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**Postplagiarism:
Helping Students
Maintain Academic Integrity
in the Age of
Artificial Intelligence**

Sarah Elaine Eaton, PhD

November 13, 2024

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Provenance of this work…

PLAGIARISM IN HIGHER EDUCATION
TACKLING TOUGH TOPICS IN ACADEMIC INTEGRITY
SARAH ELAINE EATON

Ethics and Integrity in Educational Contexts 1
Sarah Elaine Eaton
Julia Christensen Hughes   Editors
Academic Integrity in Canada
An Enduring and Essential Challenge
Springer

Springer International Handbooks of Education   SPRINGER NATURE Reference
Sarah Elaine Eaton
Editor
Second Handbook of Academic Integrity
Springer

Artificial Intelligence & Academic Integrity
The Ethics of Teaching and Learning with Algorithmic Writing Technologies
UNIVERSITY OF CALGARY   Funded by the University of Calgary Teaching and Learning Grants
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Understanding the Impact of Artificial Intelligence on Higher Education
Public Lightening Talks
University of Calgary
June 8, 2023
9:30 AM – 3:00 PM (MDT)
UNIVERSITY OF CALGARY
Social Sciences and Humanities Research Council of Canada
Conseil de recherches en sciences humaines du Canada
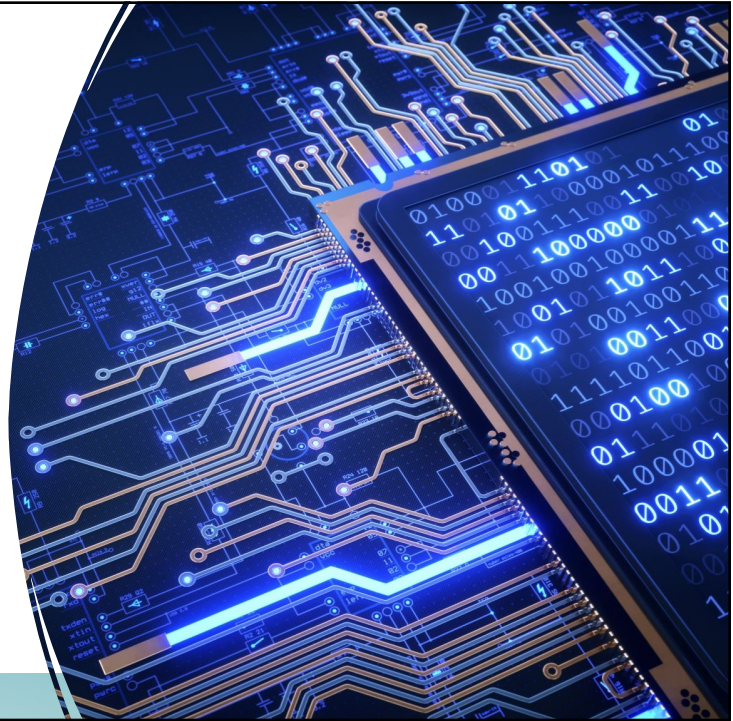Canada

UNIVERSITY OF CALGARY

NB: I have presented some content previously, alone and with colleagues, Leeanne Morrow and Beatriz Moya.

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Artificial Intelligence is here to stay

If we want students to be workforce ready when they graduate,
we must teach
ethical use of
artificial intelligence
across the curriculum.

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Setting the Stage: Scope of Today's Webinar

GenAI is a complex topic with numerous ethical concerns. We will not solve these concerns today or even this year.

The ethics of AI is going to be an ongoing part of conversations for years to come.

There are many ethical issues that we will not have time to address today (e.g., environmental impact, data sets used to train AI, etc.)

Today we will focus our conversation on the topic of assessment of and for student learning using AI.

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The Academic Integrity Continuum

Eaton, Pethrick, & Turner (2021)

Academic integrity breach: Investigation, case management, hearing(s), sanction(s), appeal(s)
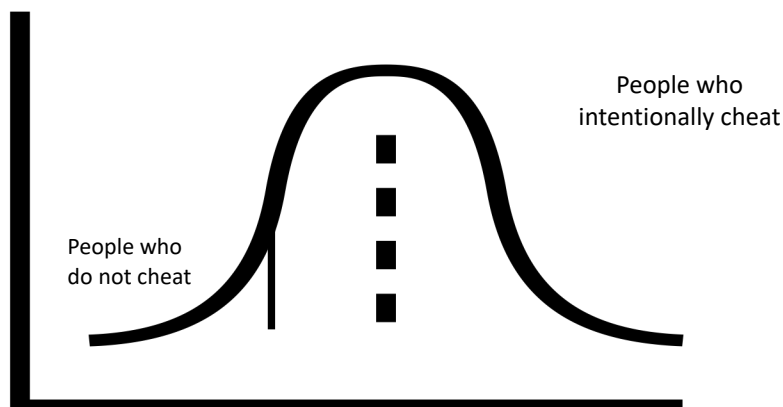
Academic integrity: Education, skill-building and communication of expectations
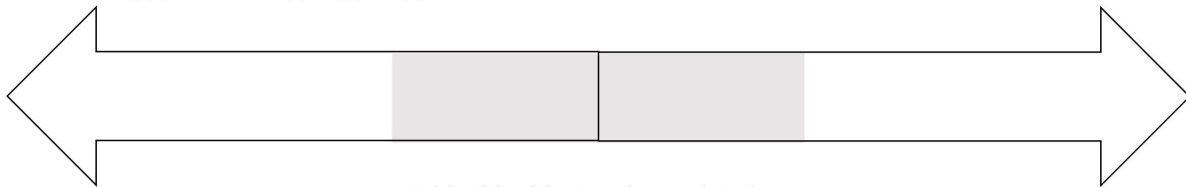
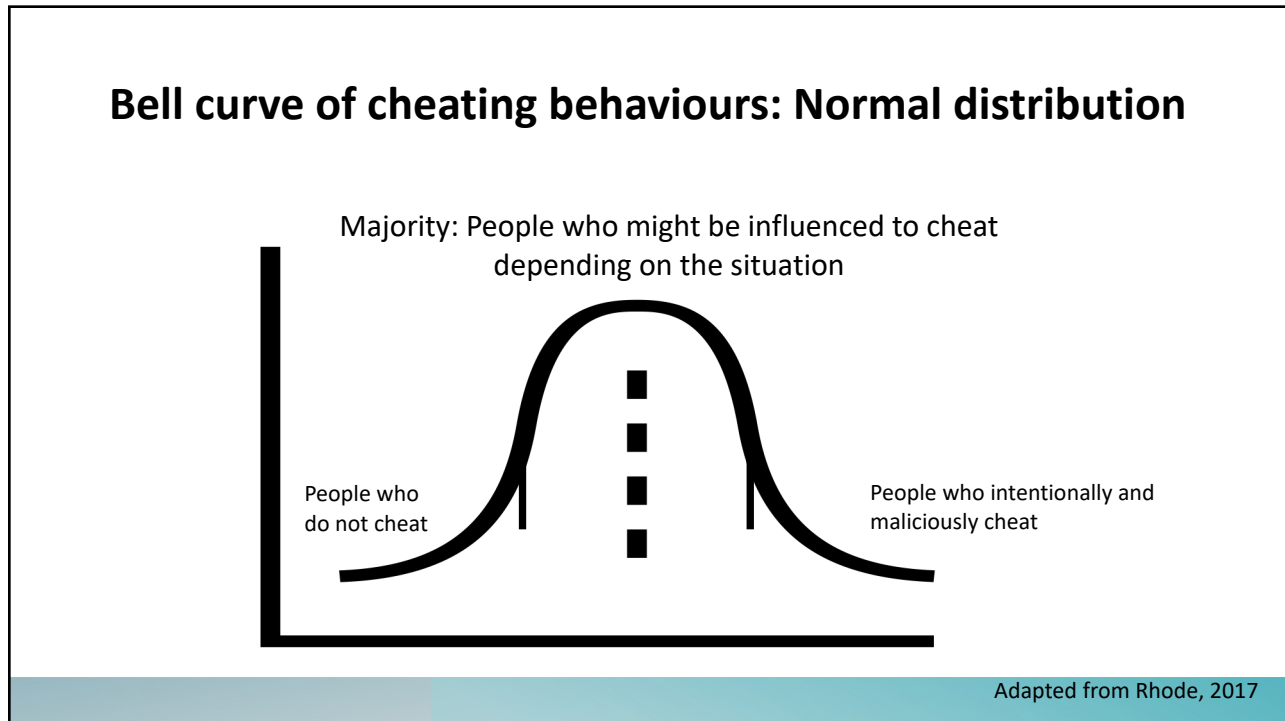Critical incident and associated grey area: Identification of alleged or actual breach and initial steps

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Bell curve of cheating behaviours: Skewed bias

People who intentionally cheat

People who do not cheat

Adapted from Rhode, 2017

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Bell curve of cheating behaviours: Normal distribution

Majority: People who might be influenced to cheat depending on the situation

People who do not cheat

People who intentionally and maliciously cheat

Adapted from Rhode, 2017

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Academic Integrity: U.S.-Based Schools of Thought

Eaton & Fishman
Handbook of Academic Integrity (2nd ed.), 2024

School of thought	Examples of notable US-based contributions to academic integrity scholarship (an incomplete list)
Values and Morality	Bertram Gallant (2008); McCabe (1992, 2006), McCabe et al. (2006); Rettinger (2006)
Skill development	Howard (1995, 1999, 2001); Jamieson (2013); Panning Davies & Howard (2016); Robillard (2008)

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Indigenous Academic Integrity

Relationality:
I am because you are
"Relationships do not merely shape reality, they are reality." (Wilson, 2008, p. 7)

Reciprocity:
Roles we serve
"Inherent in this commitment to the people is the understanding of the reciprocity of life and accountability to one another." (Hart, 2010, pp. 9)

Respect:
Nothing about us without us
"Indigenous knowledge extends beyond the environment, however; it has values and principles about human behaviour an ethics, about relationships, about wellness and leading a good life. Knowledge has beauty and can make the world beautiful if used in a good way." (Smith, 2012, p. 161)

Gladue, K. (2021). *Indigenous academic integrity.* University of Calgary https://taylorinstitute.ucalgary.ca/resources/indigenous-academic-integrity

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Slide 10

6 Tenets of Postplagiarism:
Writing in the Age of Artificial Intelligence

Sarah Elaine Eaton 2023

In *Plagiarism in Higher Education: Tackling Tough Topics in Academic Integrity (2021)* I introduced the idea of life in a postplagiarism world. Here, I expand on those ideas.
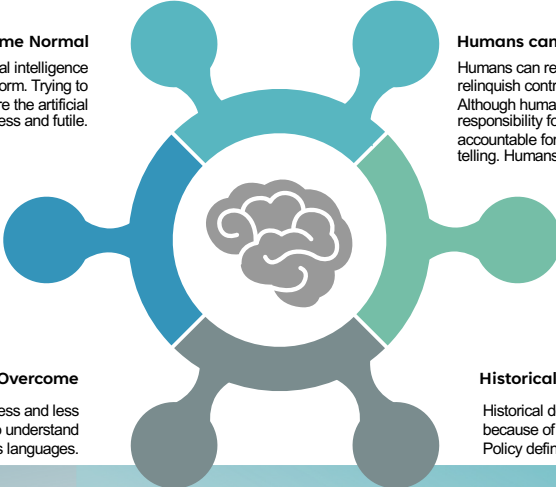
Hybrid Human-AI Writing Will Become Normal
Hybrid writing, co-created by human and artificial intelligence together is becoming prevalent. Soon it will be the norm. Trying to determine where the human ends and where the artificial intelligence begins is pointless and futile.

Humans can Relinquish Control, but not Responsibility
Humans can retain control over what they write, but they can also relinquish control to artificial intelligence tools if they choose. Although humans can relinquish control, they do not relinquish responsibility for what is written. Humans can – and must – remain accountable for fact-checking, verification procedures, and truth-telling. Humans are also responsible for how AI-tools are developed.

Human Creativity is Enhanced
Human creativity is enhanced, not threatened by artificial intelligence. Humans can be inspired and inspire others. Humans may even be inspired by artificial intelligence, but our ability to imagine, inspire, and create remains boundless and inexhaustible.

Attribution Remains Important
It always has been, and always will be, appropriate and desirable to appreciate, admire, and respect our teachers, mentors, and guides. Humans learn in community with one another, even when they are learning alone. Citing, referencing, and attribution remain important skills.

Language Barriers Overcome
One's first language will begin to matter less and less as tools become available for humans to understand each other in countless languages.
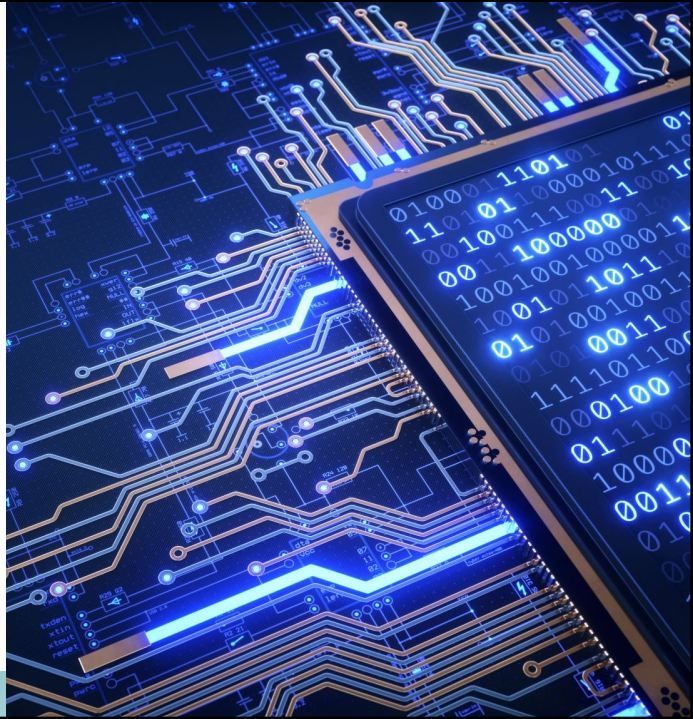
Historical Definitions of Plagiarism No Longer Apply
Historical definitions of plagiarism will not be rewritten because of artificial intelligence; they will be *transcended*. Policy definitions can – and must – adapt.

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Postplagiarism

Postplagiarism refers to an era in human society in which advanced technologies are a normal part of life, including how we teach, learn, and interact daily. Postplagiarism heralds a new era of intellectual engagement in the age of advanced technology.
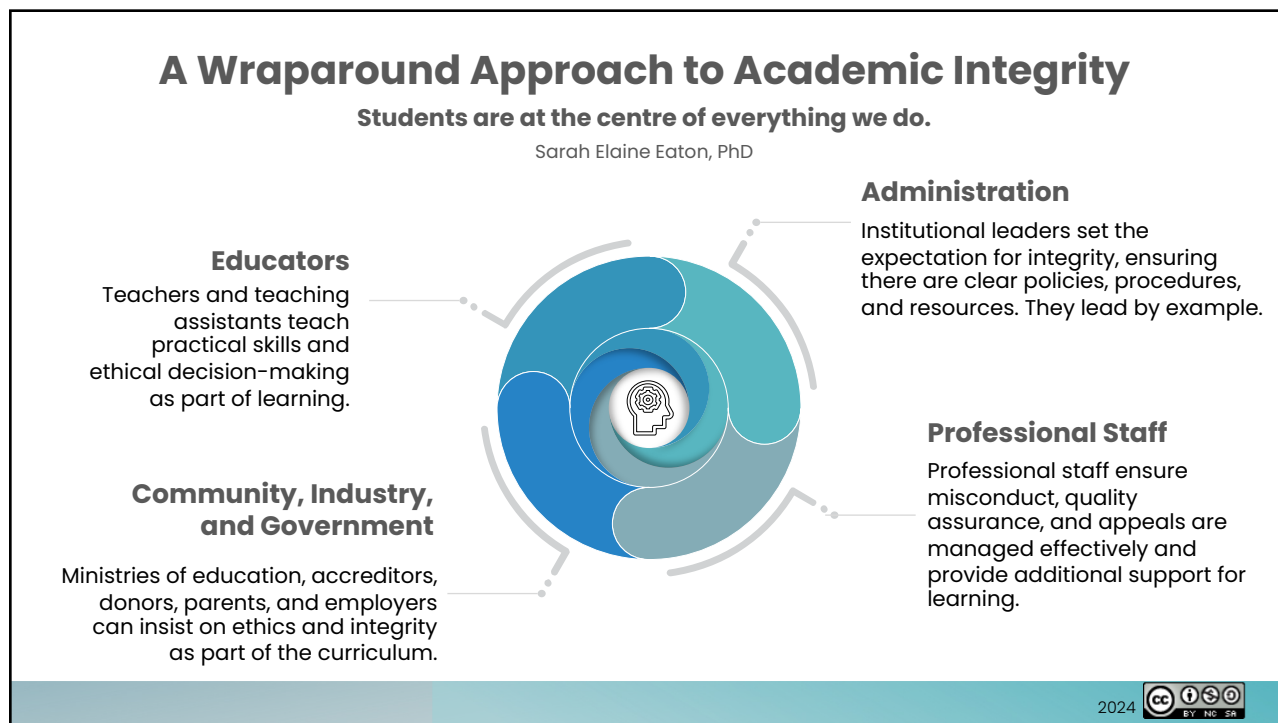
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Key Message

Historical definitions
of plagiarism and misconduct
may require questioning
and reconsideration.

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A Wraparound Approach to Academic Integrity
Students are at the centre of everything we do.

Sarah Elaine Eaton, PhD

Administration

Institutional leaders set the expectation for integrity, ensuring there are clear policies, procedures, and resources. They lead by example.

Educators

Teachers and teaching assistants teach practical skills and ethical decision-making as part of learning.

Professional Staff

Professional staff ensure misconduct, quality assurance, and appeals are managed effectively and provide additional support for learning.

Community, Industry, and Government

Ministries of education, accreditors, donors, parents, and employers can insist on ethics and integrity as part of the curriculum.

2024

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10 Tips to for Assessing with Integrity in the Age of AI

1. Provide clear guidelines on when and how AI tools can be used
2. Educate students on ethical use of AI tools
3. Design assignments that require critical thinking
4. Implement process-oriented assessments (e.g., drafts, outlines, presentations)
5. Encourage open discussions about AI use in coursework
6. Focus on developing skills AI cannot replicate (e.g., creativity, analysis)
7. Incorporate in-class writing and presentations
8. Teach information literacy and source evaluation
9. Emphasize the value of original thought and personal growth
10. Create a culture of integrity through positive reinforcement
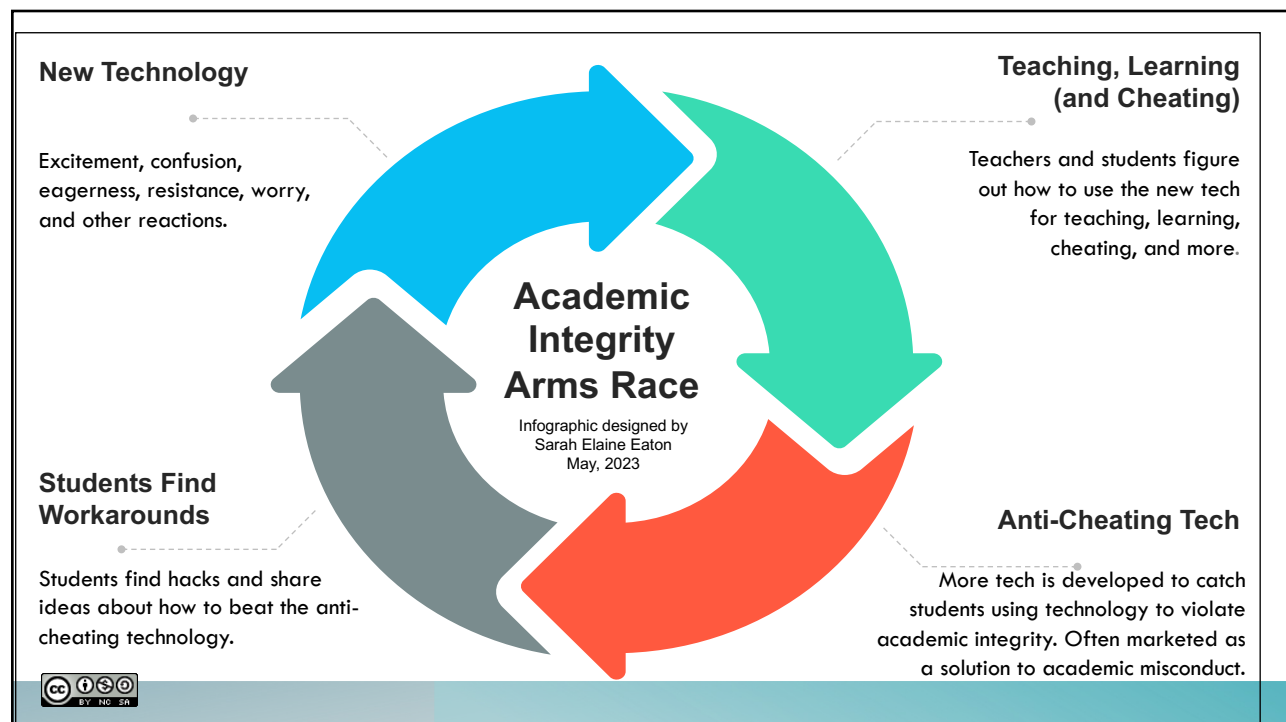
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Potential Benefits of AI-Powered Assessment Tools

- Increased efficiency in grading and feedback
- Potential for more frequent assessments
- Consistency in evaluation across large groups
- Personalized learning paths based on assessment data
- 24/7 availability for student practice and self-assessment
- Reduced teacher workload for routine assessment tasks
- Ability to analyze patterns in student performance at scale

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New Technology

Excitement, confusion, eagerness, resistance, worry, and other reactions.

Teaching, Learning (and Cheating)

Teachers and students figure out how to use the new tech for teaching, learning, cheating, and more.

Academic Integrity Arms Race

Infographic designed by Sarah Elaine Eaton May, 2023

Students Find Workarounds

Students find hacks and share ideas about how to beat the anti-cheating technology.

Anti-Cheating Tech

More tech is developed to catch students using technology to violate academic integrity. Often marketed as a solution to academic misconduct.

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Differences between Text-Matching Software and AI-Detection Software*

Text-Matching Software (TMS)

TMS can detect textual similarities through text-matching algorithms applied to databases.

Main databases: Web pages, journal articles, periodicals, and other publications, as well as work submitted previously by the students.

The content generation capabilities of AI challenge TMS.

AI Detectors are trained with human texts.

Approaches: Statistical, watermark-based, classifier-based, and retrieval based.

Results are typically provided in percentages, scales, or binaries to indicate the presence or absence of AI-generated content.

AI-Detection Software

* Eaton et al. (2020); Elkhatat et al. (2023); Liu et al. (2023); Sadasivan et al. (2023); Weber-Wulff (2016); Weber-Wulff et al. (2023); Zhou et. al. (2024).

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Limitations of AI Generated Text Detectors*

AI detectors show false positives and false negatives.

Also, researchers have identified variations in sensitivity and specificity.

Paraphrasing, machine translation, human editing, or use of GPT-4 can lower AI detectors' efficacy.

* Anderson et al. (2023); Elkhatat et al. (2023); Foltýnek et al. (2023); Gegg-Harrison & Quarterman (2024); Liu et al. (2023); Sadasivan et al. (2023); Waltzer et al. (2023); Weber-Wulff et al. (2023).

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Students are
not our enemy.
They are our
future.

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Call to action: Getting our priorities straight…

01	02	03
Prioritize compassion over content.	Prioritize decency and dignity over deadlines.	Prioritize pedagogy over punishment.

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