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SUPPORTING STUDENTS ENGAGEMENT AND ACHIEVEMENTS THROUGH ONLINE MICRO-LECTURES WITH EMBEDDED QUIZZES

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Advance HE

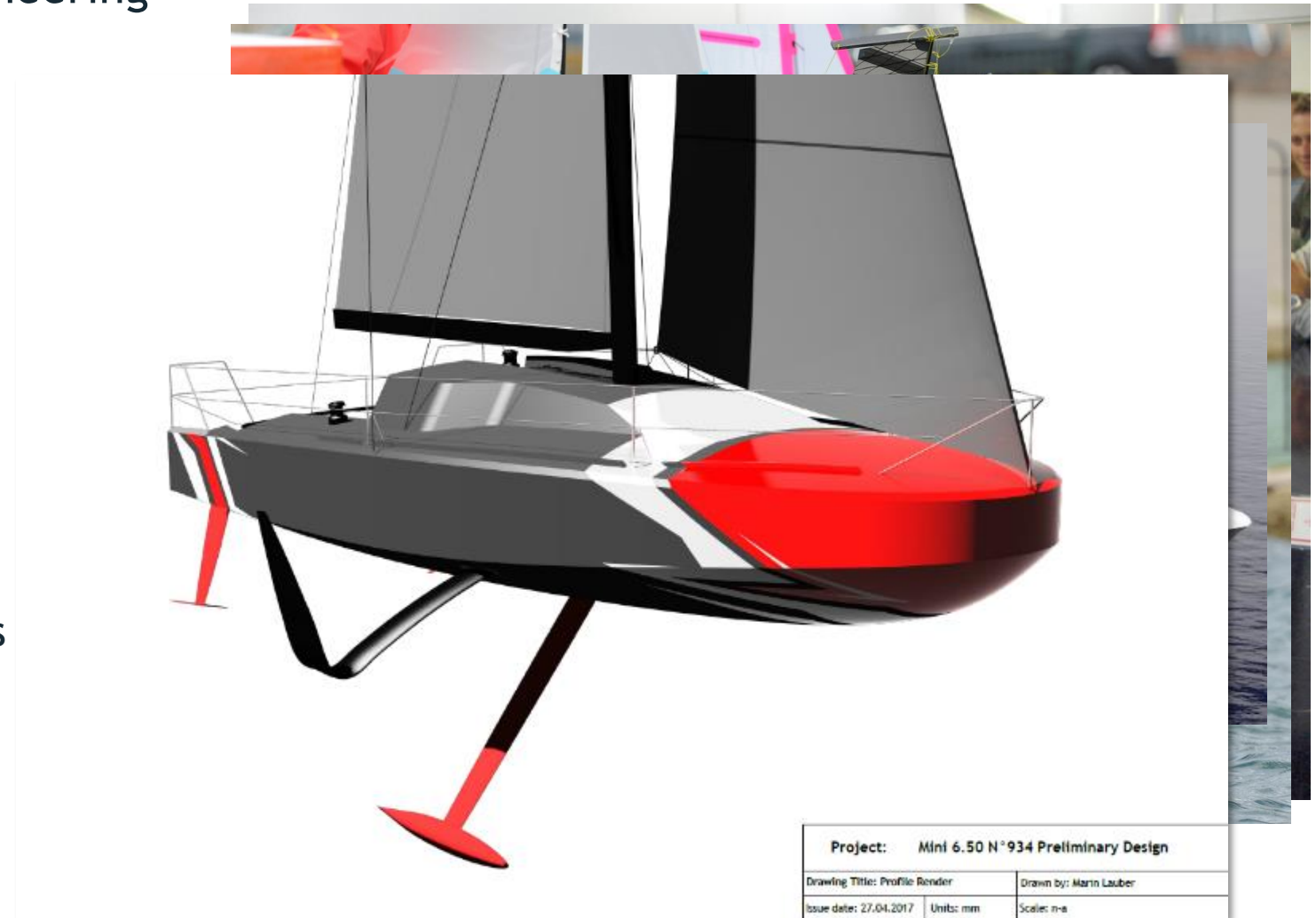
Teaching in the spotlight:
Learning from global communities
Birmingham - 5th July 2018

- Background
- Introduction
- Lecture Capture at Solent
- Micro-Lectures with Embedded Quizzes
 - Structure
 - Example
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 - Students' Perception
 - Viewing Patterns
- Conclusions
- Future Work
- *Acknowledgement: The support and SEED funding awarded by the Solent Learning and Teaching Institute (SLTI) is greatly appreciated, and made this investigation possible, together with Lucía Vazquez Bonome's help in conducting the questionnaires and focus groups..*



BACKGROUND

- Warsash School of Maritime Science and Engineering
- Yacht Engineering Department
- 3 Courses
 - BEng (Hons) Yacht and Powercraft Design
 - BEng (Hons) Yacht Design and Production
 - MSc Superyacht Design
- Extremely diverse cohorts:
 - 50/60% International Students
 - Highly theoretical vs Highly practical students
- Lecture Capture is therefore vital



- Promoting student engagement through technology enhanced learning
- Micro-Lectures
 - Short, sharp vodcasts covering the essential concepts
- Embedded Quizzes
 - Promote student engagement and a more active learning experience
 - But also provide feedback on student's understanding of particular concepts
- Action-Research Methodology
- Time-Line:
 - Spring 2017: Pilot study
 - Autumn 2017: Implementation on a 2 weeks short course
 - 2017/2018 Academic Year: Used weekly on a level 4 unit

LECTURE CAPTURE AT SOLENT

- Lecture Capture is a central part to the student experience
- New state-of-the-art learning and teaching buildings
- Panopto and microphones fitted in every room



MICRO-LECTURE WITH EMBEDDED QUIZZES

- Micro-Lecture Structure:
 - 3 to 5 minutes long
 - Roughly one quiz per minute to promote active engagement
 - The rest of the video cannot be watched without answering the quiz!
- Results can be monitored
 - Allows to reflect on previous class, and influence the forthcoming one

Overview

Share

Outputs

Quiz Results

Streams

Clips

Search

Quiz Results Summary

Section

Quiz

Quiz

Quiz

Quiz

Position

01:07

02:11

02:54

03:42

[Download](#)

Results

11/11 (100%)

11/11 (100%)

11/11 (100%)

4/10 (40%)

Contents

Discussion

Notes

Bookmarks

ML1 Basic Principles

0:05

Basics of Units

0:19

Basics of Units

0:23

In physics there are 7 fundamental units anything... 0:32

Mass (g)

0:46

Length (m)

0:50

☒ Quiz

1:07

Density, Relative Density and Specific Gravity

1:09

Density, Relative Density and Specific Gravity

1:13

Density, Relative Density and Specific Gravity

1:28

Density, Relative Density and Specific Gravity

1:42

☒ Quiz

2:11

Mass and Weight

2:12

Mass and Weight

2:15

Mass and Weight

2:35

☒ Quiz

2:55

Newton's Laws of Motion

2:56

Newton's Laws of Motion

3:01

Newton's Laws of Motion

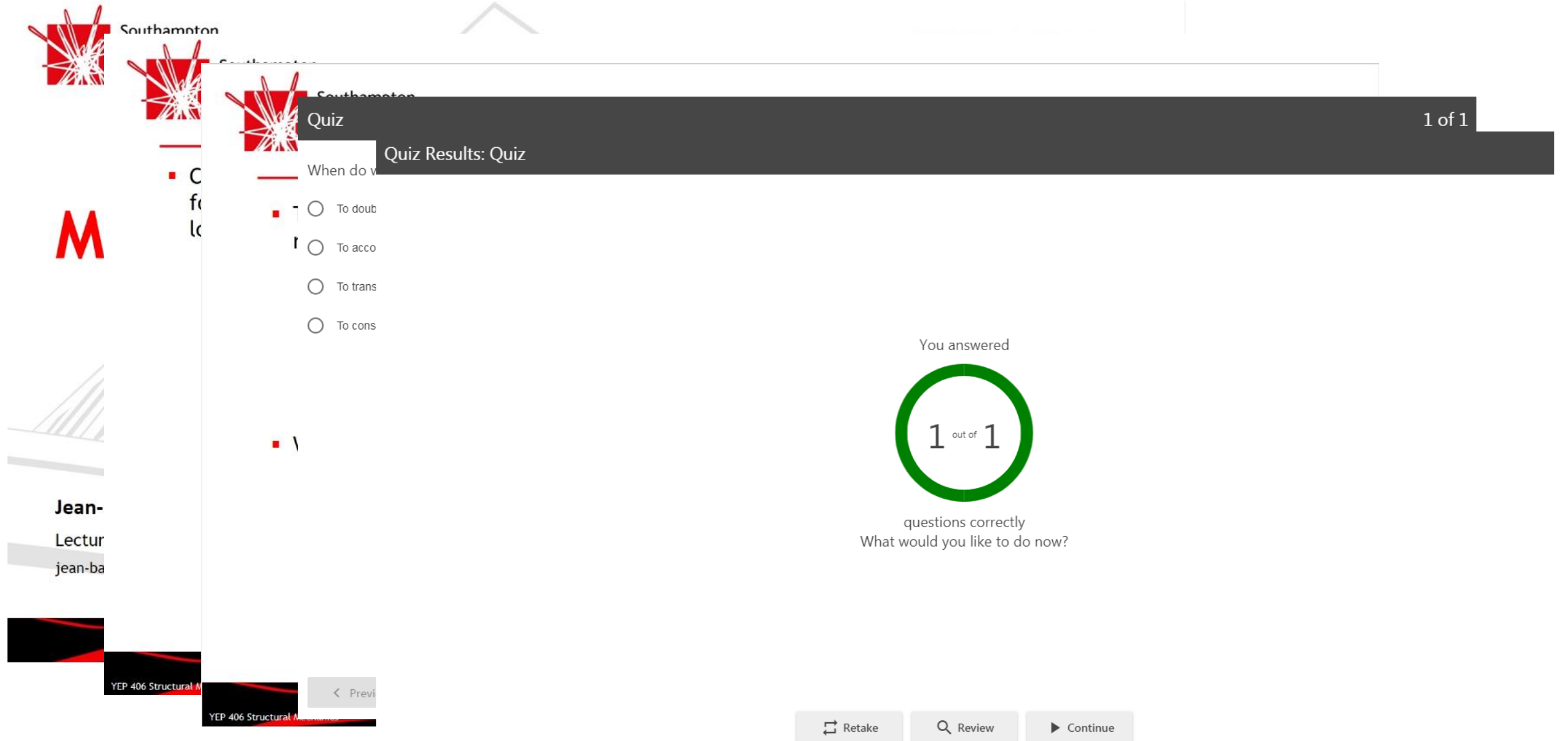
3:08

Newton's Laws of Motion

3:22

☒ Quiz

3:42



The screenshot displays a web-based micro-lecture interface. On the left, a sidebar contains the Southampton SOLENT University logo, a red letter 'M', and a list of navigation items including 'Jean-Baptiste R. G. Soupez', 'Lectur', and 'jean-ba'. Below these are two thumbnails for 'YEP 406 Structural M'. The main content area shows a quiz titled 'Quiz Results: Quiz' with a progress indicator '1 of 1'. The quiz question is 'When do v' with four radio button options: 'To doub', 'To acco', 'To trans', and 'To cons'. Below the options is a large green circular progress indicator showing '1 out of 1' questions answered correctly. The text 'You answered' is above the circle, and 'What would you like to do now?' is below it. At the bottom right, there are three buttons: 'Retake', 'Review', and 'Continue'.

Quiz Results: Quiz 1 of 1

When do v

- ☐ To doub
- ☐ To acco
- ☐ To trans
- ☐ To cons

You answered

1 out of 1

questions correctly

What would you like to do now?

< Previous

YEP 406 Structural M

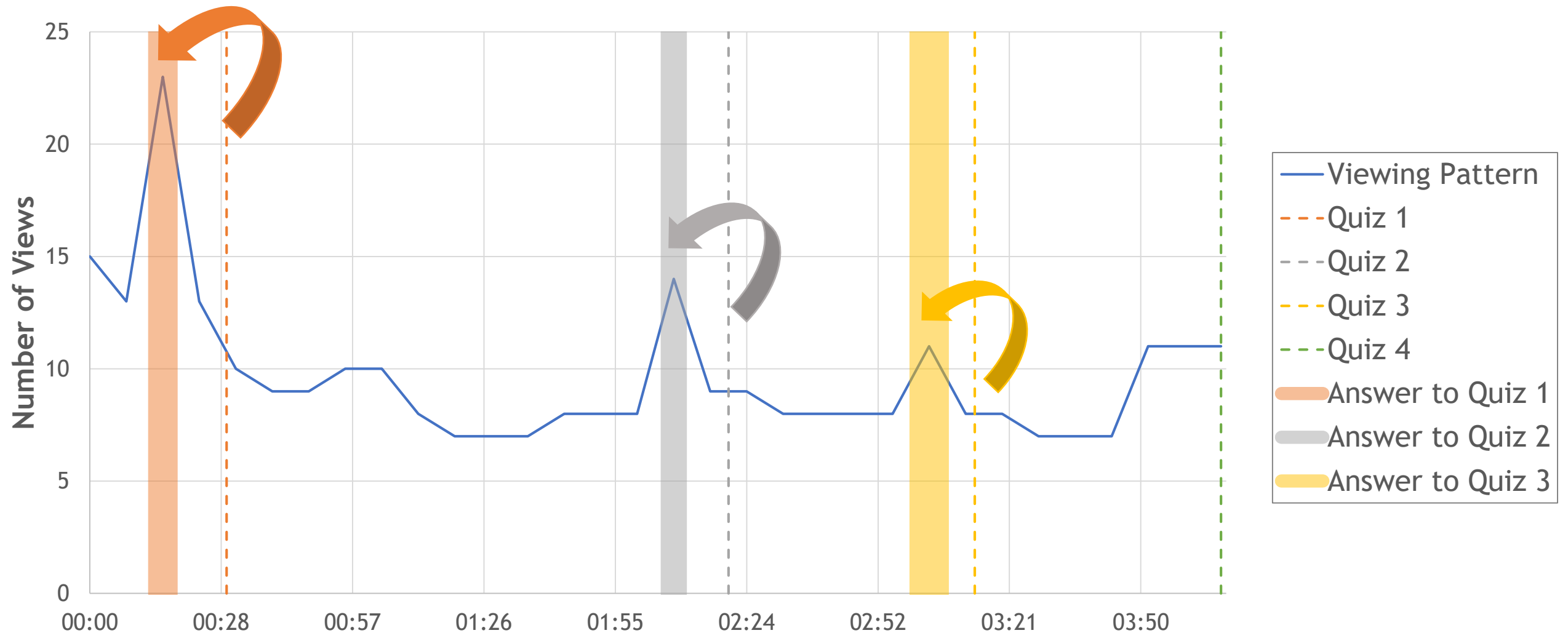
YEP 406 Structural M

Retake Review Continue

FINDINGS: STUDENTS' PERCEPTION

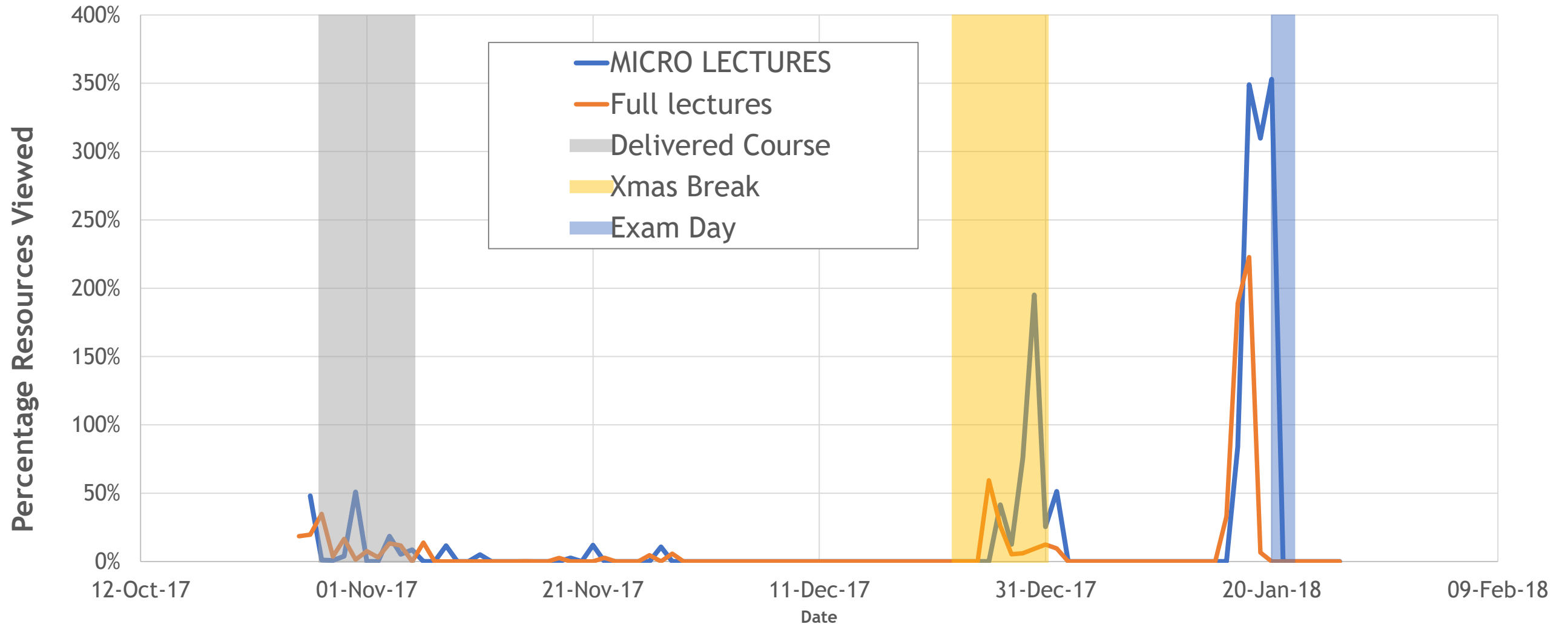
- Mix of qualitative (focus group) and quantitative (questionnaire) data collected after each semester.
- One of the main findings of the focus group was the student perception of how they would use the resources.
- All agreed the micro-lecture and quizzes work together
- The majority of the students stated that:
 - They do not watch full lecture capture if they attended the lecture (only 10% would consider doing so).
 - They do watch the micro-lecture even if they attended the lectures (Over 80% agreed)
 - Their use of lecture capture is mostly for revision purposes (90% reckon this is when they will use it)
- This can then be contrasted with how they actually used it!

VIEWING PATTERN: EXAMPLE VIDEO



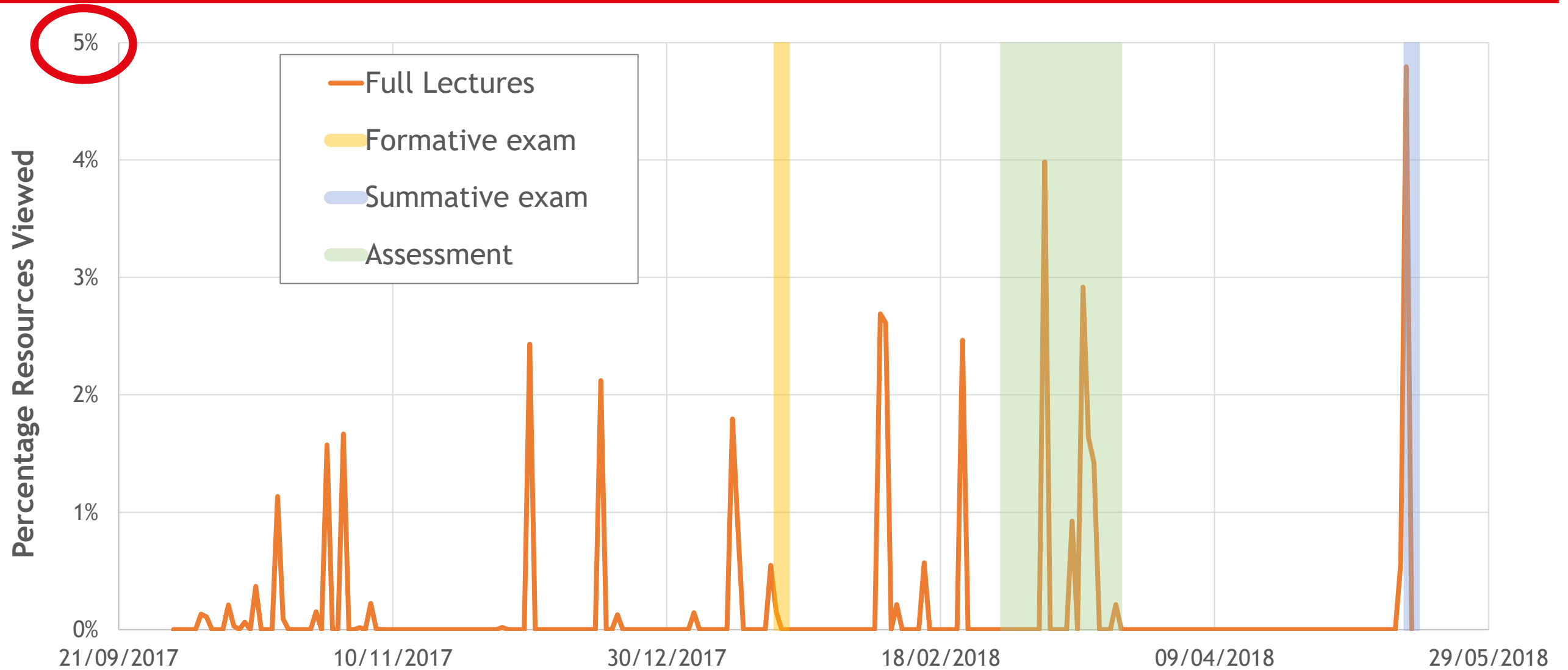
- Students going back looking for the answer

VIEWING PATTERN: SHORT COURSE (LEVEL 7)



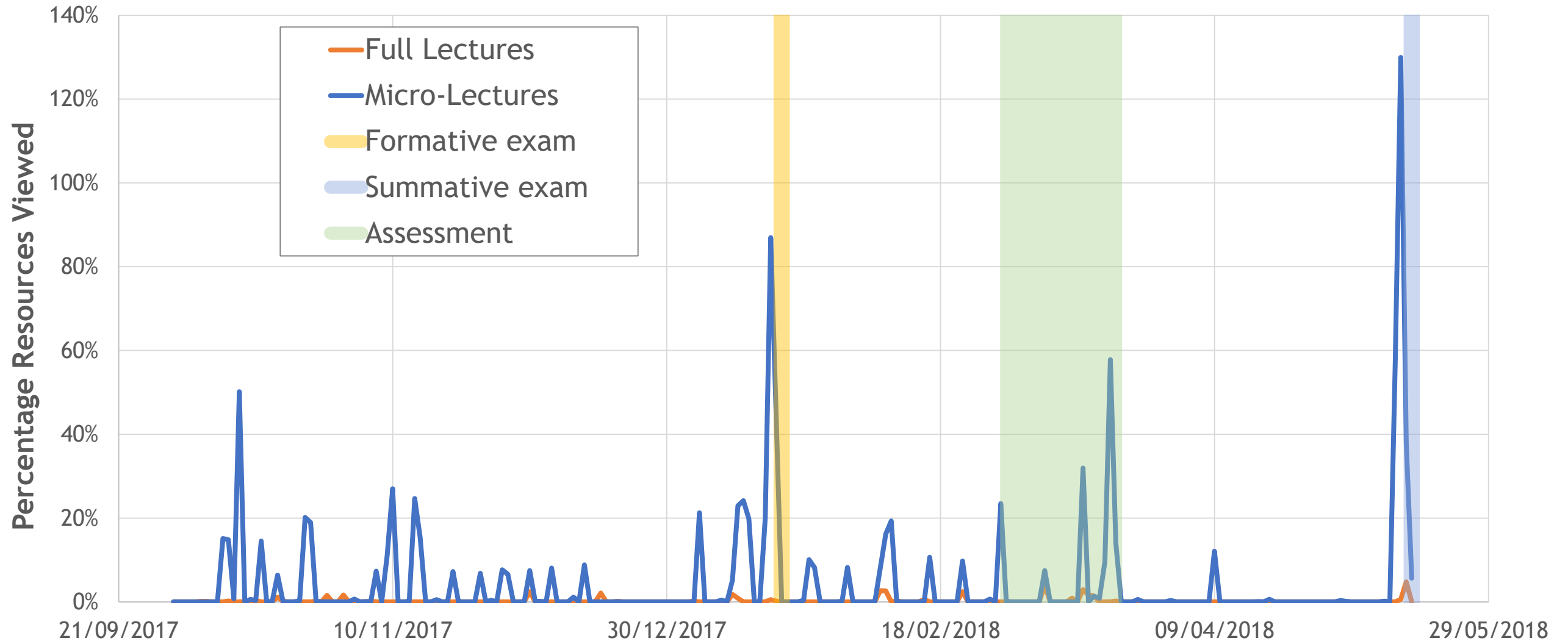
- Greater use of Micro-Lectures, particularly for exam revisions

VIEWING PATTERN: YEAR-LONG COURSE (LEVEL 4)



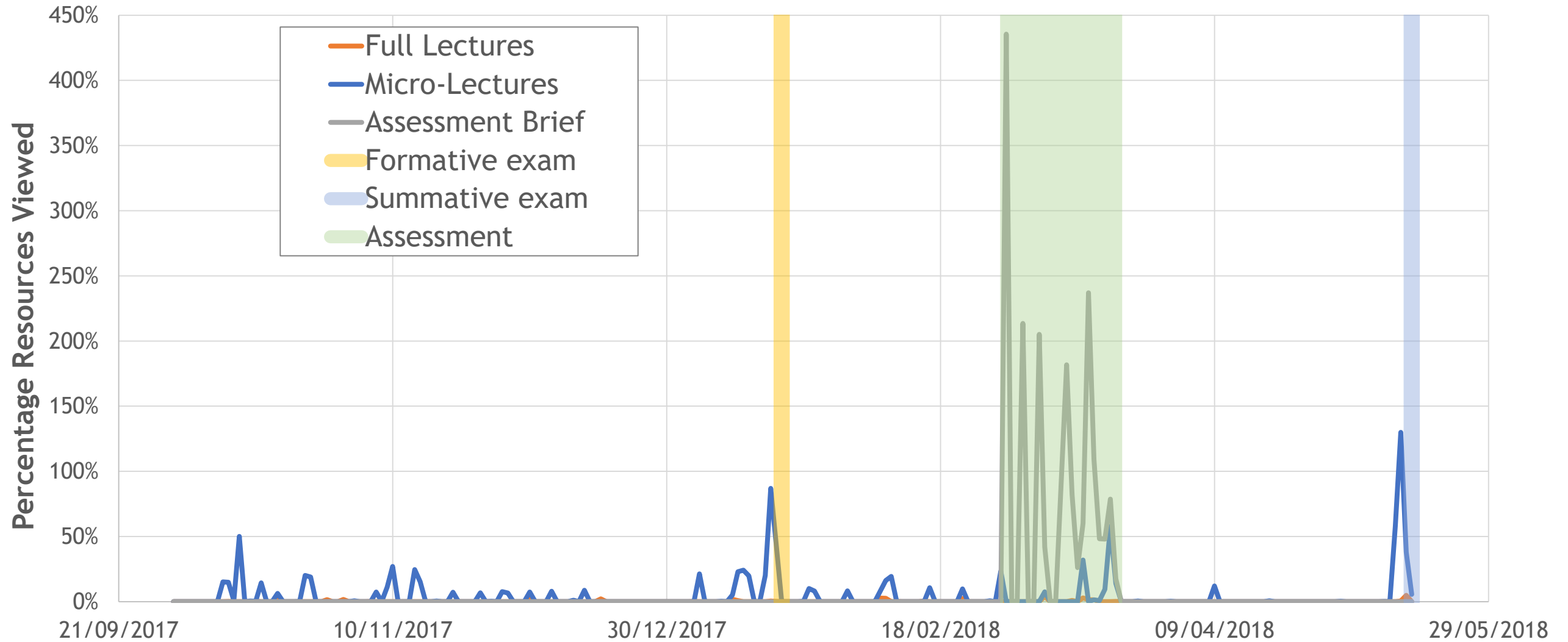
- Extremely little use of full Lecture Captures

VIEWING PATTERN: YEAR-LONG COURSE (LEVEL 4)



- Much larger use of Micro-Lectures, with more regular viewings

VIEWING PATTERN: YEAR-LONG COURSE (LEVEL 4)



- Tremendous use of the Micro-Lecture for the assessment brief

CONCLUSIONS

- Use of questionnaire and focus groups to assess student perception and refine the Micro-Lectures
 - Very high student satisfaction
 - Assessed the need for both Micro-Lectures AND quizzes
 - Perception that Lecture Capture is for missed lecture only, and Micro-Lectures for revision purposes
- Viewing patterns revealed:
 - The critical under-use of Full Lecture capture (less than 5% viewed)
 - The much better alternative that Micro-Lectures represent
 - The greater use of Micro-Lectures to support exam revision and assessment
- Overall, there is a strong place in modern Higher Education for Micro-Lectures with embedded Quizzes to suit students' learning, but also monitor the impact of one's practice.

- **1. Co-creating Micro-Lectures with embedded Quizzes with students**
 - The time commitment (1.5h per week per unit) does not make implementation across an entire course feasible
 - However, there is a fantastic opportunity to have students co-creating these

- **2. Build a dedicated VLE**
 - The ultimate ambition is to have a dedicated VLE gathering all Micro-Lectures with embedded Quizzes for all units of the course, accessible to all students

- **3. Get other academics involved!**



THANK YOU!

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