

BUILDING STUDENT'S AI LITERACY

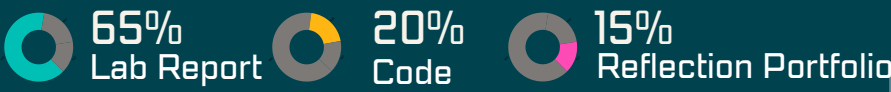
THROUGH CRITICAL REVIEW OF SAMPLE REPORTS AND THEIR OWN WORK

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Unit Information

Name: Engineering Communication, Measurement and Data Analysis (ECMDA)
ECMDA Students: ~ 920 First-Year Engineering Students

Unit Assessment Structure



Previously, we gave the ECMDA students AI-generated feedback on their lab reports and ran a live session to encourage review and reflection. What if the students generate feedback on their own reports using AI and they critically review AI-generated lab reports? Could this build their critical thinking skills and AI literacy? The BILT EDP '25/56 pilot investigates whether students actively engaging with generative AI platforms in live sessions can foster critical thinking and AI literacy.

BILT EDP '25/26 Pilot Intervention Tools

- 1

AI-generated Lab Report Suite

This suite consists of two lab reports generated by Microsoft Copilot and a task guide that aids students in reflecting as they read them. The lab reports were generated from the same source but had varying scores (high and low) according to the unit's rubric.
- 2

Local LLM Critiquing Assistant

This tool, developed with the Faculty of Science and Engineering Technical Services, provides feedback on uploaded lab report drafts.
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CHARACTERISTICS

No Data Storage. It does not store prompts or outputs, ensuring data security.

Dictated behaviour. It has rules for the output format and contextual information, such as the Unit Rubric.

Energy Use Monitoring. It monitors the energy use while generating an output to prompt.

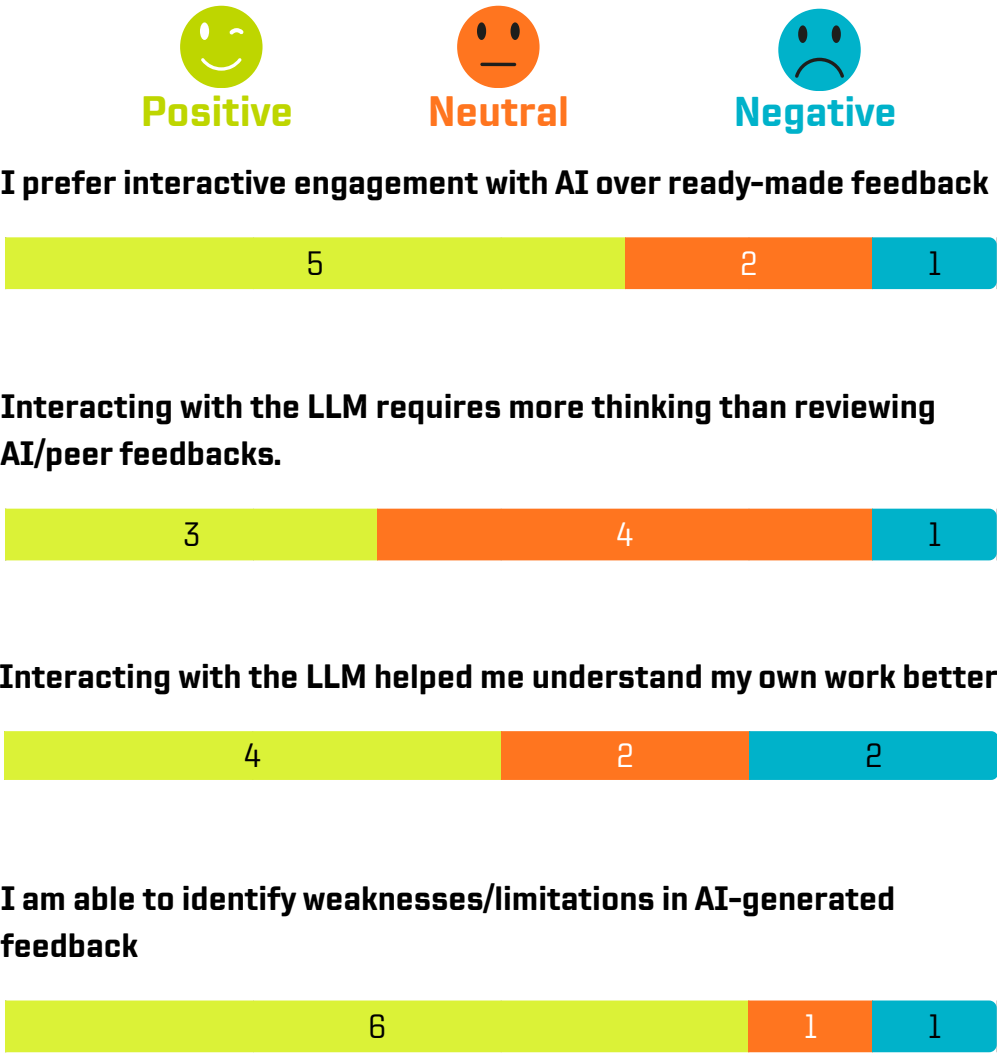
BILT EDP '25/26 Pilot Activities

Pre-session	Facilitated Live Session	Post Session Activities
- Optional AI-generated feedback report. - AI-generated lab reports. - A didactic session on large language models [LLM].	- Peer Reviews. - A didactic session on the importance of critically reviewing AI-generated outputs. 1 hour session using the Local LLM Critiquing Assistant.	- Surveys on student perceptions of the pilot. - Likert Scale Questions. - Semi-structured Questions.



Intervention Site: Room G.01, Ivy Gate Building

Students Perceptions.



The AI did pick up the parts that needed improvement from my report."

"A major limitation is only having access in Ivy Gate and not at home"

"... not enough time was given"

Reflections

Students expressed that they found the LLM local critique assistant useful; its being local also increased their confidence around data safety while informing them on energy use. Although the LLM's responses helped identify weaknesses in the report, some students felt they were 'unnatural'. The pilot proves students' preference for active engagement in feedback over passive interaction. It also sheds light on the increasing interest among students in local LLMs for learning and assessment. Looking ahead, we plan to make the tool more accessible to students and to use the local LLM earlier in other facilitated live sessions.

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