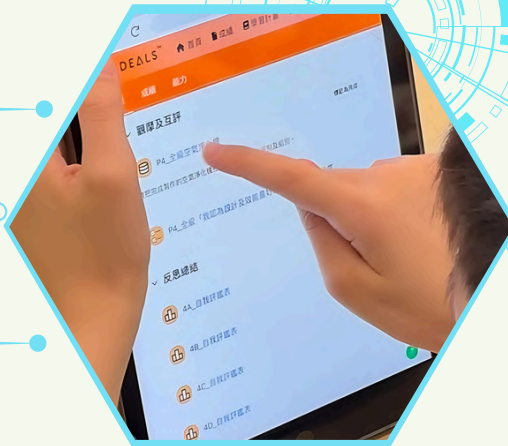




Intelligent DDesign-Aware Learning analytics empowered 21C L&T System

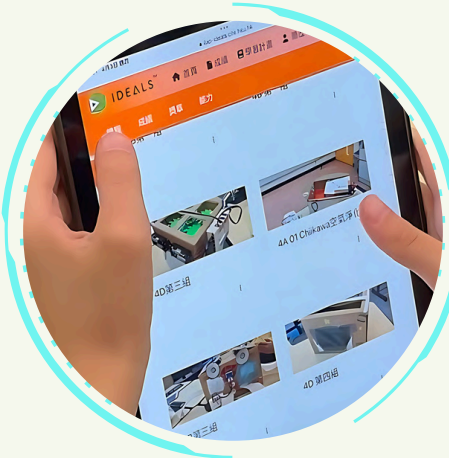


IDEALS

Quality Curriculum Design | AI | Big Data Empowering Future Learning



Learning
Design



e-Learning
Implementation



Learning
Analytics

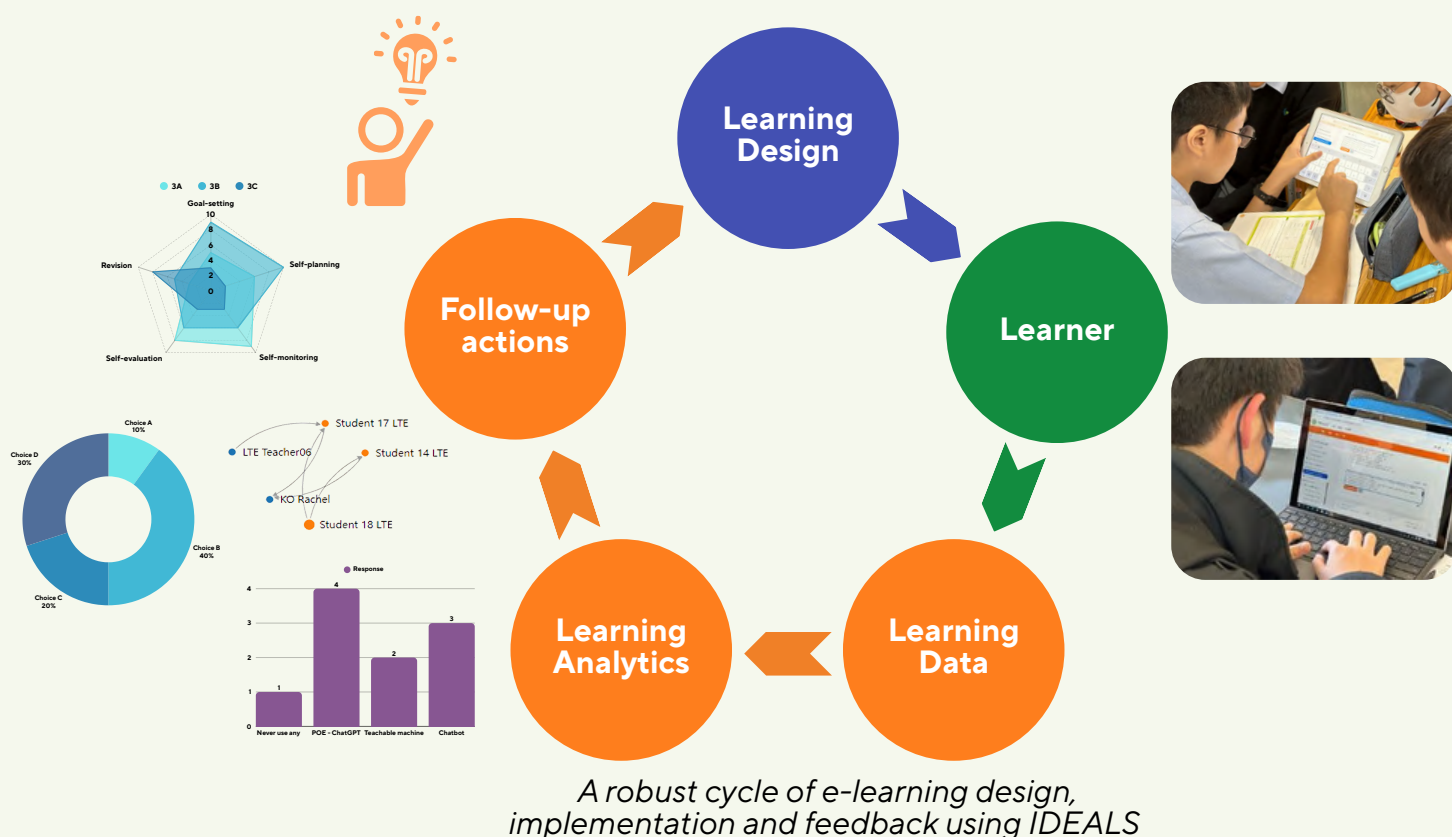


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Design-Aware Learning Analytics Learning Analytics-Informed Feedback



Different Types of Learning Analysis Questions

Cognitive Performance

Cognitive Engagement

Metacog. Performance

Metacog. Engagement

Social Engagement

What iLAP tools
can be utilized to
address key learning
analytics questions?



Meaningful Design-Aware Learning Analytics for sample iLAP learning tasks



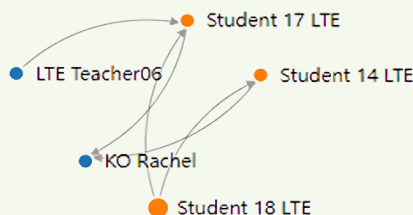
Forum

How well have students
interacted in a particular task?

What is the focus of
student discussions?

01

Forum Graph shows
student interactions



Forum Keywords indicates
the focus of discussions

replace 取代
difficult 困難
will 會
artificial 人工
observed 觀察
intelligence 智能
classmate 同學
Do
said 說
because 因為
human 人類
future 未來
find 找到
intelligence 智能
jobs agree 工作同意



Checklist

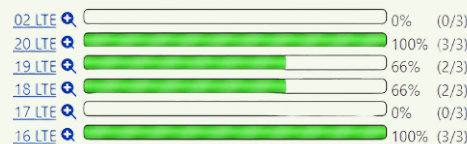
How well have students
monitored their own work?

02

Progress Bar supports
students in self-monitoring



Support Teachers to see
how students monitor their
own learning progress



The **Workshop** tool promotes students' discussion,
and collaborative learning by having them submit
their work and participate in **peer evaluations**.

Assessment form Grid				
Criteria				
Levels				
Prompt clarity 指令清晰程度	<p>1. The student's prompts are unclear and ambiguous, making it difficult to understand their intended actions. 學生的指令不明確、模糊，難以理解其意圖。</p>	<p>2. The student's prompts lack clarity or specificity, leading to some confusion or misinterpretation. 學生的指令缺乏清晰或具體性，導致某些混淆或誤解。</p>	<p>3. The student's prompts are mostly clear, with minor issues in clarity or specificity that may require additional clarification. 學生的指令基本清晰，但在清晰度或具體性方面可能存在一些問題，可能需要進一步澄清。</p>	<p>4. The student's prompts are exceptionally clear, concise, and unambiguous, leaving no room for confusion or misinterpretation. 學生的指令非常清晰、簡潔且無歧義，沒有留下任何混淆或誤解的空間。</p>
Prompt Effectiveness 指令有效性	<p>1. The student's prompts consistently fail to produce the desired outcomes, indicating a significant lack of effectiveness in their instructions. 學生的指令 consistently 無法產生期望的結果，表明其指令在有效性方面存在嚴重缺陷。</p>	<p>2. The student's prompts have limited effectiveness, frequently failing to produce the desired outcomes or requiring additional iterations to achieve the intended task. 學生的指令在有效性方面有限，經常無法產生期望的結果，或需要多次迭代才能完成任務。</p>	<p>3. The student's prompts mostly achieve the desired outcomes, with occasional minor inconsistencies or deviations from the expected results. 學生的指令大部分實現了期望的結果，偶爾存在一些小不一致或與預期結果的偏差。</p>	<p>4. The student's prompts consistently produce the desired outcomes and successfully accomplish the intended tasks. 學生的指令 consistently 產生期望的結果並成功完成預期的任務。</p>
Prompt Revision 指令的修訂	<p>1. The student lacks adaptability in adjusting their prompts, leading to a consistent inability to make progress or accomplish their goals. 學生在調整其指令以適應需求方面缺乏靈活性，導致無法取得進展或完成目標。</p>	<p>2. The student struggles to adapt their prompts based on the AI's responses, resulting in limited progress or difficulty in achieving their goals. 學生難以根據 AI 的回應調整其指令，導致進展有限或難以達成目標。</p>	<p>3. The student shows some adaptability in modifying their prompts based on the AI's responses, although there may be room for improvement in optimizing their instructions. 學生在根據 AI 的回應修改其指令方面顯示出一定的適應性，但在優化指令方面仍有改進空間。</p>	<p>4. The student demonstrates a high level of adaptability in refining and adjusting their prompts based on the AI's responses, effectively achieving their goals. 學生在根據 AI 的回應 refine 和調整其指令方面展現了高程度的適應性，有效地實現了目標。</p>
Prompt writing and language 指令寫作和語言	<p>1. The student's writing style and language are poor, lacking accuracy in choice of vocabulary. 學生的寫作風格和語言質量差，在詞彙選擇上缺乏準確性。</p>	<p>2. The student's writing style and language show some weaknesses, with occasional inaccuracies in the choice of vocabulary. 學生的寫作風格和語言顯示出一些弱點，在詞彙選擇上偶爾存在不準確之處。</p>	<p>3. The student's writing style and language are generally good, with few inaccuracies in the choice of vocabulary. 學生的寫作風格和語言整體良好，在詞彙選擇上只有少數不準確之處。</p>	<p>4. The student's writing style and language are excellent, demonstrating high level of accuracy in the choice of vocabulary. 學生的寫作風格和語言非常優秀，在詞彙選擇上展現了高程度的準確性。</p>

Grades for submissions indicate the **quality of work** in relation to students' learning outcomes

Grades for assessments reflect the **review quality** of students' on reviewing peer works

Grade for submission

9.71 / 15.00

Grade for assessment

13.82 / 15.00

Workshop

To what extent do student
achieve the learning outcomes?

Are students able to critically
assess each other's work
based on the rubric?



03

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Choice



04

What is the distribution of students' choices among the different options?

How well have students engage in the activity?

Resulting Graph visualizes the distribution of responses

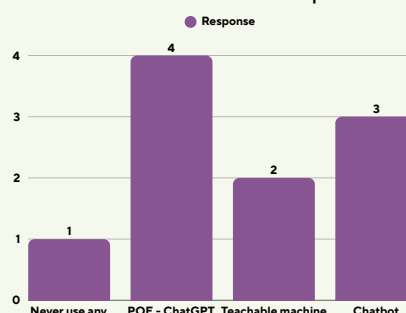
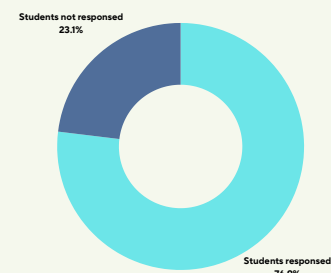


Figure shows the participation rate in the choice activity



Questionnaire

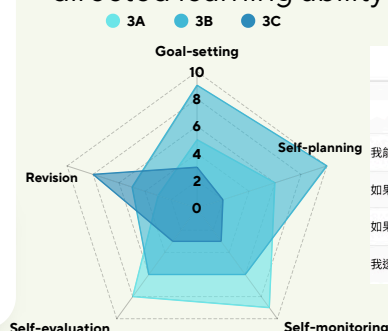


05

How effective is students' self-directed learning ability?

How do students perceive their performance?

Students' self-evaluation results visualize their self-directed learning ability



Questionnaire results indicate students' self-perceived performance

Average rank (and average values)				
甚少	有時	經常	幾乎總是	
9 我能按照說明完成任務。				4.7 (3.7)
如果我需要幫助，我會找人幫忙完成任務。				4.4 (3.4)
如果有需要，我會向他人解釋問題，尋求建議從而完成任務。				4.5 (3.5)
我透過自己尋找所需資訊來完成任務。				4.7 (3.7)

The **H5P** tool enables students to watch short videos and answer questions simultaneously.

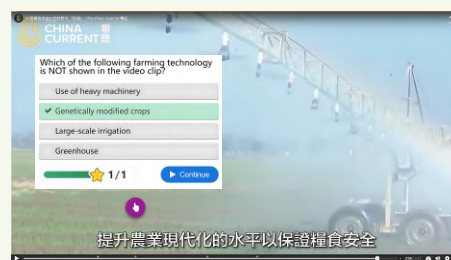
H5P- InteractiveVideo



06

To what extent do students understand key concepts from the video?

Do students make several attempts for the Quiz in the video?



Attempts report provides detailed insights into students' **performance and engagement** on the quiz, including their scores, the time taken, and the number of attempts made.

Highest score attempt

	Date	Score	Max score	Duration	Completion	Success	Report
1	10/03/25, 16:35	4	5	6 minutes 24 seconds	<input checked="" type="checkbox"/>	<input type="radio"/>	View repo

All user attempts

#	Date	Score	Max score	Duration	Completion	Success	Report
1	10/03/25, 16:35	4	5	6 minutes 24 seconds	<input checked="" type="checkbox"/>	<input type="radio"/>	View repo



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Design-Aware Learning Analytics provided at different granularities within a course

Course Level



How well are students' engagement in the course at the class and individual levels?

Activity Completion

Set activity Completion Conditions to track student engagement at different stages of the course



Curriculum Component (CC) Level



To what extent have students achieved the intended Learning Outcomes at a CC level?

Whether and how does student engagement change across CCs?

Grader Report indicates whether students have achieved the intended learning outcomes

Can China become a developed country? while keep...	Can China become a developed country? while keep...	Set a Question about Hong Kong Economy History of China	Question setting Quiz	工 業 發展
nt0136	-	-	10.00	11.00
nt0136	-	-	-	-
nt0136	-	-	9.00	9.00
nt0136	-	-	-	-
nt0136	-	-	-	-
nt0136	-	10.00	10.00	8.00
nt0136	-	11.00	-	-
nt0136	-	14.00	-	-
nt0136	-	13.00	10.00	9.00
nt0136	-	-	10.00	-
nt0136	-	-	-	-
nt0136	-	12.00	10.00	9.00

Activity Report provides insights into student engagement across CCs

Activity	Views
AI photo hunt AI圖片辨真假 CC1	82 views by 13 users
AI in our living 生活上的人工智能	53 views by 9 users
AI learning task progress AI 學習任務完成度 CC2	93 views by 10 users
AI tools 人工智能工具	60 views by 10 users
AI 會取代人的工作? CC3	37 views by 7 users

Task Level



How well have students performed in a particular task?

Badges Report

Setting badge criteria based on specific task completion helps track student performance

Name	Badge status	Criteria	Recipients
Features of Film Review	Available (criteria locked)	Complete: "Forum - Features of Film Review"	29
Pre-Writing a Film Review	Available (criteria locked)	Complete ANY of: "Wiki - Group 1", "Wiki - Group 2", "Wiki - Group 3", "Wiki - Group 4", "Wiki - Group 5", "Wiki - Group 6", "Wiki - Group 7", "Wiki - Group 8", "Wiki - Group 9"	28
Writing a Film Review	Available (criteria locked)	Complete: "Forum - Production and Presentation: Film Review"	17

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Intelligent DDesign-Aware Learning analytics empowered 21C L&T System



Innovation

Implementing and receiving feedback
on e-learning design through the
IDEALS system for a robust teaching
and learning process.



Mission

Enhance Student Learning
Foster Teacher Professionalism
Support Professional Learning Communities



For further information, please visit

<https://ideals.cite.hku.hk>



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