



## Scalable Assessment and Academic Integrity Workshop Summary

Wednesday 5<sup>th</sup> June 2019 12:00-16:00

Bayes Centre Meeting Room 3.55

### Background

This workshop came about through a number of discussions at both the DSTI Course Organiser meetings and Bayes Education Group. Whenever these issues were raised there was often not enough time to fully discuss them. The Bayes Education / CSE Online Learning team proposed a more focussed discussion to identify and share current activities, examples of good practice, and an opportunity to consider what is required collectively across the University as we scale up online assessments and address issues related to academic integrity (both on campus and online).

The Workshop was initially intended for CSE colleagues but given the widespread interest in this topic from across the University and requests to attend, the workshop expanded to include invitations across all three Colleges and to University Services areas. The workshop attendees (noted in the table at the end of this summary paper) included a mix of Professional Services staff, Learning Technologists and Technical staff and Academics.

### Presentations

#### **How coursework is currently assessed within EPCC (Dr Adam Carter/Dr David Henty)**

There are two online courses currently offered by EPCC. Practical Introduction to High Performance Computing run by Dr David Henty and Practical Introduction to Data Science run by Dr Adam Carter. Both courses form part of the full suite of courses offered on the Data Science, Technology and Innovation (DSTI) online learning postgraduate programme.

- Courses are currently assessed by 100% coursework. Coursework is always a good way of gauging a students progress and level of understanding but they raised concerns that online assessment can make course organisers feel a bit exposed to plagiarism in comparison to on-campus.
- There is currently a single marker for each assessment which is a good way for detecting plagiarism, along with online software like Turnitin. This is almost impossible to scale and having multiple markers can bring its own issues, i.e. lack of consistency in feedback, differing opinions etc...
- Some suggested solutions were, move to online exams, Peer to Peer assessment, presentation as a reflective component, distribute marking with a very detailed schema, design assessment with marking load in mind.

#### **Experience of Proctored online exams (Professor Bob Fisher, Informatics)**

Some online courses within the School of Informatics are assessed using online software, ProctorU. The exam is the same paper as sat by on-campus students, except online learning students will see and answer the paper using the Perception Question Mark web service. Students type their answers into text boxes using a web browser. The papers will be marked by the normal exam markers as with the on-campus students. Exams can be taken at the student's home or wherever a reliable internet service is available. The security of the exam taking conditions comes from ProctorU, which monitors the students remotely while they take the exam.

- This is the third year of ProctorU being used for online assessment with the School of Informatics. On average 100 students have taken these each year and have not yet encountered an instance of plagiarism.
- Invigilator is provided by ProctorU and costs around £20 per student/hour. They ask the student to show the web cam around the room and monitor the audio so no conversations can occur. Face to face and eye tracking software are used to monitor the student along with keyboard biometric monitoring and a locked down screen.
- It cannot do complex drawings or equations but have piloted having the students draw using scratch paper then allowing the image to be attached to their paper.
- Some software concerns include the lack of anonymity on the Question Mark service, students listed by student number rather than exam number. There were also concerns with the biometric data captured during the exam, what happens to the data collected?

### **Assessment developments within School of Maths (Dr George Kinnear, Mathematics)**

Dr George Kinnear summarised the use of the online assessment software, STACK. Created by Professor Chris Sangwin, STACK is one of the methods used for assessment in the School of Mathematics.

- Some key benefits to using STACK are the input validation feature, it gives clear and robust grading and it can provide tailored feedback to students.
- There are currently 2000 questions in place and the School of Mathematics currently estimate that 6000 hours of human marking have been saved. The Open University uses STACK to deliver a million questions each year.
- The plan is to roll STACK out to other courses within the School of Mathematics and could ultimately be rolled out for online exams and not just those on campus.

## Open Discussion

### **Commonalities across Schools/Subject Area**

- It was a concern that students were a bit constrained with the current software limitations of online assessment tools within the University, i.e. not being able to draw. There is movement in this area with the piloting of attaching images to exam papers. Is there a technical solution? The Question Mark Perception tool seems a bit outdated.
- It would be good to have a small number of standard online examination patterns agreed to by all Schools so that Schools can essentially hand over the content to a team facilitated centrally and the actual logistics of setting up the exam are left to them; much the same as the current on campus examinations process. This would make the whole process slicker and take away the burdens from Schools. Demystifying the rigid assessment practices across the University is essential in achieving this.
- Peer-to-Peer marking was recommended for some exams.
- Equity for online learning is an issue that needs considered. The issues surrounding different time zones when scheduling exams or personal tutoring is still an important factor and will only become more important at scale.
- Some feel that as an Institution we are in danger of going overboard when it comes to the issue of plagiarism. Should there be an Honour Code introduced or an Academic Citizen course? This could open up the whole way we look at assessment. At induction, CMVM give students examples of previous work and ask them to mark it, then show them how it is actually marked. It sets students expectations on what the standard required is, it shows them how to properly reference and how to spot plagiarism.
- The implementation of OnTask, a service that delivers timely, personalised and actionable student feedback for courses, is currently being piloted in the School of Mathematics and is planned to be used for the first MicroMasters within the Business School. If successful it is hoped this would be rolled out to all Schools

### Challenges and Concerns

- The use and sharing of learning analytics. For bigger classes it is deemed almost essential to include some sort of learning analytics. This topic is a little controversial concerning how the data is collected and how it could be shared. There is also the question surrounding the validity of the analytics, how useful is the data collected?
- How do we automate and streamline processes as much as we can but without losing the personal touch with students. As courses are scaled it becomes almost impossible to stay on top of how each student is progressing.
- Setting students expectations early is hugely important. Be clear from the offset what is expected in exams, what the pacing expectations should be etc...
- It was a concern that the University simply does not have the tools in place to implement any serious change in online learning at this point in time. If they are serious about scaling up then we need the resources to help. As it stands, with online programmes, there are work arounds required for almost everything that involves University systems.
- It is getting harder and harder to get markers across the University. Last year the use of STACK in Mathematics saved 35 person days in total to mark over 3 days across multiple markers. How do other Universities cope with this, can we learn from other institutions?

### Next Steps/Actions

- The concept of centralising online assessments is something that continues to be raised through various committees. Perhaps it would be an idea to set up a more focussed group to discuss how best to approach this if we want to initiate change. (ACTION TI)
- The implementation of OnTask and its use as a mentoring and development tool will go a long way to freeing up staff time in the long run. The pilot is currently ongoing, Stuart Nicol is happy to report back to the group upon the completion of this pilot and advise on the next steps for implementing a successful rollout across schools. (ACTION SN)
- It was thought that holding a series of “Lunchtime Talks” for staff related to the topics discussed at this workshop would be a great way of helping to open up and facilitate further discussions. Claire Vallance and Heather Tracey would be happy to take on the organisation of this. (ACTION CV/HT)

## Workshop Attendees

Name	Position	Unit
Teresa Ironside	Head of Online Learning Development and Bayes Director of Education	College of Science and Engineering / Bayes Centre
Fraser Pullar	Online Learning Programmes Manager	College of Science and Engineering / Bayes Centre
Cat Andrade	Online Learning Programmes Coordinator	College of Science and Engineering / Bayes Centre
Maree Hardie	Online Learning Programme Administrator – DSTI	College of Science and Engineering / Bayes Centre
Adam Carter	DSTI Programme Director and Course Organiser	Edinburgh Parallel Computing Centre (EPCC), CSE
David Henty	Course Organiser	Edinburgh Parallel Computing Centre (EPCC), CSE
Bob Fisher	Course Organiser	School of Informatics, CSE
Stuart Anderson	Director of Teaching	School of Informatics, CSE
Paul Anderson	Course Organiser	School of Informatics, CSE
Alex Burford	Learning Technologist	School of Informatics, CSE
Simon Shackley	Programme Director for MSc in Carbon Management	School of Geosciences, CSE
Meredith Corey	Learning Technologist	School of Geosciences, CSE
Susan Orr	Head of Student Services	School of Geosciences, CSE
George Kinnear	Lecturer in Technology Enhanced Mathematics Education	School of Mathematics, CSE
Mine Cetinkaya-Rundel	Senior Lecturer	School of Mathematics, CSE
James Hopgood	Senior Lecturer	School of Engineering, CSE
Claire Vallance	Head of Academic Affairs	College of Science and Engineering
Heather Tracey	Deputy Head of Academic Affairs	College of Science and Engineering
Charis Alexakis	Course Organiser	Clinical Studies, CMVM
Rose Geddes	Programme Coordinator, Master of Public Health	Usher Institute, CMVM
Michelle Evans	Programme Manager, MSc in Clinical Trials	Usher Institute, CMVM
Stuart Nicol	Head of Educational Design and Engagement	Information Services Learning, Teaching and Web