

Looping in GenAI

Initial Findings from a Pilot Study

MoodleMunch
25th February 2025

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Dublin City University

MoodleMunch

Will AI change education for the better or worse?

The biggest risk of AI could be to 'shortcut' the learning process for young people, but others caution that if AI is not embraced, a skills gap will emerge



Colleges plan more oral exams in response to the threat of AI cheating



new data, such as images, text, or music, that is similar to the data it has seen before. Generative models learn to recognize patterns and relationships in the input data and then use this knowledge to generate new data that is similar to the training data but is not identical. There are many different types of generative models, including Variational Autoencoders (VAEs), Generative Adversarial Networks (GANs), and Diffusion Models. VAEs learn a latent representation of the input data and a generator that takes samples from this latent space to produce new data samples by adding noise and a denoising process. GANs consist of a generator and a discriminator that learn to generate and evaluate data samples. Diffusion models generate data by iteratively adding and removing noise from the input data.

Artificial Intelligence > Does Your Teen Recognize A.I.? Art World Takes On A.I. Putting A.I. in Charge A.I. and Hollywood

How Schools Can Survive (and Maybe Even Thrive) With A.I. This Fall

Step 1: Assume all students are going to use the technology.

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By Kevin Roose
Aug. 24, 2023

THE CHRONICLE OF HIGHER EDUCATION

How AI Is Changing Higher Education

BBC

Home News Sport Business Innovation Culture Arts Travel Earth Video

AI can beat university students, study suggests

26 June 2024
Ian Youngs
BBC News

University exams taken by fake students using artificial intelligence beat those by real students and usually went undetected by markers, in a limited study.

University of Pennsylvania researchers compared the math progress of nearly 1,000 high schoolers by evaluating how they performed on practice math problems, then on tests. Some students had access to the AI program ChatGPT while doing the practice math problems; some had access to an AI tutor version of ChatGPT while practicing; and others practiced on their own.

Students using ChatGPT solved 48% more of the problems correctly, and those with the AI tutor solved 127% more problems correctly, according to the report.

as a study assistant do worse on tests

Researchers compare math progress of almost 1,000 high school students

by JILL BARSHAY
September 2023

LinkedIn Twitter Pinterest WhatsApp Email



From Threat to Tool

DCU quality improvement theme 2024

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Project Aim


Pilot an integration between Moodle (Loop) and OpenAI's large language model, so lecturers can directly generate content in Moodle and understand the benefits and limitations of utilising genAI in practice.

Project Objectives

1. Install an AI generator plugin on Moodle and trial a ChatGPT API subscription.
2. Recruit some lecturers from each of DCU's five faculties to pilot the plugin to create Moodle quiz questions.
3. Support these lecturers to critique and refine the generated content and deploy quizzes to their students.
4. Evaluate lecturers' experience through an approved research study and make recommendations for the future potential of genAI and Moodle.

1. Install an AI generator plugin on Moodle and trial a ChatGPT API subscription.

[Plugins](#) / [Other tools](#) / [General plugins \(Local\)](#) / [AI Text to questions generator](#) / [Description](#)





AI Text to questions generator





General plugins (Local) ::: local_aiquestions

Current versions available: 1

[Download](#)

Maintained by  Yedidia Klein,  Ruthy Salomon

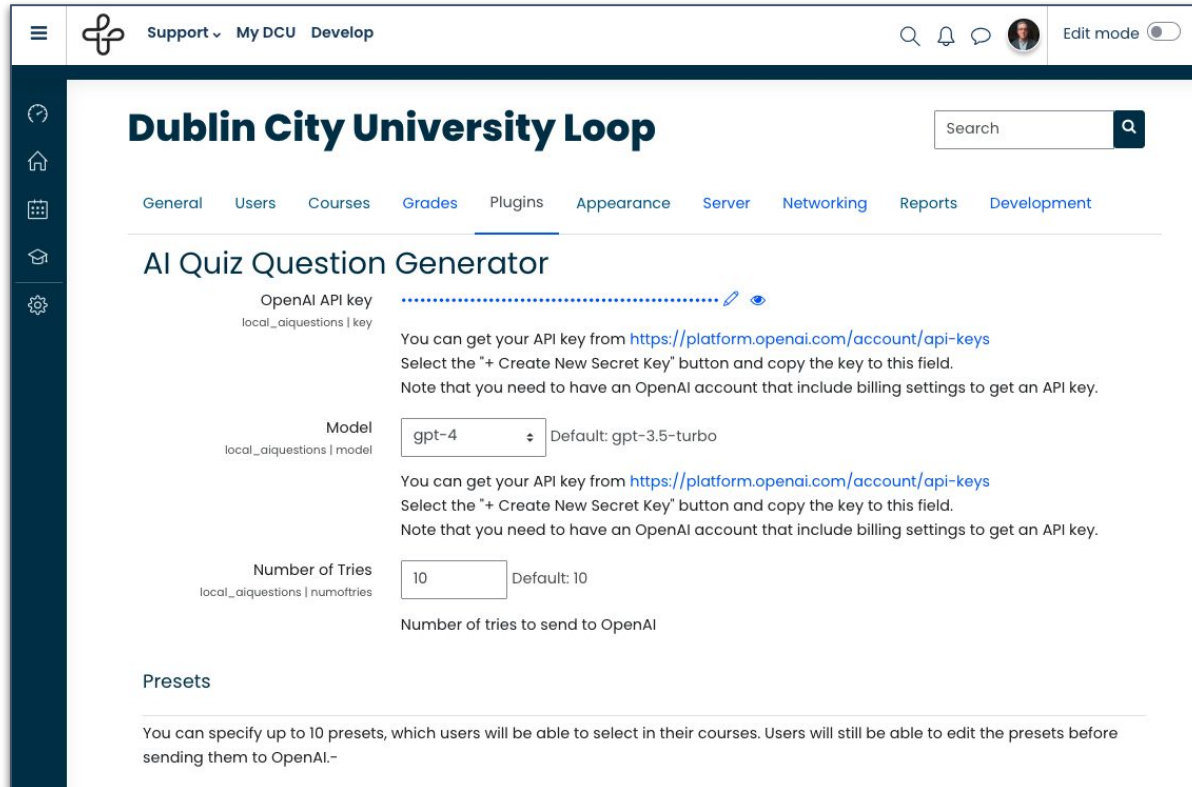
A local plugin that is accessible from course top menu, that generates question on a given text using OpenAI ChatGPT. Note that Open AI API key is required for using this plugin.

 Latest release: 18 months  473 sites  549 downloads  47 fans

[Description](#) [Versions](#) [Stats](#) [Translations](#)

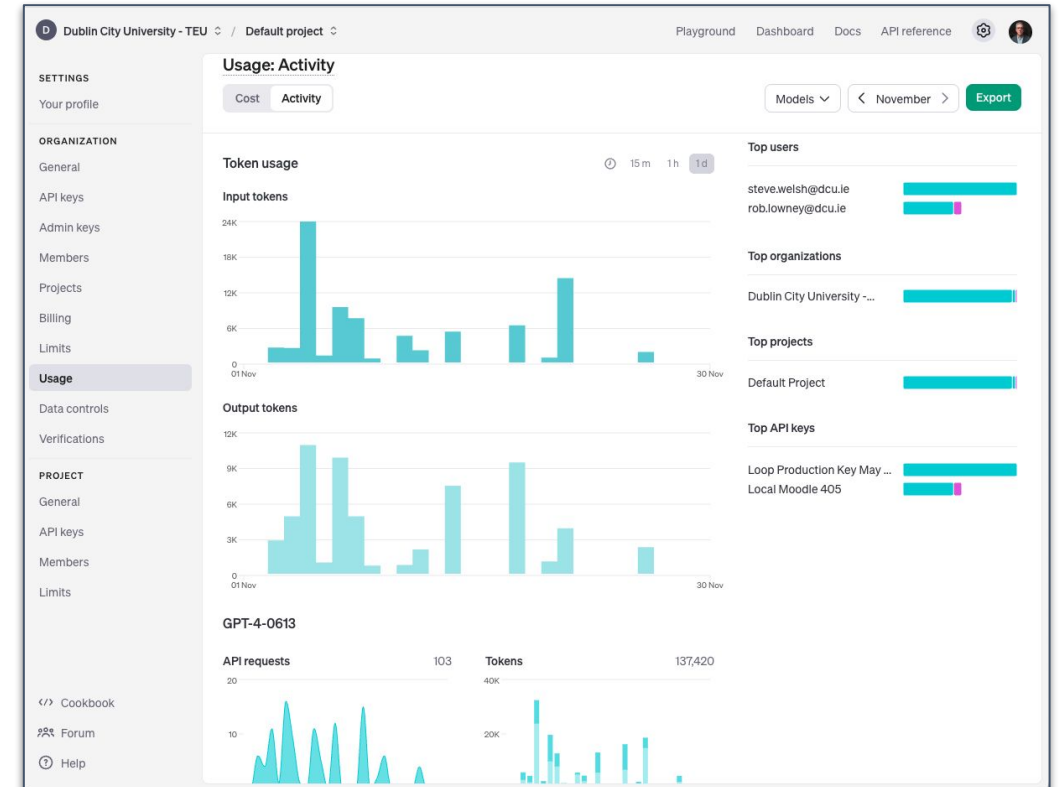
moodle.org/plugins/local_aiquestions

1. Install an AI generator plugin on Moodle and trial a ChatGPT API subscription.



The screenshot shows the Moodle administration interface for 'Dublin City University Loop'. The 'Plugins' tab is selected, and the 'AI Quiz Question Generator' settings are displayed. The settings include:

- OpenAI API key:** A text field with a search icon and a link to the OpenAI API key page.
- Model:** A dropdown menu set to 'gpt-4', with a default of 'gpt-3.5-turbo'.
- Number of Tries:** A text field set to '10', with a default of '10'.
- Presets:** A section with a note: 'You can specify up to 10 presets, which users will be able to select in their courses. Users will still be able to edit the presets before sending them to OpenAI.'



The screenshot shows the OpenAI Usage: Activity dashboard for the 'Dublin City University - TEU' organization. The dashboard displays usage activity for the month of November. The 'Usage: Activity' section includes:

- Token usage:** A bar chart showing input and output tokens over time. The y-axis ranges from 0 to 24K.
- Top users:** A list of users with their token usage bars. Users include 'steve.welsh@dcu.ie' and 'rob.lowney@dcu.ie'.
- Top organizations:** A list of organizations with their token usage bars. The top organization is 'Dublin City University - TEU'.
- Top projects:** A list of projects with their token usage bars. The top project is 'Default Project'.
- Top API keys:** A list of API keys with their token usage bars. The top API key is 'Loop Production Key May ...'.



AI Quiz Question Generator

/ Topic

You can enter a concise phrase in this prompt to generate questions. No full sentences required, try to keep your search terms as concise and specific as possible. Alternatively, if you want to generate questions based on specific material such as an article, you can paste the text (only simple text, no images) from that article into this prompt to generate questions based on a reading.

AI Quiz Question Generator

Category

Number of questions to generate

Topic
You can enter a concise phrase in this prompt to generate questions. No full sentences required, try to keep your search terms as concise and specific as possible. Alternatively, if you want to generate questions based on specific material such as an article, you can paste the text (only simple text, no images) from that article into this prompt to generate questions based on a reading.

Preset

Edit the preset before sending it to the AI

[Generate questions](#) [Back to course](#)

AI Quiz Question Generator

Created questions successfully.

What are some ethical considerations when designing AI for educational assessments? 🔍

Why is transparency an important ethical consideration when using AI in assessment design? 🔍

Which of the following is the primary challenge with AI and human bias in educational assessment design? 🔍

In what way can we prevent the over-reliance on AI in educational assessments design? 🔍

100%

Number of tries sent to OpenAI: 1 out of 10 tries

[Back to course](#)

[Go to question bank](#)

[Generate more questions](#)

⋮ Ethical AI Use in Assessment 2 Version 1 (latest)

Question 1

Answer saved

Marked out of 1.00

Why is transparency an important ethical consideration when using AI in assessment design?

- a. Transparency results in high performance of the AI system.
- b. Transparency isn't important in AI system design.
- c. It helps promote understanding and trust in the system.
- d. AI systems should operate independently and without explanation.

[Clear my choice](#)

Start again

Save

Fill in correct responses

Submit and finish

Close preview

▼ Answers

Choice 1

It helps promote understanding and trust in the system.

Moodle auto-format ▾

Grade

100% ▾

Feedback

Correct. Transparency can help ensure all stakeholders – students, parents, educators – understand how the AI system operates and trust its outcomes.

Moodle auto-format ▾

Choice 2

Transparency isn't important in AI system design.

Moodle auto-format ▾

Grade

None ▾

Feedback

Incorrect. Transparency is critical in establishing trust and understanding in any AI system.

Moodle auto-format ▾

Choice 3

AI systems should operate independently and without explanation.

Moodle auto-format ▾

Grade


None ▾

Feedback

Incorrect. This could lead to mistrust and confusion among users.

Moodle auto-format ▾

3. Support these lecturers to critique and refine the generated content and deploy quizzes to their students.



Teaching Enhancement Unit

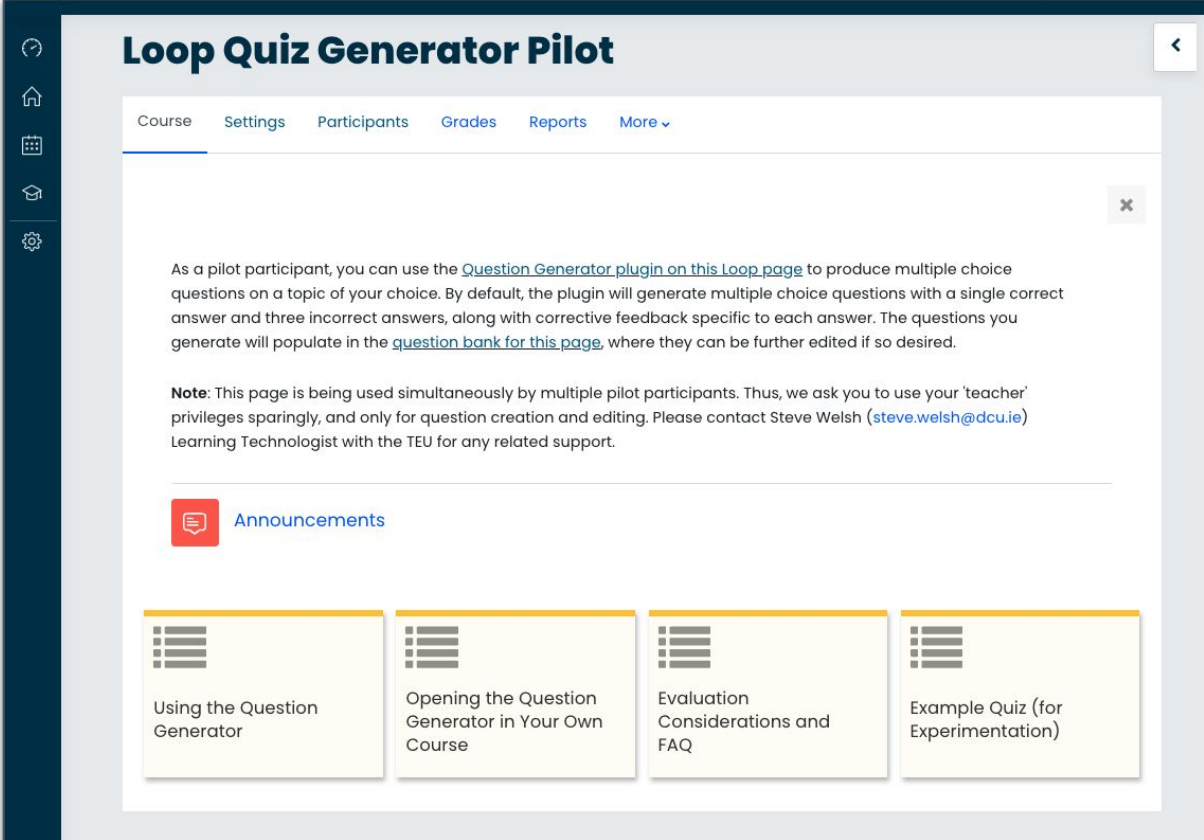
Loop Gen AI Question Generator - Pilot Info Sessions

In Autumn 2024, the Loop Team is piloting an experimental quiz question generator that leverages an AI technology to create quiz questions in Loop based on simple prompts from the lecturer. This technology can both aid in the generation of quality quiz questions as well as streamline the process of populating quizzes in Loop, thus saving the lecturer the time of manual question creation.

We are inviting a small, select cohort of lecturers to experiment with the tool and provide feedback on their experience. We'll be holding several brief informational sessions over the coming weeks for lecturers who would like access to the tool. Please register your interest [here](#).

Attendees can participate the sessions [remotely via Zoom](#) or in person in room **DG10** in **the Bea Orpen Building** on the Glasnevin campus.

steve.welsh@dcu.ie [Switch accounts](#)



Loop Quiz Generator Pilot

Course Settings Participants Grades Reports More ▾


As a pilot participant, you can use the [Question Generator plugin on this Loop page](#) to produce multiple choice questions on a topic of your choice. By default, the plugin will generate multiple choice questions with a single correct answer and three incorrect answers, along with corrective feedback specific to each answer. The questions you generate will populate in the [question bank for this page](#), where they can be further edited if so desired.

Note: This page is being used simultaneously by multiple pilot participants. Thus, we ask you to use your 'teacher' privileges sparingly, and only for question creation and editing. Please contact Steve Welsh (steve.welsh@dcu.ie) Learning Technologist with the TEU for any related support.

Announcements

- Using the Question Generator
- Opening the Question Generator in Your Own Course
- Evaluation Considerations and FAQ
- Example Quiz (for Experimentation)

4. Evaluate lecturers' experience through a REC-approved evaluation and make recommendations for the future potential of genAI and Moodle (Loop).

 <p>Ollscoil Chathair Bhaile Átha Cliath Dublin City University</p>	<p>Dublin City University RESEARCH ETHICS COMMITTEE</p> <p>APPLICATION FORM FOR ETHICAL REVIEW OF A RESEARCH PROJECT INVOLVING HUMAN PARTICIPANTS</p>
<p>Any queries relating to this form should be e-mailed to the DCU Research Ethics Committee (REC) at rec@dcu.ie. The REC Review Process is outlined in the Information and Guidance section of the DCU Research Ethics webpage.</p> <p>Please note that the REC is not responsible for overseeing insurance requirements. Applicants should refer to the DCU Insurance webpage for guidance. It is incumbent upon every applicant to ensure that the appropriate insurance cover is in place for their project.</p> <p>If your research involves collecting or processing personal data, you must first complete the DCU online Data Protection training course and review the "Data Protection – Key Points for DCU Researchers" guidance from the Data Protection Unit to assist you in meeting your legal obligations under GDPR and associated Irish law.</p> <p>If your research requires approval from the Biological Safety Committee (BSC) this must be in place prior to REC submission. Contact bio.safety@dcu.ie.</p>	
<p>SECTION 1 – GENERAL DETAILS</p>	
<p>1.1 Project Title</p> <p>Ascertaining the impact of an AI question generator on Loop</p>	

4. Evaluate lecturers' experience through a REC-approved evaluation and make recommendations for the future potential of genAI and Moodle.



Loop Question Generator Pilot Survey

We are inviting you to take part in this anonymous, voluntary survey to provide insight on your use of the Loop Question Generator. This study has been vetted and approved by the Research Ethics Committee (DCUREC/2024/040). We will first show you a "plain language" introductory statement detailing the study and the survey. You will then be asked to respond to one page of close-ended questions and one page of open-ended survey questions.

All in all, this should take about 10-15 minutes.

You are not required to respond to any of the questions. However, any feedback you provide will be greatly valued.

Q1. “Why were you interested in using the Moodle (Loop) Question Generator tool?”

“The idea of saving time in providing questions to quiz students and, as a result, being able to **provide more robust assessment** very much appealed to me.”

“I am interested in the potential of AI to support various teaching and learning tasks. This was a good opportunity to experiment with AI for assessment. **It was also great to see DCU taking the initiative in this space, not feeling like I was 'going it alone'.**”



Some Known Limitations

“It was quite good for **text only questions**, but it struggled to make well formatted **mathematics examples**. As a result, the editing for those would take just as long as writing questions from scratch.”

“It worked best for factual questions with **closed-ended answers**. It was much worse at generating more **complex questions**.”

“The questions were mostly basic in my case because, since I teach AI, **what I teach is novel**, not standard content yet, and **not available online** for GPT to look for.”

“The subject I was using the questions for requires **images**, and a limitation of the tool was that it is only text-based.”



Further Considerations

“I do worry about **the sustainability of GenAI** and I think it is a **discussion that should be had across the university.**”

“I presume the business model will be to make tools cheaply available in the first place, and then hike up the price when these tools are widely used. We might find **we become dependent on them**, and while nice and time saving tools, they may eat into the University budget in the medium term.”

Faculty Perspective: Peter Tiernan



Associate Professor of Digital Learning
and Digital Literacy
Institute of Education
Dublin City University

dcu.ie/stemeducationinnovationglobalstudies/people/peter-tiernan

Next Steps

- Conducting another round with lecturers this semester
- Continuing data analysis
- Adopt tool improvements (question types)
- Make recommendations and disseminate findings
- Conduct larger pilot with forthcoming Moodle 4.5 AI Subsystem, with thanks to SATLE funding

Thank you
Go raibh maith agaibh

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Pilot Lecturer Feedback

Initial Findings

DCU

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