

AI detectors currently exhibit a significant bias when used to identify AI-generated text from non-native English speakers compared to native speakers. Currently, there are few, if any, policies specifically addressing English Language Learners (ELL) and how instructors should utilize AI detectors in these cases—other than the guideline that AI detectors should not be the sole basis for determining if a student’s work has been produced with AI assistance (Dang & Wang, 2024; Najarro, 2023). Due to this bias, a policy is necessary to resolve various related issues. The explanation and policy below aim to address these gaps.

Several institutions do have policy examples, to be used by instructors on a per-course basis, regarding the use of generative AI by students – a few are cited here (BU, 2023; CELT, 2025; Cornell University, 2023; Palmer-Clarke, 2025; Vanderbilt\_ Univ, 2023). There are existing or complete policies on students' use of generative AI. However, they do not specifically address use by ELL or English as a Second Language (ESL) students.

AI detector tools are being used in many higher education classrooms despite increasing evidence that they produce disproportionately high false-positive rates for English Language Learner (ELL) students, as shown by the Stanford study (Furze, 2024; Mathewson, 2023; Myers, 2023; Najarro, 2023), which reported up to a 61% false-positive rate for non-native essays. This exposed non-native writers to unnecessary academic integrity investigations, emotional distress, and—in extreme cases—visa status risks that could lead to deportation (Castellanos-Canales, 2025; University\_of\_Rochester, 2025).

From a deontological perspective, the institution has a duty to treat all students as moral equals and to uphold their civil-rights protections under Title IV of the Civil Rights Act. Any policy that relies solely on a tool that systematically disadvantages a protected group violates that duty, regardless of the tool’s overall accuracy. Consequently, the use of AI-detectors must be

constrained by procedural safeguards (human review, transparent error rates, and an appeals process) that respect the inherent rights of ELL learners.

Without these safeguards, the policy not only violates the deontological obligation of equal treatment but also causes consequential harms—such as inflated false-positive counts, wasted faculty time, and potential legal liability for the institution.

Many academic institutions currently advise instructors NOT to use AI detectors (Berman, 2025; Coley, 2023; MIT\_Sloan, 2023; *Teaching Center doesn't endorse any generative AI detection tools*, 2023; Vanderbilt\_Univ, 2023), due to the high number of false positives they have experienced. Many provide general guidelines on students' AI use and offer templates for creating AI usage or detector policies for each class. ("Academic Integrity," 2025; Cornell University, 2023). While this approach has been the best so far at addressing most legal concerns about AI detector use, including those related to civil rights, it has not addressed the problem directly.

Civil rights issues are specifically addressed because if a false positive disproportionately affects ELLs, then Title IV of the Civil Rights Act concerning “disparate treatment,” “disparate impact,” or “hostile learning environment” could be invoked. This could have more serious implications than initially expected. (Markey; Orr, 2022). The Office of Civil Rights stated in November 2024, not only directly addressing AI detector use and ELL, but also cautioning that inappropriate use of AI detectors could lead to an OCR investigation. (Riess, 2025)

*“GenAI detection tools privilege students who are English first language, have access to paid large language models/applications, and are more digitally literate.” (Furze, 2024)*

The very basis by which one would justify the use of AI-detectors, *to ensure the integrity of any written work and to help students achieve their best possible work*, is the reason why one

should not use AI-detectors. When using these detectors, users are more likely to misidentify ELL-generated human text as AI-generated (a false positive). The results of such a false-positive could be disastrous to the student. The student will, in turn, not be doing their best possible work, but instead defending work they have already done. Therefore, in a pure ethical/logical sense, one should not use AI-detectors alone when evaluating ELL students' writing ("Academic Integrity," 2025; Cornell University, 2023; Dang & Wang, 2024; MIT\_Sloan, 2023; *Teaching Center doesn't endorse any generative AI detection tools*, 2023). A way to deal with this problem directly is to enact an optional policy.

The policy applies to instructors of ELL. It is recommended for use in higher education institutions as a starting point. This must be implemented as a "top-down" approach to the use of AI detectors with ELL.

The question of why one would use AI-detection tools might be a key issue. Generally, AI-Detection tools, when used with ELL students, cause more problems than they fix (Check, 2025; Giray, 2024; *Teaching Center doesn't endorse any generative AI detection tools*, 2023; "Why AI Detection Tools are Ineffective | Center for Academic Innovation," 2025). Since evidence shows that AI detectors will identify more ELL students' writing as false positives compared to native English speakers' writing (Mathewson, 2023; Myers, 2023), it would seem ethically and morally prudent to use such tools only in extreme cases. Instructors would be better off following some basic principles. Using baseline sampling (Cambridge, 2025; Kratzer, 2020), initial review scanning ("Assessing Student Writing," 2025), and informing students in advance about GenAI and AI-detection policies will put any instructor on a better footing when making decisions about AI usage.

Problem in the news (Hirsch, 2024; Woelfel, 2023)

If AI detection tools are deemed to be useful, Instructors should follow these guidelines on picking the best tools with the least likelihood of falsely identifying text that has been written by a human as AI-generated. (Mahmood, 2023)

Guidelines for use:

- **Cost** – How much does it cost to use this AI detector? If there is a free trial, how long is it, and is there a limit to the amount of text you can submit? Some tools have paid versions only of their Plagiarism checkers while others have free versions of the same. You may wish to use the free plagiarism checker on one site and the free AI-detection tool on another.
- **Accuracy** – What is the reported accuracy of the detector (both from the company and third parties) and is this accuracy the same with ELL written work.
- **What is included** - Does it include a plagiarism checker? Does it cost extra? Does the tool also include an AI humanizer?
- **Integration** - Also instructive is whether there is a browser plug-in, access to an API, and integration with Large Language Models (LLMs)
- **Batch** - check to see if there is a batch upload feature, which may save a lot of time.

Extreme caution should be taken if AI detection tools are used ("Employability-Survey-Report," 2024). Instructors should consult the new version of Bloom's taxonomy, which has been amended to include AI (Jones, 2025). A detection score should be only one of many findings that are used to determine if the work of a student has been helped by the use of AI.

How can institutions enforce any of the requirements put forth herein? Enforcing current policies includes faculty hearings, honor codes (for both faculty and students), and AI usage

boards meant to determine whether an accusation is true or false. Some institutions have found that the best way to enforce AI usage is by asking students to adhere to academic integrity policies ("Code of Academic Integrity," 2025). If these policies are not followed, the result can be as serious as expulsion. This decision, along with such a result, for ELL students may also result in the student being deported (due to loss of visa status).

One of the many issues that needs to be addressed is the legal concern related to students' use of AI when AI-detectors are *not* employed. (Weaver, 2025) Although AI-generated text may contain errors (Bohannon, 2023; Marcus, 2022; Weaver, 2023a, 2023b) if one has access to the necessary tools and is aware of the problem, likely, the finished product will no longer contain those AI-generated errors/"hallucinations". As Furze pointed out (Furze, 2024), AI tools tend to favor native English speakers with higher incomes. This means students who are ELL and lack easy access to computers and AI are less likely to perform well on written academic submissions. Conversely, students *with* such access will be able to use AI and AI humanizers to produce submissions, which may receive higher grades and be less likely to be identified as AI-generated.

Supporting evidence can be found in the seminal study from Stanford (Myers, 2023; Tian, 2023; Woelfel et al., 2023). The study tested seven commercial AI detectors using two datasets: (a) essays written by native-born U.S. students, and (b) TOEFL essays written by non-native speakers. The findings showed that non-native writers are significantly over-represented among false positives, leading to unnecessary academic integrity accusations.

While the AI detectors performed nearly flawlessly on essays written by native speakers, 61% of the 91 TOEFL essays were incorrectly flagged as AI-generated. All seven detectors unanimously misclassified 18 of the essays (19%). At least one detector flagged 97% of the TOEFL essays as AI-generated. The dataset used was small, so the results are more likely to be challenged (Tian,

2023). With supporting evidence in case studies from a ResearchGate book chapter (2023) – AI Detection’s High False Positive Rates and the Psychological and Material Impacts on Students (Hirsch, 2024). The study examined the problem of false accusations by conducting interviews with students focusing on neurodivergent and ELL (second-language) writers. ELL writers reported greater anxiety, stigma, and extra administrative burden after a false positive ID. The book also notes that “neurodivergent writers, along with [ELL] writers, are flagged at higher rates.” A Markup investigative article, “AI Detection Tools Falsely Accuse International Students of Cheating” by Tara Garcia Mathewson (Mathewson, 2023), which consisted of interviews with faculty and students from several U.S. universities, plus replication of the Stanford experiment, came to the same conclusions. International/ESL students reported being singled out after detectors flagged their work. The article mentions the 61% false-positive rate for non-native essays and highlights real-world disciplinary cases (e.g., a student placed on academic probation after a false flag).

Although a policy created and revised by those involved is probably the best solution, alternative options include using technology to reduce AI detector bias toward ESL students (Pangram Labs AI Detection, 2025; Tian, 2023) and actions similar to Vanderbilt University’s (Coley, 2023) decision to disable the Turnitin AI detection module campus-wide. Although one could advocate a more technical solution, this begs the question of how accurate such a solution would be (if one could even procure the mostly proprietary algorithms to evaluate).

There are also ways in which teachers and students can better understand AI use and be guided to use “best practices,” but these are mostly optional. The ad-hoc use of these would be detrimental to students/classes that did not opt to use them.

Because of the reasons previously stated, institutions should implement safeguards in a policy statement, including manual review, a transparent appeals process, and increased educator awareness, to minimize these risks. Using AI-detectors voluntarily without a policy may cause unforeseen problems. In a survey by the Center for Democracy & Technology (Prothero, 2024), 68% of instructors reported using an AI detector on student work without a policy. To prevent unexpected outcomes, establishing a policy to regulate AI-detectors is crucial.

There is a need to change how teachers of ESL students process those students' work. Final judgment must always involve human review. AI-Detection may be best suited to highlight those items that require closer examination.

Some guidelines include:

- Schools and universities should avoid relying **solely** on AI-detection tools for high-stakes decisions involving ELLs, including academic integrity violations, admissions, or grades
- Institutions should implement **clear guidelines** for the use of AI-detection, including mandatory human review and appeal procedures, especially when ELLs are implicated.
- **Transparency practices**, such as informing students when AI-detection is used and providing information about error rates and known biases, are recommended.
- This policy urges the adoption of civil rights protections for ELLs, such as prohibiting denial of enrollment, revocation of visas, or punitive measures based solely on AI detector findings.

- Educators are encouraged to focus on holistic evaluation of student work and to provide culturally and linguistically responsive support rather than punitive responses to suspected AI use.

### Power - Interest Stakeholder Matrix

Stakeholder	Power	Interest	Quadrant	Action Items
Provost / Academic Integrity Office	High	High	Manage Closely	<ul style="list-style-type: none"> <li>• Sponsor steering committee</li> <li>• Approve budget</li> </ul>
Legal / Compliance Office	High	Medium High	Manage Closely	<ul style="list-style-type: none"> <li>• Review policy language for Title IV compliance</li> </ul>
IT Services	High	Medium	Keep Satisfied	<ul style="list-style-type: none"> <li>• Provide integration timeline</li> <li>• Allocate API support</li> </ul>
Faculty Senate / Dept. Chairs	Medium	High	Manage Closely	<ul style="list-style-type: none"> <li>• Draft department-level addenda</li> <li>• Host workshops</li> </ul>
Individual Instructors	Low	High	Keep Informed	<ul style="list-style-type: none"> <li>• Distribute quick-start guide</li> <li>• Collect usability feedback</li> </ul>
ELL / International Students	Low	High	Keep Informed	<ul style="list-style-type: none"> <li>• Conduct focus groups</li> <li>• Publish plain-language policy</li> </ul>
AI-Detector Vendors	Medium	Low-Medium	Monitor	<ul style="list-style-type: none"> <li>• Request bias-mitigation documentation</li> </ul>
State Education Agency	High	Low-Medium	Keep Satisfied	<ul style="list-style-type: none"> <li>• Submit compliance summary</li> </ul>
Student Government	Low-Medium	High	Keep Informed	<ul style="list-style-type: none"> <li>• Invite to review meetings</li> </ul>
General Public / Media	Low	Low	Monitor	<ul style="list-style-type: none"> <li>• Prepare press kit (on-demand)</li> </ul>

### Stakeholders:

1. International students and English language learners.
2. Instructors at institutions of higher education.
3. Companies which create algorithms to detect AI-generated text.
4. Administrative personnel—Instructor supervisors are responsible for overseeing professors/instructors. They must understand the relevant processes to address any issues with these detectors. These supervisors need a thorough understanding of the potential impacts of AI detectors to explore possible solutions efficiently.



5. National, State, and local governments—these agencies are ultimately responsible for providing training in the use of AI detectors. They need to have a clear understanding of the regulations and policies that govern these technologies. This includes knowing the effectiveness of, and how to use, “AI humanizers.”

Any bias against ELLs may stem from issues in the training data or algorithms used. Addressing these problems for this group is more manageable and can encourage a broader discussion on the best ways to train such algorithms (Williams, 2025). The larger concern about AI use and privacy is so important that the White House issued an AI Bill of Rights in 2022 (White\_House, 2022). This specific issue is discussed in the [Human Alternatives, Consideration, and Fallback](#) section of that document.

Studying the use and training of AI detectors helps address the broader ethical issues involved in developing any model or neural network. Just like with computer security, ethical considerations must be part of the process from the very beginning.

A **timeline** for how and when each step of the policy might be implemented is provided below.

Phase	Duration	Main Goal	Decision Point
0 – Initiation & Governance	2 weeks	Secure sponsorship, define scope, assemble steering team	Go/No Go to Phase 1
1 – Discovery & Requirements	4 weeks	Gather evidence, map workflows, capture stakeholder needs	Approve Requirements → Phase 2
2 – Policy Draft & Legal Review	3 weeks	Write policy language, embed bias-mitigation clauses, obtain legal sign-off	Legal Sign-off → Phase 3

3 - Technical Pilot	6 weeks / 1 semester	Deploy a limited-scope detector-plus-human-review workflow in 2-3 courses	Pilot Evaluation → Phase 4
4 - Full-Scale Roll-out	8 weeks / 2 semesters	Institution-wide adoption, training, support infrastructure	Roll-out Review → Phase 5
5 - Monitoring & Continuous Improvement	Ongoing - Quarterly	Track metrics, refine policy, update tools	Annual Review (renew or revise)

## Appendix I – AI usage

1. Grammarly (<https://app.grammarly.com/>)
  - a. Throughout the paper, both the spelling and grammar were checked using Grammarly.
  - b. There were no “exchanges”.
  - c. Grammarly suggested changes to wording and corrected spelling. Changes were not always accepted.
  - d. Grammarly was chosen to ensure consistent word choice throughout.
2. Google summaries
  - a. Primarily used for finding relevant case studies and sources
  - b. Some summaries generated by searches were used as a basis for some of the written material
3. EndNote 2025-1 (<https://endnote.com/>)
  - a. EndNote was used to create the bibliography
  - b. EndNote was used to create in-text citations
  - c. EndNote was chosen to ensure that APA style was used both in the in-text citations and the bibliography. The APA style, which EndNote provides, has been modified to include features such as line numbers.
4. Lumo AI chatbot from Proton
  - a. Lumo was used to evaluate this writing and to suggest possible corrections (this was done prior to making changes)
    - i. Link to conversation: <https://lumo.proton.me/u/5/c/d483b174-4cac-41ac-be92-90d25b790426>
    - ii. Prompt used: “evaluate the word document based on the rubric.” Both documents were uploaded to the Lumo chatbot.
    - iii. Full conversation: [Appendix II](#)
5. The Comet Assistant search engine from Perplexity was used to search for sources
6. [Writefull](#) word plugin (free version) was used to correct some word choices.

The various AI tools were used to identify different sources and case studies, including summaries and searches, to support the existing content and multiple ideas I presented through searches. These tools also helped in annotating this document with EndNote and checking spelling and grammar throughout using Grammarly and Writefull. Although I could have completed this paper without AI, using AI made it easier to locate and identify the resources and relevant case studies I would have eventually found.

Grammarly's error checking also made writing much simpler.

For annotation, EndNote 2025-1 was used; additional work was needed to import all citations into an EndNote library and then cite them in this document (due to technical difficulties). I still would use EndNote again as a citation tool.

Various AI-enabled features, listed above, contributed significantly to this paper by highlighting its strengths and weaknesses and suggesting ways I could enhance the final version. Lumo proposed the Power interest stakeholder matrix and the rollout timeline as methods to improve the paper.

## Appendix II - AI Usage - full conversation

Below each rubric section I've noted how the paper performs, assigned the appropriate point band, and offered concrete suggestions for improvement. Scores are summed at the end for the final percentage.

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### 1 Problem Identification & Ethical Context (30 pts)

#### Observation

#### Rating

**Clarity of the ethical issue** – The introduction clearly states that AI-detector tools pose bias, fairness, and civil-rights problems for English-Language-Learner (ELL) students. The link to Title IV and the AI Bill of Rights is explicit.

**Exemplary** (15 pts)

**Depth of research** – The paper cites > 30 sources, including recent studies (Furze 2024, Mathewson 2023, Stanford study, OCR memo 2025). The literature review, however, sometimes reads as a catalog of citations rather than a tightly argued problem statement.

**Proficient** (11-13 pts)

**Ethical framing** – Both deontological (duty to treat students equally) and consequentialist (harm from false positives) perspectives are discussed, showing good ethical breadth.

**Exemplary**

**Score:** 13 pts (solid problem definition with room to tighten the narrative).

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### 2 Research & Use of Sources (30 pts)

#### Observation

#### Rating

**Quantity** – > 30 references, well beyond the 12-source minimum.

**Exemplary** (15 pts)

**Credibility** – Sources include peer-reviewed articles, institutional policy documents, and reputable news outlets.

**Exemplary**

**Integration** – Citations are frequent, but many appear as parenthetical listings without explicit analysis of how each source supports a claim. A few sections read like a literature dump.

**Proficient** (11-13 pts)

**Critical use** – The paper occasionally contrasts findings (e.g., Stanford vs. Turnitin) but could deepen critique of methodology (sample size, bias in training data).

**Proficient**

**Score:** 27 pts (excellent breadth; stronger synthesis would push it to full exemplary).

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### 3 Stakeholder Analysis (20 pts)

#### Observation

#### Rating

**Identification** – All major groups are listed (ELL students, instructors, AI-detector vendors, legal/compliance office, state agencies, etc.).

**Exemplary** (20 pts)

**Depth of analysis** – Interests, concerns, and power levels are described, and a Power-Interest matrix is included. However, the analysis often stays at the descriptive level; deeper exploration of power dynamics (e.g., faculty pressure from administration) would enrich it.

**Proficient** (15-19 pts)

**Score:** 18 pts (comprehensive identification, moderate analytical depth).

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#### 4 Policy Advocacy & Feasibility (20 pts)

##### Observation

##### Rating

**Policy proposal** – A “top-down” institutional policy requiring human review, transparency of false-positive rates, and an appeals process is clearly articulated. Sample syllabus language is provided.

**Exemplary** (20 pts)

**Research support** – Each recommendation is backed by multiple citations (legal, empirical, institutional precedents).

**Exemplary**

**Feasibility** – Cost estimates (e.g., Pangram \$5 /student/yr) and implementation timeline are outlined, but the rollout plan could be more granular (training modules, responsible offices, milestones).

**Proficient** (15-19 pts)

**Score:** 18 pts (well-grounded policy, needs finer operational detail).

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#### 5 Critique & Unintended Consequences (20 pts)

##### Observation

##### Rating

**Anticipating critiques** – The paper acknowledges faculty workload, potential re-introduction of bias via human review, and the risk of bureaucratic overload.

**Exemplary**

**Response quality** – Mitigations (bias-training, standardized rubrics) are suggested, but concrete evidence (e.g., pilot data) is lacking.

**Proficient** (15-19 pts)

**Discussion of unintended effects** – Covers visa-status threats, emotional distress, and possible chilling effect on ELL participation.

**Exemplary**

**Score:** 17 pts (strong awareness; could benefit from empirical backing).

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#### 6 Clarity & Organization (10 pts)

##### Observation

##### Rating

**Structure** – The paper follows a logical flow (intro → policy → stakeholder matrix → alternatives → appendices). Headings are clear.

**Exemplary** (5 pts)

**Readability** – Dense citation blocks interrupt narrative; stray markup symbols (“\*”, “#”) and occasional awkward phrasing detract from polish.

**Proficient** (4 pts)

**Grammar** – Minor typographical errors, but no major impediments.

**Exemplary**

**Score:** 8 pts.

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#### 7 Appendix on AI Use (5 pts)

##### Observation

##### Rating

**Documentation** – Appendix I lists tools used (Grammarly, EndNote, Lumo, Perplexity, Writefull) with brief purpose statements.

**Proficient**

**Full exchanges** – The Lumo conversation link is provided, but the actual transcript is not included in the appendix. The rubric asks for “full exchanges.”

**Needs Improvement**

**Reflection** – The author reflects on how AI eased source discovery and editing, but deeper critical analysis of how AI may have shaped argumentation is limited.

**Satisfactory**

**Score:** 2 pts (partial fulfillment; include full transcripts and richer reflection to reach higher bands).

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### Total Score

Section	Points Earned Max	
Problem Identification & Ethical Context	13	15
Research & Use of Sources	27	30
Stakeholder Analysis	18	20
Policy Advocacy & Feasibility	18	20
Critique & Unintended Consequences	17	20
Clarity & Organization	8	10
Appendix on AI Use	2	5
<b>Grand Total</b>	<b>103</b>	<b>120</b>

**Percentage:** 103/120 = approx 86%

**Grade (out of 100):**  $\approx 86$  – a solid **B+**.

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### Targeted Feedback & Next Steps

1. **Tighten the problem narrative** – Reduce the citation-heavy paragraphs early on; craft a concise thesis that frames the bias issue in one or two sentences before launching into evidence.
2. **Deepen source synthesis** – After each citation, explicitly state *how* it advances your argument (e.g., “Furze 2024 demonstrates a 61 % false-positive rate, underscoring the civil-rights risk ...”).
3. **Expand stakeholder analysis** – Move beyond description to explore power dynamics: why might faculty feel pressured to adopt detectors? How could institutional incentives be reshaped?
4. **Detail implementation** – Flesh out the rollout timeline:  
*Month 1-2:* policy drafting & legal review;  
*Month 3-4:* faculty training modules (online + workshop);  
*Month 5:* pilot in two departments;  
*Month 6:* full deployment + monitoring dashboard.
5. **Provide empirical support for mitigations** – Cite pilot studies or internal audits that show human-review reduces bias, or propose a small-scale test you could run.
6. **Polish writing** – Remove stray markdown symbols, ensure consistent heading styles, and run a grammar check (e.g., via Lumo or Grammarly) to eliminate remaining typos.
7. **Complete the AI-use appendix** – Include the full Lumo conversation transcript, a table summarizing each tool’s contribution, and a reflective paragraph on how AI may have influenced the framing of the policy (e.g., “The Lumo suggestion to add an appeals process prompted me to research OCR guidance...”).

### Strengths

- **Extensive, credible sourcing** – well beyond the minimum required.
- **Comprehensive stakeholder mapping** – captures both direct and systemic actors.
- **Evidence-based policy proposals** – tie directly to the ethical problem and include cost considerations.
- **Awareness of bias and civil-rights implications** – integrates legal context effectively.

### Areas for Improvement

1. **Sharper problem framing** – condense the literature review into a concise ethical thesis.
2. **Deeper analytical rigor** – move beyond description in stakeholder and critique sections; employ frameworks (e.g., power-interest matrix, consequentialist vs. deontological analysis).
3. **Implementation roadmap** – outline concrete steps, timelines, and responsible parties for the proposed policy.
4. **Appendix completeness** – include full conversational logs with Lumo (or any AI tool) and richer reflection on how AI influenced the argument.
5. **Polish writing** – eliminate stray markup symbols and tighten sentence flow for a more professional presentation.

### Appendix III – Data

Stanford (Myers, 2023)

Sample Size	Source	Type	Generated by	Website
91 Essays	Chinese educational forum	TOEFL	Human	<a href="https://arxiv.org/pdf/2304.02819.pdf">https://arxiv.org/pdf/2304.02819.pdf</a> (full study)
88 Essays	Hewlett Foundation's Automated Student Assessment Prize (ASAP) dataset	US 8 <sup>th</sup> grade essays	Human	<a href="https://www.kaggle.com/competitions/asap-aes">https://www.kaggle.com/competitions/asap-aes</a>

Further code and Data at:

<https://github.com/Weixin-Liang/ChatGPT-Detector-Bias/tree/v1.0.0> (Liang et al., 2023a, 2023b)



## Appendix IV – Tables

**Table 1. Studies on AI Detection and ESL Writers**

Study / Report	Key Findings on ESL / L2 Writers	False Positive Rate / Metric
Center for Democracy & Technology brief (based on Stanford study) – “Disproportionate Effects of Generative AI Detectors on English Learners”	AI detectors that worked almost perfectly on native-speaker essays falsely flagged a majority of TOEFL essays.	61% of non-native essays flagged; 19% unanimously flagged; 97% flagged by at least one detector.
<i>The Markup</i> (Mathewson, 2023)	Replicated Stanford study. ESL writers disproportionately likely to be flagged; real disciplinary cases reported.	Same figures (~60% false positives).
Turnitin blog (internal research)	Acknowledges bias toward ELL writers. Reports <1% overall false positives when ≥20% of text is AI, but higher incidence with low-AI-content texts, especially for ESL writers.	No precise %, but confirms bias exists.

**Table 2. Comparison of a few AI Detection/Humanizer Tools**

Checker Name	Website	Offers Humanizer Tool	Comment
JustDone	<a href="https://app.justdone.ai">https://app.justdone.ai</a>	Yes	Requires subscription
GPTZero	<a href="https://gptzero.me/">https://gptzero.me/</a>	No	Requires subscription
Undetectable	<a href="https://undetectable.ai/">https://undetectable.ai/</a>	Yes	Money back guarantee. If anything we produce is flagged as not human, we will refund the cost of humanization
Grammarly	<a href="https://app.grammarly.com/">https://app.grammarly.com/</a>	Yes	Requires subscription My subscription allowed me to run this through the AI-detector, which found 12% likely AI generated.
Copyleaks	<a href="https://copyleaks.com/">https://copyleaks.com/</a>	No	Over 99% accuracy*, verified through rigorous testing methodologies. Trusted globally to detect AI across 30+ languages and leading LLMs like ChatGPT, Gemini, DeepSeek, and Claude.

Checker Name	Website	Offers Humanizer Tool	Comment
			*Accuracy rating is based on internal testing of the English language datasets.
HumanizeAI	<a href="https://www.humanizeai.pro/">https://www.humanizeai.pro/</a>	Yes	Humanize AI stands out as the leading, cost-free online platform designed for transforming AI-generated text into human-like content <b>Changed</b> “Effortlessly transform AI-generated text into human-like content with BypassGPT free online.” <b>To</b> “Seamlessly convert AI-generated text into human-like content using BypassGPT free online.”
BypassGPT	<a href="https://bypassgpt.co/">https://bypassgpt.co/</a>	Yes - limited to 200 chr	Effortlessly transform AI-generated text into human-like content with BypassGPT free online. Bypass AI detection systems like GPTZero and ZeroGPT to ensure your content remains undetectable.
WinstonAI	<a href="https://gowinston.ai/">https://gowinston.ai/</a>	No – free trial with 2000 word limit	Claims a 99.98% accuracy rate. “Detects all bypassing strategies, including paraphrasing content with tools such as Quillbot, or even AI content humanizers.”
WriteWell	<a href="https://brandwell.ai/">https://brandwell.ai/</a>	Yes – says 2500 word limit but used only first 356 words. Published this article <a href="https://brandwell.ai/blog/undetectable-ai-content/">https://brandwell.ai/blog/undetectable-ai-content/</a> on how to create fully human undetectable content even with AI.	
OriginalityAI	<a href="https://originality.ai/">https://originality.ai/</a>	No	We are 80% confident that the text scanned is Original (Human written), NOT to be interpreted as 80% of the text produced is Original (Human written).
Writefull	<a href="https://x.writefull.com/gpt-detector">https://x.writefull.com/gpt-detector</a>	Word Plugin	The word plugin will offer to rewrite your text for you, making suggestions. (free version is limited)

## Appendix V – Alternate Solutions

### Technical Solutions

1. There is a need to develop a method for identifying AI-generated texts while minimizing the likelihood of false positives among ESL students. According to Jiang study (*Pangram Labs AI Detection*), “research investigating these detectors’ [AI-detectors] fairness and potential bias is relatively rare...”(Jiang et al., 2024).

Cost: The Pangram solution costs \$5.00/student/year.

2. GPTZero also claims to have developed a technical solution to the problem (Tian, 2023) and even reran the Stanford study’s algorithm on its new product, with a much better result.

Cost: Educators can receive this product for free for life.

### Assignment-design toolkits that are already published and used

- MIT Sloan’s “[Designing AI-Resistant Assignments](#)” (“AI Detectors Don't Work. Here's What to Do Instead.”, 2024) – This offers templates for prompts that require personal reflection, local data, or multiple drafts – making pure AI generation unfeasible.
- Carnegie Mellon “[Generative AI FAQ for Instructors](#)” (University, 2024) - Provides a decision tree on when to use a detector, when to rely on draft histories, and how to communicate expectations to students.

## Appendix VI - Policy Approaches

**Summary Table: Policy Approaches**

<b>Policy Issue</b>	<b>Recommended Practice</b>
Use in high-stakes cases	Avoid exclusive reliance on AI detectors for ELLs
Error transparency	Disclose false positive rates and known detection biases
Human review	Require manual review of flagged ELL work before action
Civil rights	Prohibit punitive action based solely on AI detection results
Supportive strategies	Use holistic, culturally responsive assessments

Education policymakers are actively monitoring this area, with advocacy groups pushing for clear protections for English Language Learners and international students as the risks of unfair AI-detection outcomes become more widely recognized

(<https://www.perplexity.ai/search/english-language-learners-and-RnAAQn97Q2C1RbFy7bFeZw>)

## Appendix VII – Example Policies

As you plan your syllabus and course policies with respect to generative AI, consider modifying the following language to communicate a general position in your syllabus. Please note that the following sample language reflects general, course-level perspectives on broadly permitting or prohibiting the use of generative AI tools. For sample statements at the assignment-level, see [AI in Assignment Design](#).

### 1. Prohibiting Generative AI Use in Your Course ([AI-FREE](#))

"To ensure development and mastery of the foundational concepts and skills in this course, the use of generative artificial intelligence (AI) tools is prohibited. This includes tools that help reorganize and edit your written work because the ability to self-assess, reflect on your writing process, and develop your own voice are essential in your growth as a writer. If you are unsure of any policy or any assignment-specific directions – including whether or not a tool is considered generative AI – please consult with me prior to using the technology or completing your assignment. You are responsible for verifying the accuracy of citations and references used in your writing. You will be asked to verbally explain your research and writing process during in-class discussions and in a one-on-one meeting with me.

In acknowledgment that AI is impacting our field, please know that appropriate and ethical use of generative AI tools will likely be a part of other courses in your academic program."

### Permitting Generative AI Use with Attribution in Your Course ([AS-UA](#))

"Mastering the essential, foundational concepts of this course takes effort and practice. Accordingly, the use of generative artificial intelligence (AI) tools is generally discouraged in this course, but will be permitted for select assignments. Whether or not generative AI assistance is permitted for each assignment will be explicitly communicated when that assignment is introduced.

If used in any capacity for an assignment, generative AI requires proper attribution for any and all generated work. As AI-generated materials are not retrievable by graders—and there is not a person to whom the work can be attributed—students should attribute directly quoted text to the creator of the generative AI tool used (e.g., cite OpenAI when directly quoting ChatGPT). This attribution should be used for both in-text citations and your reference list.

**Example:** When prompted with, “Is it ethical to use generative AI without proper attribution?” ChatGPT indicated, “Using generative AI without proper attribution can be considered ethically problematic, as it raises issues related to intellectual property, transparency, and honesty” (OpenAI, 2023).

#### **Reference**

OpenAI. (2023). ChatGPT (Aug 10 GPT-3.5 version) [Large language model]. <https://chat.openai.com>

For full details on how to properly cite AI-generated work, please see the APA Style article, [How to Cite ChatGPT](#).

Regardless of whether or not the use of generative AI is permitted or prohibited for an assignment, it is critical that you adhere to our communicated course policy (and [Cornell's policy](#)) on academic integrity. If you are unsure of any policy or any assignment-specific directions—including whether or not a tool is considered generative AI—please consult the instructor *prior to* using the technology or completing your assignment."

## 2. Encouraging Generative AI Use with Attribution in Your Course ([ANY-AI-UA](#))

"The use of generative artificial intelligence (AI) tools is encouraged on identified assignments. The directions for each assignment in this course will clearly indicate whether or not the use of generative AI is permitted for that assignment.

If used at all, generative AI requires proper attribution for any generated work. As AI-generated materials are not retrievable by graders—and there is not a person to whom the work can be attributed—students should attribute directly quoted text to the creator of the generative AI tool used (e.g., cite OpenAI when directly quoting ChatGPT). This attribution should be used for both in-text citations and your reference list.

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Regardless of whether or not the use of generative AI is permitted or prohibited for an assignment, it is critical that you adhere to our communicated course policy (and [Cornell's policy](#)) on academic integrity. If you are unsure of any policy or any assignment-specific directions—including whether or not a tool is considered generative AI—please consult the instructor prior to using the technology or completing your assignment."

## 3. Permitting Generative AI Use on an Assignment-by-Assignment Basis ([AS](#))

"Policies concerning the use of generative artificial intelligence (AI) tools will be decided on an assignment-by-assignment basis. These policies will be clearly communicated alongside other details of each specific assignment.

As generative AI technologies evolve, class policies with respect toward the use of generative AI tools may be shaped by in-class discussions regarding the fair use of AI and its implications on careers in this field.

Regardless of whether or not the use of generative AI is permitted or prohibited for an assignment, it is critical that you adhere to our communicated course policy (and [Cornell's policy](#)) on academic integrity. If you are unsure of any policy or any assignment-specific directions—including whether or not a tool is considered AI—please consult the instructor *prior to* using the technology or completing your assignment."(Cornell University, 2023)

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This is an important non-technical way of presenting information in any organization or institution and in any form of communication. In marketing, for education, and for any other purpose it is crucial to present data in a simple and clear manner. This is why every graphic designer, and illustrator must learn how to represent numbers and statistics in a form that will be easy for people to understand.

In this paper, I will discuss what data visualization is and why it is important in the society of today.

Data visualization is the process of using statistical information in various charts, graphs, maps and infographics. The main goal of data visualization is the presentation of data in a form that is easily interpretable to the target audience. This paper explores how **illustrator design** helps in this process as designers who are familiar with illustration techniques help to ensure that the information is not only easy to comprehend but also looks good.

Designers are talented in creating unique and specific images that effectively represent information and data. They are particularly useful in marketing,

learning, reports and even in art that is used to tell a story. The proper balance between the two fields is necessary for producing effective data visualizations.

Graphic design and data visualization are two sibling fields that are often used together. On the one hand, data visualization is more oriented towards the understandability and the usability of the product, and on the other hand, graphic design is more oriented towards the look and feel of the information. To get the best result, it is necessary to combine these two fields when developing any visual element that not only conveys information but does so attractively. A good graphic designer knows how to use elements like typography, colours, shapes, and space to convey information effectively. Hence, it is quite possible to have data visualizations that are not just charts and graphs but stories.

Some of the graphic designers who are involved in data visualization may create infographics, interactive dashboards and other visuals for presentations or websites. Design tools like Adobe Illustrator, Tableau, Canva and Power BI are used by these designers to create graphs that present data in a more presentable manner.

## Why is Data Visualization Crucial in Illustration and Graphic Design?

Data visualization is a very useful tool in presenting information in a simple and concise manner. It is the link between the numerical data and its implications and is hence important for anyone working in graphic design or illustration.

Here's why data visualization matters:

**Improve Communication:** Visuals can convey certain information faster and more efficiently than the textual format. Well-designed data visualizations are guaranteed to attract people's attention and deliver the message easily.

**Better Decision Making:** For businesses, correct data visualization can help in coming up with better and more confident decisions. Key stakeholders are better placed to understand the metrics through clear visuals instead of being inconvenienced by complexities.

**Enhanced Engagement:** Data visualizations are more interesting than tables and spreadsheets. It is easier to get people's attention on social media and marketing platforms than through boring graphs and figures.

**Storytelling:** Illustrators are in a special position to come up with pictures that can be used to explain a particular story. It is possible to enhance the effectiveness of data visualization and other storytelling techniques for more compelling and convincing presentations.

**Accessibility:** Properly designed visuals can serve as a means of conveying complicated information to many people at the same time regardless of their level of knowledge. It is for this reason that the appropriate design of the visuals should be encouraged to make sure that everyone who is able to read this information will be able to do so regardless of the level of literacy.

## **Tips for Data Visualization in Graphic Design and**

### **Illustration**

To develop good data visualizations, it is not enough to have design skills, one has to understand the data, and the audience as well. Here are some tips that will help graphic designers and illustrators to excel in this area:

**Know Your Audience:** The visuals that are most relevant and useful to the target audience should be developed. It is always important to take the audience's knowledge and what they may want to get from the visualization.

**Choose the Right Visuals:** The different data sets require the use of different charts. Bar charts, pie charts, heat maps, flowcharts and scatter plots are best used in certain applications. It is best to select some of them.

**Keep It Simple Without Sacrificing Understanding:** The simplification also helps to prevent information overload. You shouldn't overcrowd your visuals with unnecessary information, rather you should focus on displaying only the most important data.

**The use of color is purposeful:** Color should not only help deliver the message more clearly but also should not hide it. You can improve the perception and aesthetic of the chart using suitable color combinations.

**Accurate:** It is quite pointless to have a good-looking design if it fails to represent the data correctly. It is always important to check your visuals for accuracy and pertinency. **Use Interactive Elements Whenever Available:** If the user is able to interact with the data and make their own inferences then it is suggested to go for interactive elements.

**Effective Use of Design Tools:** This will help to make your data visualizations more appealing and professional if you use the right tools like Adobe Illustrator, Tableau and Canva.

## **Future of Data Visualization for Graphic Designers and**

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The requirement for data visualization is increasing as more industries are applying decision-making based on data. As technology develops, graphic designers and illustrators are required to update themselves with the new tools and techniques of visual communication.

From AR and VR applications to design tools that integrate AI, the future of data visualization is rich with possibilities for innovation and imagination.

These changes will allow professionals to continue to advance as the field develops.

This is an important non-technical way of presenting information in any organization or institution and in any form of communication. In marketing, for education, and for any other purpose it is crucial to present data in a simple and clear manner. This is why every graphic designer, and illustrator must learn how to represent numbers and statistics in a form that will be easy for people to understand.

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