



Embedding Feedback Literacy in the First Year Undergraduate Physics Programme

Faculty: Faculty of Natural Sciences

Department: Physics

Programme: Undergraduate Physics (including Physics, Physics with Theoretical Physics, and Physics with a Year Abroad – shared Year 1

Level: Year 1

Context and rationale:

The initiative was introduced within the first year of the Undergraduate Physics programme to help students develop feedback literacy from the start of their studies. It was informed by observations that many students were not making effective use of feedback, often reacting defensively, avoiding feedback altogether, or failing to revisit it after receiving it. Turnitin data showed that a substantial proportion of students did not access their feedback, with lower-performing students being the least likely to do so. The intervention was also influenced by educational literature encountered through postgraduate study, particularly around feedback literacy and growth mindset. The aim was to help students understand feedback as part of learning, manage emotional reactions, and recognise that improvement comes through engaging with feedback rather than focusing solely on grades.

Description of the intervention:

The main intervention is a single session delivered in week three of the first term, before students receive any assessment feedback. Delivering it early is deliberate so that students develop an understanding of feedback before forming habits around assessment. Moreover, students' attendance at the beginning of the academic year is usually high. The intervention is reinforced throughout the year through reflective activities, repeated messages about process rather than product and promoting feedback as a dialogue, and later sessions exploring emotions in learning.

Feedback literacy session anatomy:

There are three main components to the feedback literacy session. The session begins by challenging students' assumptions about feedback. Rather than presenting feedback as written comments provided by teachers, feedback is defined as any information that enables students to improve what they do next time. Students are encouraged to recognise multiple sources of feedback, including peers, themselves, online resources, and teaching staff. As an activity, students individually identify examples of feedback they have already received during their first weeks at university.

The session also focuses on the emotional aspects of receiving feedback, drawing on examples from the academic publishing process to demonstrate that negative criticism in feedback is a normal part of professional practice. Students are encouraged to acknowledge their initial emotional reactions, step away if necessary, and revisit feedback later when they are better able to reflect constructively.

A third component introduces the concept of growth mindset, emphasising that success comes through sustained effort, learning from mistakes, and applying feedback, rather than relying on innate ability. A TEDx video is used to illustrate these ideas, followed by discussion linking growth mindset to students' own learning experiences.

In a final part of the session, the potential of AI as another source of



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feedback is considered, drawing a distinction between using AI simply to produce an end product and seeking AI outputs which can refine students' thinking processes

Impact:

The intervention has not been formally evaluated through a controlled study, making it difficult to attribute changes directly to the session. However, the key indicator is whether students engage with and use their feedback. Staff can observe whether students apply feedback across successive laboratory reports, and there are clear examples where students do improve their work by acting on previous comments.

The intervention aims to shift the balance so that more students engage with feedback effectively, although it is recognised that not every student will do so. Existing data also show a relationship between feedback engagement and performance, with students who access and use feedback tending to achieve higher grades. While causality cannot be established, the intervention is intended to encourage greater engagement with feedback and promote a culture in which students view feedback primarily as an opportunity for learning rather than as a justification for marks.

Challenges and lessons learned:

One of the main challenges is convincing students that feedback literacy is valuable beyond its immediate impact on the next assessment. Many students prioritise activities they believe will directly improve grades and are reluctant to attend sessions that do not carry credit. Some students focus heavily on assessment outcomes while overlooking opportunities to improve their learning processes.

A key lesson learned is that one-off sessions are not enough. When feedback literacy is embedded repeatedly throughout the curriculum, students receive consistent messages that it is an important part of learning rather than an optional add-on.

Repeated “micro-messages” across modules and assessments reinforce ideas about focusing on process instead of product and encourage students to become more independent learners.

Another important lesson is the need for staff to model the behaviours they want students to adopt. Students notice whether staff collaborate, value learning processes, and consistently communicate the importance of feedback. Developing a culture of feedback literacy therefore requires both repeated messaging and alignment across teaching staff, rather than relying on isolated interventions.

Transferable tips:

Most aspects of the intervention are transferable across disciplines. The central message is to help students understand that feedback is anything that helps them improve, rather than simply comments provided by teachers. Supporting students to manage the emotional aspects of feedback and shifting attention from grades towards learning processes are equally applicable in other contexts.

Rather than relying on isolated workshops, programmes should embed small, consistent messages about feedback throughout the curriculum. Staff should regularly ask whether their messages reinforce an unhelpful focus on grades or instead encourage students to take ownership of their learning. Promoting student agency, self-monitoring, and reflection can help students become more independent learners who actively use feedback to improve. Although interventions of this kind can be difficult to evaluate, the absence of perfect evaluation should not discourage institutions from implementing them, as relatively small but consistent inputs can gradually contribute to a broader culture of feedback literacy.