

#### **OUR MISSION**

# Inspiring what's possible for every learner.

Every great company has a culture that makes it unique; a compelling sense of purpose that drives people to show up to work each day. For Macmillan Learning, that purpose is to inspire what's possible for every learner. We are energized by that mission and by our role as a positive force in education. We know that what we do makes a difference and we work everyday to unlock the potential of every learner, actively participating in each one's educational life with our course materials and digital tools. As a privately-held, family-owned company, we provide our employees with the freedom to focus on what's most important: the students.





#### **Fighting Fire with Fire**

Navigating Student Al Use with Al-Enriched Assignments and Assessments

**Solina Lindahl,** Senior Lecturer for Economics, California Polytechnic State University **Scott Cohn,** Associate Professor of Psychology, Dakota State University



#### Fighting Fire with Fire

Go to

## join.iClicker.com **EGWX**



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**Welcome & Introduction (5 minutes)** 



**AI Discussion Topics (20 minutes)** 



**Adapt Your Own Resource Activity (30 minutes)** 



Thank you and conclusion (5 minutes)



### **Discussion**

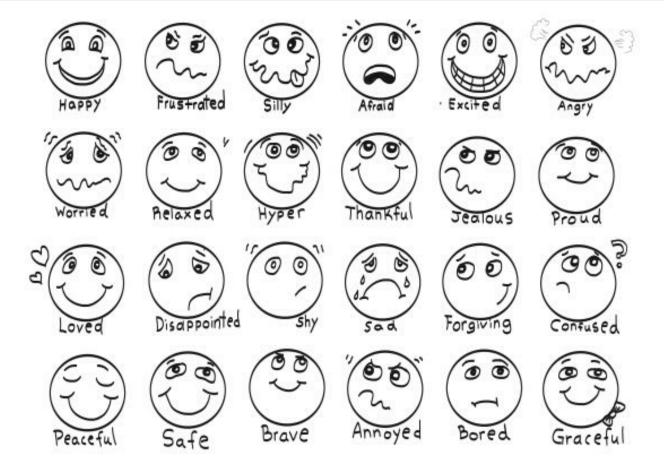




- a) Very comfortable! I use it all the time
- b) Getting there. I have found a few ways to incorporate it, but I think I could probably do more.
- c) I have toyed with it a little, but I am not quite comfortable using it regularly.
- d) Not at all. I haven't used it at all.



#### How do you feel about AI?





# How has AI affected your teaching?



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If you have used AI with your students in some way, how have you used it?





# TEACHING IN THE AGE OF AI

# FIGHTING FIRE WITH FIRE (?)

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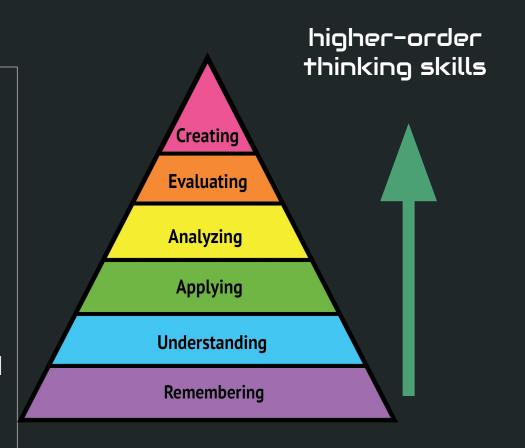
#### AI: OUTCOMES

# MUCH ED TECH FAVORS EITHER TECHNICAL ABILITY OR ROTE KNOWLEDGE

Al can push them toward analysis and synthesis

## LEAN INTO THE AI FOR CRITICAL THINKING

 Identification of arguments and their origin



#### AI: ASSIGNMENTS

#### **EXPLICIT STATEMENT OF AI USE**

• Clarify whether AI is allowed; avoid becoming a gateway drug to academic dishonesty

#### LEAN INTO AI (TO PUSH STUDENTS UP THE AI LEARNING CURVE THEY WILL EVENTUALLY NEED TO MASTER)

- Let students explore the uses of Al in your field (and maybe link it to theirs?)
- Ask them to use Al to argue why your discipline has value to their lives

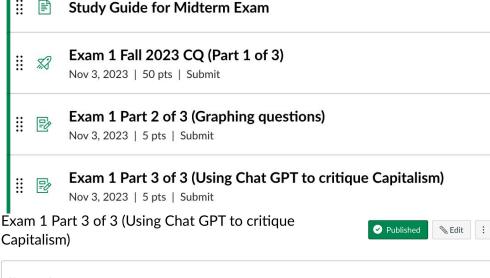
#### AI : ASSESSING KNOWLEDGE

#### **MULTIPLE EXAM MODALITIES:**

- diversify the types of knowledge tested
- pushes them higher on Bloom's taxonomy

#### LEAN INTO THE AI FOR CRITICAL THINKING

- ask students to share their prompt and justify it
- ask for a critique of the Al-generated answer
- ask Al to generate a "both sides" arguments and compare/contrast/synthesize



Here we go!

For part 3 of the exam, please visit  $\underline{\text{https://openai.com/blog/chatgpt/}} \ \boxminus$  and try chat GPT.

You should "try Chat GPT" and enter the phrase "Write a critique of capitalism in the style of a horror film/King James Bible/like a pirate" and see what happens. (you don't have to use the horror film/King James Bible/like a pirate lingo but it makes it a little more fun)

For your part, you are going to "Critique the Critique" by analyzing the arguments made.

Please copy and paste what Chat GPT publishes, then follow it with your own summary where you take each main point (up to 4) and rewrite it in your own words. Then, offer your own opinion- do you agree or not, and why?

(You can use the text box to answer, or attach a document. This is not timed, but is due along with the rest of the exam)



# KEEP ASKING, "HOW DO WE KNOW?"

## ICLICKER'S NEW AI QUESTION-GENERATION:

#### vote early, vote often! Formative assessment help









- A: The government
- B: Consumers, because they respond strongly to price changes
- C: Producers, because they cannot easily change the quantity supplied
- D: Both consumers and producers bear the burden equally
- E: Foreign trade partners









Assume the supply and demand for a good are linear, with the demand curve starting at \$120 (at a quantity of 0 units) and decreasing by \$1 for every additional unit demanded. The supply curve starts at \$20 (at a quantity of 0 units) and increases by \$0.50 for every additional unit supplied. Calculate the deadweight loss when a tax of \$30 per unit is imposed.

Answer: 450





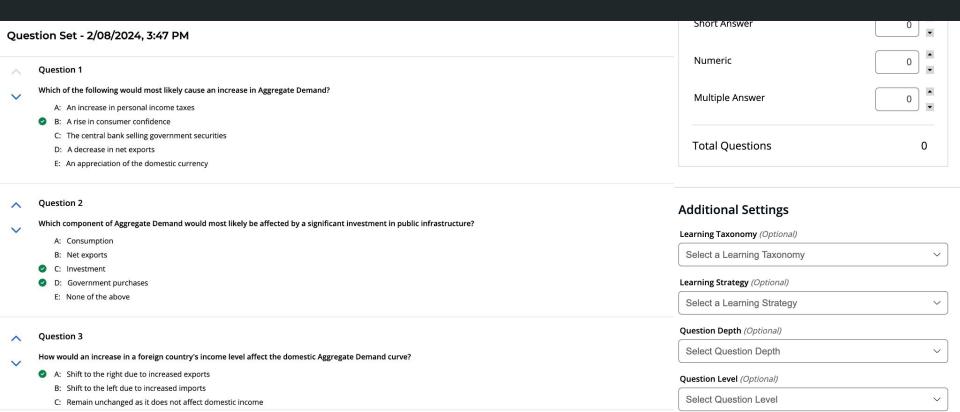


When a government imposes a tax on a good that is higher than the market equilibrium price, what effect does this have on deadweight loss?

- A: Deadweight loss does not occur as the market is still at equilibrium.
- B: Deadweight loss is unchanged as taxes do not affect the market equilibrium.
- C: Deadweight loss decreases as the tax generates revenue for the government thereby increasing total surplus.

#### **ICLICKER'S NEW AI QUESTION-GENERATION:**

vote early, vote often! Formative assessment help



## They think it's THEIR service animal...

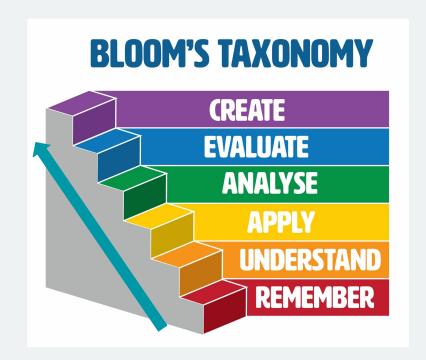




## Build Your Own Resource



## Adapt Your Own Resource Using Al!



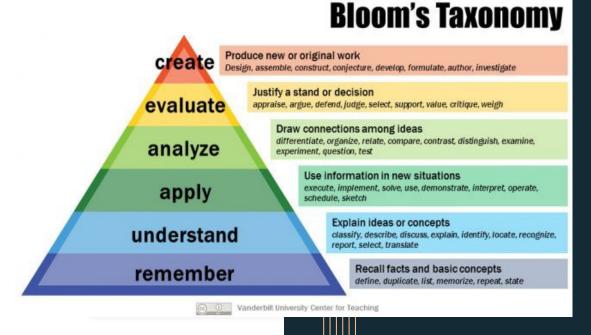


#### **Step 1: Select an existing assignment**

Identify an assessment that you use that is currently a lower Bloom's level. This could be:

- An in-class activity
- An exam question
- A paper
- A homework assignment

Have one in mind? Great!





#### **Step 2: Analyze the lower level task**

UseAI to dissect the components of a lower-level activity or question. Through dialogue with AI, analyze these components to identify associated cognitive skills, which will inform the adaptation of the task to a higher level.

#### To create your prompt:

- 1. **Provide Context:** Start by explaining the activity or question you want AI to analyze. For instance, "I need assistance with a task where students define and explain [concept or topic]. Can you help identify the skills involved?"
- 2. **Clarify the Task:** Clearly outline the task. For example, "Students are tasked with defining [concept or topic] and explaining the process in simple terms."
- 3. **Describe Components:** Break down the task components, for example, "Can you help me break down its components to see what skills are involved?"
- 4. **Ask for Analysis:** Prompt AI to analyze these components: "Could you break down each component and discuss the cognitive skills required for students to achieve them?"
- 5. **Engage in Dialogue:** Interact with AI as it analyzes each component. Pose follow-up queries to deepen the analysis.



#### **Step 3: Identify higher level Bloom's Verbs**

Look for higher-level Bloom's verbs for applying or analyzing the concept. For applying, verbs like "demonstrate," "apply," "illustrate," or "use" are appropriate. For analyzing, verbs like "analyze," "evaluate," "synthesize," or "compare" are good fits.

#### To create your prompt:

- 1. **Provide Context:** Start by providing context about the lower-level activity you've analyzed. For example: "I have analyzed a task where students define and explain [concept or topic]. Now, I want to adapt it to target higher-level thinking. Can you suggest appropriate Bloom's Taxonomy verbs for this?"
- 2. **Specify the Goal:** Clearly state your goal of incorporating higher-level Bloom's Taxonomy verbs into the adapted activity. For example: "I want to encourage students to apply or analyze t[concept or topic] rather than just recalling and understanding it."
- **3. Request Suggestions:** Prompt AI to suggest appropriate Bloom's Taxonomy verbs that align with your goal. You can say something like: "Could you suggest verbs that would prompt students to apply or analyze [concept or topic] in a higher-level activity?"
- **4. Evaluate Suggestions:** Evaluate the suggestions provided by AI and consider how each verb aligns with your goal of targeting higher-level thinking in the adapted activity.



#### learning Step 4: Transform the task

Rewrite the question or activity to incorporate higher-level Bloom's verbs.

**Refine Instructions:** Based on the suggestions provided by AI, refine the instructions to incorporate the selected higher-level Bloom's Taxonomy verbs. Ensure that the language used is clear, concise, and conducive to promoting higher-level thinking. Consider the following approaches:

- 1. **Provide Contextualization:** Prompt AI with the concept or topic you're teaching and ask for real-world scenarios or examples that demonstrate its relevance. For example, "Can you share real-world examples to demonstrate the practical relevance of [concept or topic]? This aids student understanding."
- 2. **Incorporate Multifaceted Approaches:** Ask AI for suggestions on how to diversify the assignment to encourage students to approach it from multiple perspectives or through various modes of inquiry. For instance, "How can I design this assignment to encourage students to analyze data, conduct research, engage in debates, or create multimedia presentations?"
- 3. **Require Justification or Explanation:** Prompt AI to suggest ways to incorporate justification or explanation requirements into your assignment instructions. You might ask, "How can I modify the assignment instructions to prompt students to justify their responses or explain their reasoning?"
- Create Authentic Assessment Tasks: Ask AI about designing assessment tasks that mirror real-world challenges or problems relevant to the concept. You can say, "I want to create assessment tasks that simulate real-world challenges related to [concept or topic]. How can I design tasks that require students to apply their knowledge in meaningful contexts?"



#### Macmillan learning Step 5: Assess the new task

Plan assessment for the higher-level task. Consider criteria like critical thinking, depth of analysis, evidence use, and argument coherence. Use AI feedback to refine rubrics, ensuring clarity, specificity, and alignment with learning outcomes. Adjust as needed to support higher-level thinking.

- 1. **Align to Learning Outcomes:** Ensure that the refined activity aligns with your course's learning outcomes or objectives related to higher-level thinking skills. Clearly communicate to students how the activity contributes to their overall learning goals. "Can you help ensure my activity aligns with higher-level thinking objectives? Also, how can I clearly communicate its importance to students' overall learning goals?"
- 2. **Discuss Criteria and Levels of Performance:** Engage in a dialogue with AI to discuss the criteria for assessment. Prompt to AI: "Can you provide insights on the criteria for assessment and the levels of performance within each criterion for evaluating students' performance at a higher-order Bloom's level? Specifically, what distinguishes excellent, proficient, basic, and inadequate performance?"
- 3. Create or Refine Rubrics/Criteria: Based on the AI feedback, develop clear criteria or rubrics for assessing students' performance on the refined activity. Clearly outline expectations for higher-level thinking skills such as analysis, synthesis, and evaluation, and provide examples of exemplary responses.



#### **Macmillan** learning Step 6: Feedback and Reflection

After students complete the new task, provide feedback that helps them understand the strengths and areas for improvement in their application or analysis of the concept. Encourage reflection on their thinking processes and strategies used.

Prompt: "After students complete the adapted task, what type of feedback would be most helpful in guiding their understanding of the concept and their higher-level thinking skills?" Consider the following ideas:

**Clarification and Explanation:** Clarify any misconceptions and explain key concepts clearly to enhance understanding.

**Highlight Strengths and Address Weaknesses:** Recognize strengths in higher-level thinking skills and provide specific examples. Address areas for improvement with constructive feedback and actionable suggestions. Offer specific suggestions for enhancing critical thinking, problem-solving, or analytical skills, focusing on actionable steps for improvement.

**Encourage Reflection:** Prompt students to reflect on their approach to the task. Encourage metacognition with questions like: 'How did you tackle the problem? What strategies were effective? How could you approach it differently next time?'

**Promote Self-Assessment:** Encourage students to self-assess their performance against the criteria and standards set for the task. Provide tools or checklists for self-assessment and encourage students to reflect on their strengths and areas for improvement.

Foster Growth Mindset: Encourage a growth mindset by highlighting the value of perseverance and effort. Reinforce the idea that challenges are opportunities for learning and improvement and provide positive reinforcement for their efforts and progress.







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Name and Contact Information