

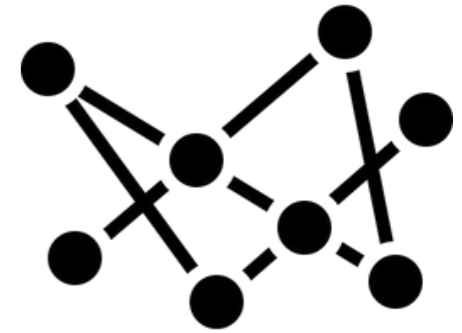
LEARNING AND CREATIVITY IN THE AGE OF GENERATIVE AI:

Insights from Theory, Teaching... and TikTok

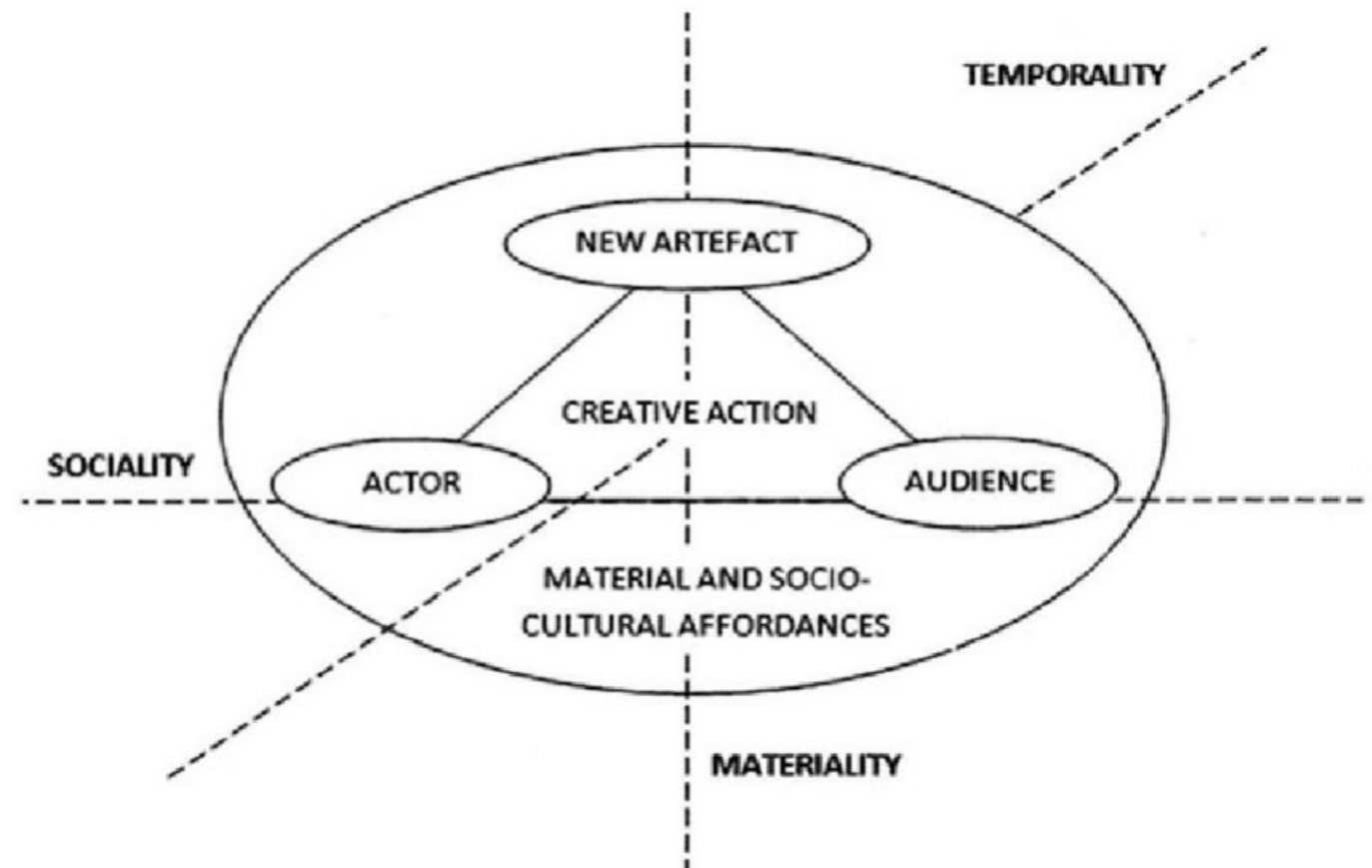
IOANA LITERAT

TEACHERS COLLEGE, COLUMBIA UNIVERSITY

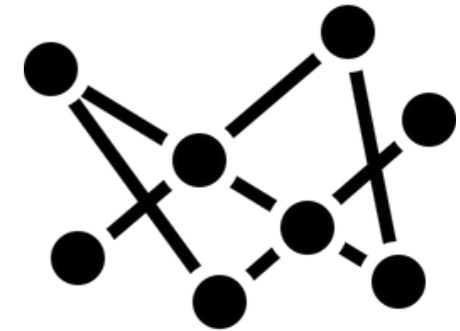
DISTRIBUTED CREATIVITY



- Classic definition of creativity = the process that leads to original and effective products (Runco & Jaeger, 2012) —> *associated with persons or products; individualistic view*
- The distributed creativity paradigm reframes creativity—including individual creative acts—as a fundamentally social and communicative process, resting on the interactions between creators, audiences and artifacts.
- Creativity is distributed along social, material and temporal lines.



A COLLABORATION WITH VLAD GLAVEANU (DUBLIN CITY UNIVERSITY)



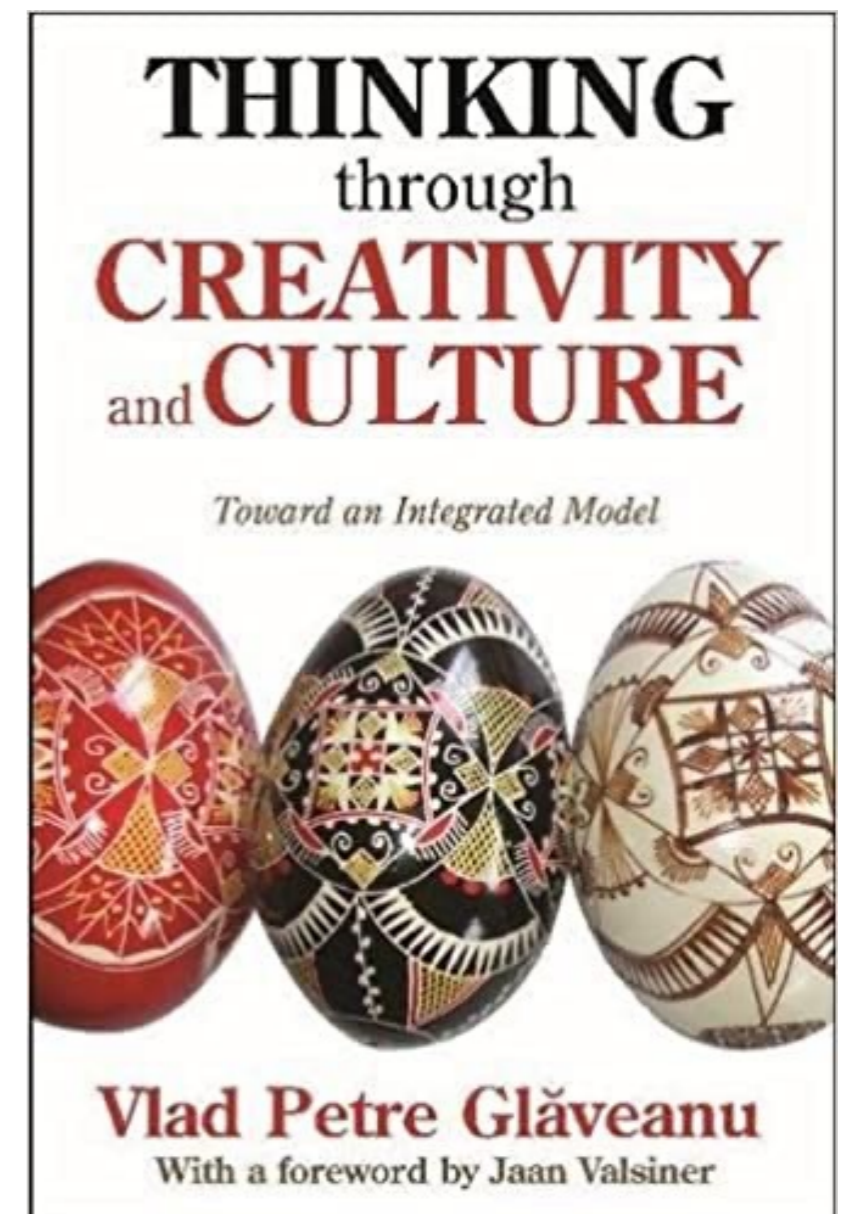
PREMISE:

- Understanding the psychology and sociology of creativity is a valuable foundation for analyzing the creative use of online technologies
- The link between creativity and online technologies has not been significantly explored

KEY QUESTION:

- What is the role of the Internet in (re)defining creativity? What, if anything, is new or special about online creativity?

—> WHO / WHERE / WHEN / HOW / WHY

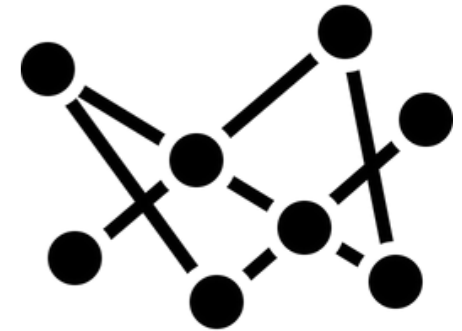




WHO?

WIDENING CREATIVE PARTICIPATION

- potential to democratize creative participation
 - BUT wider participation does not necessarily mean wider diversity—though it creates the conditions for it
- vital implications for authorship



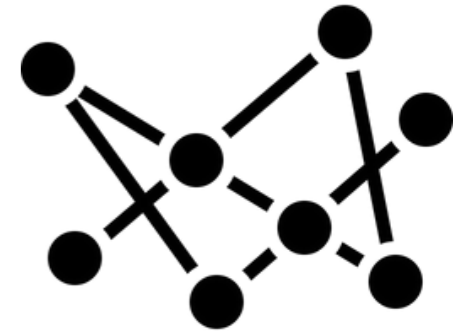
WHERE?

MULTIPLYING SPACES FOR CREATIVITY

- online creativity transcends the physical barriers formerly associated with creative activity
- BUT online creativity is still site-specific – need to consider features of online tools and spaces (norms, context, affordances, etc.)

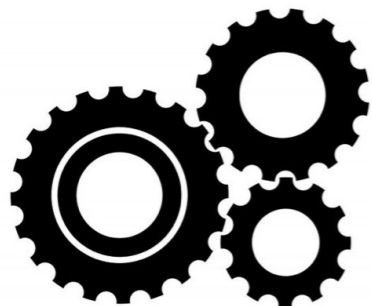


WHEN?



EXPENDED TIMES FOR CREATING

- with online tools, creativity is fully integrated into everyday life—no longer a separate domain of activity or special event
- the expansion in the times of creative participation provides new support to nonlinear models of the creative process



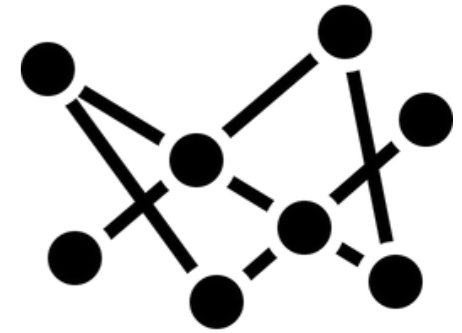
HOW?

OLD AND NEW WAYS OF BEING CREATIVE

- the basic mechanisms of creativity remain the same (e.g. combination, evaluation), but new media transforms the way they operate
- creativity with online tools can be described using the same ‘old’ processes, but they are performed differently – which qualitatively changes the ‘how’ of creativity

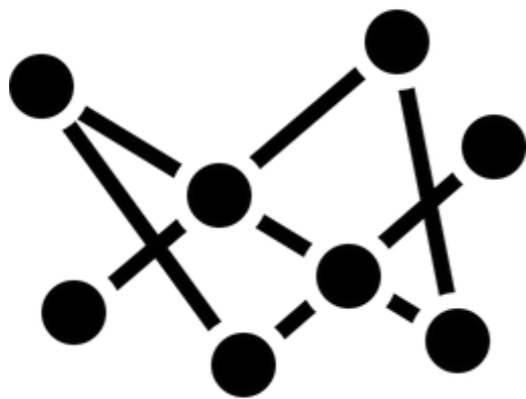


WHY?



ENHANCED SOCIAL STIMULI FOR CREATIVITY

- intrinsic motivations remain vital offline *and* online
- social motivations are very salient online
- do technologies actually produce new motives rather than just (de)emphasizing existing ones?



TEACHING IN THE AGE OF GENERATIVE AI



- How do we **respect and harness students' creativity**, while acknowledging the proliferation of generative AI tools around them?
- Is there a **space for generative AI in the classroom?**
- What are some key considerations in terms of **academic ethics, course design** and **evaluation?**

THERE IS NO ONE-SIZE-FITS-ALL AI POLICY



- In devising your policy regarding generative AI, you should take into account factors like:
 - Alignment with learning goals
 - Equity and access for all students
 - Information security and data privacy
 - Academic integrity

THERE IS NO ONE-SIZE-FITS-ALL AI POLICY - CONTINUED



- Most important: be clear and explicit about it
- Examples of different syllabi statements:
 - **No AI use permitted** (+ consequences clearly laid out)
 - AI use **sometimes** permitted: *for specific purposes*
 - AI use **sometimes** permitted: *refer to individual assignments*
 - AI use **sometimes** permitted: *confer with instructor prior to use*
 - **AI use permitted** with attribution

EXAMPLE: MY SYLLABUS POLICY



As new LLM and generative AI tools emerge, we have to reflect on how these tools can be both useful, as well as a barrier to our joint knowledge construction process. There's a big difference between thinking with technology, and letting technology do the thinking. With this in mind, our course adopts the following AI policy:

- **PERMITTED USES:** You may use generative AI tools for the following activities: helping you find background information about a topic; generating summaries or explanations of challenging material for your own reflection; drafting outlines to help you organize your thoughts; helping to improve grammar and style.
- **NOT PERMITTED:** You are not allowed to use generative AI tools to draft writing assignments. If you want to include AI content in class assignments, this content must be treated as any other external information and properly cited ([How to cite ChatGPT](#)). Using AI to generate text or artifacts and then trying to turn it in as your own work will be treated in the same manner as plagiarism. When in doubt, be transparent! If you used an AI tool, disclose it.

ASSIGNMENT REDESIGN: EXAMPLES FROM TECHNOLOGY & CULTURE



Assignment	Previous version	“AI-proofed” version
<i>Midterm paper</i>	<p>✗ Reflection paper on a theoretical topic (e.g. technology ethics). While it did involve applying concepts to examples, it was broad enough to be fully or almost fully generated by AI</p>	<p>Replaced with an oral presentation on their research process and preliminary findings. Interactive, and an opportunity to receive feedback from instructor and peers</p>
<i>Final paper</i>	<p>✓ Empirical research paper that is scaffolded and requires original data collection & analysis</p>	<p>Unchanged</p>
<i>Social reading on Perusall</i>	<p>✓ Requires close reading and very specific engagement with material and peers</p>	<p>Unchanged</p>
<i>Weekly reflection post</i>	<p>✗ General questions asking students to reflect on the readings or key concepts. E.g.:</p> <ul style="list-style-type: none"> • <i>Do you agree with Winner’s argument that technologies have inherent political qualities?</i> • <i>What is the role of the Internet in (re)defining creativity?</i> • <i>What are the opportunities and challenges in using new media technologies for activism?</i> 	<p>More specific and applied questions that require students to:</p> <ul style="list-style-type: none"> • apply concepts to recent examples; • reflect on their personal experience; • use creativity, imagination and roleplay; • identify specific examples or passages from the readings; • respond in ways other than text.

ASSIGNMENT REDESIGN: *EXAMPLES FROM TECHNOLOGY & CULTURE - CONTINUED*



- Think about a technology (e.g. website, app, device, educational technologies, etc; doesn't even have to be digital) that you have **personal experience** with, and critically evaluate it through the lens of its ethical implications. In thinking about these implications, **draw on the questions provided by Sacasas** and on **your personal experience as a user**. **The more specific (about features, experiences, uses etc!), the better!**
- **Recall the most recent media piece** (newspaper or magazine article, podcast, video report, etc) about technology that you read / watched / listened to. **Link to it here**, and analyze the ways in which it frames the particular technologies or technological practices that it discusses. **If you were an expert interviewed for the piece**, what would you add that isn't already included, or what aspects would you perhaps call into question?
- What's **your favorite recent example of online creativity?** **Link to it here**, while providing any necessary context. What does it tell us about the creative logics of the internet? Consider not only about the production aspect, but also about the related processes of sharing, responding, and remixing discussed in our reading.
- **Consider a recent (within the past year) example of the use of social media for civic or political purposes.** What does this case study tell us about the opportunities and challenges related to the use of social media in civic/political contexts? Make sure to give us plenty of context about your example (including links or any relevant media), especially if we may already not be familiar with it.
- **Make a meme** about any aspect of technology and culture that is relevant to our readings this week! In other words, if you could convey one takeaway or question from this unit in meme form, what would that look like? Embed your meme here, including a brief "**creator's statement**" about your thought process or approach.

A LOVE LETTER TO PERUSALL



Galley: Article - 00209
Computation, Philosophical Issues about 5

physical realization, real-world interaction, and semantics. The new approach reveals computation, contrary to standard orthodoxy, as interactive and embodied, hence very much concerned with the constraints imposed on computational processes by the real world.

ROLE OF COMPUTATION IN COGNITIVE SCIENCE

The Midwife: Computation and the Birth of Cognitive Science

The independence of computations (in the sense of TM- computations) from their physical realizers was one major source of attraction for cognitive psychologists in the late 1950s. The information-processing capabilities of computers, an ability thought to underlie human cognition, and the potential of computer programs to specify exactly how information is processed was another. Together they led to the thought that cognition, viewed as 'the processing of information', could be completely understood and explained in terms of computations: if cognitive functions are computations, then explanations of mental processes in terms of programs are scientifically justifiable without having to take the 'implementing' neurological mechanisms into account, similar to computers, where it is the programs implemented on the computer hardware, not the hardware itself, that explain (if not entirely, then at least for the most part) what the program does.

Common to different views of computationalism are the assumptions that (1) mental processes are computational processes and (2) the same kind of relation that obtains between programs and computer hardware (i.e. the *implementation* relation) obtains between mental descriptions and brains too. It follows that cognitive functions can be described by and explained in terms of programs, and that the right level of abstraction at which to understand cognition is the computational level and not the level of the implementing mechanism (i.e. the brain), even though it might be helpful to know the functional organization and role of certain brain areas in determining what they implement.

Computationalism has many appealing facets, especially when it comes to high-level cognition: many features related to logic and language (such as systematicity, productivity, compositionality, and interpretability of syntax or the compositionality of meaning, e.g. see Fodor and Pylyshyn, 1988) are supported by computations 'almost for free', and many mental operations are various kinds of

The Par

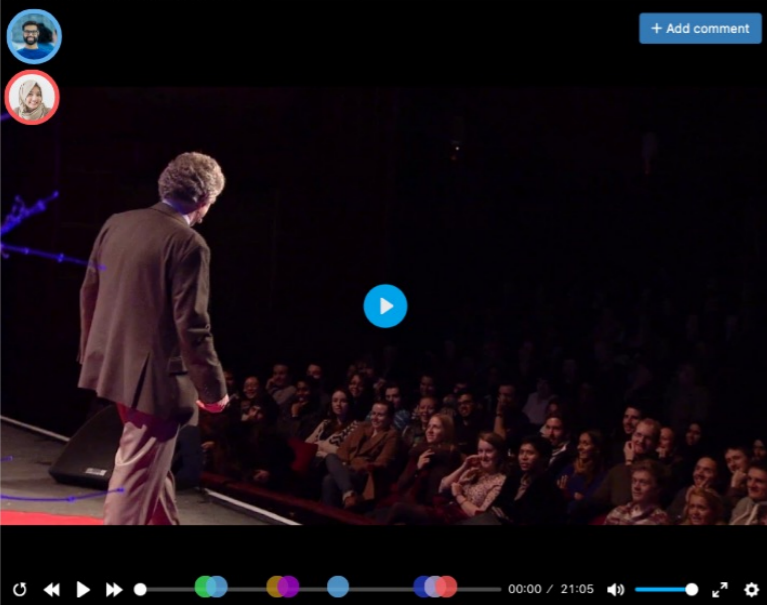
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brain is a



Current conversation

+1 ? This is questioning whether a computer is aware that it's computing. Is that right?

I have the same question! 🤔 +1 ✓

This is related to the **formal symbol manipulation** - so solely based on formal properties. I think that's right? +2 ✓

? Yeah, I think it's saying if the computer processes with symbols (such as $1+1=2$), does that make it cognitive? I want to say no. If I tell someone that $2+3=3$, and they believe me and use that as the way to compute, then I feel like it's just taking my word as it's cognitive function? ✓

? True, @Trevor Murray but what's the difference between saying that to a computer and to a human being? If I teach my child the wrong math formula and they take it as is, then what's the difference between them thinking that's right v. them knowing that's right?

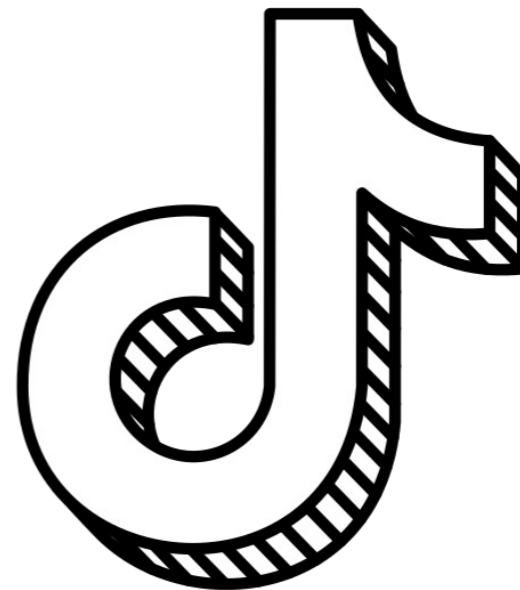
@Peter Wu said:

This is questioning whether a computer is aware that it's computing. Is that right?

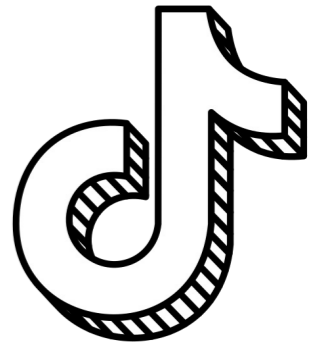
This is the question! What do you think? 🧠

+ clear guidelines on:

- Why
- How
- What
- When
- Who



ANALYZING THE YOUTH DISCOURSE AROUND EDUCATIONAL USES OF AI



RESEARCH QUESTIONS:

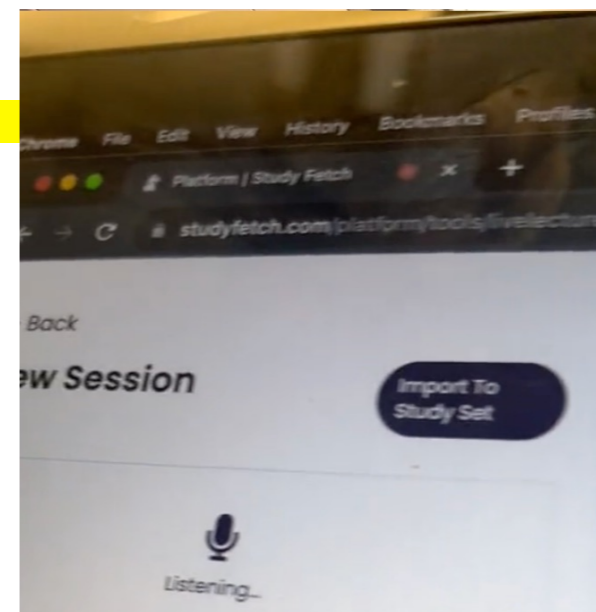
1. How do youth on TikTok talk about generative AI in educational contexts?
2. What does this tell us about young people's perspectives, attitudes, and understandings of the educational uses and misuses of AI?

RESEARCH DESIGN:

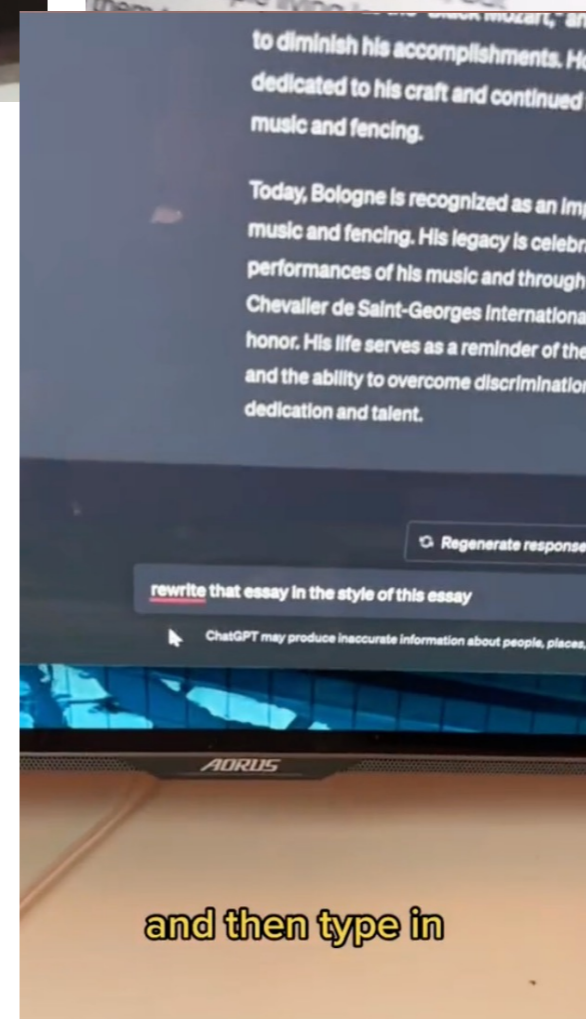
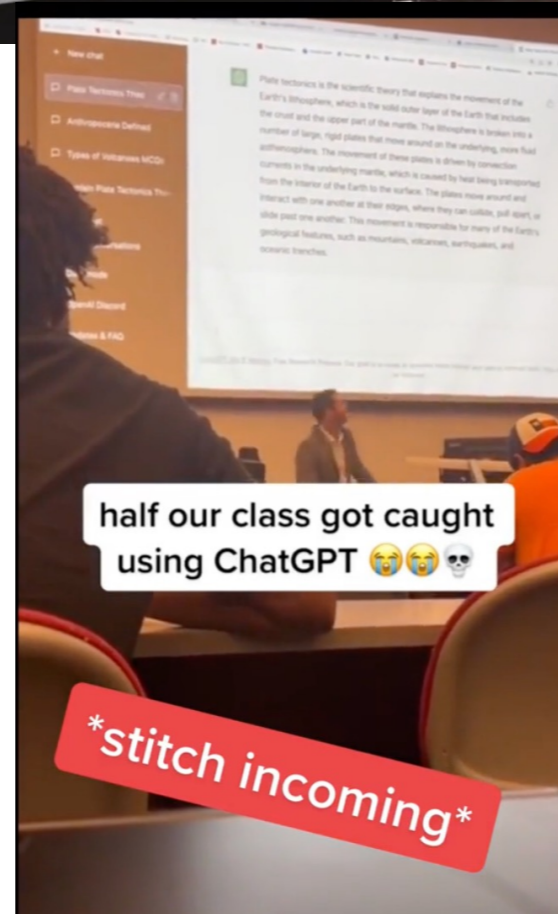
- Qualitative content analysis of the top 300 videos tagged #ai + #college
 - + ~20k comments on them
- Unobtrusive, “fly on the wall” approach

PRELIMINARY FINDINGS

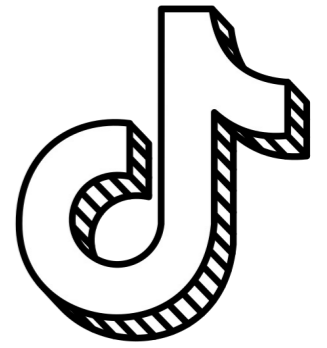
- Promoting various AI tools (e.g. that generate notes from video, summarize readings, generate essays, etc)
 - filmed in classrooms, on campus, or while studying at home
- Big focus on cheating with AI
 - sharing experiences getting caught (fairly or unfairly)
 - sharing tips for how to avoid getting caught (e.g. by prompt engineering, or using specific tools)
- Larger discourses about the purpose and value of higher education:
 - “college is a scam, so if we’re working within a broken system, we can use anything to our advantage”



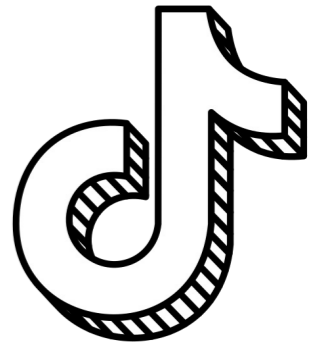
the AI is listening to the professor



and then type in



SIGNIFICANCE



- **Implications for multiple stakeholders in education** (educators, edtech developers, curriculum developers, policymakers)
- **Understanding youth perspectives on AI:**
 - youth **expectations, concerns, and educational needs** regarding AI
 - the level of **understanding and literacy** among young people re: AI
 - **ethical considerations** important to younger demographics
- **AI as a lens into youth perceptions of education more broadly:**
 - understanding the youth discourse around the educational (mis)uses of AI illuminates how they think about higher education in general: *What's the point of learning? How is college seen in the age of AI and increased automation, by young people about to enter the job market?*

THANK YOU!

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www.ioanaliterat.com