**Project Report**

**Museums & Public Engagement, University College London**

***Object-Based Learning for Medical Training***

**Background**

The aims of this project were to produce new resources highlighting the professional skills of pathologists; engage undergraduates and postgraduates directly by conducting an evaluation of their perspectives on the use of pathology collections in education; provide valuable data for use by a range of institutions in their advocacy around the use of pathology specimens in higher education and, finally, support networks of pathologists by providing them with new resources and data concerning professional skills and student perspectives on education in pathology.

Having initially requested funding for the creation of two resources, running focus groups and a student survey, and disseminating our resources and findings, the Pathological Society kindly agreed to support the focus groups and the dissemination via web development. Fortunately, our team has managed to secure support from other sources to complete the greater part of our original project plan, but this report will focus on the aspects which the Educational Grant specifically enabled.

**Activities**

The Curator for Teaching & Research Collections, Subhadra Das, arranged to undertake focus groups with medical students through her contact with two consultants at the Royal Free Hospital: Dr Malcolm Galloway and Dr Alan Bates. Both Galloway and Bates are keen advocates of the use of pathology specimens for teaching medical students – Galloway being a specialist in neuropathology and Bates in anatomical pathology. The focus groups were audio recorded, ready for analysis, and Das also commissioned a film to capture these group sessions visually and to provide an accessible record of student feedback on their learning using specimens. In addition, 46 questionnaires were collected from medical students (ranging from 3rd year undergraduates to 6th year postgraduates) just after they had experienced a pathology specimen-focused learning experience and this data is providing both quantitative and qualitative results. Whilst the film and the questionnaire survey were not funded under the Educational Grant, they would not have taken place without the support of the Pathological Society for the planning and delivery of the focus groups.

**Achievement of Project Aims**

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| Project Aim | Project Outcome |
| Produce new resources highlighting the professional skills of pathologists | The Educational Grant has facilitated the capturing of student feedback on specimen-based learning, whilst other funders have supported resources that more directly highlight the professional skills of pathologists.  A 3-minute video of students talking about their experiences of working with specimens will be uploaded to the Museums website. |
| Engage undergraduates and postgraduates directly by conducting an evaluation of their perspectives on the use of pathology collections in education | The focus group sessions and the student survey have directly engaged students with the debate around the use of specimens in teaching. Initial findings suggest a very positive response from students to this method of learning.  Interviews with students and teachers were audio recorded during this process. |
| Provide valuable data for use by a range of institutions in their advocacy around the use of pathology specimens in higher education | The data is currently being analysed, but when this is complete the results will be widely disseminated (for example, via our Museums & Collections website). This sample of questionnaires that report specifically on the use of pathology specimens in medical training will be used by the Teaching Fellow in Object Based Learning for advocacy in favour of supporting and rolling out this method within the Medical School. |
| Support networks of pathologists by providing them with new resources and data concerning professional skills and student perspectives on education in pathology | This is a longer-term aim of our project work, but the survey and focus group data will be disseminated within networks of pathologists and medical professionals who teach pathology, in order to support their education work in this area.  The outcomes of the wider project (some of which were funded by other bodies) will also deliver resources of direct relevance to the professional training of pathologists. |

**Initial Results**

Whilst the full findings of the focus group sessions and interviews with staff and students has not been fully analysed, early indications suggest that students and teachers recognise several key advantages to specimen-based teaching and learning.

1. Students named the following as positive aspects of specimen-based learning:

* + Visualisation of anatomy. Aids long-term memory. Visualisation of pathology. Encourages discussion.
  + Fun. Interactive. Informative.
  + Sticks in your memory better than simply reading. Interactive. Increases understanding.
  + Visualising pathology in the specimens was so useful to my understanding. Small group work better than a lecture as it involves yourself.
  + Helped me to understand and interpret histological slides and pots.
  + Good to see specimens to appreciate size and shape of real pathology.
  + Real-life example: you can see the size, colour, etc. 3D view. Useful to solidify pathological examples

2. Students cited observation, communication, and team-working skills as having been improved by the activity.

3. 34 out of 46 students either agreed (11) or strongly agreed (23) that using pathology specimens in their learning was more effective than listening to a lecture or a talk.

**Impact**

This project builds on a significant data set concerning object-based learning across a variety of academic disciplines at UCL. However, it provides a crucial insight into the particular benefits of specimen-based learning for students undergoing a medical training. Over the last ten years, the use of pathology specimens in teaching has not been widespread in medical schools – pathologists reporting that this approach was being squeezed out of the timetable in favour of other things. This project’s findings are a timely reminder of the huge value these irreplaceable collections can bring to the education of medics. So, the impact of this project in the short term is:

1. A data sample focused on the use of specimens in medical education (as opposed to other subject areas)
2. Data to use in advocacy in favour of the future conservation and use of pathology collections
3. Resources for use in the dissemination of these findings, with a view to attracting more teachers of medical students to specimen-based learning

In the longer term, this project helps start the work of:

1. Drawing attention to the skills of pathologists and the value of the work that they do
2. Supporting the work of pathologists by providing resources and tools for advocacy