Conversational Catalysts: Transforming Writing and Critical Thinking with ChatGPT

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Objectives

- Define the current landscape of AI integration in education.

- Describe AI usage among college students and its impact on performance.

- Summarize the applications of AI in student and faculty contexts.

- Explain the implications of AI in enhancing student learning experiences and writing.

- Discuss possible policies related to AI use in student assignments.

- Evaluate the potential of AI tools for faculty applications, including lesson planning, test generation, and plagiarism detection.

- Analyze the impact of AI-generated content on traditional teaching and assessment methods.

- Critically assess the benefits and challenges of AI in education and teaching writing.

- Evaluate the ethical considerations related to AI implementation in writing, teaching, and learning.

- Devise AI-enhanced assignments for students.

- Propose strategies to address ethical challenges and biases in AI implementation in education.

Poll

- How often do you use artificial intelligence?
- 1= Every day
- 2= Sometimes
- 3= Rarely
- 4 = Never

Poll

▶ How often do you think your students use artificial intelligence?

▶ 1= Every day

▶ 2= Sometimes

▶ 3= Rarely

▶ 4 = Never

The Current Landscape

- ▶ 43% of college students in the US admit to using AI tools such as ChatGPT.

- ▶ 50% of those who have used AI tools say they did so to complete assignments or exams. This accounts for 22% of all college students surveyed.

- ▶ 90% of learners who use ChatGPT for their studies consider it better than tutoring.

- ▶ AI-enhanced chatbots gave students individualized support and advice with 91% accuracy.

- ▶ (Miszczak, 2023)

The Current Landscape

▶ Using adaptive learning, students improved their test results by 62%.

▶ 36% of students in higher education report that they have been threatened with failure if they are detected utilizing artificial intelligence in an unethical manner.

▶ Over the next three years, AI will be the driving force behind almost half of all learning management systems.

▶ In comparison to female pupils, male pupils are more likely to employ AI.

▶ (Miszczak, 2023)

The Current Landscape

▶ Seventy-five percent of student AI "users" said if their instructor or institution banned generative AI writing tools, they would be at least "somewhat likely" to continue using the tools.

▶ Half of students that were "non-users" also stated they would be "somewhat likely" to use the AI tools if they were banned.

▶ About a third (32%) of private, four-year institutions rely on instructors to set their own policy, although 26% have institution-wide policies.

▶ Public four-year institutions are split on policies: 28% say policies at the institution have been set, 25% say they do not know if there are any policies, and 21% said no policies were made at their institution.

▶ Public two-year institutions have the lowest rate of policy adoption: 52% said they do not have a policy or do not know if they have a policy. (Shaw et al., 2023)

Student Applications

- Is there a policy in the syllabus? Students should understand what is and is not allowed.

- Student rule: "If you shouldn't ask a tutor to do it, do not ask AI to do it."

- AI lies and does not write in your voice.

- Unusual syntax or phrasing, lacks personal experience, repetitive, knowledge gaps, "unrealistically creative," or out of context

- Non-academic uses (cover letters, scholarship and internship applications, emails)

- Use AI to manage non-school life (meal planning, prioritizing, time management, social media posts)

Student Applications: Reading and Writing

- **Idea generation**

- Boolean search generation

- Organization and thesis

- Breaking down difficult texts (Diffit)

- Research and citation (Scite.ai)

- Talking through your ideas when you're stuck

- Revision

Application

▶ Sign on to ChatGPT.

▶ https://openai.com/chatgpt/

▶ Obtain an assignment from D2L.

▶ Use it to generate ideas for that assignment as a student might.

ChatGPT as Writing Tutor

- Helps students brainstorm ideas and generate writing prompts.
- Provides different viewpoints to stimulate analytical thinking.
- Identifies and corrects grammatical errors in student writing.
- Offers suggestions for improving clarity and coherence.
- Provides detailed feedback to guide student revisions.

- Acts as a 24/7 writing tutor available to students.
- Empowers students to become more self-sufficient writers.
- Supports students through the writing process with step-by-step assistance.
- Aids in continuous improvement of students' writing skills across disciplines.
- Makes the writing process more interactive and engaging.

Application

▶ Sign on to ChatGPT.

▶ Sign on to your email.

▶ Obtain an email you wrote and put it into ChatGPT, asking ChatGPT for suggestions for improvement.
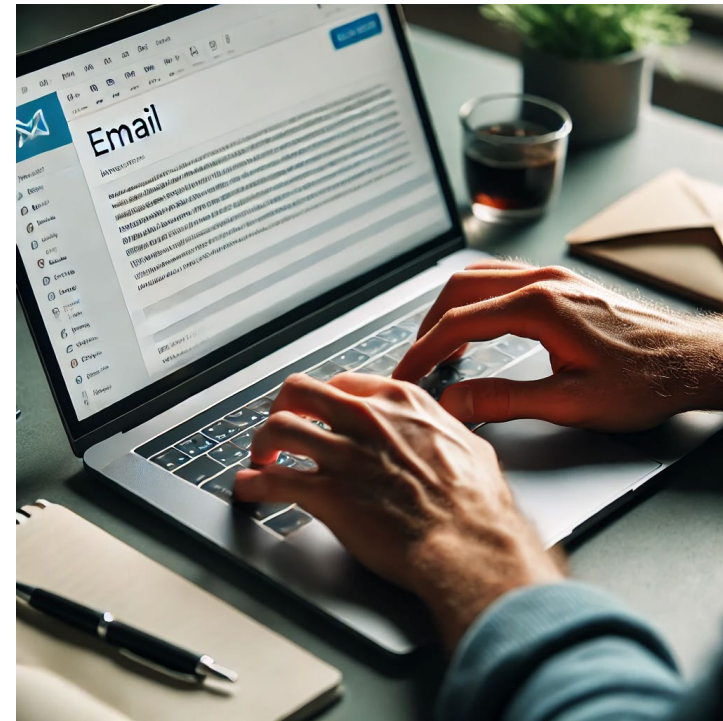
Faculty Applications

▶ Lesson planning

  ▶ Suggest relevant readings, articles, or primary sources based on the topics you're covering in your course.

  ▶ Organize your course content, ensuring a logical progression of topics and activities.

▶ Test and quiz generation

  ▶ AI can generate a variety of test questions, including multiple-choice, true/false, and short answer questions.

▶ Plagiarism detection

  ▶ Note: Turnitin.com and using AI to detect AI (caution).

Faculty Applications Cont.

► Lecture enhancement

  ► Summarize lengthy articles or texts, helping to break down complex material.

► Administrative tasks

  ► Manage your class schedule, office hours, and reminders for deadlines.

► Student communication

  ► Common student queries and announcements.

► **Suggested comments**

  ► AI can offer suggestions for feedback comments on assignments and essays.

► Accessibility tools

  ► Use AI-powered tools to make your content more accessible.

Application

▶ Sign on to ChatGPT.

▶ Obtain an assignment from one of your courses on D2L or briefly describe the assignment.

▶ Ask ChatGPT to create a bank of potential comments to offer students based on the assignment and its criteria.
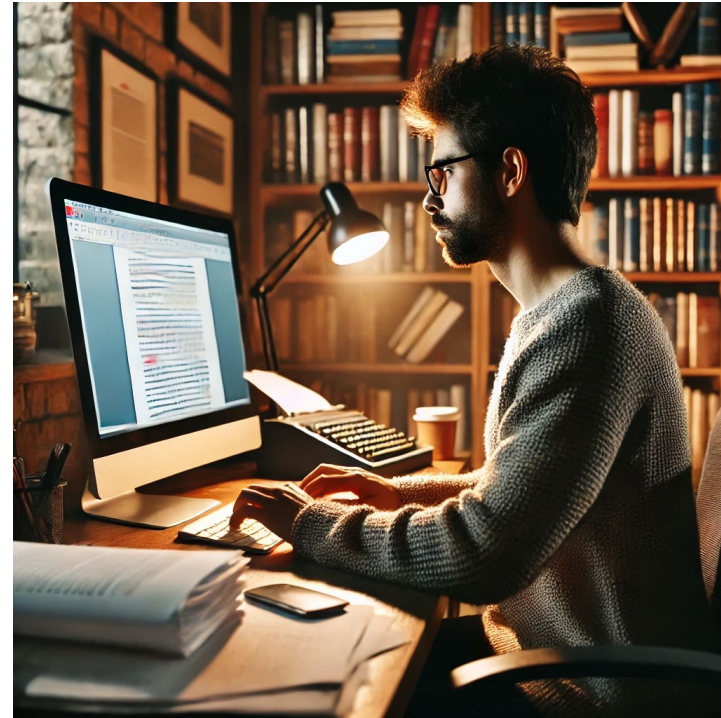
AI Assignments

▶ How can we use AI not only to craft assignments but for students to use to complete assignments?

Historical Figure Interview

▶ This activity involves using AI, such as ChatGPT, to simulate conversations with historical figures. **It provides students with an immersive and engaging experience that brings history to life.**

▶ Example Scenario:

▶ Civil Rights Movement: Students can engage in a conversation with civil rights activist Martin Luther King Jr.

▶ This scenario allows students to ask questions about his motivations, strategies, and the challenges he faced during the Civil Rights Movement.

Historical Figure Interview

▶ World War II: In this scenario, students can simulate a conversation with Anne Frank, the famous Jewish diarist who documented her experiences during the Holocaust.

▶ They can gain insights into the life of a young girl living in hiding during a tumultuous time in history.

▶ Ancient History: For ancient history courses, students can interact with historical figures like Julius Caesar, Cleopatra, or Charlemagne.

▶ This offers a glimpse into the politics, culture, and daily life of different civilizations.

AI Fact-Checking Exercise

▶ Selecting fact-checking topics

▶ Introducing AI fact-checking tools

    ▶ Scite.ai and Google Scholar

▶ Fact-checking process

▶ Evaluating AI findings

▶ Comparison with traditional methods
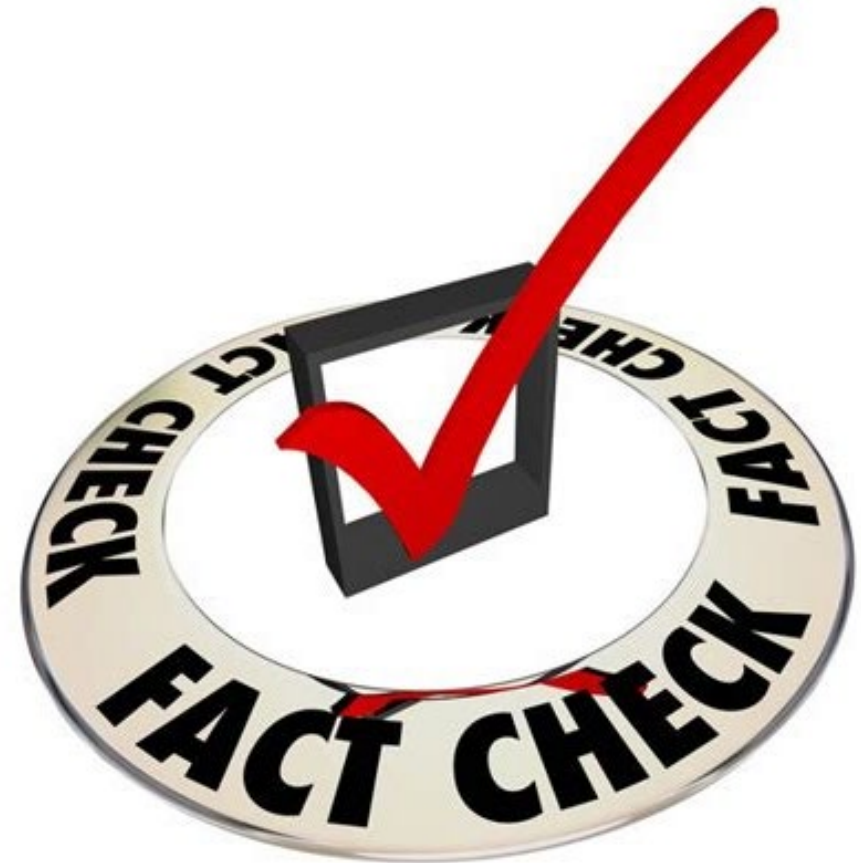
Interactive Debates on Ethics

- Selection of ethical topics

- AI assistance

- Evaluating arguments

- Counterarguments

- Ethical dilemmas

- Role rotation

- Reflection and analysis

- Engagement

- Critical thinking skills

- Communication skills

- Research skills

- Empathy and perspective-taking

The Death of the Essay?

- Comparison of AI-generated essays and human-developed essays
  - AI essays averaged 60.46 while human essays achieved 63.57.
  - Statistical significance ($p = 0.10$) with a marginal difference.
- Human essays demonstrated nuanced cultural context and secondary criticism.
- AI essays sometimes lacked depth in evaluating poetic features.

- Human Essays' Distinctive Features.
  - Detailed and sustained analysis of poetic style.
  - Spelling errors and lack of structural cohesion.
- AI Essays' Characteristics
  - More formal structure and tone.
  - Shortcomings in incisive critique of poetic form and effect.
- Human graders correctly identified essay origin 79.41% of the time.
- (Revel et al., 2023)

The Death of the Essay?

- Generative AI's impact on traditional teaching and assessment methods
- AI-proof assignments
  - Ask for personal experiences and reflection
  - Ask for references to specific sources
  - Ask for additional recent research
  - In-person and proctored writing
- AI-enhanced assignments
  - Students are assigned to use AI to enhance their work.

- Generative AI's potential to advise on essay structure and research avenues.
- Emphasize transparency in AI's capabilities and limitations.
- As AI proficiency grows, educators need dynamic, holistic assessment methods for academic integrity.

Ethical Considerations

- ▶ Ethical responsibilities
- ▶ Avoiding harm
- ▶ Promoting fairness
- ▶ AI algorithm transparency
- ▶ Privacy protection (e.g., GDPR, FERPA)
- ▶ Bias mitigation
- ▶ Ethics education

Policy Development

▶ Institutional, departmental, and/or individual instructor?

▶ Decide what level of "AI collaboration" you will allow.

▶ What is considered "un-authorized collaboration"?

▶ Policies span "no use" to "limited use" (brainstorming and revising)

AI Policies

- Use prohibited
- Students are not allowed to use advanced automated tools (artificial intelligence or machine learning tools such as ChatGPT or Dall-E 2) on assignments in this course. Each student is expected to complete each assignment without substantive assistance from others, including automated tools.

- Use only with prior permission
- Students are allowed to use advanced automated tools (artificial intelligence or machine learning tools such as ChatGPT or Dall-E 2) on assignments in this course if instructor permission is obtained in advance. Unless given permission to use those tools, each student is expected to complete each assignment without substantive assistance from others, including automated tools.
- (Learning Innovation, 2024).

AI Policies

- Use only with acknowledgement
- Students are allowed to use advanced automated tools (artificial intelligence or machine learning tools such as ChatGPT or Dall-E 2) on assignments in this course if that use is properly documented and credited. For example, text generated using ChatGPT-3 should include a citation such as: "Chat-GPT-3. (YYYY, Month DD of query). "Text of your query." Generated using OpenAI. https://chat.openai.com/" Material generated using other tools should follow a similar citation convention.

- Use is freely permitted with no acknowledgement
- Students are allowed to use advanced automated tools (artificial intelligence or machine learning tools such as ChatGPT or Dall-E 2) on assignments in this course; no special documentation or citation is required.
- (Learning Innovation, 2024).

Challenges and Questions of...

▶ Understanding context and nuance

▶ Creativity and originality

▶ Ethical and cultural sensitivity

▶ Subjectivity and interpretation

▶ Interdisciplinary knowledge

▶ Engaging in critical thinking

▶ Human-AI collaboration

▶ Role of bias and representation

More Possibilities

- Enhanced learning resources
- Efficient data analysis
- Language translation
- AI tutors and virtual assistants
- AI-enhanced research
- AI-enhanced lecture and lesson plan development

- AI-generated content
- Augmented and virtual reality
- AI for accessibility
- Efficiency
- Global access
- Innovation

Questions

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