

E-lectures in Soil and Water Contamination course evaluation summary

Context and Intervention

The physical lectures in the third-year course Soil and Water Contamination (block 2, Geosciences, 2015-2016; 2016-2017) were replaced with e-lectures on MyMediasite. The contents of these lectures did not change, but they were enriched with on-site video introductions. What used to be a single lecture was split up into 3 e-lectures, each 30 to 40 minutes long. Instead of lectures, meetings were held for asking 'one-minute questions'.

(presumptive) Mechanism

The idea behind offering e-lectures was to allow students to study at their own pace and whenever they like. The expectation was that implementing e-lectures would improve the quality of the course, resulting in higher course evaluations, better learning experiences and better performance on the exams.

Results

MyMediasite statistics for the students who completed the course (N=51) show that they spent 7 hours on average reviewing e-lecture materials, and that they reviewed 75% of the available materials on average. Interviews with students who made little, some or extensive use of MyMediasite (N=7) revealed that most students only watched the e-lectures, that they found them easy to use and that they experienced few technical difficulties while viewing them. They appreciated the flexibility of being able to work at their own pace. They did report that the sound quality wasn't always optimal. While viewing the e-lectures, students frequently paused, rewound or watched at double speed. They did this, among other reasons, to rewatch difficult sections. E-lecture downsides experienced by students include that they require self-discipline and are impersonal. The Educate-it survey about the tool (N=46) showed that students felt the e-lectures had value and would help them pass the exam. They also felt better prepared for their lectures and understood their lectures better.

Standout results

- There is considerable variation in the students' viewing behaviour.
- As the course progressed, students started watching smaller and smaller sections of the E-lectures.
- Some students indicate that the e-lectures saved them time reading the textbook.
- When students didn't watch, this was usually due to personal reasons like being too busy (studying).
- The more time students spent watching e-lectures, the higher their course grade.
- 58% of students passed the course on the first try, whereas that percentage had been 73-85% in previous years.
- When students indicated that the e-lectures contributed to their preparations for the lectures their final grade for that course was higher ($r = .456$, $p = .015$). It is notable that the degree to which students indicated that the e-lectures contributed to their learning outcome is not significant related to their final grade for the course ($r = .325$, $p = .092$).

Important footnotes

- The number of interview participants was limited.
- Part of the data is based on self-reporting.
- The relatively low percentage of passing grades may also be (partially) explained by other changes to the course, including the weighting of exams and assignments.

Tweet (280 character limit): Replacing lectures with e-lectures allows students to study flexibly. Studies at GEO show that this can work well for disciplined students.

The course evaluation follows.