Review of Teaching Practice

Session/artefact to be observed/reviewed: Grow Lab Form and the Grow Lab Materials available on Padlet.
Size of student group: Grow lab core users - Circa 210, from MA Art and Sciences, MA Material Futures, MA Biodesign and PhD students.
Reviewee: Barbara Paes
Reviewer: Carys Kennedy

Note: This record is solely for exchanging developmental feedback between colleagues. Its reflective aspect informs PgCert and Fellowship assessment, but it is not an official evaluation of teaching and is not intended for other internal or legal applications such as probation or disciplinary action.

Part One
Reviewee to complete in brief and send to reviewer prior to the review

What is the context of this session/artefact within the curriculum?

The artefact under review is a form created by the Grow Lab technical team to support students in preparing for their lab sessions. The form also refers to digital resources (such as equipment lists) that can be found on Moodle/Padlet (link)

The Grow Lab is a science laboratory where MA/PhD students can develop their projects, explore and develop methods and do research with the support of a scientific technical team. Its core user come from diverse backgrounds, with little or no prior experience in applied scientific methods and a laboratory environment. Through working with these students, the team identified that experimental planning was a common issue. Students would have a clear idea of their project and what they wanted to achieve, but translating it into sequential, timed and “doable” methods and protocols was challenging to most.

The Grow Lab form was then designed to be a reflective planning document to support students before they come to a working session. It prompts students to research and record basic information required in most protocols (organism’s growing media, ideal temperature, if the equipment is available), and anticipates frequent questions technicians ask about the methods (such as “how much are you going to make?”). The intention is that by working through the form before arriving at the lab, students are not only better prepared but are also pushed to make decisions, justify their choices, and think critically about their process. Over time, the expectation is that this process becomes internalized — that students move from following prompts to planning independently.

The form is available to all core users on Moodle/Padlet and is not mandatory. It has received positive feedback from previous cohorts, and one course has since adopted it as a required tool within their tutorial process. However, its effectiveness depends entirely on the nature of the engagement by students.

How long have you been working with this group and in what capacity?

I have been working in the Grow Lab as a specialist technician since 2023, when I joined UAL. My role includes three main aspects:

- Lab management: H&S, regulations, equipment maintenance, purchase, etc.
- “Autonomous” student support: either in their practical work in the lab or through individualized scientific consultations
- Responsive to courses: running or supporting guided themed sessions (e.g. introduction to microscopy, how to work with mycelium), discussing projects, student’s work, etc.

Since we have only three main core user courses (plus PhDs), we have close contact with the academic teams, supporting their lecturer’s sessions, running sessions ourselves, aligning expectations, briefs, and discussing student’s projects.

What are the intended or expected learning outcomes?

- Identify and break down a multi-stage experimental process into discrete, clearly defined steps, distinguishing between preparation, execution, and results/finalization.
- Development of research practice, identifying and selecting an appropriate experimental protocols according to their project plan.
- Applying basic scientific reasoning to plan resources in advance of a lab session: estimate timing, the quantities of media, chemicals, equipment and glassware required for their experiment.
- Evaluate the suitability of available Grow Lab equipment and resources against their experimental requirements, identifying gaps that may necessitate purchases or additional consultation. Promote reflection over eventual limitations and resourcefulness and creative troubleshooting.
- Develop time management skills that take into consideration duration of practice, time required to growth of organisms, and their own working pace.
- Design a contingency plan (Plan B) for their experiment, anticipating points of failure or unexpected outcomes within a living-systems research context.
- Demonstrate accountability for shared laboratory spaces - integrating responsibility into practice.
- Reflect about individual and collective risk and the importance of safe laboratory practices.
- Development of student’s confidence and autonomy

What are the anticipated outputs (anything students will make/do)?

The material was designed to prompt student to think about all that is involved in their practice. Through completing the form students should have:

- A structured documentation of their process that can be consulted, expanded on and revisited. We expect students to then develop their own notetaking style,

becoming aware of which types of information are important to be documented and why. The documentation can be used in tutorials and assessments.
- More productive and focused sessions: Improved readiness and confidence in lab environments, as a ‘guided’ preparation reduces uncertainty and optimizes time.
- A reference with clear and consistent reminders of the expectations and basic rules to all users in the lab

From the technical/academic perspective, the form:
- Is an important tool for asynchronous communication about students’ projects, challenges and possibilities – we can review each other’s suggestions, flag concerns and possibilities.
- Supports students with language barriers or find it difficult to express themselves in English, especially regarding scientific subjects.
- Creates a shared reference point reducing risks of miscommunication between students, tutors and the Grow Lab team.
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Are there potential difficulties or specific areas of concern?

- Students may find the technical vocabulary intimidating and be scared of working in the lab. Although they all go through a basic induction, and all terms are easily explainable by googling/ai we know that terms like autoclave, inoculation, or biosafety, and the number of rules can be overwhelming.

- When students use AI to fill in the form without genuine reflection, the document loses its core function. Instead of helping, this has become a point of concern. We observe that the lack of thought or review leads students to not have full understanding their proposed method and not being able to answer basic practical questions such as “how much do you want to do”. Additionally, an AI-generated protocol that has not been critically reviewed by the student could introduce real risks in the lab. I’ve noticed I became distrusting of the information of the form and end up being more hesitant and asking way more questions to students, which can be demotivating and intimidating to them.

- The form started quite simple but became more intricate and complex until this final version. I am unsure of students perceiving it as a bureaucratic box-ticking rather than a genuinely useful tool.

How will students be informed of the observation/review?
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What would you particularly like feedback on?
- The “UX” of the form, and how usability could be improved. I would like to optimize the form to be more efficient and friendly to students.
- How clear the sections and questions are to complete by a “new student”/ someone with no previous knowledge about Grow Lab practices, based only on the material available online.

- Suggestions of possible tools, improvements, rephrasing, references of other materials very much welcome.

How will feedback be exchanged?

Via email or team's meeting.

Part Two
Reviewer to note down observations, suggestions and questions.

Thank you Barbara for sharing the form created by the Grow Lab technical team to support students in preparing for their lab sessions. You asked for feedback on the UX of the form, the clarity of the sections/questions, and suggestions for possible improvements.

The first thing I commented on was that your reflections in Part 1 of this form are thoughtful and reflective, and that you are clearly considering the strengths and challenges of the Grow Lab form. You clearly identified the goal of this form: you want students to be 'ahead of the game', plan carefully for their Grow Lab sessions, and to create independence. This sounds like a great example of scaffolding (Vygotsky, 1978), and you said that your goal is, ultimately, that students don't need to use the form. In fact, you said there are some students who now don't complete the form because they 'know' the information, which is a great success measure.

You explained that the form has grown bigger over time, and you are unsure if this is the best approach to meet the desired outcome. You said that it was a 'tiny form' which got bigger and bigger and became a 'monster'. Some of the additions to the form were a result of specific course requests, and you felt there were some 'bureaucratic' elements to the form too.

When I reviewed the form, I found the initial questions very clear and well-articulated. Throughout most of the form, your language is clear and you supplement this with examples, which is really helpful. The one section where I felt a little unsure was the 'protocol' section, and asked how students found this. You explained that this section was one that had been requested by a specific course team, and is also the area where students seem most likely to use AI. We talked about options for this section, which might include rewording/reframing it, making it clear that it's optional, moving it elsewhere in the form, or removing it. **Prompt question: What do you think is the best option here, and what do you need to weigh up/balance when making changes?**

You said that the timeline section is the most 'essential' and I asked how you might make clear which sections of the form are key and which are more optional. **Prompt question: What do you think?**

You asked for feedback about the 'UX' of the form. I suggested looking into UAL's Creating Accessible Documents information, as I think some aspects of the form might not meet digital accessibility requirements – specifically navigation/use of headings, use of underlining, and colour-contrast. You said that you would like to make the form 'attractive' and make it more of a form interface or workflow to support understanding, rather than a 'checkbox' exercise.

You explained that you would like to get student feedback about the form, but are asked not to survey students due to 'feedback fatigue'. I wondered whether evaluating and developing this resource might be something to revisit as part of your Action Research Project in Unit 3... something to keep in mind. **Prompt question: For now, what clues do you have about whether the form is successful? You could potentially use Brookfield's Four Lenses (student, self, colleagues, scholarship) as a framework to consider this.**

I hope these notes are helpful, and give you an opportunity to reflect on the resource you shared with me. I have included some prompt questions (in bold) for you to reflect on. You don't have to answer all the questions – just respond in Part 3 to what feels of interest following our discussion (up to 500 words).

Part Three

Reviewee to reflect on the reviewer's comments and describe how they will act on the feedback exchanged. Reviewee should return this to the reviewer once complete.

Carys's feedback activated in me, above all, a reflection about the desired outcomes of the form. Initially, the form was created and reinstalled as a tool, from a diagnosis that students would frequently struggle in knowing what was relevant, from a "scientific" standpoint, to organize, know, consider and prepare for, when coming for a session in the grow lab. We attributed to that, the fact that many would take a long time to start work, and would demand a lot of attention for basic organization regarding organisms requirements, basic in-house protocols, and resources available. In having such tool as the form, we would be making our time as technicians, more efficiently used, by teaching students to organize themselves, and autonomously find answers for common important variables of lab work.
Sure we were (and are always) ultimately seeking student's autonomy and professional self-esteem. However, it became clear from Carys's feedback, that the ultimate desirable outcome (or Learning Outcome if I may) is not the form, but the thinking. Not that I didn't have this intention, or was unaware of the outcome, no. But I might have desensitized until she highlighted, of how much this was a strategic tool to build independence. And the main sign we would have that students are in fact learning, would be for them to not need the form. My mind then created a visual metaphor that the form has the role of training wheels on a bike. This metaphor aligns with the Vygotsky concept offered by Carys of Scaffolding, where support is offered as adjustment until learner develops enough competence on the subject to be independent.

Having this in mind, I will re-evaluate a few points that were proposed:

- Altering the order that the sections are presented, to have the most important parts (protocol) in the beginning of the form.
- Look for better platforms that would allow for a better UX (google docs?)
    - Would be great to find a tool that allow students to answer questions in different formats beyond text – maybe drawing a mind map, or prototype sketches, to make the form more friendly to diverse ways of expressing ideas.
- Work on the documents accessibility, following UAL's guidelines, independently of the platform used.
- Get feedback from others – students, tutors, other colleagues – on the form, and use this feedback to work on modifications that can improve the form as a "training wheel" tool for independent lab work
    - I can, maybe, add a feedback link or box in the next version of the form itself.

References:

University of Bath Centre for Learning and Teaching (2023) An introduction to educational scaffolding. Available at: https://teachinghub.bath.ac.uk/guide/scaffolding-definition-and-practice/ (Accessed: 22 March 2026).