A learning analytics study – how do students use video recordings?
Moira Sarsfield and John Conway – Senior Learning Technologists, Faculty of Natural Sciences, Imperial College London

Background to the project
The aim of the study was to look at the use of lecture recordings in general, to discover ‘actionable insights’ on how to improve teaching and learning using this technology. We did not look at the performance of individual students.

The analysis covered 18 UG (year 1 and 2) modules across Maths, Chemistry, Physics and Life Sciences, for the academic year 2014-2015. We defined a module as a single block of teaching ending in an examination, and only included students who took the module and exam for the first time in 2014-15. Use of the recordings was measured by number of accesses and by minutes viewed.

Key research questions
• How much use is made of video recordings by students?
• Is the use of recordings different for different:
  – modules and degrees?
  – groups of students?
  – types of content?
• How does the use of recordings in a course vary over time?

Unexpected insights
If recordings are released late, they are accessed much less in total than those that are released immediately after the lecture.

Space in the timetable may be needed to allow students to consolidate learning from one lecture before the next.

Actionable insights
High-performing students:
• View recordings where the lecturer says it is required (e.g. a flipped lecture).
• View recordings early, right after the lecture rather than in the revision period.
• Maintain their application right through the course. They don’t slack off as term progresses.
• May or may not use the lecture recordings; likewise poorer students may or may not use them. Success is not directly correlated with lecture recording viewing.

Advice for staff
• Do not delay the release of recordings – delayed release results in lower usage.
• Give advice to students on the way you expect them to use lecture recordings.
• Consider how lectures are timetabled. Complex lecture content may require time for students to assimilate.
• If the pattern of use of recordings is not as expected, investigate why this is so, e.g. look at timing of lectures, content, pattern of assessment, etc.
• Check online which parts of each recording are being viewed most to find parts of the material that students find hard.

Future plans
• Investigate the reasons for the difference in use of lecture recordings in Life Sciences
• Investigate how students attaining different grades use the recordings
• Build on the lecture recording analysis, e.g. study the effect of changes in teaching methods, e.g. flipped classroom or TBL, extend the study to departments in other faculties
• Apply the methodology and processes more widely to investigate use of other learning materials, e.g. formative quizzes in Blackboard, PeerWise.