

# Teacher dissemination

CLIL TEACHER SELF-STUDY SHEET:  
HIGHER SECONDARY BIOLOGY



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## CLIL Teacher Self-Study Sheet:

### Developing Bi/Multilingual Disciplinary Literacies in Higher Secondary Biology through Everyday Digital Practices

#### INFORMATION FOR TEACHERS

**Authors:** Dr Craig Neville (IE)

**Subject:** Biology

**Grade:** Upper Secondary

**Language level:** B1+

**Type:** Self-direct or Teacher Educator-led Teacher CPD; teacher planning tool

This self-study sheet supports teachers in planning **engaging, inclusive biology lessons** by:

- Connecting **disciplinary literacy goals** (e.g., explaining, analysing, evaluating) with language development
- Exploring how students' **everyday digital habits** (e.g., TikTok, WhatsApp, YouTube) can support learning
- Encouraging **bilingual and multilingual thinking** in the biology classroom
- Helping teachers design tasks where students **use language and content together**, across languages, using meaningful digital tools

It's designed to prompt reflection and practical planning so teachers can gradually integrate **multilingual disciplinary literacies** using **familiar digital platforms** from students' lives. It supports the move from theory to practice in senior cycle CLIL biology.

## Part 1: Reflecting on Disciplinary Literacies in Biology

### 1. What does 'disciplinary literacy' in biology mean to me?

- ☐ Reading and interpreting scientific texts and diagrams
- ☐ Using specialised terminology precisely
- ☐ Describing, explaining, and evaluating biological processes
- ☐ Analysing data from experiments or investigations
- ☐ Writing structured responses (e.g., compare/contrast, evaluate)
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐
- ☐

### 2. Which Cognitive Discourse Functions are key in my biology lessons? Give examples of each.

(e.g., classifying, defining, hypothesising, describing, analysing, evaluating)

## Part 2: Understanding Learners' Digital Practices

Consider the following tools/platforms that are commonly used by young people and that may have an impact on their development of Bi and Multilingual Disciplinary Literacies in CLIL.

Ask your CLIL learners if they use the potential and in which language they use it. L1 is the main school language, L2 is the CLIL language and L3 is other languages that they might speak or study.

Ideas are then provided as to how these digital technologies could be incorporated into Biology to support Bi and Multilingual Disciplinary Literacy development in CLIL classes.

Tool/Platform	Used by learners?	Language potential?	Possible biology task ideas
<b>TikTok / Instagram Reels</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> L1 <input type="checkbox"/> L2 <input type="checkbox"/> L3	Create bilingual concept explainers (e.g., mitosis, photosynthesis)
<b>WhatsApp / Snapchat</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> L1 <input type="checkbox"/> L2 <input type="checkbox"/> L3	Voice messages explaining experimental procedures or results in two languages
<b>Duolingo / WordReference</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> L1 <input type="checkbox"/> L2 <input type="checkbox"/> L3	Translate and compare complex biology terms across languages (e.g., homeostasis)
<b>YouTube / Podcasts</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> L1 <input type="checkbox"/> L2 <input type="checkbox"/> L3	Summarise a biology video in a written or oral bilingual report
<b>Spotify / Music</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> L1 <input type="checkbox"/> L2 <input type="checkbox"/> L3	Analyse songs with biological themes (e.g., human body, evolution metaphors)
<b>Phone camera / editing apps</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> L1 <input type="checkbox"/> L2 <input type="checkbox"/> L3	Document or create photo journals of local ecosystems or cells viewed under microscope, labelled in two languages

### Part 3: Bringing It into the CLIL Biology Classroom

☒ Tools I already use:

- ☐ Google Docs / Slides
- ☐ EdPuzzle / YouTube
- ☐ Padlet / Jamboard
- ☐ Quizlet / Kahoot
- ☐ Canva / Piktochart
- ☐ Online labs or simulations (e.g., BioMan Biology, HHMI BioInteractive)
- ☐ Other: \_\_\_\_\_

Think: **How can these help students develop multilingual scientific thinking?**

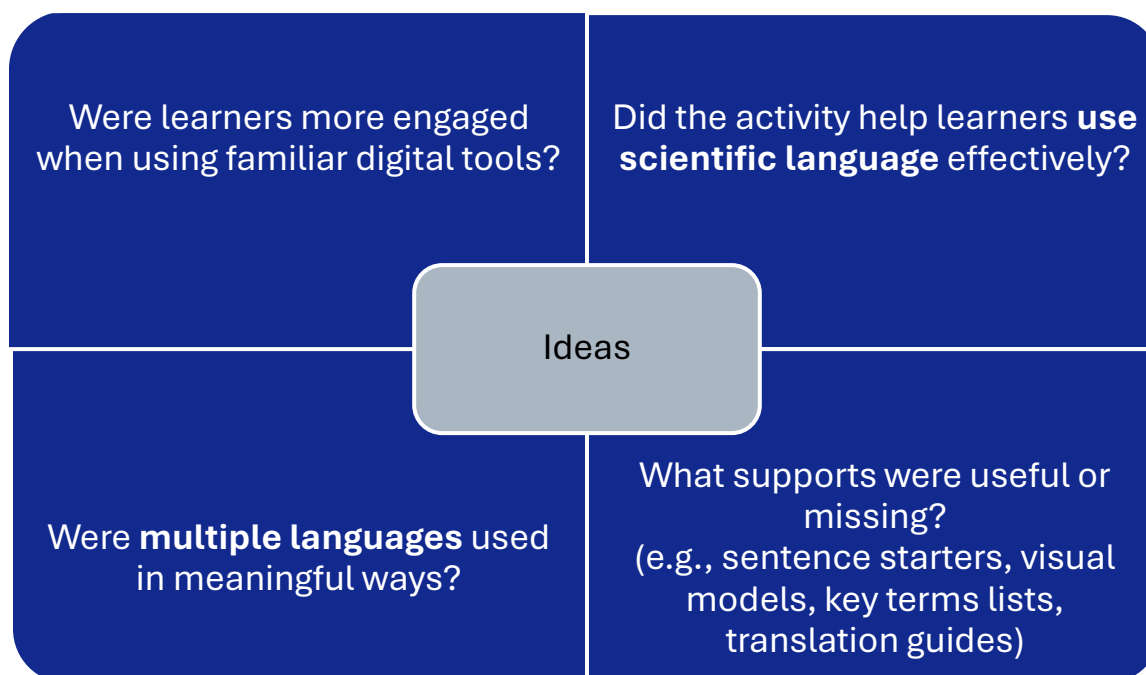
*Example:* Use EdPuzzle to annotate a mitosis video in English, then ask students to retell or summarise the process in both English and their home language using prompts.

### Section 4: Try It Out – Mini Planning Grid

Topic	Language Focus	Digital Tool (Home/Class)	Task Idea	Target Language(s)
<b>Cell structure &amp; function</b>	Defining and comparing organelles	Canva / Jamboard	Create a bilingual visual comparing plant and animal cells	English + learner's L1
<b>Human reproductive system</b>	Describing processes and structures	TikTok / YouTube Shorts	Create a short video explaining fertilisation or menstruation bilingually	English + Spanish
<b>Enzymes</b>	Explaining cause and effect	Padlet / Google Slides	Use visual organisers to explain how temperature affects enzyme activity	English + Arabic

<b>Photosynthesis</b>	Sequencing steps, summarising	EdPuzzle / Google Docs	Annotate a video, then write bilingual summaries of each stage	English + French
<b>Genetics &amp; inheritance</b>	Analysing, evaluating arguments	Podcast / Voice Recorder	Record a bilingual debate: Should we edit human genes?	English + learner's L3

## Part 5: Reflect on the effectiveness of the objectives



## Part 6: Resources & Next Steps

- ☐ Choose a topic from your next unit to apply these strategies
- ☐ Build a multilingual biology glossary (English + students' L1s)
- ☐ Invite learners to make bilingual flashcards or revision videos
- ☐ Explore multilingual biology content (e.g., **HHMI**, **Khan Academy**, **Biology Dictionary**)
- ☐ Co-create dual-language lab reports, posters, or infographics
- ☐ Encourage students to bring home language into science conversations where possible