Subject prototype | version: 1 | date: 10/10/2025

SUBJECT: Biology

What is a subject prototype?

A subject prototype is used to test key ideas, learning design and assessment approaches, and how these enable the key drivers. Feedback from teachers and experts helps to shape the development of the new subject as part of the co-design process.

**** FIRST ITERATION ** NOT FOR IMPLEMENTATION ****

Key driver(s):	**Principle/technique/method:**
Natural Evidence of Learning, Metacognition, Agency, Deep Authentic Learning	1. Science inquiry skills journal 2. Unpacking deconstruction and design

Prototype description

Science Inquiry Skills Journal

- This prototype was designed to test if students could demonstrate their understanding of science inquiry skills more naturally without using a formal scientific report.
- Teachers tried laboratory journals which allowed students to choose how to capture their thinking in an original format that was less structured, more personally meaningful and relevant to their interests.

Unpacking Deconstruction and Design

- This prototype was designed to test how dialogue in the deconstruct and design task can be used to demonstrate students' metacognitive strategies and depth of their understanding.
- Teachers engaged students in question-and-answer oral assessments to elicit the level of students' understanding of the relevant scientific concepts and science inquiry skills. Students justified their decisions as they designed a method to investigate an identified problem.

What we learnt

Impact

- Lab journals promoted metacognition and ongoing reflection
- The ongoing nature of a journal allowed for the development of skills through retyring practicals
- Verbalising understanding through conversations led to deeper authentic learning and grades were consistent across written and verbal formats
- Students enjoyed creative freedom after the initial discomfort of open-ended tasks

Challenges

- Some student evidence showed a decline in sophistication showing the need for teacher guidance and modelling
- Conditions must provide the flexibility for a variety of practical opportunities, which can be impacted by individual school resourcing
- Oral skills and use of scientific terminology varied, highlighting the need for teachers explicitly model these skills
- Open ended tasks require careful scaffolding and framing
- Oral assessments can be anxiety inducing when unfamiliar, showing the need for pre-thinking and preparation

Deep Authentic Learning

Student Agency

Natural Evidence of Learning

Metacognition

Capabilities