

## Westfield Fund for Enhancing the Student Experience 2013-14

By Students, for Students, with Students: Developing learning resources in the disciplines

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### Summary

The Students as Producers initiative was a University wide project conducted between 2013-2014 at Queen Mary University of London. Our conclusion is that students find the challenge and thinking processes involved in creating a learning (or teaching) resource at least as valuable as the 'product' itself. We propose the idea of students creating resources as part of their assessed studies and that the best examples could be further developed by a 'QProducers' team which would be made up of the student(s), the academic and an Instructional Designer. This would have some synergies with the existing E-Learning Assistant scheme.

### 1. Background and aims

This project has tapped into current thinking about collaborative relationships in higher education, in particular a shift away from service delivery and student-as-consumer models towards one where students, academics and others who support the learning process are co-producers of knowledge (McCulloch, 2009) and where students are seen as active participants in their higher education (see Healy, 2014 for recent digest of HE initiatives). Within QMUL's own strategic plan, there is recognition of students as co-producers:

Design, development and delivery will be informed by input from our students, whom we value as co-developers of new approaches in teaching and learning.  
(QMUL 2014 p10)

The project has made a direct contribution to realising this institutional commitment and to understanding how it could be developed and sustained.

The project's broad aim was:

*To develop ways of co-producing high quality, targeted and imaginative learning resources that would enhance the student learning experience at Queen Mary, and support the University's wider Graduate Attributes agenda by developing employability within the curriculum, and contribute to improved student retention and success. The project will focus especially on developing learning resources in large and core modules and on embedding these in or via QMPlus.*

As well as drawing on good practice being developed elsewhere within the sector (e.g. Bovill, 2013, Maguire et al 2008), we aimed to look at the benefits the project offered academics and students at Queen Mary. We made a connection to an earlier project to develop research-based learning within disciplines at Queen Mary, seeing similarities with that work in terms of student agency, the development of effective communication to particular audiences, and the exercise of judgements about appropriateness and quality (see: <http://bit.ly/thinkingwriting>).

## 2. Ways of working

The project was run by the project co-ordinator (Tim Morgan) who worked 2 days a week for one year. Below we summarise the approaches taken within the project:

### 2.1 Initiating projects through academics

We contacted academics at various points throughout the year to enlist their participation. Our approaches were directly to individuals and through School and Deans for Taught Programmes meetings. We also made use of the E-Learning newsletter and E-Bulletin.

We asked academics to identify areas of specific challenge in their students' learning: for example 'troublesome/threshold' disciplinary concepts (e.g. representation), scientific procedures (e.g. dilution), presentational conventions (e.g. graphic communication of data). We also asked them to identify students who could contribute to the production of learning resources (e.g. who had grasped the challenging area, could articulate the difficulties, had creative, technical, communication skills) and to recruit them to the project. Academics approached students in a range of ways: by directly targeted invitation to one or two individuals, through an open invitation to a whole class via a forum post and through the academic and/or Project Co-ordinator 'pitching' the idea directly to students during the class. Examples of projects initiated through academics included:

- For ECS402U (Professional and Research Themes) - in this first year module students work in groups to create a short video explaining a scientific or technical idea from the EECs disciplines. Groups who had created the most compelling video assignments were invited to create a further video that gave the student perspective on 'how to successfully create a short assessed video'. This resulted in 2 short video resources that are now used on the module.
- ECS510U (Algorithms and Data Structures in an Object-Oriented Framework) - the conversion of Dr Matthew Huntbach's HTML formatted course notes into a Moodle Book and a searchable Moodle Glossary. This work was proposed and carried out by two of Dr Huntbach's students in response to a forum post posted by the academic.

## **2.2 Initiating projects collaboratively with academics and students**

In the above cases the academic tended to have pre-identified the learning need based on their own perceptions of student difficulty. However we also had instances where students and academics worked collaboratively to identify needs and possible resources. For example:

- In the School of Physics and Astronomy, a focus group was held by Dr Theo Kreouzis in which students approaching the end of their first year studies thought through areas in which they may have benefitted from more support. This resulted in a student-produced glossary created in Moodle (QMPlus) over the summer.
- In the School of Engineering and Material Sciences, a call for Students as Producers over the summer led to the partnership of a first and second year student who collaborated on an interactive PowerPoint, that aimed to help bridge the transition between the first year Dynamics module (DEN4108) and the more complex material introduced in the second year Dynamics module (DEN5108). This project was actively supported by Dr Henri Huijberts who acted as subject expert.

## **2.3 Initiating projects directly with students.**

We also experimented with ways of directly engaging students with the project and met with varying degrees of success. For example:

- A Student Union suggestion at the start of semester 2 of a subject society competition to produce the best resource, generated no interest
- Meetings with PASS mentor representatives, coming in the middle of semester 2, generated interest but no projects
- A stall held twice in Library Square during the exam period generated 26 expressions of interest in developing resources over the summer. Students were asked to fill in a form to capture initial ideas and provide a basis for follow-up:
  - Which module will the resource relate to
  - What needs will the student's project aim to address?
  - What students would this target?
  - What format?

This approach translated into 3 projects starting, and 2 being completed:

- For ESH102 (Reading Theory and Interpretation), student Scott Roberts aimed to demystify the Barthes text, 'Death of the Author' through a line by line commentary. Following feedback from Dr Molly McDonald (who felt that the commentary approach might lead to spoonfeeding), Scott produced a series of questions in a text document that prompt the reader to reflect and draw their own conclusions.

- Students, Kaoutar Hannach (undergraduate) and Aisha Hassen (postgraduate) from the School of Engineering and Materials Science wanted to create a resource that highlighted the relevance of their studies to real world applications. This resulted in a video where a Queen Mary graduate, Jamila Joseph, who now works as a Material Scientist talks about her role and how her studies supported her in this.

#### **2.4 Working with students once recruited**

Once students had expressed an interest in taking part and had formulated an initial idea, TM met with them individually or in groups to agree in more detail the work they would undertake, what support (e.g. equipment) they might need, the timescale and the payment. This meeting and subsequent contact were recorded on a project tracking form. Persistence was often required to keep students on track, and although a good percentage of started projects were completed, there was also significant fall-off.

We made a conscious decision not to prescribe how students should approach their project or to pre-empt the most appropriate format. We worked with the assumption that students, who often spend significant amounts of time on screen-based activities, might be able to propose alternative ways of approaching learning and teaching. By the end of the project we questioned this assumption however (see 4.2).

Perhaps unsurprisingly students rarely requested technical support; however there was a need to access equipment, particularly video cameras.

#### **2.5 Checking the resources**

Before a resource could be considered complete it was checked by the academic associated with the target module and sometimes sent back for amendments. Academics were involved in this process to lesser or greater degrees, but we noted that greater involvement was likely to mean that resources were completed and were stronger (as in the SEMS and SED examples above). Note, however, that in the case of the Barthes resource, the structure of the target module means there is a question mark over whether the resource will be made available to this year's students.

A weakness in the direct approach to students at the start of the summer period was that the academics students nominated were not necessarily engaged with the idea or available to provide feedback on drafts.

#### **2.6 Incentives to students**

Payments: A total of £3,498 was spent and amounts paid to students ranged from £40 - £300, either in Amazon vouchers (smaller amounts) or through payroll. Students were

offered the incentive of a £10 Amazon voucher to participate in a module focus group, the aim of which was to generate actual projects.

Certificates of Participation: All students were offered a certificate acknowledging their work in producing a learning resource, and 14 students took up the offer.

## 2.7 Dissemination

Opportunities for dissemination contributed to the progress of the project. Internally, we disseminated the work through:

- The Learning Development website: <http://bit.ly/studentproducers>
- Reports at DTPAGs (HSS and S&E) and SMD Student Support Board
- An Exchange of Practice Forum (February 4th 2014, attended by c.15 students and staff)
- Open invitation lunchtime meeting to review project, November 4th 2014 - attended by c.15 students and staff
- Poster presentation at the QMUL Teaching and Learning day, 21st January 2015.

We also disseminated the project externally at:

- **London Metropolitan University;** workshop delivered to staff and students at the Get Ahead Conference - organised and run by students, March 4, 2014 (TM and Julian Ingle) <http://bit.ly/londonmetworkshop>
- **M25 Learning Technology Group;** themed meeting on Students as Producers, LSE, March 26, 2014 (Julian Ingle)
- **Humboldt University of Berlin;** 2 workshops delivered, one to staff and students in the English language department and the second to Economics. The visit was funded through the Erasmus Training Programme, May 22 - 28, 2014. Presentation link:<http://bit.ly/humboldtlink> Workshop video link: <http://bit.ly/humboldtworkshop>

In addition, to support the work conceptually, we ran a monthly Reading Forum within Learning Development.

## 2.8 Evaluation methods

During the life of the project, in face to face conversation and through email, we have asked students and academics about their Students as Producers experience. At the end of the project, we asked all students to respond to a standard set of 3 questions:

- What need did your project hope to address?
- What resource(s) were created and do you think they address this need?
- What skills do you think you have gained from taking part and how might this help others?

Academics' feedback has been recorded through reflective videos and the end of project review meeting (audio recording).

What we lack is feedback from the student producers' peers. We don't yet know if they will consider the work of students to be credible and in most cases the resources are only now being made available on QMPlus and elsewhere. Since many of the resources are revision aids, their impact may not be felt until towards the end of the academic year. Impact might be gauged for some resources via YouTube views or Moodle hits. Asking students via the student module feedback form was an approach used effectively by Prof Paul Curzon to gauge the response to his Big Brother video booth idea on CS401U - Procedural Programming.

### 3. Summary of outcomes

#### 3.1 Student work

There were 28 'mini-projects' initiated over the course of the funding, including those which were started but not completed (8) and those which developed into other kinds of work (3). Of the completed projects,

- 10 took place during semesters 1 and 2; 10 took place after the end of the academic year (ie during the summer).
- 10 were in Science and Engineering (1 of which was a Foundation Programme project); 3 were in Humanities and Social Sciences; 7 were in Medicine and Dentistry
- All of the projects included UG students; however there were 2 examples where PG students made up part of the team. Of the 34 students who participated, 10 were female, 24 were male. 8 students were international (approximately a quarter); the remainder were home students. 5 of the participating students were from low socio-economic groups (NS-SEC 4,5, 6, 7), 14 were from other NS-SEC codes and for 8 students the socio-economic group is not known.
- 8 of the completed resources were in the form of a short film which included screencasts and animations; 4 resources were created in Microsoft office (PowerPoints and PDFs); 1 wiki used Evernote (School of Medicine and Dentistry); a geocaching trail was set up using the geocaching.org website (School of Geography). We had two Moodle-based projects: a searchable glossary (School of Physics and Astronomy) and a Moodle Book and searchable glossary (School of Electronic Engineering and Computer Science).
- From a total of 4 module focus groups, 2 resources were created.
- One group of medical students focusing on Leadership and Management in Medicine and created a student society which currently has over 40 active members and co-created a SSC with the module academic which they are now handing onto another group of students who they will mentor.

### 3.2 Tools for future work

In order to give future student producers and their teachers an idea of the range of ways in which they might produce a learning resource, we are developing our project webpage which will showcase a number of options and gives examples. These materials will be trialled in early 2015 by SLLF students attending a 6 week workshop course (run by TM) prior to going on teaching placements in Semester 2. The resources they develop in the workshops will be used in their teaching practice.

## 4. Evaluation

### 4.1 Challenges of the project

We identified a number of barriers to participating in and completing proposed learning resources:

- The academic was engaged by the idea of the project and identified a target area for a learning resource, but this **didn't catch on with students**. A better approach appeared to be for students and staff to arrive collaboratively at an idea for a resource; however the following challenges remained:
- **Timing**. Feedback from students indicated that at the beginning of the academic year they were too busy settling in to participate and in semester 2 they didn't want to do anything related to semester 1 as they felt they needed to focus on new material. During the revision period, they also felt they needed to put all their effort into revising. The best times seemed to be during the middle of semester 1, the middle of semester 2 and during the summer when students were looking for summer projects that would support their studies, generate cash and enhance their CV.
- Some students who did agree to take on a learning resource project **overcommitted** and were either unable to finish on time and/or delivered less than they initially hoped they would.
- Partly this was due to **competing priorities**. With the exception of the SMD Self Selected Component (SSC), none of the work that the students produced counted towards an assessment or was integral to the design of a module. Although the proposed learning resource was generally related directly to the students' area of study, they often felt overwhelmed by the amount of coursework they already had to do for assessment and so could not prioritise making the resource.
- **Quality of resources**. When students initially proposed their projects, they also nominated a relevant academic to review their work. As we have already seen, academics play a valuable role in this evaluation process. In the examples where academic didn't engage, there were likely to be issues around the quality and accuracy of these students' work.

### 4.2 Benefits to students of participating

Key benefits participating students reported were:

- **Enhanced subject understanding (through communication)** - the process of creating a learning resource (thinking about the needs of the learner, how to communicate well and elicit understanding) had galvanised *their understanding* of that particular subject area. Generally speaking, students were creating resources *after* learning the material, so the work was a form of revision for them.
- **Enhanced communication skills.** For example: Dr Dave Horne's geocaching student reported: 'We gained an understanding of public speaking... we needed to explain this completely alien concept to fifty first year students'.
- **Enhanced technical skills.** There are a few points to note here:
  - although training was offered very few students requested or required it; they appeared to develop their skills through the process of making the resource and through feedback (from the academic and TM).
  - the practice of generating content and uploading it to the web, appeared to compliment how many students spend non-study time in participating in user content driven social media networks
  - nonetheless, we felt that students could be quite limited in the options they would draw on in creating a resource, often defaulting to what they associated with learning resources – PowerPoints, PDFs and video. For this reason we are creating examples of potential approaches to create an awareness of alternatives.
- **An addition to their CV**
- For some students, particularly international students, receiving a **certificate of participation** was also motivational.
- **Opportunity to help others.** Joanna and Ben were responsible for converting Dr Matthew Huntbach's notes into a Moodle Glossary and Moodle Book (previously mentioned). As PASS mentors they regularly supported students in earlier years and they cited the desire to help others as a contributing factor for participating in the project. Feedback from the students who proposed and ran the geocaching activity for Dave Horne's first year Geography field trip expressed their enthusiasm for the way other students engaged with their idea:

'We ended up seeing students running through the forest and really enjoying themselves which is the first time I've ever seen anyone get so excited about navigation.' (<http://bit.ly/fieldtripcache> ).

#### **4.3 Impact on the wider student cohort's learning and success**

As noted above, the impact of most resources is not clear since they were generally created after the module to which they referred had taken place and therefore would tend not be used immediately. An exception is the case of the ECS401U - Procedural Programming (first year) 'Big Brother video booth'. The idea here was to encourage students to learn from each other, sharing 'Aha' moments when they occurred, by capturing them in a video booth set up in the programming labs. We were able to see that



the student-produced videos received little attention from the rest of the cohort. Factors may have been the time delay (1 week) between making the video and its uploading to QMPlus and 'competition' from the high quality resources produced by the lecturer himself. The student-produced videos are, however, being made available again to this year's students.

A spin-off project from this work was a series of revision videos created by Dr Matthew Huntbach that focused on exam preparation and example questions. These were available via the module VLE page, promoted through a forum post, and were available for late summer resits. Although not directly comparable to student generated resources, YouTube statistics tell us that they were accessed but not by whom.

Most resources are only being made available to students this academic year, 2014-15. Our sense is that an endorsement from the module organiser will be paramount in giving them academic weight.

Not all resources were judged by the academic to be of potential value to the wider cohort, though this did not in itself negate the value of the activity. For example: the resource produced by Dr Fuad Shareef's SEFP students was judged by him to have considerable value for the student-producers in consolidating their understanding of calculus, developing their technological and teaching skills as well as their ability to work in a team. However he felt that the eventual resources lacked the depth of subject knowledge when compared to professional solutions by organisations such as the Open University.

#### **4.4 Impact on the academics' own teaching**

The academics we worked with seemed passionate about the process of learning and open to new ideas; engaging with the project appeared to encourage reflection on their own teaching practice. For example:

- Dr Fuad Shareef found partnership with his student producers rewarding and challenging in equal measures. As he helped them with calculus questions, he had to keep catching himself from not dictating how they might best present this.
- In Dr Dave Horne's case the students introduced a new way of learning about navigation and observing and recording geographic information. Prior to the geocaching work, he had always approached these skills using traditional paper based maps and a compass.

The most accomplished projects appeared to be ones in which students were in active partnership with an academic playing a role as subject expert and mentor. In addition to the examples from Physics and Engineering given above (2.2):

- Prof Paul Curzon engaged student writers to develop content for 'A Little Bit of Computer Science for Fun', a website for primary aged children. Students applied

for this summer work by writing a short piece and 2 were selected to work together. They have been in regular correspondence with Paul throughout the summer and have received feedback and direction from him.

#### **4.5 Sustainability of the project**

The project has been coordinated over a 12 month period by one person working 0.2FTE. £3,498 has been awarded directly to students for project payments and to cover student expenses such as the £440 to enable two second year Geography students (match funded with the Geography department) to spend a week in the Cairngorms running the Geocaching project. In his evaluation, Dr Horne recognised that the geocaching activity added to the overall success of the first year geography field trip, as well as having the unforeseen benefit of having second year students to act as a 'bridge' between the first years and himself. He is seeking further funding for second year involvement in this year's trip.

Although money was not considered by all participating students to be a key motivation for their participation it was nevertheless critical in covering project expenses. In order to maintain the momentum a relatively modest amount of funding (total of c. £2k this year) would enable some of this work, notably Geography and Barts Leadership and Management in Medicine to continue. This would sustain some of our current projects but would be unlikely to enable us to finance anything new.

Influenced by conversations with TM and similar initiatives taking place at other universities, Mark Roberts, Lecturer in Biochemistry in the Medical School, has developed a Students as Producers Self Selected Component (SSC). This will enable two undergraduate students to develop medical related learning resources which will be assessed and graded by their lecturers and members of the QMUL E-learning Team. This approach combines the benefits of students consciously opting to take part in the project with the motivational benefits of their work being assessed and the results counting towards their final grade.

## **5. Conclusions and Recommendations**

### **5.1 Is the journey the destination?**

The project looked at how students can participate in the process of learning and teaching in a more active and dynamic way. It questioned the student as consumer model and instead proposed ways in which students could reflect on the ways in which they learn as well as what they are learning, and enabled them to develop resources that support their own learning and be of value to their peers and subsequent cohorts. However the number of students participating was relatively small and completion of resources often required chasing. A key barrier for staff and students was that Students as Producers represented additional non assessed work and even if this pilot was extended it is unclear whether there would be a huge increase in participation.

When evaluating the key beneficiaries of this approach it became clear from academic and student feedback that the people who benefited the most were the student producers themselves. At the beginning of the project we stated the benefits to the participating students to be:

- a financial reward
- an opportunity to learn new skills
- a certificate of achievement
- experience to add to their CV

However, in addition to this, students who engaged with the project reported that:

- if in a team they developed their team working skills
- they gained greater understanding of their subject area
- where it took place, collaborating with academic was of enormous value.

Could this mean that *the journey is the destination?* i.e. that the challenge and the thinking processes involved in creating a learning (or teaching) resource is at least as valuable as the 'product' itself? If this is the case then how could we offer more students the opportunity to create learning resources without overcommitting the academic or diluting the quality of the output?

To increase participation and benefits dramatically, the idea of students as producers would need to become part of module design and an element of assessed work. Our proposal has similarities with the approach used in ECS402U Professional and Research Themes. Part of the coursework is a short article written for potential publication in one of EECS's three outreach magazines (ee4fn, cs4fn and Audio!); the students are supported to consider the readership of these magazines and the kinds of feature that work successfully. The best student work goes forward for editorial scrutiny, students are consulted over changes, and a number of pieces are eventually published:

[http://www.cs4fn.org/qmulstudents/.](http://www.cs4fn.org/qmulstudents/)

A similar module-embedded approach to learning resources would enable a whole class to consider the process of 'knowledge transfer' from both a teaching and a learning perspective and would make much more likely a flow of enthusiastic and motivated students to go on and develop their resources more fully. It would eliminate the time consuming need to recruit students through competitions, student societies, newsletters etc..

QMUL already offers a number of programmes that enable students to use knowledge gained specifically from their studies and apply it in new contexts; examples are QConsult and QResearchers (both administered by Careers and Enterprise). 'Students as

Producers' might follow a similar model, and be relaunched as QProducers. Under QProducers, students and academics could bid for funding and support to develop/co-develop innovative approaches and/or quality learning resources. We would propose that QProducers includes an Instructional Designer whose role would be to support teams to produce high quality and effective resources, technically and pedagogically.

In sum, benefits of the QProducers model include:

- high-quality learning resources created/co-created by students and endorsed by academics
- academics are not flooded by additional work rather able to commit a small amount of time in an advisory capacity
- as part of a specialist team and working with an Instructional Designer, students would have a greater opportunity to deepen their subject knowledge, learn new skills and have something of consequence to add to their CV
- Increased participation and greater impact across the University.

The QProducers model could also be successful using the approach used by Theo Kreutzis (SPA) and Henri Huijberts (SEMS) this year. Holding a focus group/meeting with students late in the academic year to identify resources that could be developed led to successful partnerships over the summer. Resources for late-summer resits could successfully be produced this way, by QProducer teams. This model would have some synergy with CAPD's E-learning Assistant Scheme under which academics are able to bid for project money to develop resources and where possible are matched with students from their own faculty. The project coordinator Brett Lucas' findings mirror our own in that the most successful results come from academics and students from the same discipline working together.

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