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DISCLOSURE OF SUPPORT STATEMENT: INCREASING STUDENT TRANSPARENCY ABOUT SUPPORT FROM SOFTWARE LIKE CHATGPT

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Abstract: This article presents the development and pilot testing of a Disclosure of Support Statement (DSS) tool to promote transparency and student engagement in academic writing. In an era where human and software supports play integral roles in completing written work, it is essential to consider the contributions of human sources and the impact of artificial intelligence software (AIS) tools. The DSS tool encourages students to reflect on how much they utilize human and software supports, including professors, peers, librarians, tutors, and AIS tools such as search engines and grammar-checking software. The ethical implications and boundaries of using these supports are explored through a series of reflective questions and class discussions. The pilot study involves a senior seminar class and utilizes the DSS alongside written reports and a literature review. The ultimate goal is to increase transparency in student work, encourage critical thinking about support options, and initiate conversations about academic integrity and the purpose of education. The data collected from the pilot tests will provide insights into student attitudes and pave the way for further analysis and refinement of the DSS tool. By embracing transparency and fostering open dialogue, educators can empower students to make informed choices in seeking support, thus enhancing their writing skills and ethical understanding within the academic environment.

Keywords: Disclosure of Support Statement, Transparency, Student engagement, Academic writing, Artificial intelligence software, Human support, Software support, Academic integrity, Ethical implications, and Educational process.

INTRODUCTION

Disruptive innovation, especially in education, is not new. The question becomes how quickly the change comes, how rapid the new adoption is, and what must be transformed in the wake of that change (Moore, 2014). Currently, disruptive innovation in education is Artificial Intelligence Systems (AIS or AI systems) that generate text through Natural Language Processing (NLP) and Natural Language Generation (NLG) methods. Content generators like Generative Pre-trained Transformer 3 (GPT-3) are only the most recent disruptions. Some Americans may remember the shift in mathematics education with the advent of calculators, and this debate continues to some extent despite the evidence of research (Banks, 2011). More recently, penmanship has disappeared from school curricula and has been replaced with keyboarding skills as an essential tool for modern life and schooling. Fifteen years ago, in *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns* (Christensen et al., 2008), the authors proposed that technology-driven educational reforms will serve students better and bring the K-12 education system into the 21st century, emphasizing the need for disruptive innovation in learning and providing practical strategies and success stories for administrators, leaders, parents, and teachers.

This article presents perspectives on the newest debate over a disruptive innovation AIS and its impact on written communication. However, the challenge may be deciding where to draw the line with software rather than the battlelines between AIS as a beneficial force multiplier and its role as an insidious threat to academic integrity and writing in higher education. The researchers of this article would rather avoid the battleground perspective in which educators and students are in an arms race around integrity, authenticity, and the value of personal creations (Gluska, 2023; Hetler, 2023; Nanda, 2021; Schatten, 2022). Instead, the exploratory research detailed

in this article relates to Curriculum and Instructional Designs (CID) that embrace AIS tools like ChatGPT and the use of an Acknowledgment Section that goes well beyond citations to credit the support a student writer received to create, revise, edit, and proofread their written work. This Acknowledgment Section aims to increase the transparency of the support utilized by the student and disclose the type and extent of each (Lamb, 2023).

Through this, the writing process is the end sought and not the artifact produced. This allows educators and learners to converse about the process and products of their intellectual endeavors rather than the easiest way to complete a task without getting caught.

The authors performed a Systematic Literature Review (SLR) by searching for books using the keywords "Artificial Intelligence," "Writing," and "Higher Education." This search yielded a total of 518 results. The books were published between 1987 and 2023, but for the purposes of the review, the authors focused on books published between 2020 and 2023.

The search yielded 63 books with four relevant titles (Arora, 2021; Bruce M McLaren et al., 2022; Churi et al., 2023; Daniela, 2020). The report of the SLR shows that the scholarly discussion is more general regarding disruptive innovation and its impact on academic integrity and CID. The debate about AIS has been growing over the past few years (Arora, 2021; Bruce M McLaren et al., 2022; Churi et al., 2023; Daniela, 2020; Dergaa et al., 2023; Nazari et al., 2021). With the advent of the newest versions of Large-Language-Model AIS, the concerns have grown to a fevered level. Faculty discussed transforming the CID to face this new paradigm shift during department meetings and online forums. The traditional way of crediting a source of support or content is with a properly formatted citation. The APA and MLA both have guidance on how to cite AI-generated work (McAdoo, 2023; McNiff, 2023; Modern Language Association of America, 2023)

ENGAGING WITH CHATGPT

Question.- Is generative AI a force multiplier in education or an insidious threat to academic integrity and college writing?

Table 1 below contains the answer provided by ChatGPT to the above question.

ChatGPT Answer
Generative AI can be both a force multiplier in education and a potential threat to academic integrity and college writing. As a force multiplier, generative AI can enhance education by providing students with tools and resources to support their learning. It can generate educational content, such as tutorials, practice exercises, and interactive simulations, which can supplement traditional teaching methods. This technology can also facilitate personalized learning experiences, adapt to individual needs, and offer real-time feedback, thereby improving student engagement and outcomes. However, generative AI also poses challenges to academic integrity and college writing. With the advancement of language models like ChatGPT, it becomes easier for students to access pre-written essays or papers that can be passed off as their own work. This raises concerns about plagiarism and undermines the value of education. Institutions and educators need to stay vigilant and adopt measures to detect and discourage academic dishonesty. Ultimately, the impact of generative AI in education depends on how it is utilized and regulated. When properly integrated and monitored, it has the potential to be a valuable tool for educators and students. However, it is important to address the ethical implications and ensure that academic integrity remains a priority. (OpenAI, 2023 Personal Communication)

Table 1.-Conversation with ChatGPT

REFLECTING WITH CHATGPT

Would you have recognized the above text as AI-generated content? Could you determine to what extent AIS assisted in creating and proofing the text? The real question is how the value of the originality of what is written and the arguments put forth are the authors'. Today few people would ask us about the search engines or database tools used to access the scholarly information that underpins the

writing of the work and the research that provides the background. However, not too long ago, crowd-sourced pages like Wikipedia or open-access content had a stigma attached to their value and reliability. This article does not want to take a stand for or against AIS or other supports that students might access. Instead, this article presents a tool that has been created to allow students to have transparency in what they did to aid them in the processes of creating, revising, editing, and proofreading their written work.

This tool is currently being utilized in pilot tests to see how students react to their inclusion in assignments and to gather a baseline of possible responses when questions like these are asked.

At the time of this writing, the first exploratory ChatGPT assignments have been administered as the first step to building the Disclosure of Support Statement (DSS). Starting in June 2023, two sets of pilots with 20 students each will be run to see how students react and the types of responses the tool provides in the context of a senior seminar with required written reports and a literature review. An Institutional Review Board (IRB) is currently being reviewed for student feedback.

DISCLOSURE OF SUPPORT STATEMENT OF CONTRIBUTIONS BY HUMANS AND AIS

A significant aspect of being effective as an expert is using your expertise to judge when you need help or are not qualified to speak about a topic. Students often do not consider this due to poor time management, understanding, and self-assessment. In college, support is usually provided if sought, so many students cannot recognize when help is needed and how to reach out for support in a timely manner.

Putting aside all the technology needed to facilitate the construction and submission of work, such as word processing programs and Learning Management Systems, humans and software still play many different roles in supporting the completion of written work in higher education. Typically, everyone is trained to cite materials taken from outside sources to give credit to those that originated the content, whether ideas, data, images, programing code, or many others. However, with the rise of AIS, we must also consider those software tools that aided in the creation, revision, editing, and proofreading of the written work. First, let us consider the humans that might be consulted to assist:

- Professor
- Peers/classmates
- Friends
- Family
- Librarian
- Tutor/writing center staff
- Outside consultant/Expert/Paid professional

Software support has become more prominent with the advent of AIS (Murugesan, 2009) and the semantic Web or Web 3.0. Benito-Osorio et al. defines Web 3.0 as:

> "Web 3.0 combines human and artificial intelligence to provide more relevant, opportune and accessible information.[…] Web 3.0 is a neologism used to describe the transformation of the Web into a database, a way of making content more accessible through multiple non-browser applications, artificial intelligence technologies, the semantic Web, the geospatial Web and the 3DWeb" (2013, p. 277)proposing a conceptual and methodological change in teaching–learning processes in Spanish universities. In this new scenario, the education of students via the Web has become a key factor that requires higher education teachers to have new emotional

> competences. Although affections, feelings and emotions have been gaining relevance in society and scientific thought for more than a decade now, in the future, we will be dealing with a sensory emotive Web (Web 5.0

People reported that that AIS can be accessed anytime and they do not feel judged. Additionally, AIS can provide answers and support to students that seem to improve the work with less planning and effort than consulting a human. AIS is leveraged to accomplish some of the following:

- Searching
- Spelling, grammar, syntax proofing
- Vocabulary, word choice, and diction improvement
- Paraphrasing
- Automatic citing
- Editing of content
- Revising and reformatting
- Content generation
- Translation
- Ideation
- Collaboration

Conversations with students highlighted gray areas such as:

- To what extent are these different types of support acceptable, marginal, or a violation of ethics or academic integrity?
- Is paying for a private tutor to help you be a better writer and complete your essays and presentations' wrong'?
- Is using Grammarly to correct grammar, syntax, and spelling acceptable but wrong when it suggests how to make your paper more readable?

At some point, AIS tools will impact all of our work life overtly, so acknowledging the value and reliability of each is essential to practical outcomes. Therefore, in order to engage students and encourage them to reflect on options before using the DSS, I present a task that involves a summary of scholarly articles followed by consultation with reference librarians. Finally, I assigned them the following reflection questions:

> "Please discuss to what extent, if any, you use any of the human and software supports listed above when completing academic writing tasks. Next, do you ever ask about or analyze the AI tools that support you when you use a search engine? How much do these tools assist you in completing your tasks: autofill, spellchecking, suggested search strings, presented results, what others have asked, and other search questions? Next, consider your use of a simple spelling/grammar-checking tool. If it recommends a change, to what extent do you question autosuggestion? Once you have finished the proofing on the computer, do you reread the work to see how it sounds? Does this activity ever raise the question if you are violating academic integrity? Finally, if you ask a human to assist you in this proofreading process, do you feel they are more or less effective than the software?"

Then, the class discussion moves to one of the ethical concerns. They are prompted:

> "You have been asked to use software to leverage AI and machine learning to augment your work. Do you think this is something that should be allowed? To what extent should this be restricted, regulated, or dictated at this university? Finally, how do you use AI tools in your text creation process?"

This sets the stage for a complete written report that the DSS accompanies. The authors hope this type of tool can be developed to increase the transparency of student work and support them in seeking all avenues of support resulting in effective writing. More generally, it reinforces a conversation about what is and is not permitted in assignments, along with the purpose of the educational

endeavor. Hopefully, the tool's use initiates thinking about the types of value of what the student created and how it reflects on their work and personal ethics and value in the educational process.

DSS FOR THIS ARTICLE

To provide a tangible example, the following responses provide the completed DSS for this article. A template can be seen on Appendix 1.

1. Did you seek help or support from other humans to complete this task: Beyond the authors listed, we talked with two librarians participating in the pilot study, Jill Lagerstrom and Quinn I Morris-Pearson. Additionally, we use two non-blind peer editors as directed by the conference to review the manuscript before completing the submission.

2. What software help and support did you receive?

The initial question was inserted into the Google search box which returned the general Google suggested items (see citations listed). The entire search string has to be broken into two different concepts to yield results unrelated to academic integrity since that term overwhelmed the search. To discover specific topics within the larger scope, such as *acknowledgment* or *disclosures*, the original search string had to be adjusted to yield the cited works related to transparency and disclosure statements, APA and MLA citations for AI, and other information. Finally, the authors followed the feedback section "People also ask" to examine potentially related searchers to this initial string.

To complete the SLR, the NJIT library database search was utilized.

The paper was edited and proofed with Microsoft Office LTSC Professional Plus 2021 using the "Spelling & Grammar" tool. In addition, the authors utilized Grammarly Premium to ensure correctness, clarity, engagement, delivery, and to detect any instances of plagiarism. Grammarly Premium was used to proofread and suggest edits for all content, including the text generated by ChatGPT May24Version (Free Research Preview). As noted in the prompt, we used ChatGPT to generate the answer to the question. Interestingly, it mirrored the information provided in the Google searches for both sides of the initial question that Dr. Lipuma had generated.

ChatGPT was also used to generate the abstract for this article once the entire work was finished. Other than Grammarly Premium, no other edits were made to either contribution.

The authors used Zotero as a tool to collect, annotate, cite, and organize research.

Finally, VOSViewer and Power BI were used as data visualization tools for the SLR. At this point, there is not enough data to include a visualization.

3. Are there other sources of content, authority, and/or support you incorporated into this work beyond what is cited in the work (in-text and reference page) and the disclosure listed above?

To test the opening information about calculators and penmanship, I had a conversation with my twelve-year-old daughter about her experience in school and what she and her classmates said. She shared that the other math class could use calculators on a test just for the long division since they had less time due to scheduling. In her mind, the calculator was a tool to be used and did not provide any advantage nor negatively impact her math learning. Therefore, she was happy to do her long division with pencil and paper.

CONCLUSION

This article is only the first step to testing the use of a DSS tool for aiding students to be transparent about the support they access.

For a practical application of this tool within a course context, refer to Appendix 2. The researchers plan to be able to report on data by the time of the conference to share some sense of student attitudes towards this topic. Additionally, using the DSS may provide unexpected results; as part of this exploratory pilot, the authors consider this an excellent first step toward an open conversation with students around AIS. The researchers do not want to be "academic integrity police" or suspicious of every word written. Of course, due diligence in CID is needed to make the lessons and assessments in class measure student progress and mastery as intended. The DSS is just another way to make visible the work of students and their thinking, and perhaps also give them options they did not realize they had for seeking help and support on the work they submit. It also has applications outside of classroom practice in scholarly and professional writing, as shown in this work. Moreover, the DSS may prove to be a good conversation starter and not just another checklist or obligation. Only time will tell as the pilots yield data to be analyzed.

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DISCLOSURE STATEMENT

No conflict of interest pertains to the research presented above.

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APPENDIX 1: DISCLOSURE OF SUPPORT STATEMENT OF CONTRIBUTIONS [TEMPLATE]

Overview: This document provides a mechanism for disclosing and acknowledging the human and software support received when creating, refining, polishing, and distributing content. It goes beyond the cited sources in a document to allow for the disclosure of AI assistance and other sources of content and expertise that assisted in creating works. In addition, it allows for identifying the varying levels of involvement and differing roles named authors play in the collaborative content creation and dissemination process.

Title of work:

Authors and roles

This section describes each author's roles and responsibilities while creating the work.

Acknowledgment of individuals, groups, and organizations

This section identifies and explains anyone consulted or assisted in the work process, including faculty, colleagues, peers, family, students, friends, tutors, librarians, and paid consultants.

Acknowledgment of software support

This section is used to identify and explain the software tools needed for the completion of the work. It primarily allows for the transparent disclosure of the degree of contribution made by AI tools that generate content, revise work, suggest content, or otherwise aid the authors, such as Grammarly, ChatGPT, QuillBot, etc.

Acknowledgment of other sources of content

This section identifies and explains any other sources of content, authority, and/or support you incorporated into this work beyond what is cited in the work (in-text and reference page) and the disclosure listed above.

Additional acknowledgments

This section acknowledges other means of support or contributions to completing the work.

Sources

This section cites any works or provides additional resources that might help the content users understand this disclosure or the work itself and the process by which it was generated.

APPENDIX 2: PRACTICAL APPLICATION OF THE DISCLOSURE OF SUPPORT STATEMENT OF CONTRIBUTIONS

Overview

This disclosure intends to provide transparency about the support received and give credit to those who assist you in completing your work.

Support to identify

1. Human Support

1.1 Did you seek help or support from other humans to complete this task:

- Professor
- Peers/classmates
- Friends
- Family
- Librarian
- Tutor/writing center staff
- Outside consultant/Expert/Paid professional

1.2. If you accessed support from any of these sources, please identify each separately and note the type and extent of the support received and, for example, contact the professor for clarification. For instance, on one item, I worked with a writing center tutor on grammar for the paper, consulted the librarian on critical points of summarizing the article, and asked them to review the final product.

2. Software Support

2.1 What software help and support did you receive?

- Searching
- Spelling, grammar, syntax proofing
- Vocabulary, word choice, and diction improvement
- Paraphrasing
- Automatic citing
- Editing of content
- Revising and reformatting
- Content generation
- Translation
- Ideation
- Collaboration

2.2 If you accessed support from any of these sources, please identify each separately and note the type and extent of the support received. For example, you used Grammarly to spell-check your work, ChatGPT to create content, or Jasper to revise and edit your work.

3. Other support

3.1 Are there other sources of content, authority, and/or support you incorporated into this

work beyond what is cited in the work (in-text and reference page) and the disclosure listed above?

3.2 Additional comments