



ZEISS Digital Classroom

Birkbeck University, UK

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Securing funding for new classroom equipment can often be a challenge, but Birkbeck University are a model example of how to overcome these issues. By introducing the concept of a Digital Classroom combined with a modern approach to learning and teaching, this gave the department a unique advantage over other funding applications for traditional student microscopes.

Birkbeck University is a world-class research and teaching institution and is London's only specialist provider of evening higher education. The Digital Classroom setup in Birkbeck's new geology lab is the largest installation of its kind in the UK, boasting 67 digitally connected Primotech microscopes. With around 240 face to face students and a growing number of international distance learning students, the department has taken a pioneering approach to teaching by not only creating a Digital Classroom environment, but also video recording all lectures and live streaming these online. The Digital Classroom investment project was led by Gerald Roberts, Professor of Earthquake Geology and Head of Department. Here he shares his experiences about their new digital approach to teaching and learning:

Funding

"I was keen to develop petrology teaching in our department. Teaching with traditional student microscopes is difficult and gaining funding for them is also challenging.

My feeling was that in order to develop a better learning experience and qualify for HEFCE (Higher Education Funding Council for England) funding, it is helpful to demonstrate that the department will provide something unique in its teaching of STEM subjects (Science, Technology, Engineering & Mathematics).



All geology departments have teaching microscopes, so bidding solely for petrological microscopes was not going to be enough to make the project unique. I wanted to provide more than just microscopes for our students as I believe they need to be taught using digital instructions from the lecturers, with the ability to capture their own imagery. The project became a much stronger proposal for HEFCE funding when the concept of 'Digital Classroom' was

developed. Furthermore, the hardware and software we planned alongside the microscopes allowed us to link in an electron microscope, digital hand-specimen visualizers, and digital lecture notes, alongside the images from the ZEISS teaching microscopes. Students can also access live or archived digital video footage of the classes on their computers, tablets and mobile phones.

The funding we secured from HEFCE was matched by Birkbeck. This covered everything we needed for the Digital Classroom setup; from the new lab facilities to all equipment and connectivity.”

Dynamic Learning & Teaching

“Since the installation of the Digital Classroom, we are seeing a much higher level of interaction between the students and lecturers. The staff value the technology because it makes their lives easier and more interesting with a higher level of intellectual conversation. It gives them more confidence as a lecturer, using the most advanced technology possible. The feedback we are getting from the students themselves is that they absolutely love the Digital Classroom!

One main difference is that students are now making their own archives of the digital images they are seeing during class, which they could not do before. This means that the staff are receiving fewer poorly-informed queries because the students now have access to better quality teaching materials and are working at a higher intellectual level. They are less likely to email us because they didn’t understand a certain topic in a lecture, which reduces our workload and improves their experience.

The Digital Classroom also makes it a lot easier for students to find minerals under the microscope more quickly than they used to. This is especially helpful for those who are unfamiliar with a microscope.”

University Ratings

“We are delighted to confirm that since the installation of the Digital Classroom, we have seen our departmental National Student Survey ranking increase from fourth in the UK to first in the UK, based on student satisfaction!



This rating will contribute to the newly-introduced Teaching Excellence Framework (TEF). TEF is a similar concept to OFSTED; each department and institution is graded on its teaching excellence. A linked incentive from the government is that if we are awarded the top grade we can increase our tuition fees in line with inflation. It is also envisaged that top grades will serve as a mark of prestige that should encourage students to apply to top-rated departments. The National Student Survey is one of four metrics that will feed into the TEF grading scheme. Since we are now ranked first for student satisfaction amongst geology departments in the UK, we are confident that this success will have a positive impact on our TEF grading.

The Digital Classroom also gives us the ability to attract the best calibre of academic staff, as it always delivers the “wow factor” when any prospective lecturers visit the department. This is particularly important to us because the higher the quality of staff and lecturers we have, the higher the Research Excellence Framework (REF) grade we hope to be awarded. This increases our likely level of HEFCE funding.”

Recommendation

“I can say that ZEISS helped us immensely with this project. I would absolutely recommend ZEISS because they offer high quality microscopes, excellent aftercare and a huge enthusiasm from their team. They took a genuine interest in our project, with the desire to learn from us and offer a bespoke solution. These factors combined to make the whole process a really fantastic experience for us and we thank ZEISS for their help.”



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