Evaluating the design of the virtual microscope with students
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What is the aim of the project? Examine and improve the design of the Virtual Microscope (VM)

Research objectives:
(a) identify what students understand when they interact with the different VM features,
(b) capture what difficulties they may face,
(c) understand how students’ background (science or other; new vs continuous) may relate to VM usage, and
(d) explore whether live feedback from a tutor can facilitate understanding and engagement with the VM.

What do we know from the literature?
Studies examined:
- technical specification of the VM
- compared physical and virtual VM
- examined satisfaction and learning outcomes
- few studies examined what students do and think about the design/features/functionality of the VM
- previous eSTEeM-funded project revealed students’ need for ongoing support and guidance when using the VM that can confirm/reject their interpretations of slides and clarify misconceptions.

What is the methodological design?
Sample: 40 students from the Curriculum Design Panel + 1 AL.

Data collection: 2 workshops x 20 (one ftf and one online) during which students will be asked to complete a learning activity using the VM. An AL will be present (live) to answer students’ questions.

Methods of capturing data:
• Screen recording and video analysis: Each student will screen record their interactions with the VM and share the recording.
• Audio recording of the interactions between students and the AL
• Questionnaire completed by each participating student after finishing the learning activity

Methods of data analysis:
• Capturing analytics (manually) from the video recordings
• Thematic analysis of the discussions with the AL
• Questionnaire: thematic analysis of open-ended questions and statistical analysis of other questions