Proceedings of the 6th International Conference on Educational Innovation and Psychological Insights
DOI: 10.54254/2753-7048/2025.ND34311

Generative AI in Education: Implications for Adolescents' Writing Abilities and Critical Information Evaluation

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Abstract. The emergence of generative artificial intelligence, such as ChatGPT and Doubao AI, is revolutionizing the traditional paradigms of writing among teenagers and how they engage with information regarding academia. While such innovations promise to enhance the speed and quality of writing, they bring forth various problematic implications for crucial areas within media literacy, particularly content evaluation and verification. This is a mixed-methods study, with data collected from 30 online questionnaires and seven semi-structured interviews conducted with 13- to 22-year-old students and educators. These results led to two main trends: first, students increasingly consume AI-generated content without the least bit of fact-checking or considering where it came from, and second, the psychological sense of dependence on AI—that is, many teenagers view AI as an absolute safety net for writing failure. In many instances, smooth-sounding responses from AI are quickly believed by students and then handed over as an easy pass on independent thinking and fact-checking. Such evidence comes through in reduced activity participation when new writing and critical thinking tasks are set by teachers. These findings situate the use of AI by teens within an emotional support, practical help framework. In conclusion, it offers some teaching suggestions for AI as a replacement and an assistant tool, insisting on the ground that AI requires critical literacy and responsible thought in its use.

Keywords: Generative Artificial Intelligence(Al), Al Dependence, Diminished Activity Participation

1. Introduction

These AI-based writing tools have been shown to foster efficiency and inspire creativity as they help students generate content quickly and explore different perspectives and styles [1].These tools can be used as scaffolding for language development and idea generation, offering support in brainstorming, drafting, and articulation [2]. However, the pedagogical implications of AI-driven writing are anything but one-way. Excessive use of AI can minimize students' critical writing skills, such as profound thinking, original argument development, and personal expression [3]. Because AI-generated content relies on huge data training models, the content tends to lack personalization and might inadvertently undermine adolescents' independent thinking [4].These are the trade-offs

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DOI: 10.54254/2753-7048/2025.ND34311

between increased productivity and adulterated authorship underlying current pedagogical anxieties [1].

With these forces in mind, this study asks the following: How are adolescents using generative AI tools to write? How do they perceive the authority of AI-generated writing? Can they distinguish between AI-generated and human writing, and do they attempt to fact-check? The study also deals with how teachers perceive students' writing and critical thinking development. By posing these questions, the study aims to examine the two-fold impact of AI on teens' media literacy—specifically their capacity to critically consume and responsibly produce content [5]. By making explicit that AI is to be a writing partner and not a replacement, this study contributes to the ongoing task of building pedagogical responses that strengthen both productivity and critical engagement in the era of the digital [6-8].

One of the emerging psychological reasons for the use of generative AI among adolescents is the sense of relief or false security it gives in academic writing tasks .[9] Faced with time limitations, language anxiety, or study burnout, many students report using AI writing tools as a shortcut to "good-enough" performance [9]. In early interviews, some students admitted that AI tools made them "feel safer" handing in work they hadn't developed or understood themselves—presuming that fluent, coherent outputs would suffice for teacher expectations [10]. This stance demonstrates not only instrumental use of AI, but also affective dependence: AI is employed as a coping mechanism for stress and academic uncertainty management [10].

This affective reliance can alter the purpose of writing altogether—from one of intellectual discovery to performance optimization [11]. As students are taught to accept that AI writing is "good enough," they may no longer see writing as an arena for reflection or argument [12] This shift is perilous not only for skill acquisition but for critical literacy also: the ability to interrogate content, take intellectual risks, and develop voice [11]. In addition, this type of psychological reassurance may deter students from fact-checking the content, reinforcing passive dependence on AI output [12].

This study investigates these underlying motivations and behaviors. It investigates how adolescents use AI writing programs not only for instrumental assistance, but also for emotional reassurance [13]. With mixed-methods data, the study seeks to investigate the extent to which this affective reliance is congruent with students' confidence in their capacity to judge AI-generated content, and how it influences their writing engagement [14].

Together, these two patterns—instrumental overuse and emotional dependence—highlight the ways that generative AI is changing not only what students write, but their relation to the act of writing itself [15].The consequences extend from instrumental assistance into the realms of cognitive engagement and epistemic responsibility [8]. This paper argues that teens' use of AI writing tools needs to be explained in terms of both their behavioral choices and the psychological reasons underlying them [15]. It is only by working through these interrelated dimensions that pedagogical approaches can be developed that balance technological benefits against critical literacy ambitions [8].

2. Research design and data collection methods

This research uses a concurrent mixed-methods research design in applying quantitative and qualitative methods in examining how generative artificial intelligence (e.g., ChatGPT, Doubao AI) influences media literacy in adolescents. Specifically, the research addresses two areas: students' usage patterns for AI writing tools, and their intellectual capacity for assessing and verifying AI-based information.

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The population of interest is youth between the ages of 13 and 22, inclusive, which comprises middle school, high school, and college students. Sampling is a convenience sampling approach, given access limitations, recruiting participants via schools and online distribution points. The sample consists of 30 complete responses to an online survey and 7 semi-structured interviews (5 students and 2 educators). Because it is not representative, the sample provides a variety of age and education-level perspectives.

3. Quantitative data collection

The online survey was generated and issued via Wenjuanxing (问卷星), one of the most popular Chinese survey sites. The survey consisted of multiple-choice and Likert-scale questions about:

- Whether the students have used AI writing assistants;
- Frequency of usage (daily, weekly, seldom, never);
- Primary uses (e.g., homework, study support, entertainment);
- Perceived trustworthiness of AI-generated content;
- Capacity to differentiate between AI-produced and human-written material;
- Verification behavior of AI outputs.

Questions were administered for 10 days. To increase reliability, each response was screened to be completed in full and logically coherent. All the data were anonymized before analysis.

Two secondary-level teachers and five students were interviewed using a guiding interview protocol in semi-structured interviews. The interview respondents were chosen from the same convenience pool as the survey sample. The duration of each interview was 20–30 minutes, and it was done face-to-face or through video conferencing (Tencent Meeting). The following are questions asked to the students:

How often do you utilize AI for writing tasks?

When applying AI, do you still consider the contents or take it straight?

Do you know whether the material is reliable?

Teacher interview questions targeted perceived behavioral changes in students and observed writing quality, critical thinking, and independence changes. Interviews were recorded, transcribed, and read by the research team.

3.1. Data analysis procedures

Responses to surveys were tabulated in Microsoft Excel. Descriptive statistics were conducted to total all the items, and cross-tabulations were used to determine differences based on age group and frequency of use. For example, comparison graphs were utilized to examine if students who used AI more frequently also showed less verification behavior.

Interviews were inductively coded thematically. Categories that emerged were "instrumental use," "emotional dependence," "reduced verification," and "teacher concern." Themes were triangulated with survey trends to verify or compare trends. For example, many student responses about trusting AI content were mirrored in teacher concerns about a lack of fact-checking.

3.2. Ethics statement

All participants gave informed consent before participating. In the case of minors, student and guardian consent were given. Participation was voluntary, and no identifying information was

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collected. All information was for academic purposes only and was kept on a secure password-protected computer system.

This open-ended and systematic approach guarantees conclusions are made based on empirical trends in addition to personal observation, leading to a wider perspective regarding teen media literacy during this age of generative AI.

4. Literature review: thematic structure

Causes and Emotional Reasons Underlying Teenagers' Use of AI Writing Tools A number of research studies have explored the motivational and psychological reasons that adolescents use generative AI in academic writing. Galindo-Domínguez et al. [9] believe that AI can be used to enhance motivation through the decrease of academic stress and the provision of a sense of competence. Likewise [10], note that adolescents are attracted to the playful, interactive, and recreational quality of AI tools, making writing less overwhelming.

This emotional engagement can become a key factor in shaping habitual use.Yet, the psychological gains can be accompanied by side effects. There are students who see AI as a shortcut to success instead of as a tool for learning [11], those who are dependent on the product generated by AI can become passive receivers instead of active creators. This kind of attitude shift—from writing as intellectual labor to task completion—naturally provokes concern about the long-term impact on learner autonomy and critical intention.

4.1. Impact on writing skills, creativity, and originality

Generative AI as a tool for writing assistance has been shown to enable the generation of ideas, lexical enrichment, and linguistic fluency [2]. demonstrate that students value the ability of AI to generate quality drafts and develop ideas. Pryma et al. [1] also show that AI can enable scaffolding in the writing of English language learners by providing syntactic and lexical support. However, this ability can be a disincentive to creative thinking. Zhai et al. [3] caution that repeated use of AI tools can erode cognitive abilities, particularly idea generation and personal voice. In getting accustomed to completed but lifeless writing, students might struggle to generate work with true voice or with complex reasoning. Lee et al. [4] found that overdependence on AI can even reduce students' confidence in their critical thinking skills.

4.2. Critical thinking and verification practices other than writing ability

The most important aspect of media literacy is being able to critically assess and question content [13, 14]. I show how critical thinking can be encouraged as students are taught how to manage their AI use. Teenagers will not, however, question content produced by AI or check its foundation without explicit instruction [12]. note that in second-language contexts, students will more likely uncritically accept AI-produced content, particularly if it is grammatically sound.

The UNESCO policy brief [5] stresses that media literacy education needs to encompass AI-specific competencies such as source verification and awareness of bias [6]. also suggest that critical media literacy needs to place AI not only as a tool but as a socio-technical system representative of embedded biases and power relations. Adolescents risk becoming overconfident with AI-produced information if educated otherwise.

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4.3. Institutional response and teachers' perception

For the educator, AI is threat and promise. The majority of educators remain uncertain how to introduce AI responsibly into classrooms and fear the loss of student authorship, according to the journal Frontiers in Education [15, 8] argue that we need to redefine literacy—one that accepts AI as part of the meaning-making process of students but reasserts human criticality and reflectivity.

Institutional reactions are mixed. Some promote digital writing innovation and others view AI as a danger to academic integrity. Ecorys [5] recommends proactive media education curricula with AI awareness starting early, particularly in secondary education.

Synthesis and Research Gap Though literature exists that has charted the affordances and pitfalls of AI in student writing, research on where emotional dependence, assessment behaviors, and instructor attitudes converge is scant. The psychological comfort that students gain from AI, and the way this comfort influences their willingness to challenge or revise AI work, is uncharted territory. Additionally, most of the research (e.g., 3, 4, 15) concentrates on university environments; comparatively little is understood about ages 13–18, and particularly in non-English dominant environments. The current research attempts to bridge this deficiency by synthesizing student and educator viewpoints and examining not just how AI tools are being utilized, but why they are being utilized—and with what implication for media literacy development.

5. Results and discussions

Findings instead show an interdependent relationship between the use of AI tools and the learning of media literacy in teenagers. Over 80% of the 30 survey participants made use of AI writing tools such as ChatGPT or Doubao AI. Of those participants, 60% used them on a daily basis and several times a week on a weekly basis. The most common usage was in the completion of homework (78%) and studying (61%), i.e., for searching for information and taking down notes. Few made use of them for entertainment such as chatting or creative writing.

When asked how much they would trust AI-written text, 46% rated it as "somewhat reliable" and 27% as "generally unreliable." That's certainly some doubt, but by no means necessarily combined with critical analysis. Indeed, only 13% of the survey participants reported that they could "always" reliably identify AI-written text from human-written text, while the bulk (54%) reported they could only "sometimes" identify, and 33% reported that it was "very difficult" or "impossible." Furthermore, over half (59%) reported "rarely" or "never" checking AI-written material with an external source.

The interview results provided qualitative reasons for these figures.

Students appreciated the ease and speed of use that AI tools provided, and they indicated that they were great assistance with brainstorming, outlining, and refining language. But most acknowledged that they tend to take AI output at face value without critically assessing its accuracy or bias. "When I use ChatGPT," one high school student explained, "I just copy and paste what it says. It sounds right most of the time, so I don't double-check." Teachers, however, were growing concerned. One high school teacher noted, "Some students now submit essays which are fluent but lacking in depth or personal life. They are often unable to explain or defend the material when asked questions." These tendencies are buttressed by recent research. To illustrate [13], reported that reliance on AI tools can undermine higher-order thinking capability without instructional guidance. Similarly [3], cited the cognitive dangers of over-reliance on AI-composed pieces, particularly for youths who are continuing to develop metacognitive and evaluation skills. Moreover, research such as Kalantzis et al.'s [8] cautions that practice in literacy with generative AI must place more priority on "epistemic

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literacy"—i.e., the capacity to judge how and why a piece of information is being generated. Together, these findings highlight the dual nature of the promise of AI in the classroom. For all the extent to which AI tools can enhance productivity and creative work on one front, they pose an impediment to critical reception and autonomous thought on the other. Without pedagogies of critical reception, students are at risk of becoming the unthinking recipients of robot-churned thought. Teachers are therefore forced to acquire the skill of using AI tools as well as the abilities to question them. This has less to do with writing ability than with a civic responsibility in the age of the Internet.

6. Conclusion

This essay indicates while generative AI writing tools provide writing assistant for teenagers, they also pose challenges to core media literacy competencies, particularly in information discernment and critical thinking. The main issue is that while students can easily use AI tools, they demonstrate weaknesses in their ability to verify AI-generated content. This reflects how AI affects teenagers' understanding of information and their creativity. An important contribution of this study is that it reveals the gap between adolescents' technology use and critical evaluation skills.

In all, educators should see AI as a partner that requires critical scrutiny, not merely as a tool for efficiency. It's essential to systematically integrate training in content analysis and source verification into teaching. Only through this way, can improve teenagers' media literacy, enabling AI to assist them when writing than replace them. Looking ahead, future research could explore how people of different age groups interact with AI tools in educational environments.

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