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## PTAS Project Report (for REGULAR PROJECT GRANTS)

**Project Title: QualRec: Qualitative exploration of staff and student engagement, experience and behaviour with lecture recording**

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**Project type:**

**A Research Project** (research focus on particular dimension of teaching, learning, assessment)

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**Principal Investigator:** Jill MacKay

**Schools/department:** R(D)SVS

**Team members (including Schools and Departments):** Sarah Chinnery<sup>‡</sup>, Brian Mather<sup>‡</sup>, Jessie Paterson<sup>‡</sup>, Kirsty Hughes<sup>‡</sup>, Eoghan Clarkson<sup>‡</sup>, Susan Rhind<sup>‡</sup>

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Project teams must submit a report within 4 months of the conclusion of their project.

Copies of dissemination material (eg journals/newsletter articles, conference papers, posters should be listed and attached (separate to the word count). The brief report will be published on the IAD web pages.

### Report (maximum 1500 words)

#### What did you do?

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The aims of this project were to investigate staff and student behaviours, experience and engagement in the context of lecture recording at the Royal (Dick) School of Veterinary Studies through completion of six objectives:

#### Objectives

1. Engage a subgroup of students in reflective blogging on their use of recorded lectures
2. Engage a subgroup of staff to reflect on lecture recording
3. Synthesise a mixed-methods methodology for capturing observational data on recorded lectures
4. Employ this methodology to analyse recorded lectures from the staff subgroup
5. Draw together findings from both the staff and student subprojects to improve understanding and guide implementation across the school
6. Explore themes emergent from longitudinal data recording in staff and student focus groups.

To assist with the project, a research assistant (SC) was hired to conduct data collection and analysis. SC is a recent graduate of the R(D)SVS with an interest in education, she participated in the Undergraduate Certificate in Veterinary Medical Education scheme and attained an Associate Fellowship of the Higher Education Academy. The majority of PTAS funding allowed for SC to



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develop her interest in education research while she continues working in practice, and she has been a very valuable addition to the team.

Ethical approval for the project was granted by the Human Ethics Review Committee at the R(D)SVS, Reference: HERC 111\_17

#### *Reflective Blogging (Objectives 1, 2, 6)*

Ten students expressed an interest in participating and were sent further information about the study including information on their ability to withdraw consent, how their data would be used, and the blog prompts which were:

- How have you used recorded lectures recently? (Have you watched them by yourself? With other people? Do you watch them the whole way through or skip to certain parts?)
- What do you like about the recorded lectures?
- What were your motivations for using lecture recordings in your studies?
- Have you experienced any problems either during a lecture being recorded or afterwards? What were they?
- How does it feel for you as a student when you are in a lecture that is being recorded, compared to a lecture that is not being recorded? Does it feel any different?

Four out of the ten students submitted the blogs and these students were sent a reminder every 4-6 weeks depending on how frequently they produced a blog, and all four students completed all four blogs. This resulted in 16 blogs from four students over the academic year 2017.

All staff who had previously recorded a lecture were initially invited to submit a blog. Staff were encouraged to produce longitudinal blogs if they had time, but were also informed that a single blog would be enough. Unfortunately only one staff member produced one blog.

Therefore, staff were invited to participate in semi-structured interviews which were audio recorded and then transcribed by SC verbatim. Three staff members (active lecturers within the BVM&S curriculum) participated.

#### *Lecture Engagement (Objectives 3 & 4)*

The PORTAAL tool<sup>1</sup> was used to explore engagement within lectures. The PORTAAL tool works like an ethogram<sup>2</sup> to objectively quantify behaviour in a scenario (see abbreviated version of tool in Table 1). We randomly selected 10 lectures within a Veterinary undergraduate course to pilot the use of PORTAAL. Staff and students in each lecture were contacted and given the opportunity to opt out, meaning the recording would not be watched for the purpose of exploring engagement. No participants opted out, possible given the aggregated nature of the data the PORTAAL tool would collect.



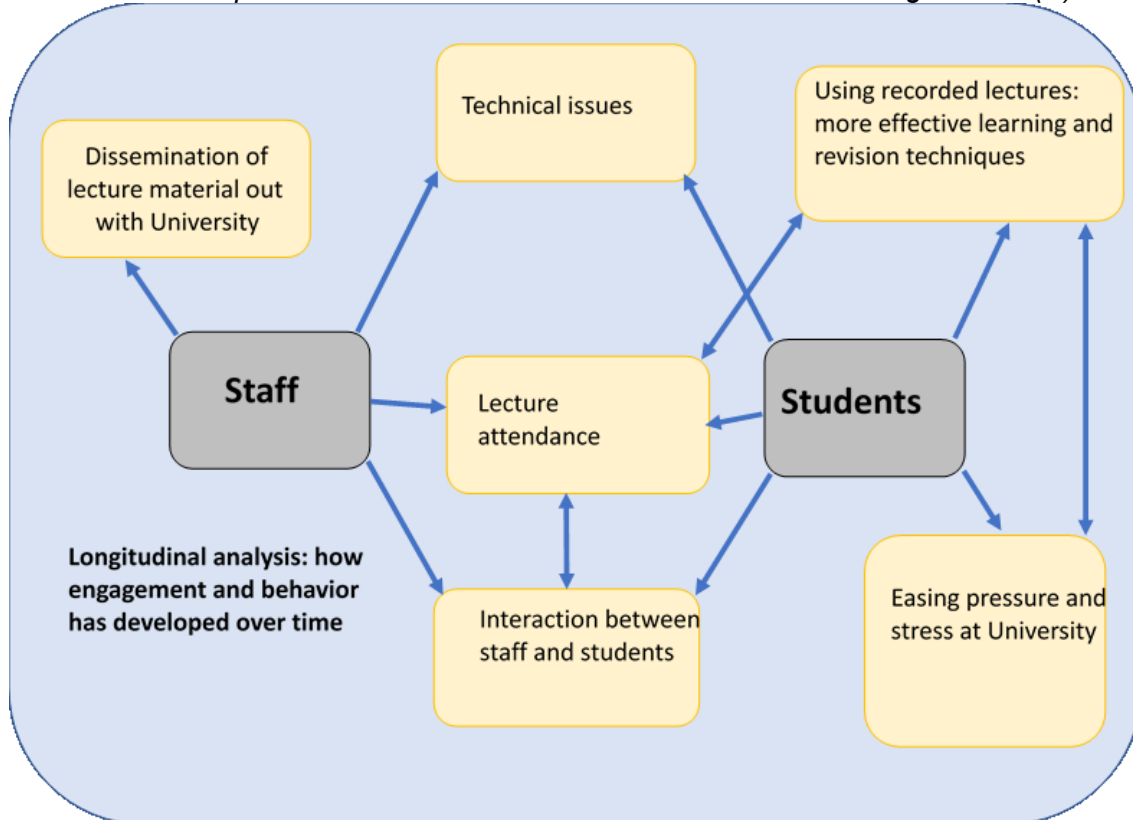
**Table 1: Abbreviated PORTAAL tool**

Dimension	Measure	Description
<b>Practice</b>		
	Frequent practice	Minutes any student has possibility of talking through content in class
	Alignment of practice and assessment	In-class practice questions at same cognitive skills level as course assessments (requires access to exams)
	Distributed practice	Percent of activities in which instructor reminds students to use prior knowledge
	Immediate feedback	Percent of activities in which instructor hears student logic and has an opportunity to respond
<b>Logic Development</b>		
	Opportunities to practice higher-order skills in class	Percent of activities that require students to use higher-order cognitive skills
	Prompt student to explain/defend their answers	Percent of activities in which students are reminded to use logic
	Allow students time to think before they discuss answers	Percent of activities in which students are explicitly given time to think alone before having to talk in groups or in front of class
	Students explain their answers to their peers	Percent of activities in which students work in small groups during student engagement
	Students solve problems without hints	Percent of activities in which answer is not hinted at between iterations of student engagement
	Students hear students describing their logic	Percent of activities in which students share their logic in front of whole class
	Logic behind correct answer explained	Percent of activities in which correct answer is explained
	Logic behind why incorrect or partially incorrect answers are explained	Percent of activities in which alternative answers are discussed during debrief
<b>Accountability</b>		
	Activities worth course points	Percent activities worth course points (may require a syllabus or other student data source)
	Activities involve small-group work, so more students have opportunity to participate	Percent activities in which students work in small groups
	Avoid volunteer bias by using cold call or random call	Percent activities in which cold or random call used
<b>Reducing Apprehension</b>		
	Give students practice participating by enforcing participation through cold/random call	Percent activities with random or cold calling used during student engagement or debrief
	Student confirmation: provide praise to whole class for their work	Percent debriefs and engagements in which class received explicit positive feedback and/or encouragement
	Student confirmation: do not belittle/insult student responses	Percent student responses that do not receive negative feedback
	Error framing: emphasise errors natural/instructional	Percent activities in which instructor reminds students that errors are nothing to be afraid of during introduction or student engagement periods
	Emphasise hard work over ability	Percent activities in which instructor explicitly praises student effort or improvement

### What did you find out?

The main themes identified in student blogs and staff interviews are summarised in Figure 1.

**Figure 1:** Thematic map of staff and student concerns with lecture recording at the R(D)SVS



The way in which students use recorded lectures was discussed in all the student blogs, whether this was as a study aid, managing absence, or managing work-life balance. The uses of recorded lectures to enhance revision techniques varied greatly and several studies have identified recorded lectures as a useful learning tool<sup>3</sup>. Generally, the students still preferred to attend lectures but to use the recordings to review difficult concepts or address a lack of understanding. Students commonly marked the time on their printed lecture notes to allow for quick reference within the recording.

*(I) found the most effective way to use this software if to mark on my lecture notes the area I need to relisten to again and go specifically to that section when reviewing the lecture'- R(D)SVS Undergraduate student 3, Blog 1 of 4*

This reflects findings elsewhere in the literature where higher lecture attendance and higher use of online lectures had positive effects on grades<sup>4,5</sup>, indicating that recorded lectures can be an effective and useful learning tool when used in this way. Also, students could focus on the lecture when in attendance, with the understanding that they can review that section.

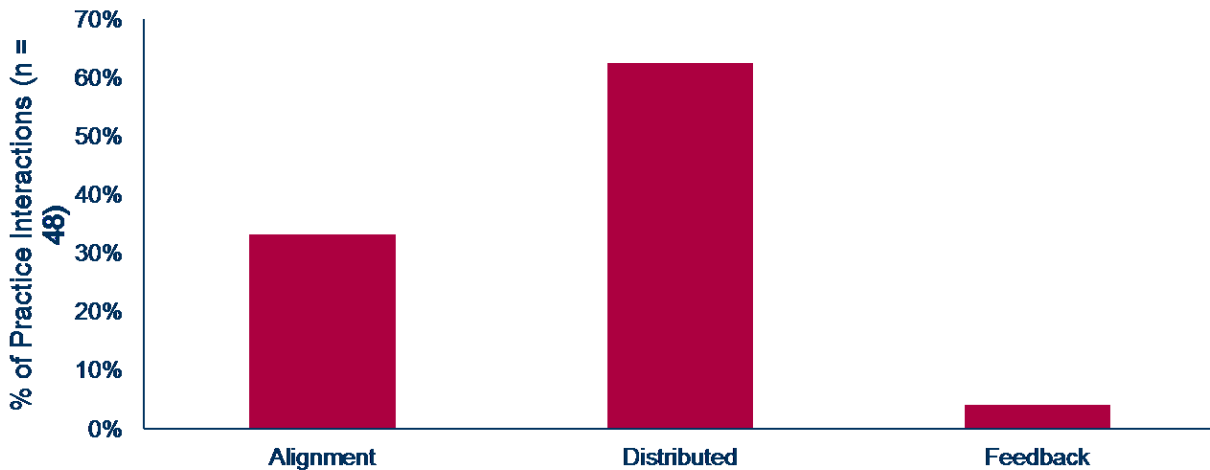



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*'I do not have to worry about noting down everything the lecturer is saying and can process the explanations easier' – R(D)SVS Undergraduate Student 2*

The PORTAAL tool aims to quantify how 'active' a lecture was, and this pilot study found that the particular veterinary science lectures we explored were not very active, with each lecture averaging approximately one 'interaction' (where the lecturer engaged with the students, other than delivering content) every four minutes. Over 40% of these interactions were about reminding students of alignment with practice and assessment, or referring students to previous lectures (**Figure 2**). Given these findings, there has been discussion within the R(D)SVS teaching team (see dissemination) about how teaching can incorporate recordings to support the content-heavy veterinary curriculum.

**Figure 2:** Type of 'practice' interactions recorded in 10 Veterinary Science lectures with the PORTAAL tool



Practice	
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Alignment of practice and assessment	In-class practice questions at same cognitive skills level as course assessments (requires access to exams)
Distributed practice	Activities in which instructor reminds students to use prior knowledge
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**How did you disseminate your findings?**

This project has been reported internally to the Academic User Group and the Engagement and Evaluation Group of the Lecture Recording Implementation Project, and to the Veterinary Medical Education Division's journal club (*Objective 5*).

The findings have also been presented as peer-reviewed short talks at two conferences so far, and currently a paper is being written up for publication in a peer-reviewed journal.



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- MacKay, J. R. D. (2018) **Did I Miss That? Student Experiences with Recorded Lectures**. QAA Scotland 15<sup>th</sup> Enhancement Theme Conference, Glasgow Caledonian University, Glasgow.
  - Chinnery, S., Hughes, K., & MacKay, J. R. D. (2018) **The Active Lecture? Exploring engagement in the veterinary lecture through the PORTAAL tool**. Vet Ed, Utrecht University, the Netherlands
  - Chinnery, S., Hughes, K., & MacKay, J. R. D. (2018) **What'd I Miss? A qualitative exploration of student experience, behaviour and engagement with recorded lectures**. Vet Ed, Utrecht University, the Netherlands

### **What have been the benefits to student learning?**

There have been a number of key outcomes from this project.

#### *Recognising student use changes with time*

While students within the vet school have had access to lecture recording prior to the central role out, it was still interesting to see a wide range of study methods and, importantly, changing study methods over time. We have disseminated within R(D)SVS and the Academic User Group that these strategies exist, but that students could require further guidance. We are looking to explore student study strategies in light of lecture recording in future work, with aims to provide guidance for the VetPALS system and PT systems.

#### *Attendance, Engagement and Lecture Recording*

We found that, in practice, the concerns about attendance and lecture recording were not borne out, and explored a new way of quantifying engagement. While this requires refinement, it may be a promising tool for reflection.

### **How could these benefits be extended to other parts of the university?**

Schools with particularly content-heavy curriculums could expect to see similar study strategies being used by their students, and so could make use of some of these recommendations. The use of the PORTAAL tool on recorded lectures, although informative, is not presently recommended without further adjustments, but could be a very useful tool to help lecturers reflect on their teaching.

#### References

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1. Eddy, S. L., Converse, M. & Wenderoth, M. P. PORTAAL: A classroom observation tool assessing evidence-based teaching practices for active learning in large science, technology, engineering, and mathematics classes. *CBE Life Sci. Educ.* **14**, 1–16 (2015).
  2. Martin, P. & Bateson, P. *Measuring Behaviour. An introductory guide*. (University Press, Cambridge, 1993).
  3. Danielson, J., Preast, V., Bender, H. & Hassall, L. Is the effectiveness of lecture capture related to teaching approach or content type? *Comput. Educ.* **72**, 121–131 (2014).
  4. Wieling, M. B. & Hofman, W. H. A. The impact of online video lecture recordings and automated



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5. feedback on student performance. *Comput. Educ.* (2010). doi:10.1016/j.compedu.2009.10.002  
Traphagan, T., Kucsera, J. V. & Kishi, K. Impact of class lecture webcasting on attendance and learning. *Educ. Technol. Res. Dev.* **58**, 19–37 (2010).



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**Financial statement (please delete as appropriate):**

This project has utilised the funding awarded to it by the PTAS adjudication committee and the Principal Investigator or School Administrator appropriate can provide financial statements showing the funding usage as and when required by the UoE Development Trusts who may require it for auditing purposes.

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