



Creating quiz question banks with ChatGPT

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Place: Room 2105 (1F of Building 2)



Motivation: **Why** do this?

[1] University edict

- freshman should focus on vocabulary and grammar

お達しがありました

[2] Moodle's "random" questions

- select a question at random from a question category









































"Vocabulary is central to language and of critical importance to the typical language learner" Zimmerman (1997)

Research questions




















- [1] Can we generate quiz questions using ChatGPT that can be imported into a Moodle question bank?
- [2] If so, can the process be automated?

Many, many
AI Tools

Popular AI tools for the classroom [1]

TEACHING ASSISTANTS	COURSE CREATION	CHATBOT	LANGUAGE LEARNING
 MagicSchool AI	 Course AI	 ChatGPT	 Duolingo MAX
 EduGPT	 Coursebox	 Bing Chat	 Twee
 Almanack	 Lingio	 Google Bard	 TeachPlanet
 Curipod	 MindSmith	 Claude	 TalkPal
 Eduaide AI	 Edapp	 Perplexity	 ELSA Speak
IMAGE GENERATION	IMAGE EDITING	ANIMATION	RESEARCH
 Canva AI	 Clipdrop	 Animated Drawings	 ChatPDF
 Midjourney	 Pixelcut	 Scribble Diffusion	 Bing Chat
 Bing Image Generator	 Remove.bg	 CapCut	 Humata
 Firefly	 Cleanup.pictures	 Pika labs	 Research Rabbit
 Leonardo	 Upscale.media	 LeiaPix	 Elicit

Popular AI tools for the classroom [2]

AUDIO	TEXT-TO-SPEECH	PRODUCTIVITY	CONTENT AUTHORING
 Adobe Podcast Enhance	 Speechify	 Perplexity	 ChatGPT
 Audiocraft	 Elevenlabs IO	 YouTube Summary	 Bard
 Cleanvoice	 Synthesys IO	 Notion	 Copy.ai
 Soundraw	 Listnr	 ZeroGPT	 Claude
 Chromemusiclabde	 Murf AI	 Tango	 Jasper AI
VIDEO GENERATION	VIDEO EDITING	TALKING HEAD VIDEO	PRESENTATION
 Pictory	 Lumen5	 D-ID	 Gamma
 D-ID	 Descript	 Synthesia	 MagicSlides
 DeepBrain AI	 Fiki	 HeyGen	 Tome
 Vyond GO	 Pictory	 Fiki	 Slides AI
 Invideo	 Runaway.ml	 SadTalker	 Beautiful.ai

Why chose
ChatGPT?

GPT: Generative Pre-trained Transformer

“By utilizing unsupervised learning to pre-train on vast amounts of text data, GPT can generate coherent and contextually relevant text ... based on learned patterns during training sessions”

Using ChatGPT

very good
at generating
natural
language

not a
search
engine

not
up-to-date

prone to
hallucinations

ChatGPT prompts

ChatGPT prompts

ChatGPT Prompt Frameworks

Unlock the full potential of ChatGPT

R-T-F

Prompt Example

Facebook Ad Marketer.

Design a compelling Facebook ad campaign to promote a new line of fitness apparel for a sports brand.

Create a storyboard outlining the sequence of ad creatives, including ad copy, visuals, and targeting strategy.

Act as a
[ROLE]

Create a
[TASK]

Show as
[FORMAT]

▶ ROLE

▶ TASK

▶ FORMAT

T-A-G

Prompt Example

The task is to evaluate the performance of team members

Act as a Direct manager and assess the strengths and weaknesses of team members.

Goal is to improve team performance so that the average user satisfaction score moves from 6 to 7.5 in the next quarter.

Define
[TASK]

State the
[ACTION]

Clarify the
[GOAL]

▶ TASK

▶ ACTION

▶ GOAL

ChatGPT prompts

B-A-B Prompt Example

Explain Problem
[BEFORE]

State Outcome
[AFTER]

Ask for the
[BRIDGE]

We're nowhere to be seen on SEO rankings

We want to be in top 10 SEO ranking in our niche in 90 days.

Develop a detailed plan for mentioning all the measures

we should take also include list of top 20 keywords.

➔ BEFORE

➔ AFTER

➔ BRIDGE

C-A-R-E Prompt Example

Give the
[CONTEXT]

Describe
[ACTION]

Clarify the
[RESULT]

Give the
[EXAMPLE]

We are launching a new line of sustainable clothing

Can you assist us in creating a targeted advertising campaign that emphasizes our environmental commitment? .

Our desired outcome is to drive product awareness and sales

A good example of a similar successful initiative is Patagonia's "Don't Buy This Jacket" campaign, which highlighted their commitment to sustainability while enhancing their brand image.

➔ CONTEXT

➔ ACTION

➔ RESULT

➔ EXAMPLE

R-I-S-E Prompt Example

Specify the
[ROLE]

Describe
[INPUT]

Ask for
[STEPS]

Describe the
[EXPECTATION]

Imagine you are a content strategist.

I've gathered detailed information about our target audience, including their interests & common questions related to our industry.

Provide a Step by Step content strategy plan identifying key topics based on our audience insights, creating an editorial calendar, and drafting engaging content that aligns with our brand message.

Aim is to increase our blog's monthly visitors by 40% and Enhance our brand's position as a thought leader in our industry.

➔ ROLE

➔ INPUT

➔ STEPS

➔ EXPECTATION

ChatGPT is unreliable!

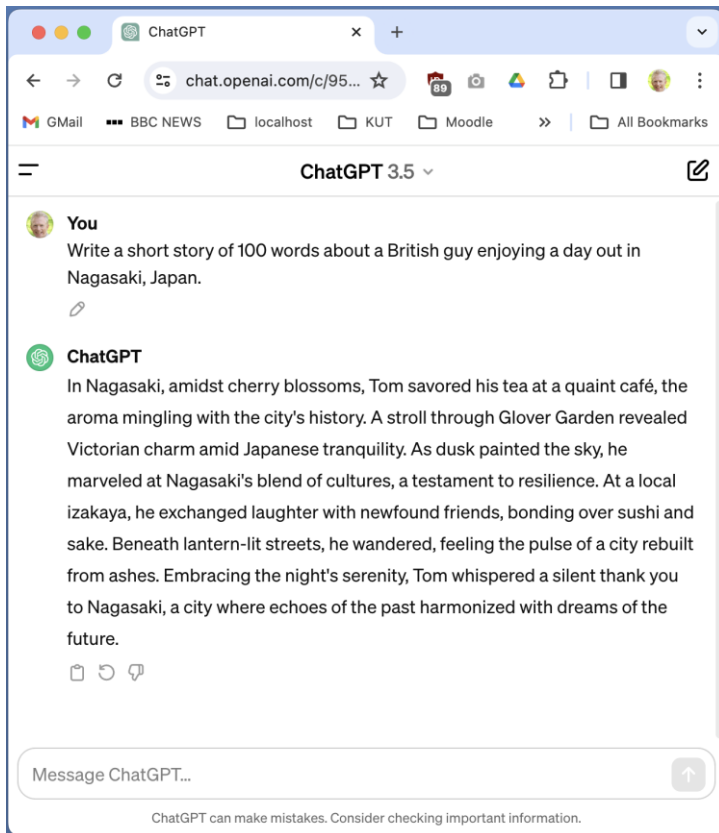
successively generates
next “most-probable” word

“temperature” setting
controls randomness

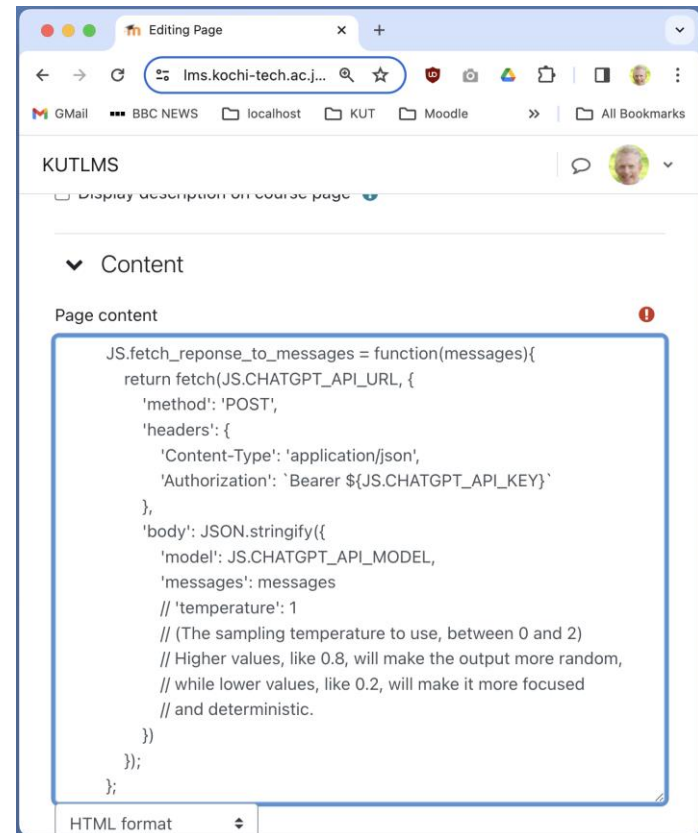
can be “tuned”

Interacting with ChatGPT

Web interface
(via a browser)

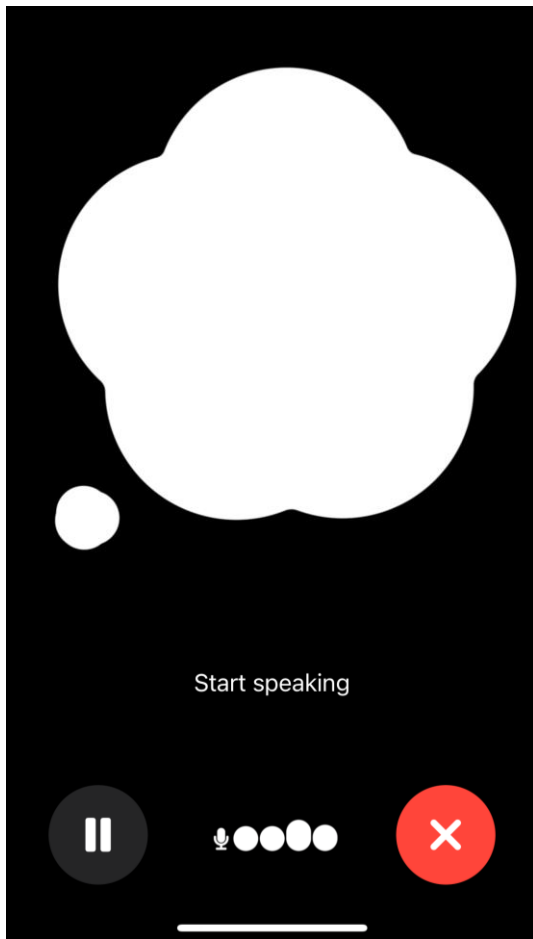


API interface
(using a script)



Chatting with a ChatGPT

iPhone app



Moodle page

A screenshot of a Moodle page in a web browser. The browser address bar shows "lms.kochi-tech.ac.j...". The page title is "KUTLMS". The main content area has the heading "Practice spoken conversation with ChatGPT using just a browser." Below this is a text input field with the placeholder "Enter a question or message here.". Underneath the input field are four buttons: "Automatic mode:" with a checkbox, "Speak" (green), "Send" (blue), "Listen" (orange), and "Reset" (grey). There are three sections of settings: "Language and Level" with "Language: English (en)" and "CEFR level: A1 Basic"; "Participant roles" with "Role for ChatGPT: a helpful English tutor" and "Role for BATESON: a student of English"; and "Text-to-speech (TTS) settings:" with "Voice: Daniel (English (United Kingdom))" and "Speed: 1.0" on a slider between "Slow" and "Fast". A "Feedback and Translation" section at the bottom has "Language: Japanese (ja)". The footer says "Last modified: Friday, 29 September 2023, 5:17 PM".

But we
don't want
to chat

Hypothesized solution

Prompts => reusable,
adaptable,
tuned

Temperature => low (e.g. 0.2)

Interface => programmatic

Methodology

1. Decide question import format
2. Develop ChatGPT prompts via its web interface
 - a) Use place holders to allow for easy reuse
 - b) Define roles and output format
 - c) Provide examples
3. Run prompts automatically via API interface

Question formats

Text

- + readable by humans
- requires manual input

GIFT

- + readable by humans
- difficult to set all settings

XML

- + can include all settings
- unreadable by humans

Wait, it's

been done

already!

AI Text to questions generator

Moodle plugin:

local_aiquestions

by Y. Klein and R. Salomon

*Generates a specified number
of multiple-choice questions
in GIFT format about a given text.*

Download:

https://moodle.org/plugins/local_aiquestions

AI-questions: Admin

AI Text to questions generator

OpenAI API Key
local_aiquestions | key

.....  

Please Type Here Your OpenAI API Key

You can get your API key from <https://platform.openai.com/account/api-keys>

Select the "+ Create New Secret Key" button and copy the key to this field.

Note that you need to have an OpenAI account that include billing settings to get an API key.

Number of Tries
local_aiquestions | numoftries

Default: 10

Please Write Here The Number of Tries You Want to Send to OpenAI

Language
local_aiquestions | language

 Default: English

Please Select Here The Language You Want to Use For The Questions Generation

Note that some languages are less supported than others on ChatGPT.

Ai-questions: Prompt [1]

Please **write** {{num-of-questions}}
multiple choice **questions** in {{language}}
language in GIFT format on the text
below. ...

Ai-questions: Prompt [2]

... **In GIFT format for multiple choice** questions, write the question text followed by some questions in curly brackets. Inside the curly brackets, write an equal sign (=) before the correct answer, and a tilde sign (~) before a wrong answer. **For example:**
"::Question text { =right answer ~wrong answer ~wrong answer ~wrong answer }".

Ai-questions: Prompt [3]

... **Please** leave a blank line between questions. **Be sure to** write the questions in the right format and please **do not forget** any equal or tilde sign ! {{story}}

Let's ask ChatGPT to create a story.

ChatGPT prompt to write a story

Please **write a story** using the words listed below. The story should be written in **CEFR level A2** English and should be no longer than **200 words**. The **main character** is a silver toy poodle who is searching for a sock that his owner has mislaid sometime during removing the sock the previous evening and hanging up the laundry to dry earlier today.

Here is the list of words:

1. badge
2. despairing
3. grid
4. jingle
5. moderate
6. remember
7. schemer
8. somehow
9. summary
10. wristwatch

Max, the silver toy poodle, trotted through the living room, his tiny **badge**-shaped tag **jingling** on his collar. He had a mission—to find the missing sock. His owner had taken it off the night before, and **somehow**, it vanished during the laundry hanging today.

With a **moderate** wag of his tail, Max sniffed around the sofa and under the table. The room seemed like a vast **grid** of furniture, but Max was determined. He **remembered** his owner's actions, especially the moment the sock disappeared.

In the bedroom, Max spotted the laundry basket. His **despairing** eyes brightened as he saw a familiar pattern—a sock peeking out. With a triumphant bark, he tugged the sock out, holding it in his mouth like a victorious **schemer**.

Back in the living room, Max dropped the sock at his owner's feet, wagging his tail proudly. The **summary** of his adventure was clear—he had solved the mystery and retrieved the missing sock. His owner chuckled, patting Max's head. The little poodle, with his **wristwatch**-like collar, had once again proven himself a hero in the daily adventures of the household.

AI-questions: Teacher [1]

Story

Number of Questions

Generate Questions

Cancel

AI-questions: Teacher [2]

The cron task seems not to run, questions generation rely on AdHoc Tasks that are created by the cron task, please check your cron settings. See https://docs.moodle.org/en/Cron#Setting_up_cron_on_your_system for more information.

Created questions successfully.

What is Max's breed? 🔍

Where did Max find the missing sock? 🔍

How did Max feel when he saw the familiar pattern on the sock? 🔍

What did Max do when he found the missing sock? 🔍

100%

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

[Back to course](#)

[Go to question bank](#)

[Generate More Questions](#)

AI-questions in GIFT format

::What is Max's breed?

{ =Toy poodle

~Golden retriever

~Labrador retriever

~German shepherd }

::Where did Max find
the missing sock?

{ =In the bedroom

~Under the table

~In the living room

~In the laundry basket }

::How did Max feel when he saw
the familiar pattern on the sock?

{ =His despairing eyes brightened

~He felt disappointed

~He felt confused

~He felt scared }

::What did Max do when
he found the missing sock? {

=He dropped it at his owner's feet

~He hid it under the bed

~He chewed on it

~He buried it in the backyard }

AI-questions in a Moodle quiz

☰ What is Max's breed? **Version 1 (latest)**

Question **1**

Tries
remaining: 1

Marked out of
1.0

What is Max's breed?

- a. Golden retriever
- b. German shepherd
- c. Labrador retriever
- d. Toy poodle

Check

A more versatile prompt [1]

Define roles:

I am a language teacher. I teach English to Japanese university students. Your role is an expert in generating online educational content.

Define action:

Help me to create questions that I can import into a Moodle LMS. Here is template for a prompt for ChatGPT. It contains place-holders that start and end with two curly brackets. Remember this template.

A more versatile prompt [2]

Define template:

Create `{{number-of-questions}}` `{{type-of-questions}}`

questions to check students understanding of the vocabulary item "`{{vocabulary-item}}`".

Use only CEFR level `{{level-of-questions}}` English.

Format the questions in GIFT format using the following template: `{{GIFT-template}}`

Multiple-
choice

question

Insert the following values into the template and then run the prompt.

{{number-of-questions}}: 3

{{type-of-questions}}: multiple choice

{{vocabulary-item}}: achieve

{{level-of-questions}}: A2

{{GIFT-template}}:

::question-name::question-text? {

=correct-answer #Explanation of why the answer is correct.

~wrong-answer-1 #Explanation of why the answer is incorrect.

~wrong-answer-2 #Explanation of why the answer is incorrect.

~wrong-answer-3 #Explanation of why the answer is incorrect.

}

A more versatile prompt [4]

::Achieve_Question_1::

What does "achieve" mean?{}

::Achieve_Question_2::

Which of the following is an antonym of "achieve"? {}

::Achieve_Question_3::

Which sentence uses "achieve" correctly? {}

Looks good ...
but check the

Feedback

::Achieve_Question_1::What does "achieve" mean? {

=To successfully reach a goal or complete a task.

#Correct! **Achieve means** to successfully reach a goal or complete a task.

~To give up easily.

#Incorrect. **Achieve does not mean** to give up easily.

~To start something new.

#Incorrect. **Achieve does not mean** to start something new.

~To ignore responsibilities.

#Incorrect. **Achieve does not mean** to ignore responsibilities.

}

True/False

question

Insert the following values into the template and then run the prompt.

{{vocabulary-item}}: **inefficient**

{{type-of-questions}}: **true/false**

{{number-of-questions}}: **3**

{{level-of-questions}}: **A2**

{{GIFT-template}}:

::question-name::statement-that-is-true?{TRUE}

::question-name::statement-that-is-false?{FALSE}

::Inefficient_True::"Inefficient" means not using time, energy, or resources well. {TRUE}

::Inefficient_False::"Inefficient" means using time, energy, or resources effectively. {FALSE}

::Inefficient_False2::"Inefficient" is a synonym of "productive". {FALSE}

Matching question

Insert the following values into the template and then run the prompt.

{{vocabulary-item}}: inefficient

{{type-of-questions}}: matching

{{number-of-questions}}: 3

{{level-of-questions}}: A2

{{GIFT-template}}:

Match the following words with their corresponding meanings. {

=target-word -> definition-of-target-word

=similar-word-1 -> definition-of-similar-word-1

=similar-word-2 -> definition-of-similar-word-2

=similar-word-3 -> definition-of-similar-word-3

}

Match the following words with their corresponding meanings. {

=inefficient -> not achieving maximum productivity;
wasteful

=efficient -> achieving maximum productivity with
minimum wasted effort or expense

=productive -> producing or able to produce large
amounts of goods, crops, or other
commodities

=effective -> successful in producing a desired or
intended result

}

Short-
answer
question

Insert the following values into the template and then run the prompt.

{{vocabulary-item}}: **achieve**

{{type-of-questions}}: **short answer**

{{number-of-questions}}: **3**

{{level-of-questions}}: **A2**

{{GIFT-template}}:

Start of a sample sentence that uses the target vocabulary item {

=correct-answer #Explanation of why the answer is correct.

~incorrect-answer-1 #Explanation of why this answer is incorrect.

~incorrect-answer-2 #Explanation of why this answer is incorrect.

} end of the sample sentence.

Start of a sample sentence that uses the target vocabulary item {

=She worked hard to achieve her dreams. #Correct! In this sentence, "achieve" is used correctly to indicate successfully reaching dreams through hard work.

~He achieve his goals easily. #Incorrect. The correct form is "He achieved his goals easily."

~They achieving success through teamwork. #Incorrect. The correct form is "They achieved success through teamwork."

~We can achieve the project by next week. #Incorrect. The correct form is "We can achieve completion of the project by next week."

} end of the sample sentence.

BATESON

You have misunderstood my intention.

Here is an example of a sentence for the target word "achieve" with a blank (indicated by five underscores) to show where the the target word goes.

I hope to _____ my dreams someday.

CHATGPT

Thank you for clarifying! Here's the corrected prompt with the provided example sentence:

```
Create 3 short answer questions to check
students' understanding of the vocabulary
item "achieve".
```

```
Use only CEFR level A2 English.
```

```
Format the questions in GIFT format using the
following template:
```

```
I hope to _____ my dreams someday. {
```

```
=achieve #Correct! "Achieve" is the correct word to fill in the blank to
complete the sentence.
```

```
~realize #Incorrect. "Realize" does not fit the context of the sentence.
```

```
~fulfill #Incorrect. "Fulfill" does not fit the context of the sentence.
```

```
}
```

Results vary by question-type

Reliable results

- Multiple-choice questions

- True/False questions

- Matching

Unreliable results

- Short answer

Untested

- Embedded (cloze)

Does it
work?

Research questions

- [1] Can we generate research questions using GPT that can be converted into a Meta question bank?

So, can the process be automated?

Yes, but not finished yet!

Thank you.

Questions?