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Papers and Prompts

In the small classroom of 702 at Mountain View High School, AP U.S. History teacher Maria Carter-Giannini has a simple routine, handing out stacks of papers day by day. These include, but are not limited to, warm-ups, quizzes, homework, lecture notes, example essays, primary source packets, test reviews, and project rubrics. Her students heave sighs as they flip through their binders, removing and inserting handouts.

The steady flow of papers may not have seemed so extraordinary just a few years ago, but it has become a deliberate response to the rise of AI use in classrooms. Carter-Giannini expressed her hesitance with AI, believing that, “With U.S. history, it’s so important for students to sit with these questions, right? And let them kind of stew and marinate, what is the change in continuity over time, and to kind of sit with those big questions and to think about, you know, what is the impact of history.”

Carter-Giannini earned a bachelor’s degree in U.S. history and later completed a master’s in Native American and women’s history at Santa Clara University. With 24 years of teaching experience, including the past 11 at Mountain View High School, her approach is grounded in the belief that meaningful critical thinking takes time, even in an age where technology encourages immediacy. While most classrooms have shifted toward screen-dominant lessons and

homework on Google Docs, she has quietly stood by this approach. At the same time, tools like ChatGPT have exploded in popularity, signaling a major shift in how students approach learning.

In just 5 days after its release, ChatGPT-3.5 hit one million users, an unprecedented record that made it the fastest-growing app in 2023. As these AI models develop and their reach expands, these tools are beginning to influence younger users. By early 2025, the Pew Research Center found that about one in four American teens reported using ChatGPT on their homework assignments, a figure that has nearly doubled since 2023. Artificial intelligence tools like OpenAI's ChatGPT and Google's Gemini have rapidly transformed high school classrooms, reshaping how students engage with learning and their relationships with teachers. Moreover, questions of integrity have become more prominent. Defined by the Oxford Dictionary as the quality of having strong moral principles, integrity in an educational context means engaging authentically with ideas and valuing the learning process over automated outcomes.

This tension is exemplified in Silicon Valley, often described as a "pressure cooker" for academic success. Beyond good grades, students are pressured to do well on AP exams, take on leadership roles, have stellar extracurriculars, and ace their SATs, as noted by Menlo Park psychiatrist Dr. Dahlia Woods. Consequently, artificial intelligence tools become enticing, offering to reduce students' workload by automating certain tasks. Schools are struggling to keep pace with technology, and teachers are forced to reevaluate their curricula and consider whether inclusion or exclusion of AI would be more beneficial for student learning.

An Age of Suspicion

Over the past two years, Carter-Giannini found herself spending an overwhelming amount of time determining whether the work she was grading actually belonged to her students.

Feeling that AI checkers were just too unreliable, instead, she relied on scrutinizing Google Doc histories, tracking pasted text, and analyzing time spent on assignments. “I don't want to spend all of these hours,” she shared, reflecting on her decision. “I don't even want to think about how many hours I have spent trying to track down all of the stuff, so going to do things on paper just seemed like a better route for me.” As a result of these changes, there is a growing strain on the trust within the relationship between a student and their teacher. According to Josh Brake, an Engineering Professor at Harvey Mudd College, classrooms have entered what could be called an “age of suspicion”, where students, teachers, and institutions increasingly question one another’s authenticity. In this environment, AI can drastically affect relationships. When a teacher cannot determine whether a student’s work reflects their own thinking, the foundation of trust begins to erode. With unreliable AI checkers, this uncertainty can strain relationships, as it can suggest to students that their teacher does not trust them or lead teachers to believe that students are lying.

However, Carter-Giannini’s decision mirrors a growing uncertainty around AI detection, one that has only intensified with the steady releases of new models**.** Temple University’s research examining the credibility of Turnitin, one of the most commonly used tools to check plagiarism and AI, found that the company’s AI reports had inconsistent accuracy when asked to pinpoint the extent of AI use, struggling to recognize whether writings were fully human, fully AI, or a mix of both. Even tests within the Mountain View High School history department have echoed these concerns. When asked to identify its own writing, ChatGPT failed, leaving the teachers unsure how to find a concrete solution. “Initially, it was a certain type of student using it, someone who knew about AI tools,” Carter-Giannini explained. “And then, a switch flipped, and it just became so accessible.”

Today, most assignments are hand-written and hand-drawn, replacing past digital discussions and submissions. Laptops are limited to tests and small, self-paced assignments. While this transition has increased workload for both her and her students, Carter-Giannini sees these steps as "safeties" to ensure that education prioritizes learning over convenience.

Between Guidance and AI

In room 801, the school's AP Computer Science Teacher, Marcey Winawer, begins her class with a coding warm-up. Students' eyes pace back and forth between the problem on the board and their computers as they test their code, revising and rerunning their programs. Initially living in New York, Winawer left her software engineering job and moved across the country when her husband got a job in Silicon Valley. After working nights teaching at a community college, she received her teaching credential and eventually joined Mountain View High School. With the rise of AI in the workforce, Winawer believes that, to a certain extent, students need to learn to use the technology effectively. "I think it would be hard to find a profession where that isn't going to come into play somehow, whether you have to read a model or use a model." She emphasized the importance of checking quality and that students should always look through the generated responses for errors.

Unlike Carter-Giannini, Winawer commented that AI work has been easier for her to spot, as students would turn in work with concepts that had not been covered in class. Still, she takes a more flexible approach. If students can understand the code that AI generated and explain the concepts, it is okay for them to use it.

However, this flexibility is now being strained. At Mountain View High School, students have a one-hour block to receive academic support, called a "Tutorial" period. For previous

years, it served as a valuable time to work out solutions and receive one-on-one feedback. During this school year, there has been a significant shift. “None of my students come in to see me for help,” she remarked, leading her to question if AI is becoming a crutch for learning in the classroom.

Her sentiments are echoed by teachers internationally, with a particular focus on the loss of critical thinking skills. Yizhou Fan, a Professor of Education at Peking University, has noted that excessive use of AI can lead to “metacognitive laziness”, warning that overreliance on AI can prevent fundamental aspects of learning, such as evaluating, monitoring, and analyzing materials, a value of education stressed by both Winawer and Carter-Giannini. Another effect of overreliance on AI is lower brain activity, as found by a 2025 MIT study by research scientist Natalyia Kos’myna. Consequently, these findings raise additional questions about how AI jeopardizes cognitive stimulation. Furthermore, research has yet to show that it meaningfully improves motivation, underscoring the obstacles that educators face when drafting AI policies. For Carter-Giannini, her worries extend beyond students in her classroom and to how they engage with information past high school. “A whole thought process and skill is lost. And so, the ability to question is really scary as an older person to see. This new generation, are they going to question the sources that they're seeing around them, like on the news? And is that going to lead to a lack of questioning the things that they're seeing around them?”

In a November 2025 article from the Harvard Gazette, Harvard’s faculty members emphasized that artificial intelligence is not inherently harmful to learning, as its impact hinges on how students engage with it. Tina Grotzer, a Principal Research Scientist in Education, warns that students often place too much trust in AI outputs without understanding how they actually work, stressing that human minds can be significantly more powerful than their “AI

counterparts". In the same vein as Carter Giannini, Harvard Kennedy School's Senior Public Policy Lecturer, Dan Levy, lamented that students are prioritizing an output over the learning process. For this reason, AI possesses immense risk when students use it recklessly.

At Mountain View High School, this incentive tempts students to rush to get ahead of the academic competition. They can speed through their notes, math problems, and exam reviews in a matter of minutes, leaving them with hours to do other activities. This could be time spent on sports practices, planning a club meeting, or applying for jobs or internships, and it intensifies the belief that AI is helping them be more efficient with their time. Despite the efficiency, a lack of genuine work in their classes leads students to remember their grades, not the content, contributing to increased reliance on AI.

Overall, the conflict is not simply whether students are using artificial intelligence, but rather the price they are paying. In classrooms like Winawer's, the shift could be tied to a growing interest in the future of Computer Science and its integral relationship to AI models. On the other hand, AI has simply made outputs too accessible for any subject, making the friction in the learning process optional for students.

Rebuilding Thinking

Mountain View High School's teachers have now predominantly turned to the Mountain View-Los Altos Union High School District's "constructing meaning" development program. Constructing Meaning is an instructional model adopted from EL Achieve, an educational consulting group for English learners, that combines content and discussion and focuses on giving students the skills to think, discuss, and analyze different topics. Equipping students with basic educational tools like certain sentence starters and vocabulary terms, the model helps

students learn in classes of any topic, intentionally shifting the responsibility from teacher to student over time. As a result, students learn to actively process ideas themselves. In the MVHS classrooms, this manifests through talking sticks, sentence-prompting cards, and collaborative group work.

Michigan State Professor of Educational Psychology Namsoo Shin documented this approach and asserted that students need to discuss perspectives and experience material in different contexts to build a thorough understanding of concepts. Shin states that learners "...need opportunities to consider and discuss one another's ideas by asking questions, providing feedback, and building on one another's contributions". Accordingly, Constructing Meaning requires students to engage with and interpret content in a way that preserves a traditional schooling experience: making mistakes and learning from them. This framework creates a path for teachers and students to re-establish visibility and trust in the learning process. With more in-person discussions and student collaboration, the model prioritizes observable thinking, allowing teachers and students to reduce reliance on digital assignments with ambiguous outputs. Moreover, Winawer explained that the growth of peer evaluation and discussion could be seen as a "silver lining". In her class, students were given peer evaluations to assess each other's projects, which were video games written in JavaScript. In the evaluation, the students played their partner's games to find requirements on her rubric, and then gave constructive feedback. She expressed that it was a different approach to grading and that she appreciated that students were learning in a more collaborative environment.

Nonetheless, Winawer and Carter-Giannini both articulated a need for clearer guidelines from the district. The desire for boundaries does not imply a direct promotion or ban of artificial intelligence tools in classrooms. Rather, it underscores a need for clarity, consistency, and a

meaningful purpose in how AI is used. With no explicit rules controlling AI use, students face a spectrum of policies from their teachers, creating confusion on whether AI is a support or a substitute. For teachers, it creates an uncertain environment that makes it difficult to create a meaningful learning process. “It’s something that could back up what we are doing”, Winawer noted, “So that, when we meet parents, we could say that this is what we’re adhering to”. Carter-Giannini reflected on her experience working with the administration on student AI use in the previous year, which contributed to her desire for a unified policy. With only one administrator to oversee the entire grade, they received an overwhelming number of cases, leaving both them and the teachers disoriented. She expressed that “Sometimes it does feel like teachers are kind of on their own, partially because there’s not a great cohesive system”.

Conclusion

As generative AI continues to evolve, its presence in classrooms will only increase. Teachers are working to balance preserving essential thinking skills with preparing students for a future where AI use may be unavoidable. Ultimately, the question is not whether AI should be used in schools, but how to navigate technology advancing faster than it can be regulated. In this uncertainty, teachers like Carter-Giannini and Winawer are striving to protect meaningful learning while upholding academic integrity.

While their approaches differ, both center on maintaining authentic student thinking. Carter-Giannini emphasizes observable, in-person work to ensure students are producing their own ideas, a practice that could produce further strain on the trust between a teacher and their students. Winawer allows AI use while requiring students to understand, explain, and evaluate the outputs so that learning is not replaced by automation, yet this approach still runs the risk of

students ignoring her cautions. As technology continues to outpace regulation, responsibility for integrity will increasingly fall on both educators and students. The future of education depends not on resisting or accepting AI, but on ensuring it does not replace the thinking, reflection, and effort that define meaningful learning.

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