

Harnessing the Power of AI to Create Engaging & Innovative Instructional Materials

The Center for Teaching and Learning | 20 July 2023 |

Example ChatGPT Prompts and Results

Example #1

Chatty Challenge #1: Design a Syllabus

Prompt: Create a syllabus for the Fundamentals of Teaching and Learning in Higher Education course. It is a graduate-level course designed for Ph.D. candidates and post-docs seeking faculty positions in higher education. The course description is, "This is a highly interactive and practical course that allows you to learn and apply principles of learner-centered teaching based on the research about how people learn. Through readings, lectures, activities, practice, and peer review, we will explore the principles of learner-centered teaching. You will synthesize the course content and your personal experiences to produce assignments that demonstrate your understanding of and ability to apply key principles."

OUTPUT

Course Title: Fundamentals of Teaching and Learning in Higher Education

Level: Graduate

Course Description: This highly interactive and practical course allows you to learn and apply principles of learner-centered teaching based on research about how people learn. Through readings, lectures, activities, practice, and peer review, we will explore the principles of learner-centered instruction. You will synthesize the course content and your personal experiences to produce assignments that demonstrate your understanding of and ability to apply critical principles.

Learning Outcomes: By the end of this course, students will be able to:

1. **Understand** and **apply** principles of learner-centered teaching.
2. **Analyze** and **critique** various teaching methodologies used in higher education.
3. **Design** and **implement** an effective lesson plan for a higher education course.
4. **Demonstrate** an understanding of key theories and research related to how people learn.
5. **Effectively** assess student learning in a higher education context.
6. **Reflect** on and **improve** their own teaching practices based on feedback and self-assessment.

Assessment:

- **Class Participation (20%):** Active participation in lectures, discussions, and activities.
- **Lesson Plan Assignment (20%):** Design and submit a comprehensive lesson plan for a specific higher education course.
- **Teaching Philosophy Statement (20%):** A written reflection on personal teaching beliefs and practices, and how these align with principles of learner-centered teaching.
- **Peer Review and Feedback (20%):** Provide feedback on peer assignments and reflect on feedback received.
- **Final Project - Teaching Demonstration (20%):** A recorded or live teaching demonstration to apply what has been learned throughout the course.

Weekly Topics and Readings:

- **Week 1:** Introduction to Learner-Centered Teaching
 - **Reading:** *Learner-Centered Teaching: Five Key Changes to Practice* by Maryellen Weimer
- **Week 2:** Theories of Learning
 - **Reading:** *How People Learn: Brain, Mind, Experience, and School* by John D. Bransford
- **Week 3:** Lesson Planning and Course Design
 - **Reading:** *Understanding by Design* by Grant Wiggins and Jay McTighe
- **Week 4:** Active Learning Techniques
 - **Reading:** *Active Learning: A Practical Guide for College Faculty* by Elizabeth F. Barkley
- **Week 5:** Teaching with Technology
 - **Reading:** *Teaching in a Digital Age* by A. W. Bates
- **Week 6:** Assessment and Feedback in Higher Education

- **Reading:** *Assessment Clear and Simple: A Practical Guide for Institutions, Departments, and General Education* by Barbara E. Walvoord
- **Week 7:** Peer Review and Feedback
 - **Reading:** *Peer Review of Teaching: A Sourcebook* by Nancy Van Note Chism
- **Week 8:** Diversity, Inclusion, and Equity in Higher Education
 - **Reading:** *Teaching to Transgress: Education as the Practice of Freedom* by bell hooks
- **Week 9:** Teaching in the Online and Hybrid Environment
 - **Reading:** *Excellent Online Teaching: Effective Strategies For A Successful Semester Online* by Aaron Johnson
- **Week 10:** Developing a Teaching Philosophy
 - **Reading:** *The Teaching Portfolio: A Practical Guide to Improved Performance and Promotion/Tenure Decisions* by Peter Seldin
- **Week 11:** The Role of Research in Teaching
 - **Reading:** *The Scholarship of Teaching and Learning Reconsidered: Institutional Integration and Impact* by Pat Hutchings, Mary Taylor Huber, and Anthony Ciccone
- **Week 12:** Preparing for the Academic Job Market
 - **Reading:** *The Professor Is In: The Essential Guide to Turning Your Ph.D. Into a Job* by Karen Kelsky
- **Week 13:** Peer Review and Feedback
 - **Reading:** *Engaging in the Scholarship of Teaching and Learning* by Cathy Bishop-Clark and Beth Dietz-Uhler
- **Week 14:** Final Project - Teaching Demonstration
- **Week 15:** Reflection and Course Wrap-Up

Textbook: *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses* by L. Dee Fink

Please note: *The syllabus is subject to change based on class needs and the instructor's discretion.*

Example #2

Chatty Challenge #2: Background Knowledge Survey

Prompt: Create a 10-question Background Knowledge Survey for the Fundamentals of Teaching and Learning in Higher Education course. It is a graduate-level course designed for Ph.D. candidates and post-docs seeking faculty positions in higher education.

OUTPUT 1 *(based on the syllabus)*

Background Knowledge Survey: Fundamentals of Teaching and Learning in Higher Education

Instructions: This survey is intended to gauge your background knowledge and experience. There are no right or wrong answers. Your responses will help the instructor tailor the course content to the group's needs and experiences. Please answer each question as thoroughly and honestly as possible.

1. Have you had any previous formal education or training in pedagogy or instructional methods? If yes, please briefly describe your experiences.
2. Have you ever taught a course, or been a teaching assistant, in higher education? If so, please describe your role and the subject matter.
3. Do you have any experience with lesson planning or curriculum development? If so, please provide a brief overview of your experiences.
4. How familiar are you with learner-centered teaching methods? (Not at all, Somewhat, Very, Extremely)
5. Have you ever used technology (e.g., learning management systems, digital tools, etc.) in a teaching or learning context? Please provide examples.
6. How familiar are you with the principles of assessment and feedback in an educational setting? (Not at all, Somewhat, Very, Extremely)
7. How knowledgeable are you about theories and research related to how people learn? (Not at all, Somewhat, Very, Extremely)
8. Have you ever been involved in peer review or feedback in an educational context? If yes, please describe the process and your role.
9. Have you read or are you familiar with any of the readings listed in the course syllabus? If yes, please list the ones you are familiar with.
10. What are your primary goals for taking this course? What do you hope to learn or achieve?

OUTPUT 2

1. **What is your current level of understanding about teaching and learning strategies in higher education?**
 - a) None
 - b) Basic
 - c) Intermediate
 - d) Advanced
2. **Have you ever taught or assisted in teaching a course in higher education?**
 - a) Yes, as a primary instructor
 - b) Yes, as a teaching assistant
 - c) No, but I have observed courses
 - d) No
3. **How familiar are you with the concept of 'learning outcomes' in course design?**
 - a) Not familiar
 - b) Somewhat familiar
 - c) Very familiar
 - d) I have used learning outcomes in designing a course before
4. **Are you aware of different learning styles (e.g. visual, auditory, kinesthetic) and how they can influence teaching strategies?**
 - a) Not aware
 - b) Somewhat aware
 - c) Very aware
 - d) Have implemented teaching strategies considering different learning styles
5. **How familiar are you with the use of technology (Learning Management Systems, online discussion boards, etc.) in a higher education setting?**
 - a) Not familiar
 - b) Somewhat familiar
 - c) Very familiar
 - d) Have used technology for teaching or learning in higher education
6. **Have you ever designed or assisted in designing a course syllabus?**
 - a) Yes, I have designed a course syllabus
 - b) I have assisted in designing a course syllabus
 - c) I have observed but not participated in syllabus design
 - d) No
7. **Have you ever conducted or participated in student assessment in higher education (e.g. grading assignments, exams, projects)?**
 - a) Yes, I have conducted student assessment
 - b) I have participated but not led student assessment
 - c) I have observed but not participated in student assessment
 - d) No
8. **Are you familiar with the concept of inclusive teaching in higher education?**
 - a) Not familiar
 - b) Somewhat familiar
 - c) Very familiar
 - d) Have implemented inclusive teaching strategies
9. **Do you understand the concept of 'formative' and 'summative' assessment?**
 - a) Not familiar
 - b) Somewhat familiar
 - c) Very familiar
 - d) Have used both formative and summative assessments in a course
10. **How familiar are you with pedagogical theories and frameworks (e.g. Bloom's Taxonomy, Constructivism, etc.) used in higher education?**
 - a) Not familiar
 - b) Somewhat familiar
 - c) Very familiar
 - d) Have used pedagogical theories or frameworks in teaching or course design

Example #3

Chatty Challenge #3: Lesson Plan

Prompt: Create a 75-minute lesson plan for the Fundamentals of Teaching and Learning in Higher Education course.

OUTPUT *(based on the syllabus)*

Week 4 Lesson Plan: Active Learning Techniques

Objective: By the end of this lesson, students will be able to understand and apply various active learning techniques in a higher education context.

Materials Needed:

- Projector or large screen for presentation
- Computer with Internet access
- Handouts of active learning techniques (prepared in advance)
- Flip chart paper and markers

Time: 75 Minutes

Lesson Plan:

1. Introduction and Recap (10 minutes)

Begin with a brief recap of last week's topic - Lesson Planning and Course Design. Ask the students to share any insights or reflections they have about last week's lesson.

2. Lecture: Introduction to Active Learning Techniques (15 minutes)

Present a short lecture on the theory and benefits of active learning techniques. Include examples of how they can be applied in various subject areas in higher education.

3. Group Activity: Analyzing Active Learning Techniques (15 minutes)

Divide students into small groups and provide each group with a handout that describes a specific active learning technique (e.g., think-pair-share, jigsaw, problem-based learning, etc.). Ask each group to discuss the technique and come up with a plan for how it could be applied in a hypothetical course related to their field of study.

4. Gallery Walk and Discussion (20 minutes)

Have each group write a brief summary of their active learning technique and proposed implementation plan on flip chart paper and post it on the wall. Ask each group to walk around and review the other groups' work, and then facilitate a class discussion about the different techniques and their potential applications.

5. Reflection and Wrap-up (10 minutes)

Conclude with a brief reflection activity. Ask each student to write down one active learning technique they found particularly interesting or useful, and one question or concern they have about implementing active learning techniques in their teaching. Collect these reflections for review and to inform future lessons.

6. Homework Assignment (5 minutes)

For next week's class, assign students the task of developing a lesson plan for a class session in their field that incorporates at least one of the active learning techniques discussed during the class. They should be prepared to share and discuss their plan in next week's class.

Note: *This lesson plan is designed to be interactive and participatory, in order to model the active learning techniques being taught.*

Padlet Activity #1

- Reflect on the examples and ideas that Tammy has shared. Think about some kind of course content that you would like to attempt to create with ChatGPT.

- Access the AI Padlet

<https://gatech.padlet.org/vincentspezzo/harnessing-the-power-of-ai-8lteo21fbxpaa3lc>



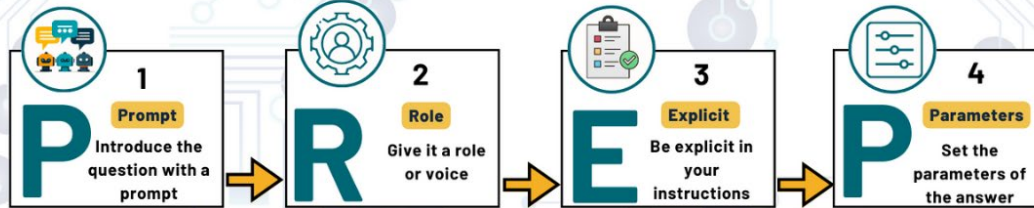
- Use the 1st column in Padlet to share your idea or prompt for see ChatGPT to create. The more specific the better.
- Once you'd put in your idea, look over the ideas other participants have shared and click the heart to "like" any posts you'd like to see us try.

PROMPT ENGINEER FRAMEWORK

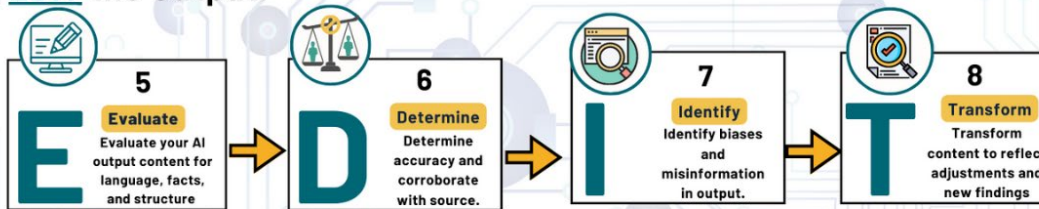


@AmandaFoxSTEM
 @DanFitzTweets
 @WeinsteinEdu

First, **PREP** the Machine.



Then, **EDIT** the Output.



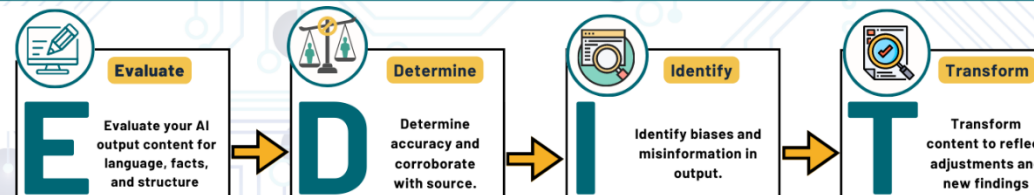
Re-**PREP** & **EDIT** until satisfied

The #AICLASSROOM

EDIT DIAGNOSTIC QUESTIONING



@AmandaFoxSTEM
 @DanFitzTweets
 @WeinsteinEdu



- | Content Evaluation | Accuracy Analysis | Bias Evaluation | Sentiment Analysis |
|--|--|--|--|
| <ul style="list-style-type: none"> How can you determine whether a statement in the generative AI output is a fact or an opinion? Are there any specific indicators or cues to look for? Are there any statements in the generative AI output that seem unlikely or implausible? | <ul style="list-style-type: none"> Does the generative AI output provide evidence to support its statements? What kind of evidence is presented, and is it reliable and credible? Are there any statements in the AI generative text that need to be corroborated with additional sources or evidence? How can you find and cite these sources? How can you ensure that the information presented in the AI generative text is up-to-date and reflects the most current research and data on the topic? | <ul style="list-style-type: none"> Does the text provide a limited or biased view of the topic? How can I provide additional perspectives to balance the writing? Are there any specific words or phrases in the AI-generated text that suggest a particular bias or perspective? Are there any logical fallacies present in the AI-generated text, such as circular reasoning or appeals to emotion? | <ul style="list-style-type: none"> Does the AI-generated text sound like something a human would say or write? Why or why not? How does the AI-generated text make you feel? Does it have an emotional impact? Why or why not? Can I provide a personal anecdote of experience to relate to the reader? |

The #AICLASSROOM

Example Using PREP

- **Prompt:** Create a group activity that will deepen understanding of how optical illusions work.
- **Role:** You are a Psychology instructor teaching an undergraduate intro to Psychology course.
- **Explicit:** Include information about how the brain works when observing optical illusions and include famous examples such as the blue/black or gold/white dress.
- **Parameters:** Write the instructions for the activity clearly. Include the intended outcomes and any links or materials needed for the activity as a list at the end.

ChatGPT 4.0 Output

Activity Title: "Decoding the Illusion: A Journey into the Brain's Perception"

Objective: To understand the cognitive and neural mechanisms behind optical illusions, using famous examples such as the blue/black or gold/white dress.

Instructions:

1. **Introduction (10 minutes):** Begin the activity with a brief lecture on the basics of optical illusions. Explain how our brain interprets visual information and why sometimes this interpretation differs from reality.
2. **Group Discussion (15 minutes):** Divide the class into small groups. Each group will discuss their initial thoughts and understanding of optical illusions. They should share any experiences they've had with optical illusions, including the famous blue/black or gold/white dress.
3. **Case Study Analysis (30 minutes):** Provide each group with a set of optical illusions (including the blue/black or gold/white dress). The groups will analyze each illusion and discuss why they perceive the illusion in a certain way. They should also discuss the possible cognitive and neural mechanisms at play.
4. **Presentation (20 minutes):** Each group will present their findings to the class. They should explain their understanding of each optical illusion and the possible reasons behind their perception.
5. **Wrap-up Discussion (15 minutes):** Conclude the activity with a class-wide discussion. Summarize the key points from each group's presentation and clarify any misconceptions. Discuss how understanding optical illusions can provide insights into human cognition and perception.

Intended Outcomes:

- Students will gain a deeper understanding of the cognitive and neural mechanisms behind optical illusions.
- Students will learn to analyze and discuss complex psychological phenomena in a group setting.
- Students will improve their presentation and communication skills.

Materials Needed:

- A set of optical illusions, including the blue/black or gold/white dress. You can find these online or in psychology textbooks.
- A projector or large screen for group presentations.
- Notebooks and pens for note-taking.

Links for Further Reading:

1. [Optical Illusions and Visual Phenomena](#)
2. [The Science of Optical Illusions](#)
3. [The Dress: A Year Later, the Science Behind the Blue/Black or White/Gold Debate](#)

Padlet Activity #2

- Review the steps from PREP and rewrite your prompt
- Access the AI Padlet



<https://gatech.padlet.org/vincentspezzo/harnessing-the-power-of-ai-8lteo21fbxpaa3lc>

- Use the 2nd column in Padlet to share your revised PREP based prompt.
- Once you'd put in your revised prompt, look over the ideas other participants have shared and click the heart to "like" any posts you'd like to see us try.

Additional Recommended Resources



[Collection of ideas for using AI in education \(https://tinyurl.com/y4rmxr76\)](https://tinyurl.com/y4rmxr76) that is made available as an Open Educational Resource (OER) via the [#creativeHE website](#) and the [National Teaching Repository](#). The collection is made available under the Creative Commons License [CC-BY-NC-SA](#) license



[Chat GPT Understanding the new landscape \(https://tinyurl.com/4whd6ydc\)](https://tinyurl.com/4whd6ydc) (resources and ideas updated daily), blog focused on instructional challenges posed by AI Compiled by [Cynthia Alby](#), Co-Author of [Learning That Matters: A Field Guide to Course Design for Transformative Education](#)



[AI text generators: Sources to Stimulate conversations among teachers \(https://tinyurl.com/5n89ksd4\)](https://tinyurl.com/5n89ksd4). Compiled by [Anna Mills](#) for the [Writing Across the Curriculum Clearinghouse](#) as part of a larger resource collection: [AI and Teaching Writing: Starting Points for Inquiry](#). Licensed [CC BY NC 4.0](#).

Thank you for Joining Us

Thank you for attending the workshop Transforming Teaching and Learning with ChatGPT. The Center for Teaching and Learning appreciates your feedback on your workshop experience. Please take just a few minutes to provide us with your valuable insights on the following survey so we can work to provide our community with the best programing possible.

Please complete the [Workshop Survey](#) or access via the QR code:



As part of the workshop series Teaching and Learning in an Age of Artificial Intelligence the Center for Teaching and Learning is hosting a Faculty Learning Community (FLC) through Teams to allow for the free exchange of ideas, discussion, and resources by interested GaTech educators.

This FLC will be open to any educator at GT of any level, with varying experience using AI in teaching and learning. So whether you're just getting started thinking about how AI can transform your classroom or if you've been designing and creating AIs yourself, you are welcome and encouraged to join this FLC.

There are no expectations for participation required to join, but we will occasionally hold optional meetings through Teams during the Fall and Spring semesters as well as other opportunities to meet up and interact outside of Teams.

To join the FLC, simply [follow this link](#) or access via the QR code:

