moreover, instructions were also placed in Moodle for each course.

Students voiced some concern with the seemingly disparate pieces of information provided at various points throughout the term in relation to the pilots.

One student for example, thought the email with their username and password was a 'spam' email. The student spoke of the importance of ensuring relevant emails were collated and cohesively communicated.

While the importance of clearly communicating information is highlighted, this feedback further suggests a potential need for dedicated support to ensure students are well informed not only during but also prior to any approach introducing new elements in the mode and delivery of assessment.

2. The software experience

2.1 Access and technical issues

Students had one week to download SoftTest software and further had the option of completing a SoftTest practice run. Once downloaded, the student would not have to redownload the software prior to the actual formative mock.

While none of the interviewed students completed the SoftTest practice run, a number of them downloaded the software prior to the actual assessment and highlighted the benefit of the latter.

Students who did not download the software in the pilot week recognised the risks but seemed to be willing to take their chances. Moreover, these students seemed to also draw some comfort from the knowledge that technical support staff would be available to assist where and when technical difficulties arose.

While no significant technical issues were put forward, three areas warrant further attention:

1. **Multi-platform (Moodle-ExamSoft) complexity:** While relevant instructions were made available via Moodle, the SoftTest installation process and the exam download/upload process did not appear to be as straightforward as may have been anticipated.

- Multiple passwords: The prevalence of multiple accounts (Moodle, SoftTest) did not pose significant challenges but rather, was seen as an unnecessary complication/annoyance.
- 3. **SoftTest Installation problems:** SoftTest installation failed for those with non-English operating systems (OS).

2.2 Navigation and usability

The platform, while not aesthetically pleasing, was viewed as relatively easy to navigate. One student commented:

"The user interface was a bit archaic but the actual functionality was fine."

When students were asked as to whether they explored the software platform prior, most acknowledged they did not take much time to explore the software itself; the focus was primarily on using the basic features necessary to complete the assessment. To this end, a majority of students viewed the timer as a highly useful feature.

A few key recommendations were presented with regards to functionality:

While it was understandable that copy and paste was disabled, the ability to copy and paste text would be a particularly helpful addition for editing purposes. One student seemed to be able to drag and drop text but the warnings accompanying the proposed changes were unclear and led to additional complications, primarily in relation to a confusing warning message that appeared when the student wanted to cut and paste.

"When you try to drag and drop, you get a warning message and it says something like, 'Are you sure you want to delete 1100 characters?' And then you say 'no' because you're worried. But in fact it duplicates it."

Furthermore, students felt the ability to copy and paste long pieces of legislature would significantly aid the writing process and allow students to divert time to analysis. While this may be particularly beneficial to Law students if they often have to cite long pieces of legislature, its application may only be feasible in formative assessments.

- The ability to **expand the window to full-screen** was often cited as an important but lacking feature. On a similar note, some cited the inability to have multiple windows concurrently open as a limitation.
- An **undo and redo** functionality would have been useful.
- Incorporating a **spell check** feature was cited by many as an important but lacking tool.
- Further clarity with on screen instructions would have been preferable for example, clearly providing the three question options on one page and clearly stating that only one question needed to be answered.

Overall, student findings suggest the pilot was valued for its simulation of the final exam, while the use of the technical platform itself as a means to this end brought forth mixed reviews, particularly in relation to typing versus handwriting exams.

Moreover, the majority of findings align with the findings of the three-year pilot online formative exam that ran in 2011-12 to 2013-14, with a ten-week face-to-face course (SA4H7) by Dr. Sunil Kumar in the Department of Social Policy and was supported by LTI⁵.

Detailed list of options for setting up assessments in ExamSoft is available in Appendix D.

Part 2: Teacher, Departmental staff and LTI Views

1. E-Assessments and learning outcomes

Teaching staff involved with the two respective courses noted students received lower grades as compared to other formative work previously marked. Teaching staff were in agreement that the latter was mainly due to students not answering the question at hand. However, given the variance in grades with some students achieving a first on their formative assignment, they felt the comparatively poorer performance was not due to the wording of the question but rather, a result of how students did or did not prepare. This sentiment may be corroborated by the student views presented in that some stated they spent less time preparing for the formative mock than they would have for their usual formative essays.

In general, teaching staff seemed to feel this pilot was less of an active learning experience than desired. In relation to this, one questioned the effectiveness of a 'mock exam' as a formative assessment as it did not seem to compel students to engage with the material to the depth and degree expected.

Given the purpose of formative coursework is to support students in building a more rounded and robust comprehension of the material, one teacher suggested that

"...mandatory essay plans be submitted prior to the e-assessment as a means to motivate greater student engagement with the material."

The uncertainty regarding the effectiveness of the formative assessments in driving student learning was affirmed by the relatively poor performance on the LL205 exam in response to the essay question presented in the pilot:

⁵ Chatzigavriil, A, Roger, K & Kumar, S 2014, 'Learning Pedagogies and On-Line Assessments in Higher Education: Innovations and Challenges', *Proceedings of the European Conference on e-Learning*, p139. Available from: EBSCOhost Connection. [28 July 2015]

"The answers to the question on the topic that we used for the pilot was not answered very well by our students. This would indicate to me that, despite the feedback, the thorough engagement with the topic still did not come about. This was quite a surprising result, as usually when we set a formative essay on a particular topic, students perform well on any substantively related question in the exam."

Teacher, LL205

To note, while students were given three essay questions on the pilot mock exam to choose from, all were broadly related to one topic – that which ultimately was a topic of the exam.

2. Student support during the pilots

Teaching and departmental support staff noted that a number of their students had problems uploading their formative mocks or encountered some other complication with the software. In the event of difficulties, Law staff felt students did not know whom to contact and thus contacted their teachers, administrative staff, or both. The general view held by the department was that the process was relatively confusing for students.

A strong point of contention put forward by the department in relation to technical support was with the lack of a phone number made available to students during the pilots. While repeated requests were made in this regard, LTI assured the department the support email would be sufficient. However, this did not seem to be the case as one student query did not receive an appropriate response in advance of the 5:00pm deadline. While each student query must be contextualised and considered in relation to other support sought by a given student at different points in time, this case suggests a gap may exist in relation to technical support; the latter may require further consideration if similar practice is to be successfully scaled.

With regards to the types of queries brought forth by students, the majority of them were related to difficulty in submitting. Submission difficulties were primarily a result of missing the deadline. Other types of issues were related to SoftTest failing to install on computers with non-English Operating Systems or students failing to use the correct (download/upload) exam password – as multiple passwords were utilised throughout the process.

It is worth mentioning that only 5 out of 88 students in LL205 and 5 out of 30 students in LL4K9 made use of the SoftTest practice run. In relation to this, a handful of students did not access the system but rather just sent their essays manually to their teachers. The reasons for the latter remain unclear.

Given the student feedback in relation to training requirements, it is worth considering the practice run be made 'mandatory' or at least, 'highly recommended' so as to

mitigate technical difficulties during the actual assessment. This may be of particular importance if such practice is to be scaled to include larger student cohorts.

A complete account of "Student Participation and Support Requests" is available in Appendix E.

Part 3: Software Functionality and Use

A number of technical and other issues have been identified during the pilots, which are presented in detail below.

1. About the platform

1.1 Suitability

ExamSoft was used for a timed, take-home formative mock exam. Pilot findings indicate that ExamSoft functionality is more appropriate for invigilated on-campus exams compared to timed take-home exams. While ExamSoft addressed the 'time-limit' requirement of the mock exam that LSE's VLE (Moodle) could not handle, using the platform for a take-home summative assessment is not recommend.

If take-home summative assessment is to be introduced, a different system may be required to facilitate and monitor the exam environment through a webcam and microphone. Moreover, departments may need to take into consideration resource allocations to ensure appropriate student support. The latter would be of particular importance in the case of summative assessments.

1.2 Functionality

The ExamSoft platform offers rich functionality i.e. rubrics, powerful reporting (especially if used in combination with the *categories* which can be mapped *to learning outcomes*, online marking, creation of variety of question types etc. However, only basic functionality was utilised for the purposes of the pilots.

Feedback on the functionality used includes:

- Exam takers and other accounts accounts are easy to create and manage.
- Assessments while assessments are straightforward to create, a number of settings were not required/not utilised in the pilot, thereby leading to the feeling of a cluttered view. Some settings are duplicated or are not necessary. ExamSoft are addressing some of the issues with current work on a new release promising a better, less cluttered interface.
- Categories have the potential to link and generate reports mapping course Learning Outcomes. This feature has not been utilised for the pilots.
- **Rubrics** not used.
- Reports not used.

- Online Marking not used. However, it was noted that the 'marking screen' changed halfway through the pilots due to enabling the 'Advanced Grader Assignment'.
- Printing the print feature on the software was malfunctioning. LTI had to
 manually extract (i.e. copy/paste) all 73 submitted responses for LL205. The
 workaround solution (for more details see Appendix F) from ExamSoft worked
 for LL4K9 and was successfully used to print LL4K9 submissions. The Print utility
 offers a variety of settings for the print output (i.e. word count, page breaks,
 print of only answered questions etc.). As informed by the provider, the work on
 ExamSoft includes improvements to the print utility.
- Account passwords administrators can see ALL passwords, bringing forth a significant data protection issue.
- **Single sign on** ExamSoft does not offer Shibboleth integration; therefore students have to use different log-in details to their LSE network login.
- **Diagrams & equations** the platform cannot support exam answers that require diagrams and/or equations.
- Onscreen text a few screens contained default text that was not appropriate for take-home exams, yet it was not possible to alter it to the pilots' needs.

A complete account of student support queries and general issues related to ExamSoft is available in Appendix F.

1.3 Hosting and security of personal data

Currently data are hosted in US or EU (Ireland). In addition, ExamSoft is looking into Amazon Cloud hosting. A significant data protection issue identified during the pilots relates to the fact that ExamSoft administrators can 'see' all user passwords.

1.4 ExamSoft Support and training

ExamSoft online resources were used during the pilots by LTI and were deemed very detailed and helpful. Different types of resources (i.e. text-based guides and video tutorials) were available to accommodate different styles.

Developing LSE specific instructions may however, be beneficial in accommodating LSE staff needs in a more cohesive and targeted manner. ExamSoft guides and video-casts are helpful and could be linked from LSE staff support pages to ensure an ongoing database of FAQs is developed to cater to the specific needs and queries of LSE staff.

Following the license purchase, ExamSoft offered a demo presentation of the software. While ExamSoft support was prompt and helpful, it is worth noting that time zone differences should be considered when contacting the provider.

2. Contingency plan

A few of the technical issues encountered by students required that LTI and the department offer alternative submission methods. The methods utilised in this regard

were sub-optimal, as they did not have an accurate time-stamp noting assessment access and submission.

A 'handwritten' exam is most often used in response to any issues that make impossible a computer based delivery but only serves as a viable option for invigilated on-campus exams. Contingency planning thus constitutes a key component and a necessary aspect of any effort to scale the use of e-assessment.

3. Process

3.1 Pilots

Pilots of this sort are developed to identify pedagogical benefits for students across the school, test the technology, identify risks for future implementation/scaling up, support required, and uncover unexpected issues. By their very nature, pilots carry a higher risk of problems. As such, clearly articulated and formally agreed upon roles and responsibilities (Terms of Reference) of parties involved can significantly support partnership-building efforts. The latter may further support in ensuring all parties are aware of the opportunities and constraints associated with 'pilot' processes.

3.2 Procurement process

Despite the low-cost, and limited-period software license required for this pilot, a 'full' LSE contract assessment was carried out.

Furthermore, the 'LSE Cloud Assurance Questionnaire' dealing with issues around hosting and information security was required to be completed by both parties prior to the license purchase.

LTI experienced significant delay in obtaining the pilot license. The pilot identified significant obstacles of the procurement process, specifically for pilots of this nature.

3.3 Cost

The cost of the pilot comprises:

- i) The pilot license cost (£2,500.00)
- ii) Focus group incentives and catering (£120.00)
- iii) LTI time

The cost for future use of EI eXpress (light version of ExamSoft E.I, for more see http://learn.examsoft.com/exam-software-products/examsoft-eix-create-exams) is

- 1 year contract \$25, per student / per year
- 2 year contract \$20, per student / per year

3.4 Communication

A significant degree of miscommunication characterised the relationship between LTI and the Law department, resulting in mutual disappointment. A degree of mismanaged expectations from the onset seemed to hinder the partnership and suggest formal

Terms of Reference (ToRs) outlining roles and responsibilities may be a necessary precursor to future collaborative ventures of this nature. Both parties were in agreement on the lack of communication as a key obstacle to a strong working relationship and agreed more frequent meetings and face-to-face conversations would have alleviated some of the challenges encountered.

Moreover, a further miscommunication related to the expectation of formal training for departmental staff, within Law, which did not transpire.

Despite the challenges encountered, both LTI and the Law department affirmed the value of e-assessment. The department for example, highlighted the value of being able to run mock exams without taking up class time. While the platform used was not optimal for take-home formative assessments, it did provide an opportunity to examine structures, technical, and behavioural elements required to successfully implement e-assessment practice.

Part 4: Concluding Remarks

The major limitation of the pilots comes from the fact that findings are based on a small number of students who participated in the focus groups and surveys.

However, students and staff involved with each of the LL205 and LL4K9 pilots brought forth a variety of views in relation to the e-assessment pilots. Although each of the stakeholders involved interacted differently with the pilot process, they all seemed to value the general idea behind e-assessment despite the process-based and technical shortcomings encountered.

Below is summary of findings from the pilots.

Students

- Students welcome online exams but student feedback, technical advice, and pedagogical insight may point to providing students with an opportunity to choose between handwriting and typing exams.
- The timed component of formative assessments is highly valued as an effective simulation of the final exam. The software's provision of a timer is highly utilised feature.
- Students value training (i.e. the opportunity to test the technology used). Therefore, it is necessary to make available a practice exam to those students who would like to experiment with the platform prior to any formal examination.
- The adequate provision of technical support for students during assessment periods is a key concern for scaling-up e-assessment practice. This is of particular relevance in the case of assessments taking place out of office hours (e.g. over the weekend).

 Coordination among all relevant stakeholders in e-assessment processes is crucial to ensuring students receive clear communications in a timely manner.

LSE

- Clear decisions as to which platform is utilised depending on the type of assessment is of importance in ensuring the technical platform is well aligned to support the necessary learning outcomes and assessment objectives.
- Logistical issues around location for those students who want to find a quiet place to take the exam (or equally in the case of invigilated on-campus exams) must be considered for the future.
- Security and data protection proves to be of significant importance to all parties involved and must be an area well explored prior to the implementation of eassessment practice.
- Further attention ought to be directed to planning for and allocating the relevant resources to ensure the variety of student support queries are met in a timely manner.
- Clear partnership agreements between staff and faculty involved are critical to ensuring coordinated implementation efforts.
- Regulations may need substantial overhaul to facilitate various modes of assessment.
- Provision in case students cannot use their own device must be accounted for prior to implementation.
- Adequate student support and training prior to any summative assessment.

Appendix A: Focus group questions

Online Take-home exam Focus Group

Introduction (0.0 - 0.5)

"Please sign in and make yourself a name badge. The sign in sheet is so that we can email you an amazon voucher for attending.

Thank you for taking time out of your busy schedule to be here today. The School is interested in collecting feedback of students' experience of online assessment. Hopefully this will also give you the chance to talk freely about how you felt when preparing and taking the online exam, including your experience of using the examination software without restricting you to a fixed set of responses.

My name is and my colleague will be asking you as a group a number of questions over the next hour. We would like you to be completely honest in your comments. Two (admin) members of the law department will be present during the focus group but LTI are independent from the Law department and want to find out about your experience of the process in order to evaluate if it will work for other departments so please don't sugar-coat your answers. We assure you that all of your responses will be held in complete confidence from Law teaching staff. No identifying information will leave this room. We would like to ask your permission to record our discussion to ensure that your responses are accurately recorded. Any notes taken from the recording or directly now will not link names to any comments. It is important that each one of you has a chance to express your views and we will try to make sure that this happens.

Are all of you comfortable with this?

We're going to divide this session into two parts, firstly to focus on your experience of online assessment and secondly on the software itself.

Part 1 - The assessment experience (0.5 – 0.35)

How did you feel taking the online assessment compared to writing an assessed essay?

Allow 5 minutes thinking + writing notes, +/- 25 minute discussion

"Please spend a few minutes to reflect on your experience of the online assessment. Then, write down your comments on sticky notes for each aspect of the assessment experience listed on the blank sheets on the wall/table. Please note that technical issues will be discussed in the second section. The aspects you need to reflect on are:

- i) How did you go about preparing for the online assessment?
- ii) How did this differ to how you would have prepared an assessed essay?)
- *iii)* How useful you found the experience for preparing for your summative assessment.

You can then stick your notes on each sheet and you will discuss each of the three aspects together"

- Preparation for the online assessment
- Comparison with assessed essay
- Usefulness for summative assessment

Follow up questions

- Approximately how long did you spend on preparing for the online assessment (how many hours)
- How did this compare to the time you would have spent on an assessed essay?
- What did you think about the timing of the online assessment? (in the academic year)
- Have you received any feedback from the online assessment?
- How would you feel about typing your final examination?

B. The software experience (25mins)

"We now want to find out more about your experience of the software itself, spend a few minutes thinking your ability to access and use the software, again please write down notes on the post it's under the three headings". (5mins)

- Access technical issues
- Availability time given to download,
- Navigation and usability when using software.

take the assessment (at home or on campus?)

Access and availability (10mins)

- 1. What did you think about the time given to download and access the online formative assessment? (5mins) (follow up question for mediator) Was one week long enough? Would it make any difference if weekend was included? Was the practice run useful?
- What was your experience of taking the remote mock formative like?
 (5mins)
 (follow up question for mediator)
 Did you have anywhere quiet to sit? Was the setting ok? Where did you
- Did you experience any technical difficulties while using the software please give details about what they were and if and how they were
 resolved. (5mins)

Navigation and Usability (10mins)

- 4. How did you find the usability of the software, take into the account the points below
 - Was the interface clear?
 - Did you have any problems navigating between questions?
 - Cut/copy/paste was disabled; how do you feel about it? Do you think you need you such facilities and/or other (i.e. spell-check) enabled?
 - Did you use the timer and or other navigation tools available? Which ones?
 - Were there any features you were not sure about / reluctant to use?
 - Did you have any trouble locating things?
 - Did you have any problems with regards to the font size?

Final questions if have time

- How would you feel about having this type of assessment in other courses?
- What would you change if you did this assessment again?

Appendix B: Survey questions

The survey contained 10 questions that required short text-responses

- 1. How did you go about preparing for the online assessment? Did you spend more or less time preparing if compared to your other formative assessment for the course?
- 2. How did this differ to how you would have prepared an assessed essay?
- 3. What did you think about the timing of the online assessment? (in the academic year)?
- 4. How useful did you find the experience for preparing for your summative assessment (the examination?)
- 5. How would you feel about having this type of assessment for other courses?
- 6. How would you feel about typing your examination?
- 7. What would you change if you did this assessment again?
- 8. What did you think about the time given to download and access the online assessment?
- 9. Did you try the practice exam? If so, was it useful?
- 10. Please tell us about your experience of taking the online assessment. For example did you have anywhere quiet to sit? Was the setting ok? Where did you take the assessment, at home or on campus?

Appendix C: Excerpt of survey responses

LL205 eexcerpts of the survey responses in relation to extending eassessment practice as piloted to other courses

How would you feel about having this type of assessment for other courses?

Text Response

Not very keen, I prefer the current system of formative essays.

As someone who struggles with time management due to anxiety and perfectionism, I would really have benefitted from this format throughout my 3 years as The LSE as it leaves no room for the usual thoughts of self-doubt that I experience and is the closest thing to practising for an exam as you can get. I think the way in which we were able to prepare was also a great balance given that this was a formative assessment.

I would welcome it

It could be effective using this alongside the usual formative essay (eg 2 formative essays and then this as the 'mock' late in lent term).

I actually would not mind for subjects like Commercial contracts, especially for the Sale of Goods module as we are allowed the statute into the exam so an open book assessment as such for this topic would make a lot more sense as it is more about application rather than memorization.

Great. It is a much better way of completing essays as it forces you to have a grip of the subject before writing rather than blundering through an essay and not doing so well. I personally got 63% on the normal assessed essay in mt, but 71% on the online version.

I think it is a good idea as many people struggle with the traditional exam format and consequently their grades do not reflect their actual ability. However, if some or all exams used this system I think extra-special attention ought to be paid to timetabling, as these would effectively be all-day exams and would need to be spread out

will not recommend it

Total Responses

How would you feel about typing your examination?

Text Response

I dislike typing compared to writing; I think differently and more clearly when writing as oppose to when I type.

I already type my exam due to having dyspraxia.

Better for speed but more likely to have poor spelling etc.

I liked it

I think we would need lots of practice and feedback in typing essays in timed conditions and be very clear about the difference in quality that would be expected of us compared to a handwritten examination. I would be anxious

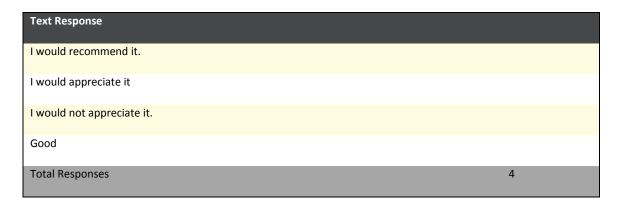
about it but I think its a more efficient and realistic (to the real world outside of exam procedure) assessment method. It made it much easier to edit and a less daunting experience as what I wrote down that I dislike can easily be deleted and also that more can be written in less time, but it made me anxious as I wondered whether this meant examiners will then be entitled to expect better quality essays even though it is still done in exam condition. It also was not good for the planning stage as the restrictions on editing and manoeuvring the page and words meant that referring back to notes I typed out below is a hassle. The same as a written one - I think it is unfair to make people who know their handwriting is illegible to the normal person to write but would equally be unfair to slow typers. ambivalent either way do not like typing my exams Value Statistic

9

Total Responses

LL4K9 excerpts of the survey responses in relation to extending eassessment practice as piloted to other courses

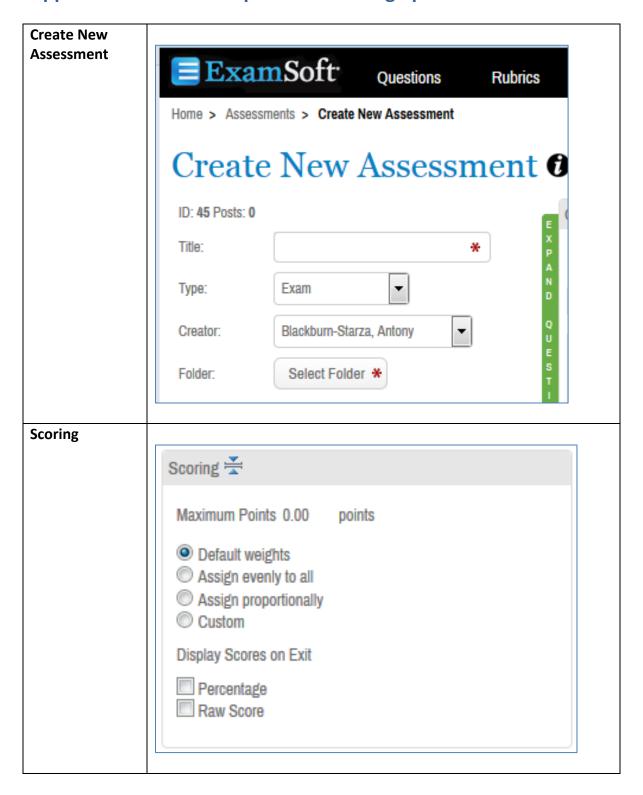
How would you feel about having this type of assessment for other courses?

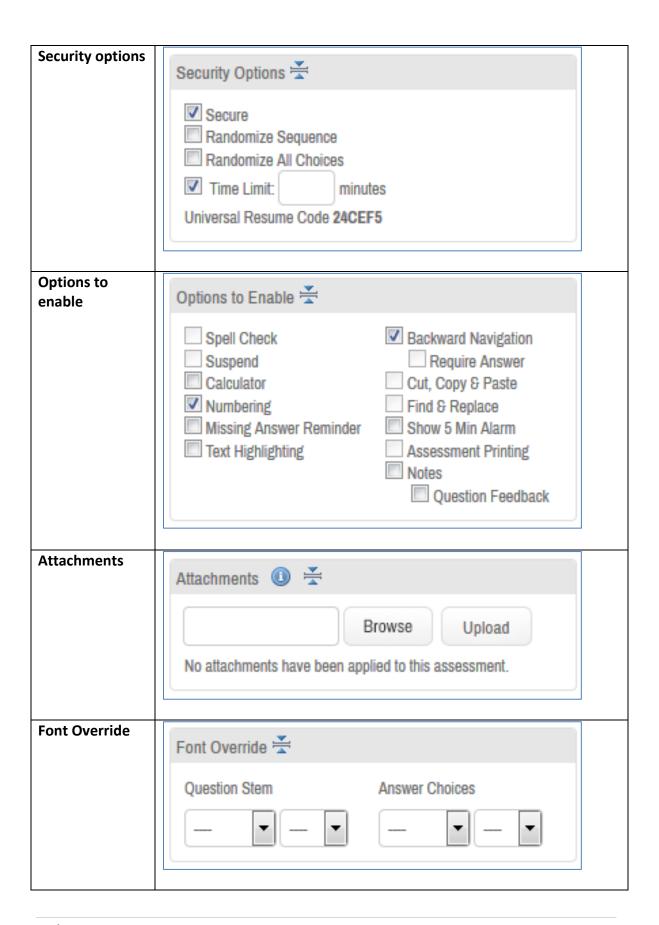


How would you feel about typing your examination?

Text Response	
. ,, , ,	t adjustments and modification (easier to insert a sentence if you think I have already written) and I type faster than I write.
Very good. It would be better to have any exa	ams typed
Not good. In particular, I type quite alright, be	ut do not hold a secretary academy diploma.
Very well	
Total Responses	4

Appendix D: ExamSoft options for setting up assessments





Appendix E: Student participation and support requests

LL205 pilot (88 students)

LL205 - Student participation on 'SoftTest Practice Run'

Number of Submissions to ExamSoft	3
Number of empty submissions to	2
ExamSoft	
Total	5

LL205 – Student participation on 'LL205 Online Formative Mock'

		Details
Number of Submissions to ExamSoft	73	
Number of submissions to teacher	6	 5 out 6 students who submitted to the teacher didn't access ExamSoft the 6th student has a record on ExamSoft with an empty submission
No submissions	9	 8 out of the 9 students who did not submit anything have no access record on ExamSoft the 9th student has a record on ExamSoft with an empty submission
Total	88	

LL205 - Student support requests

LL205 – Student support requests			
		Type of Support required	
Students received LTI support	7 (*)	 (2) Missed upload deadline – used manual upload instruction (2) Didn't submit by the original deadline – submitted after email announcing extension (1) Was using wrong upload password – link to instructions provided (1) Closed exam before submitting anything – number of upload attempts increased (1) Contacted IT services as the student was worried that Softtest instructions were a phishing attempt – LTI emailed student 	

^(*) All students who contacted LTI support submitted successfully and promptly with the exception of one student who received an email shortly before the submission deadline. It may worth mentioning that the specific student was in contact with LTI throughout the day and prior to the delayed email, received support and instructions on how to address their issues.

LL4K9 pilot (30 students)

LL4K9 - Student participation on 'SoftTest Practice run'

Number of Submissions to ExamSoft	2 (short paragraph)
Number of empty submissions to ExamSoft	3
Total	5

LL4K9 – Student participation on 'LL4K9 Online Formative Mock'

		Details
Number of Submissions to ExamSoft	9	
Alternative submissions	1	LTI liaised with convener and created a Moodle assignment for this submission
Total	10	

LL4K9 – Student support requests

EL-RS Student support requests		
		Type of Support required
Students received LTI support	4 (*)	 (1) Missed upload deadline – used manual upload instruction (1) Didn't submit by the original deadline – was supported extensively during out of office hours (2) SofTest installation failed on non-English language Operating System – LTI loaned laptops, 1 student uploaded via Moodle to a specific assignment submission portal created to accommodate the need

(*)LTI offered support over the phone and also invited the students to the LTI office. Moreover, LTI loaned 2 own laptops to accommodate student needs and worked to ensure students had as many opportunities as possible to use the platform as opposed to submitting via MS Word. In one case where a solution was not available, a Moodle assignment was set up to accommodate the student's submission.

Appendix F: Student, administrative, and general issues

Student, Admin and General Issues

Issue	Solution
Student completed the exam but didn't upload answers within the suggested upload deadline. (RESOLVED)	In this case students will get a message that "an administrator should approve the extension of deadline, which would then allow them to manually submit the file." Administrators can extend the upload deadline and the student must manually upload the file at examsoft.com/manup . Important Note: Administrators will not see any information about the student's exam file/history (under Exam Taker Activity) until the file has been uploaded. Even though the student did not click 'submit', the assessment is still completed and
	stored on their device. (Administrators) How to extend the upload deadline? You can do so by editing the posting of the assessment: Postings ** Previous 1 Next Show: 10 25 50 100 250 Post Assessment Posting ID Name o Questions o Course o DJL Start o DJL End o Actions o 1 355278 Additional 2 - GL/18/2015 08:55 PM 01/25/2015 09:55 AM
	And then extending the Upload deadline: Edit Posting Posting Name: athinas Test Assessment Assessment Password: athina1 Settings Course: Available to ALL Exam Taker Download Start: 01/19/2015 9:55 PM Email Download Reminder: 07 AM Download End: 01/25/2015 9:55 AM Max Downloads: 1 Scheduled on: 01/23/2015 11/45 AM Scheduled on: 01/23/2015 11/45 AM Download Password: athina2 Additional Security Options Additional Security Options Remote Deletion Remote Deletion Date: Ping 8 Release
	(Students) How to manually upload The instructions for the student to manually upload are: Make sure you have internet connection Please note it is important that you use the computer you used to type in the answer and follow the instructions below: i) If you are using a Mac follow the instruction on

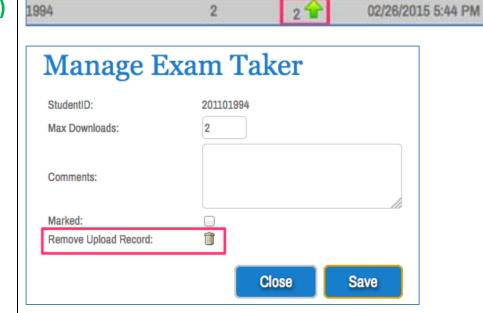
Student downloaded exam and uploaded an empty exam (without providing any answer).

(RESOLVED)

The solution to this issue is twofold:

- 1. Increase the student's download/upload attempt (say to 2) and extend the deadline
- 2. Clear the uploaded file

By clicking on the green arrow and then the garbage can, an administrator can clear the previous student upload



The student can subsequently complete a manual upload. (see http://support.examsoft.com/ics/support/KBAnswer.asp?questionID=10&hitOffset= 36+35+28+27+16+5+4&docID=98 or above)

Keep in mind: while a student can download an exam file and subsequently take the exam more than once, the portal will only accept ONE uploaded answer file.

SoftTest installation fails in computer with non-English operating system.

(RESOLVED)

The issue is related to file-naming. 'Program files' that SoftTest is looking for in the student's computer to be installed is not named like this, resulting in an error message and failed installation.

ExamSoft had a release that has addressed this issue.



(*) Screenshot provided by the student

Exam Taker time zone is inappropriate.

(RESOLVED)

Default text is inappropriate for take-home exams.

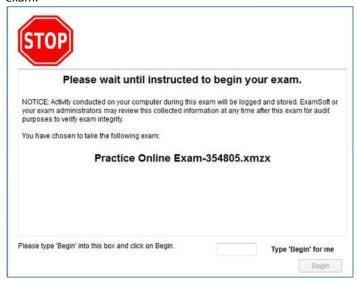
(CANNOT **CHANGE)**

On the exam taker activity all times are shown in US local time – is there a way to change this and display times in UK timezone?

This can be adjusted on ExamSoft's end. The issue was presented to Exam Soft and they changed the time zone to ensure LSE's pilot portal reflected the accurate time.

The following two places contain text in the softtest application that may be inappropriate for take-home exams.

First instance – prior to exam, text reads: 'Please wait until instructed to begin your exam.'



The second instance is when the exam is uploaded.

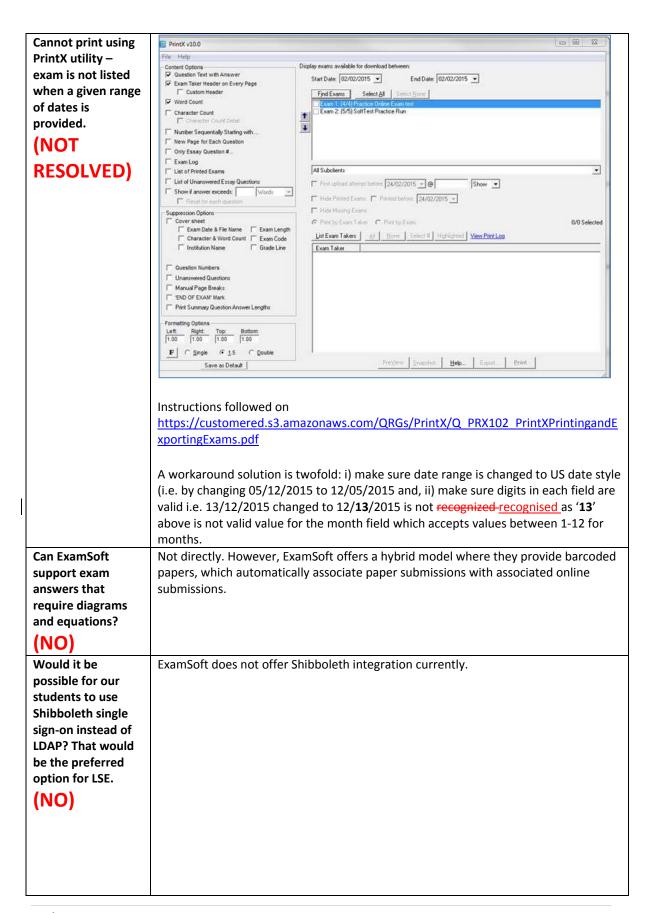
When LTI inquired about changing the text below, Examsoft Support stated it was not possible to do so.

Passwords are available to administrator.

(NOT **RESOLVED)**

There is a way for administrators to 'see' passwords; privacy and data protection issue



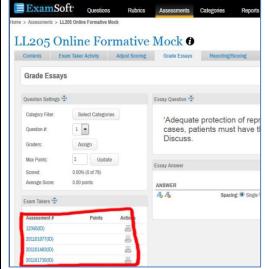


Inconsistent marking process.

(CANNOT CHANGE)

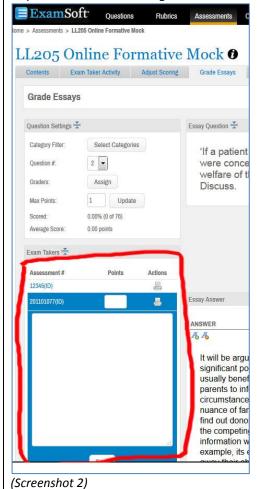
See screenshots below for process in marking LL205 and LL4K9 respectively. LL205 Online Formative Mock (Grade Essays screen)

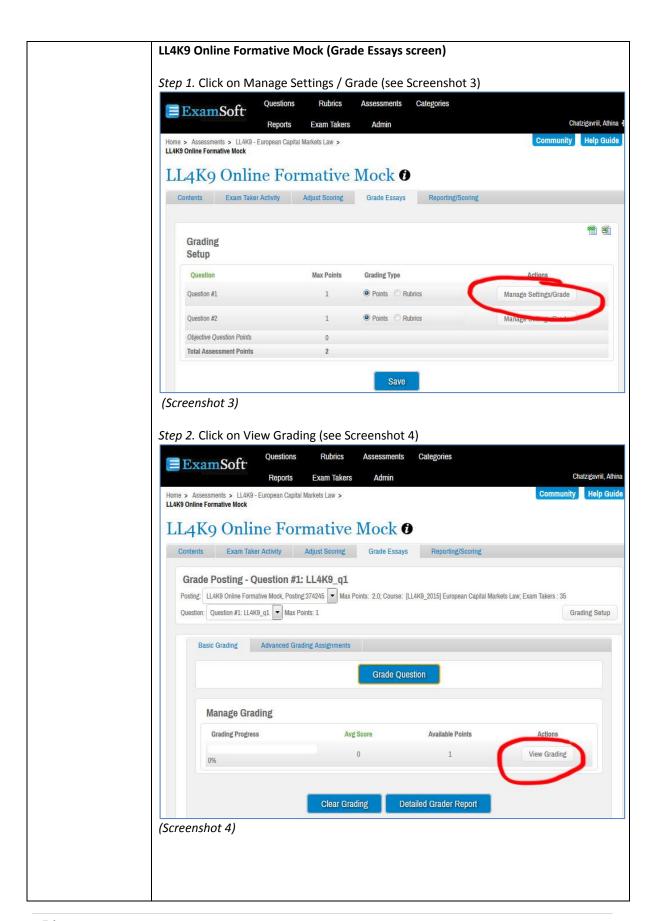
Step 1. Click on Exam Taker IDs (see screenshot 1)

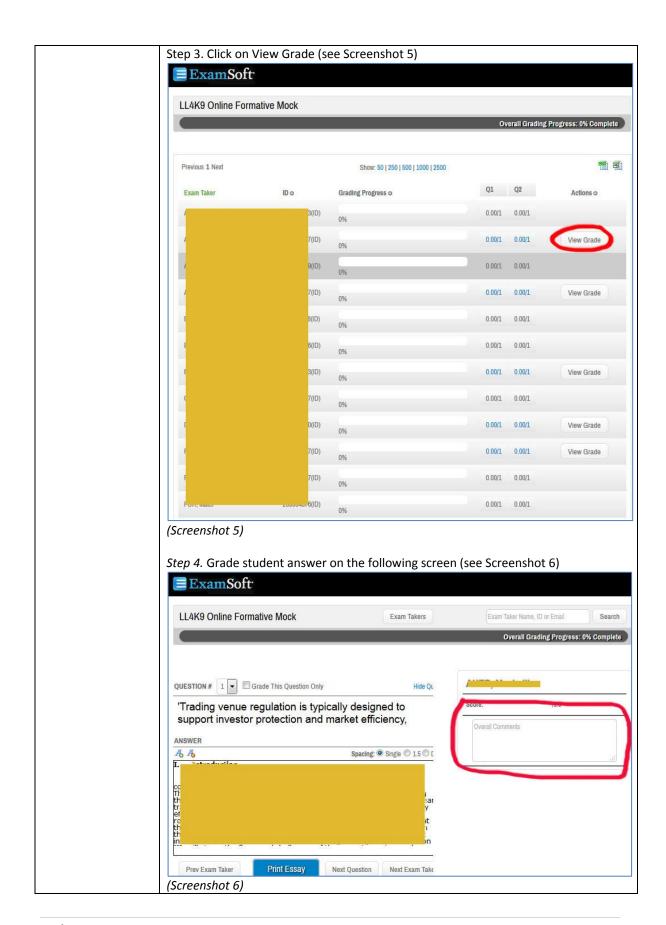


(Screenshot 1)

Step 2: Add comments and grade in field that opens (see Screenshot 2)







Response: Upon investigating, it appears as though the exam in the first view (SS 1 and 2) was created BEFORE the Advanced Grader Assignment feature was enabled for the teacher's account. Once this feature was turned on (2/13) and the second exam was created (SS 5), the option to set up multiple grader assignments was

Other general queries

Ouestion	Answer / Solution
Question	Answer / Solution
Can I print only the	Yes, The PrintX utility facilitates this request. There are a number of settings that can
Can I print only the question(s)	be applied (i.e. print all answers, print answered only, include Q etc.)
answered by a	be applied (i.e. print an answers, print answered only, include Q etc.)
student?	
How can I provide	Accommodation rules are time-limit exceptions for groups of students. These can be
extra time for	created by ExamSoft on their end.
students with time-	created by Example on their end.
limit exceptions?	
(Accommodation	
rules)	
How do I backup	See Longitudinal Grade Export on
grades and	https://customered.s3.amazonaws.com/QRGs/Reports/Q RPT501 LongGradeExport
feedback?	<u>.pdf</u>
How to allocate	The best way to do this would be to set up advanced grading assignments. Quick
groups of students	reference guide
to specific teachers	https://customered.s3.amazonaws.com/QRGs/Rubrics/Q_RUB505_ManagingAdvanc
for marking	edGraderAssignments.pdf outlines the process.
How do I release	You can release Exam Taker Results , including grades and comments, to the students
grades &	via email or the Exam Taker portal. See below:
comments to	
students?	Reporting/Scoring
	Summary Report
	Item Analysis
	Exam Taker Results
	Release Exam Taker Results
	Category Reports
	Strengths and Opportunities
	Assessment Performance Reports
	Essay Grader Report

