

# Student vs. ChatGPT in Rogerian Argument: A Diction 7.2 and Qualitative Content Analysis

Daniel R. Fredrick

Department of English, American University of Sharjah, United Arab Emirates

**Abstract**—While research on AI-generated writing is expanding, there are no studies that have systematically compared AI-generated and student-written Rogerian arguments. This study employed a mixed-methods approach to investigate the rhetorical abilities of university students and ChatGPT 4.0 in crafting Rogerian arguments. Using Diction 7.2 software, the research analyzed rhetorical elements such as optimism, commonality, and key subcategories. Additionally, a qualitative content analysis assessed how effectively each text engaged with opposing perspectives. Diction 7.2 analysis provided standardized scores based on a normative database of over 50,000 texts, allowing for a comparative evaluation of rhetorical tone and language patterns. Findings indicated that while ChatGPT demonstrated greater consistency in leveling and commonality, students outperformed AI in personalizing their rhetoric, demonstrating empathy, and reducing ideological polarization. ChatGPT's use of inclusive and cooperative language was consistent but formulaic, whereas students displayed greater rhetorical adaptability and audience awareness. These findings highlight the pedagogical importance of Rogerian argument instruction in fostering student writers' ability to engage meaningfully with opposing views. The study also underscores AI's limitations in achieving the rhetorical depth, emotional intelligence, and contextual awareness necessary for modeling effective argumentation.

**Index Terms**—Rogerian argument, Diction 7.2, ChatGPT vs. student writing, AI in education

## I. INTRODUCTION

The Rogerian argument, developed by psychologist Carl Rogers, emphasizes empathy and finding common ground. Unlike traditional Aristotelian argumentation, which prioritizes logic and refutation, the Rogerian approach prioritizes mutual respect and resolution. The Rogerian approach is especially helpful in academic writing because it teaches students how to write persuasive essays that avoid hostile language and reduce emotional tension when opposing views are discussed. In today's classrooms, AI tools such as ChatGPT have the potential to offer new opportunities for argumentative writing pedagogy. AI writing has demonstrated efficiency in producing grammatical and well-structured text, yet questions remain about its ability to compose audience-centered arguments. While research on AI writing is growing, no studies have systematically compared AI-generated and student-written Rogerian arguments. Thus, there is a significant gap in understanding how AI performs in rhetorical genres where audience empathy takes priority over other rhetorical strategies.

This study addresses that gap by examining Rogerian essays from university students and ChatGPT comparing their rhetorical effectiveness. The study uses Diction 7.2 software for quantitative analysis and qualitative content analysis for close textual evaluation. Specifically, the study investigates key rhetorical features such as optimism, commonality, and subcategories including leveling, collectives, praise, familiarity, rapport, and cooperation. By analyzing both student-written and AI-generated essays, this research identifies areas where students excel in Rogerian argumentation compared to AI.

By addressing these questions, this study contributes to ongoing discussions on the role of AI in education, the rhetorical capabilities of machine-generated text, and the importance of teaching audience-centered persuasion in academic writing. The findings offer insights for educators, researchers, and AI developers seeking to understand the interplay between human and AI-generated argumentation and its impact on writing instruction.

## II. LITERATURE REVIEW

Carl Rogers is best known for his contributions to two distinct fields: client-centered therapy and the Rogerian argument in rhetoric and composition. In his article *Communication: Its Blocking and Its Facilitation*, Rogers (1952) identified one of the major barriers to effective communication: the tendency to judge, rather than empathize with, an opponent's claims and arguments. To address this issue, Rogers advocated for "true listening" which requires a listener "to see the expressed idea and attitude from the other person's point of view, to sense how it feels to him" (Brent, 1991, p. 84). While the Rogerian method may seem passive, Rogers viewed empathetic listening as a powerful tool for persuasion, but it has risks: after deeply focusing on the opposition's ideas, listeners may change their own perspectives. As Rogers warned, listeners "run the risk of being changed..." (Brent, 1991, p. 85). Traditional argumentation assumes that a speaker seeks to change the opponent's mind through logic, emotional appeals, and ethos. However, Rogers argued that persuasion could also emerge from within the listener—as a result of empathy toward an opponent. Put

another way, the Rogerian approach to argument can be just as persuasive, if not more so, than the traditional approach. Rogers' innovative approach to persuasion captured the attention of rhetoric and composition scholars. In their seminal work *Rhetoric: Discovery and Change*, Young et al. (1970) showed how Rogerian argument could be applied in rhetoric and composition courses. *Rhetoric: Discovery and Change* was later regarded as a "complete break in...rhetoric textbooks" (Goggin, 1998, p. 188). Decades ahead of its time, this groundbreaking publication anticipated the social and political shifts in composition studies that emerged in the 1990s (Goggin, 1998).

#### A. Rogerian vs. Aristotelian Rhetoric

In the 1990s, rhetoric and composition teachers recognized Rogers' approach as a rival paradigm to traditional argument, offering an alternative to Aristotelian or 'classical' rhetoric, which had long been perceived as judgmental and combative, similar to the approach found in debates or law courts (Teich, 1987). Southworth (2021) ironically contended that argumentation itself was problematic in writing courses, as it reinforced confirmation bias. Rogerian argument, therefore, offered a revitalizing alternative to classical rhetoric. While Aristotelian rhetoric was often characterized as a win-lose model, Rogerian rhetoric was celebrated as a win-win strategy, emphasizing collaboration between opponents to reduce adversarial tensions (Brent, 1996). Hairston (1976), for instance, regarded Rogerian argument as a viable substitute for traditional Aristotelian argumentation because it did not aim to "convert people to [his/her] point of view by threatening them or challenging their values" (p. 373). The advent of Rogerian argument led to sharp critiques of Aristotelian rhetoric, with Hairston's remark foreshadowing the persistent criticism that traditional argument was inherently confrontational (Bator, 1980; Lunsford, 1979).

However, classifications such as win-win or win-lose rhetoric were debated. Classical rhetoricians, who study rhetoric as an ancient discipline and possess deep knowledge of its history, do not regard Aristotelian rhetoric as inherently combative. Aristotle himself discussed a variety of approaches within classical rhetoric, identifying three major types: deliberative, forensic, and epideictic, each serving a specific function (Garver, 2009). The claim that Aristotelian rhetoric is fundamentally combative while Rogerian rhetoric is entirely cooperative creates a false dichotomy. As Lunsford (1979) emphasized, "Rogerian argument is not at all opposed to traditional Aristotelian argument but...is actually congruent with" it (p. 150). Supporting this view, Fredrick (2006) noted that Ciceronian refutation methods include five steps, the first of which is distinctly non-adversarial. The first, *laudans* ('praise'), requires students to adopt an activist stance by acknowledging "the merits of the arguments, style, reputation, and views of the author" (p. 132). This step in Ciceronian refutation closely aligns with the Rogerian method, suggesting that Rogerian principles are embedded within classical rhetorical traditions. In fact, Bryant (2016) referred to the Rogerian argument as the 'most classical' assignment (p. 204). Thus, while some scholars narrowly define both strategies, the two traditions share significant areas of overlap.

#### B. Critics of the Rogerian Method

Although Rogerian rhetoric was widely embraced in the 1990s, some scholars sharply criticized both the Aristotelian and Rogerian methods of argumentation. One concern was that the use of Rogers' theory in writing courses had strayed from its original intent. For example, Kearney (2009) stressed that Rogerian arguments were originally designed for face-to-face therapy sessions rather than college writing assignments. Similarly, Brent (1996) highlighted a striking contrast between the roles of a persuader and a therapist, noting that both the Rogerian rhetor and the Rogerian therapist remain influenced by their own biases. Criticism intensified as scholars argued that Rogerian methods were misaligned with the goals of composition studies and might even be detrimental to marginalized students (Ede, 1984). For example, Pacquet (2019) analyzed a controversial media event from 2016 in which media personality Sonia Kruger called for banning Muslims from entering Australia. In response, Waleed Aly (2016) advocated for forgiveness rather than outrage—an approach consistent with Rogerian rhetoric, which prioritizes building rapport over direct confrontation. Pacquet (2019), however, condemned Aly's response, arguing that confronting injustice requires an equally forceful reaction and that Aly's approach was excessively passive and ineffective. According to Pacquet (2019), Rogerian rhetoric is detrimental because it "marginalize[s] speakers [to] revise their images of the world in order for social cohesion" and forces them to "neutraliz[e] their language and emotions..." (p. 156).

However, Pacquet (2019) misinterpreted the Rogerian approach. It does not rely on neutral language but rather on empathetic language. The Rogerian method does not marginalize but rather centers on the opposition by accurately restating the ideas and expressing empathy toward the underlying emotions driving those views. It promotes empathetic listening among all participants, regardless of how uncomfortable or objectionable a particular viewpoint may appear. Critics of Aly argue that offensive or harmful viewpoints do not warrant empathetic listening; however, Rogers would contend that dismissing such perspectives contradicts the core of his method and ultimately shuts down opportunities for negotiation or meaningful conflict resolution. Pacquet is not alone in this view. Other critics of the Rogerian argument, such as Lassner (1990), have identified additional flaws in the Rogerian method, asserting that it marginalizes voices to 'ignore how they feel' (p. 227). However, this critique is also problematic. In classroom assignments, students are required to articulate both sides of an argument. As a result, the writer's perspective and emotions are not ignored; they are instead presented equally alongside the opposing viewpoint.

#### C. Prevalence of Rogerian Argument

Despite the criticism, the Rogerian genre is still widely used in writing courses (Wingate, 2012). The Rogerian genre continues to be relevant, helping students develop a more audience-centered, empathetic, and cooperative writing style. Rogerian argument assignments help foster a classroom environment conducive to open discussion and collaborative problem-solving. In the 1980s, Bator (1980) endorsed the Rogerian method for its ‘non-adversarial’ approach, which enables students to explore a range of viewpoints different from their own. More recently, Guo and Kroll (2014) posited that Rogerian rhetoric fits well with East Asian cultural norms of respect and deference, whereas Aristotelian rhetoric can make students “...more aggressive and adversarial than most Americans find desirable.” The authors suggest that “...introducing Rogerian rhetoric as an option...might steer East Asian students away from inflexibility and rhetorical infelicities” (p. 487). Interestingly, Kroll further aligns Rogerian methods with a cross-cultural kinesthetic approach to teaching, such as using tai chi to calm the mind through body movements combined with Rogerian-style empathetic listening (Griffo, 2015). Furthermore, Grosskopf (2015) defends Rogerian rhetoric, arguing that if students focus solely on winning arguments, their critical and creative thinking stagnates. Rogerian rhetoric, he asserts, encourages deeper thought because “as students...continue to mature emotionally and intellectually, they will eventually construct their own arguments that are complex...” (p. 262). Southworth (2023) confirms the ongoing pedagogical value of the Rogerian genre, stating that “by learning to be receptive to opposing views and by being able to empathize with those who hold those views, students can confront their motivated reasoning and, in turn, develop their open-mindedness” (p. 53).

There may be another reason why the Rogerian method remains widely used. Cassity (2015) contends that the current generation of students, inundated with one-sided political messaging on social media, experiences “confrontation fatigue” (p. 47). As a result, modern students seek common ground rather than engaging in conflict. Because Rogerian argument emphasizes cooperation and solutions, it is particularly well-suited to this generation. Cassity perceptively notes that students are “living in a highly polarized, perennially angry society...[and] perhaps we are mis-reading our students when we assume that their fatigue with agonistic discourse equates to apathy” (p. 47). Rogerian argument, then, can be essential for finding “real solutions” in interpersonal relations as well as international conflicts (Cassity, 2015, p. 52). In short, the Rogerian argument remains a highly valuable component of writing courses, serving as a cognitive, rhetorical, and social exercise that fosters collaboration, ethical discourse, conflict resolution, and a commitment to effective communication. It demonstrates that persuasion is a more appropriate means of addressing complex and emotionally charged issues than force (Johnson, 2020). Given the global emphasis on inclusive education, particularly for marginalized groups, the skills cultivated through Rogerian argumentation are integral to writing instruction (Leake, 2016). Moreover, Rogerian techniques hold significant potential in classrooms addressing themes of violence and hate speech, as they encourage students to apply the Four Tactics of Rhetorical Looking in their interactions (Gage & Fleckenstein, 2022). Finally, there are strong pedagogical reasons to continue using Rogerian argument in writing courses, as well as to pursue further research into how effectively students apply Rogerian strategies.

#### D. Diction 7.2 for Quantitative Rhetorical Analysis

Rhetorical analyses have traditionally been qualitative. However, with the advent of software tools such as Diction 7.2, rhetorical studies should incorporate more quantitative analyses. Even 40 years ago, Roderick Hart developed and used Diction software to analyze the rhetorical style of various texts. Hart is regarded as a leading researcher in quantitative rhetorical studies, having authored numerous books that examine the language of presidents and public leaders, providing insights into rhetorical situations, style, persuasion, tone, and voice. Diction 7.2 is particularly well suited for analyzing genres that emphasize audience engagement, such as rhetoric and business communication. For example, Broberg (2014) used Diction to study the charisma of CEOs, while Eshraghi (2014) employed it to examine the overconfidence among fund managers. However, Diction 7.2 is not without its limitations. Some researchers have argued that its dictionary is not suitable for business communication, citing flaws in the optimism and pessimism word lists (Loughran & McDonald, 2015). Other studies have found Diction 7.2 useful for broader analyses of rhetorical patterns and sentiment but caution that when studying rhetorical nuance and that quantitative analysis may need to be supplemented with qualitative interpretation (McKenny et al., 2018, p. 2913). Despite these limitations, research using Diction 7.2 has been productive and has significantly contributed to rhetorical and linguistic studies. Indeed, Stewart (2020) contends that Diction 7.2 effectively quantifies variables in studies that distinguish between groups.

### III. METHODOLOGY

#### A. Participants

The study involved 23 undergraduate students enrolled in a sophomore-level writing course at a university in the MENA region. These students composed Rogerian essays in a controlled writing lab over the course of four weeks.

To prevent the use of AI tools, students completed their essays using *LockDown Browser*. This specialized software restricts access to unauthorized websites, applications, and other resources during the writing process. Students wrote their drafts in *Blackboard Ultra*, which automatically saved their work after each class session. Since each new writing session required a unique access code, students logged in each time to continue working on their drafts.

## B. Instruments

### (a). Student Essays

24 Students received a writing prompt and directions for composing a Rogerian argument. They were asked to submit their essays following the same guidelines provided to ChatGPT for the AI-generated essays. The prompts focused on socially relevant, debatable topics, allowing students to reflect upon and address opposing viewpoints.

### (b). ChatGPT 4.0 Generated Essays

Using the same writing prompt provided to students, ChatGPT 4.0 generated essays, one per each topic whereas multiple students were allowed to write on the same topic. ChatGPT's essays served as the AI-generated comparison group for this study.

### (c). Diction 7.2 Software

Both sets of essays—student-written and AI-generated—were analyzed using DICTION 7.2, a software tool designed for quantitative rhetorical analysis. DICTION 7.2 provides metrics on several rhetorical categories, including Optimism, Realism, Commonality, Activity, and Certainty. For this study, Commonality and Optimism were selected as the two master variables most relevant to Rogerian argumentation, which emphasizes empathy and the search for common ground.

#### 1. Two Master Variables: Commonality and Optimism

Commonality is a master variable that highlights language reflecting shared values and group agreement. It incorporates terms related to Cooperation and Rapport while subtracting those associated with isolation or individualism, such as Exclusion. Analyzing Commonality allows for an assessment of how effectively the essays promote unity and a sense of shared purpose—key features of Rogerian argumentation.

Similarly, Optimism measures the positivity and hopeful tone of the language by integrating terms from subcategories such as Praise, Satisfaction, and Inspiration while subtracting negative terms from subcategories such as Blame, Hardship, and Denial. This metric helps determine the extent to which the essays build rapport and demonstrate an open-minded approach to opposing viewpoints.

##### *Range Interpretation: Optimism and Commonality*

Diction 7.2 provided scores for each rhetorical feature which the software standardized using a normative database of over 50,000 previously analyzed texts. The scores were calculated on a scale where 50 represents the average for each category. Scores above 50 indicate a higher-than-average presence of that rhetorical feature, while scores below 50 indicate a lower-than-average tone.

For the purposes of this study:

- High Scores (above 50): Indicate strong use of rhetorical tone in categories central to Rogerian argumentation.
- Moderate Scores (around 50): Reflect average use, suggesting a balanced or typical application of the rhetorical tone.
- Low Scores (below 50): Show minimal use of the rhetorical tone, which suggests the essay is not quite achieving the Rogerian tone.

This range interpretation helps evaluate how effectively both student and AI-generated essays achieve the Rogerian tone when working toward common ground and fostering positive communication.

#### 2. 6 Subcategories: Leveling, Collectives, Praise, Familiarity, Rapport, and Cooperation

In addition to these master variables, six subcategories were also analyzed to provide a more detailed rhetorical assessment: Leveling, Collectives, Praise, Familiarity, Rapport, and Cooperation. These subcategories further clarify how Rogerian arguments function in student and AI-generated writing, particularly in fostering engagement with differing perspectives.

##### *Range Interpretation: 6 Subcategories*

For the subcategories, the ranges are the following:

- High Scores (above 25): Indicate frequent and deliberate use of these linguistic features, essential for emphasizing agreement, unity, or connection.
- Moderate Scores (15–25): Reflect average use of the features, indicating a balanced rhetorical tone.
- Low Scores (below 15): Suggest minimal emphasis, which may reflect a lack of engagement with the Rogerian approach.

## C. Procedure for Data Collection

Each student submitted the final draft of their Rogerian argument. All students had the same amount of time to complete their essays. There were 12 topics: Four students wrote on Blindness, one on BRICS, one on the British Museum, one on Cultural Appropriation, two on Deer Culling, one on Open Organ Markets, two on Paying Student Athletes, two on the *Pernkopf* Atlas, three on Professional Dress, one on Spyware, one on Tourism, and five on Vegetarianism.

ChatGPT wrote one essay for each of the 12 topics.

#### D. Ethical Considerations

In conducting this research, all participating students were informed about the purpose of the study and how their essays would be analyzed. Both student and AI-generated essays were anonymized to ensure that personal biases did not influence the analysis. Students wrote essays free from AI assistance.

#### E. Research Questions

This study is guided by the following research questions:

1. How does the rhetorical tone in Rogerian argument essays written by students compare to those generated by ChatGPT?
2. Which specific elements of the Rogerian genre do students execute more effectively than ChatGPT in their essays?
3. What implications do these differences have for teaching persuasive writing in the context of AI advancements?

### IV. DATA ANALYSIS

#### A. Diction 7.2 Analysis

##### (a). Leveling Terms

Leveling terms, which create the feeling of inclusivity (e.g., “everyone,” “always,” “typically”), are essential in Rogerian argument to reduce polarization and tensions between opposing viewpoints. While both groups demonstrated competency in using leveling terms, their distributions differed. ChatGPT exhibited a higher mean score and a stronger presence in the high range, suggesting frequent use of leveling terms. However, students had a more balanced distribution, with 75% of their essays falling within the normal range compared to ChatGPT’s 50%, indicating a more controlled and natural application. Although both groups had some low-range scores, ChatGPT had fewer, though the difference was minimal. Overall, while ChatGPT’s higher mean score reflects its consistent use of leveling terms, this may indicate overuse rather than balance. In contrast, students’ more even distribution suggests they better adhered to an ideal range, making their use of leveling terms more effective and appropriately integrated.

##### (b). Collectives

Collective terms, which emphasize group identities and shared actions (e.g., “community,” “team,” “society”), are helpful in Rogerian argument because they can foster a greater sense of unity and collaboration. Like Leveling terms, they also help to reduce polarizing views. In this analysis, both ChatGPT and student essays needed more use of collective terms, with most entries falling below the normal range (6–20). Students had a slightly stronger presence in the middle range compared to ChatGPT, reflecting a marginally better use of collective terms. However, neither group showed high-range performance, highlighting an opportunity to teach this element in Rogerian arguments. Nevertheless, a small number of essays did meet the normal range criteria.

##### (c). Praise

Praise, or the use of positive and complimentary language, is useful in the Rogerian genre to create a pleasurable dialogue. In traditional argument, dialogue is often unpleasant and stressful. This category plays a vital role in showing to what extent the writer has used language to increase positive feelings between opponents. Students demonstrated a stronger representation in the middle range for praise terms, indicating a better ability to use positive and complimentary language when crafting Rogerian messages. ChatGPT, while more consistent, predominantly underperformed, with the majority of its entries falling below the normal range.

##### (d). Familiarity

Familiarity terms reflect common and relatable experiences (e.g., “home,” “everyday,” “family”). Using these terms in Rogerian argument can create a deeper connection between opponents, making conflict resolution easier. Both ChatGPT and students performed well in incorporating familiarity terms, with the majority of entries falling within the middle (normal) range. ChatGPT demonstrated slightly more consistency, while students had one entry in the above range. The results indicate that both groups effectively employed familiarity terms to deepen the connection with their opponent.

##### (e). Rapport

Rapport terms, such as “respect” and “understand,” are advantageous in Rogerian arguments because they help to foster empathy and mutual respect. These terms can help to bridge differences and establish a cooperative tone. Both ChatGPT and students demonstrated a significant lack of rapport terms in their arguments. While ChatGPT managed a single entry in the middle range, this small success does not outweigh the overall underperformance of both groups, with the majority of entries falling below the normal range.

(f). *Cooperation*

Cooperation terms, such as “collaborate” and “support,” are also advantageous in Rogerian argument because they can promote a spirit of teamwork. ChatGPT and students demonstrated limited and inconsistent use of cooperation terms, with most entries falling in the low range. While students showed a single entry in the middle range, this is not sufficient to indicate a strong grasp of cooperation.

(g). *Comparative Optimism and Commonality Scores*

1. *Optimism*

Optimism terms, such as “hopeful,” “success,” and “bright,” are important rhetorical features in Rogerian argument because they focus on possibilities for conflict resolution and improvements in opposing relationships. In this analysis, both ChatGPT and students demonstrated exceptionally high use of optimism terms, with all scores above the normal range. This suggests that both groups prioritize conveying a positive tone in their Rogerian arguments. While ChatGPT exhibited greater consistency, students showed a slightly broader variability, possibly reflecting individual differences in writing styles.

2. *Commonality*

Commonality terms, such as “together,” “shared,” and “mutual,” emphasize unity and collective understandings. These terms highlight where opposing views may come together on shared ideas. All scores fall exclusively in the above-range category, emphasizing the focus on commonality by both ChatGPT and students. This strong use reflects a clear intent to raise commonality between the opposing views. ChatGPT shows less variability, indicating a more consistent use of these terms, while students’ broader range suggests more diverse writing abilities. Overall, the findings highlight a strong ability of both groups to achieve commonality in the Rogerian genre.

The preceding discussion outlines key rhetorical features in Rogerian argument, highlighting differences in how ChatGPT and students use leveling terms, collectives, praise, familiarity, rapport, cooperation, optimism, and commonality. To provide a clearer comparative perspective, Table 1 presents a consolidated overview of performance across these eight categories, displaying mean scores, standard deviations, and the distribution of high, middle, and low-range scores.

TABLE 1  
COMPARISON OF CHATGPT AND STUDENT PERFORMANCE ON 6 SUBCATEGORIES AND 2 MASTER VARIABLES

Category	ChatGPT Mean Score (SD)	Students Mean Score (SD)	ChatGPT High-Range Scores	Students High-Range Scores	ChatGPT Middle-Range Scores	Students Middle-Range Scores	ChatGPT Low-Range Scores	Students Low-Range Scores
Leveling Terms	126.45 (9.12)	110.67 (12.74)	4 (33.3%)	3 (12.5%)	6 (50%)	18 (75%)	2 (16.7%)	3 (12.5%)
Collectives	85.33 (4.21)	82.67 (5.02)	0 (0%)	0 (0%)	1 (8.3%)	3 (12.5%)	11 (91.7%)	21 (87.5%)
Praise	11.25 (2.45)	15.33 (3.84)	0 (0%)	0 (0%)	1 (8.3%)	8 (33.3%)	11 (91.7%)	16 (66.7%)
Familiarity	25.3 (4.85)	24.1 (5.32)	0 (0%)	1 (4.2%)	10 (83.3%)	19 (79.2%)	2 (16.7%)	4 (16.7%)
Rapport	12.4 (2.05)	10.2 (2.18)	0 (0%)	0 (0%)	1 (8.3%)	0 (0%)	11 (91.7%)	24 (100%)
Cooperation	1.10 (1.46)	1.78 (1.79)	0 (0%)	0 (0%)	0 (0%)	1 (4.2%)	12 (100%)	23 (95.8%)
Optimism	53.7 (5.6)	55.3 (8.2)	12 (100%)	24 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Commonality	40.8 (5.1)	42.5 (7.3)	12 (100%)	24 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)

B. *Qualitative Content Analysis*

Because the Rogerian argument emphasizes genuine engagement and empathy with an audience, a qualitative content analysis is valuable for examining language in broader context for features that quantitative data may not capture. For instance, while quantitative data on ‘Praise’ might reveal high scores based on particular word use, a qualitative assessment could detect whether that praise is insincere. This qualitative analysis section focused on three key elements of the Rogerian argument that require close reading in context to determine their effectiveness.

1. Concession: Acknowledging the value of the opposition’s contribution to the viewpoints and the writer’s understanding of the topic.
2. Steelmanning: Offering the opponent an even stronger argument for their view.
3. Assimilation: Transitioning from the opponent’s view to the writer’s in a way that minimizes contrast.

ChatGPT and student essays were categorized into three levels based on their depth of concession: low, middle, and high.

(a). *Concession*

1. *ChatGPT Performance*

ChatGPT failed to meet the concession requirement in all 12 responses. ChatGPT’s tone was polite but superficial, often failing to show how the opposition’s arguments influenced its perspective.

Example (ChatGPT: Deer Culling):

*"I know that, as you advocate against deer culling, you're driven by compassion and respect for all life forms. I hope to meet that same standard of integrity and thoughtfulness as we explore these perspectives together."*

Analysis: While the response is courteous, it does not indicate how the opposition shaped ChatGPT's understanding.

## 2. Student Performance

Students failed to meet concessions in 10 of 24 essays but outperformed ChatGPT overall.

### (1). Low-Level Concession

11 out of 24 student essays (45.87%) made low-level concessions, struggling to acknowledge the opposition's intellectual contributions meaningfully.

Example (Vegetarianism, Student 2):

*"Having done considerable research on vegetarianism over the years, I can confidently say that vegetarians make some compelling points, especially regarding the ethics of eating meat."*

Analysis: This response emphasizes the writer's pre-existing knowledge rather than crediting the opposition for influencing their perspective.

### (2). Middle-Level Concession

7 out of 24 student essays (29.2%) achieved middle-level concessions. These responses engaged with the opposition's views but fell short of explicitly crediting them for intellectual growth.

Example (Professional Dress, Student 1):

*"Many of your points...really make us rethink the concept of professional clothing. Like you, I believe workers need to feel free to express who they are and feel at ease in their job."*

Analysis: While the response acknowledges the opposition's influence on others, it fails to articulate how the writer's perspective was shaped by the opposition.

### (3). High-Level Concession

6 out of 24 student essays (25.0%) achieved high-level concessions, explicitly crediting the opposition for intellectual influence and demonstrating humility.

Example (Deer Culling, Student 3):

*"I recently read the article by Jim Erickson summarizing your position on the proposed deer cull in Ann Arbor. I was excited while reading this article and impressed by how it positively affected biodiversity. I am truly thankful to you for bringing up this topic, as it encouraged me to study the issue more deeply and discover new information."*

Analysis: This response explicitly credits the opposition for sparking further research and intellectual growth, fostering a collaborative tone.

To summarize, students demonstrated significantly higher capability in fulfilling the concession requirement compared to ChatGPT. While 25.0% of student essays featured high-level concessions, ChatGPT did not achieve higher than low-level concessions. These findings highlight student ability to demonstrate intellectual humility and engage meaningfully with opposing perspectives.

## (b). Steelmanning

### 1. ChatGPT Performance

ChatGPT was not able to achieve steelmanning in 11 out of 12 essays. However, one response (Blindness) achieved a high level of steelmanning because it used an interesting analogy that sheds a positive perspective on the opposition's argument.

Example (ChatGPT, Blindness):

*"Imagine a sculptor finding their vision by closing their eyes and feeling the shape take form beneath their hands. They might say, 'Sight only distracts; true creation begins in darkness.'"*

Analysis: This response gracefully articulates the opposition's emotional reasoning, showing potential for steelmanning with minor adjustments.

### 2. Student Performance

11 out of 24 students (66.7%) did not achieve steelmanning, often responding to the opposition's arguments with unintentional antagonism.

#### (1). Low-Level Steelmanning

Example (Spyware, Student 6):

*"But have you ever thought about using spy apps to advance medical research and improve public health? The answer is simple: a smartwatch."*

Analysis: The rhetorical question assumes the opposition overlooked an obvious solution, creating an antagonistic tone.

(2). *Middle-Level Steelmanning*

10 out of 24 students (41.7%) achieved middle-level steelmanning, offering ideas that could strengthen the opposition's position but with an authoritative tone that reduced collaboration.

Example (Professional Dress, Student 1):

*"You should probably bring attention to the fact that many companies already allow their employees to choose what they want to wear...."*

Analysis: The use of "should" positions the writer as an authority, undermining the shared tone of Rogerian argumentation.

(3). *High-Level Steelmanning*

3 out of 24 students (12.5%) achieved high-level steelmanning, reframing opposing views in their strongest form to foster mutual understanding.

Example (Blindness, Student 21):

*"Blindness, for some, allows for a unique connection with the world by removing visual distractions and enhancing other senses. Many revered philosophers and thinkers, such as Democritus, Didymus, and Nicholas Saunderson, were blind yet held in high esteem."*

Analysis: This response effectively strengthens the opposition's perspective while maintaining a collaborative tone.

To summarize, students demonstrated significantly higher capability in fulfilling the steelmanning requirement where more than half of the writers scored moderate to high whereas only 1 of 12 ChatGPT essays scored beyond low level. This highlights that student writers have a greater ability to demonstrate intellectual humility than ChatGPT.

(c). *Assimilation*

1. *ChatGPT Performance*

ChatGPT struggled with assimilation, achieving only 2 high-level examples (16.7%), with most responses failing to minimize contrasts effectively.

Example (ChatGPT, British Museum):

*"While I respect the value the British Museum brings, I believe that returning artifacts to their countries of origin holds a different yet equally vital purpose."*

Analysis: The phrase "while I respect" appears flippant, highlighting contrast.

2. *Student Performance*

10 out of 24 students (41.67%) achieved low-level assimilation.

(1). *Low-Level Assimilation*

Example (Professional Dress, Student 1):

*"That being said, I believe there are important situations where dressing casually could be detrimental...."*

Analysis: The phrase "that being said" creates a harsh transition that undermines the Rogerian tone.

(2). *Middle-Level Assimilation*

6 out of 24 students (25.0%) demonstrated middle-level assimilation.

Example (Vegetarianism, Student 2):

*"That being said, there is definitely room for an approach that honors both self-expression and professional standards."*

Analysis: While this response bridges opposing views, the transition phrase "there is definitely room for an approach" could be re-expressed to soften the introduction of a rival view.

(3). *High-Level Assimilation*

8 out of 24 students (33.3%) achieved high-level assimilation, transitioning seamlessly between opposing views and their own.

Example (Deer Culling, Student 3):

*"Our perspectives on this issue appear to converge in meaningful ways. I am grateful for your publications; your thoughtful position helped me form my own opinion."*

Analysis: This response emphasizes shared goals while crediting the opposition for intellectual growth.

To summarize, students demonstrated significantly higher capability in fulfilling the assimilation requirement, with one-third of student essays achieving high-level assimilation compared to only 16.7% of ChatGPT responses, as shown in Table 1. While ChatGPT often maintained a contrasting stance, student writers more effectively integrated opposing views. This highlights that students exhibit a greater ability to reconcile differing perspectives in a Rogerian manner than ChatGPT.

To summarize, the qualitative content analysis highlights key rhetorical features of Rogerian argument—concession, steelmanning, and assimilation—that require a deeper contextual understanding beyond quantitative measures. While ChatGPT and students both engaged with these elements, their effectiveness varied significantly. In Concession, Students demonstrated a stronger ability to acknowledge opposing viewpoints meaningfully, with 25% achieving high-level concessions compared to ChatGPT’s 0%. For Steelmanning, although both groups struggled, students showed a greater ability to strengthen an opponent’s argument, with 12.5% reaching a high-level steelmanning standard, while ChatGPT achieved this in only 8.3% of responses. Finally, for assimilation: Students exhibited more successful integration of opposing views, with 33.3% of their essays achieving high-level assimilation, compared to only 16.7% for ChatGPT. Table 2 below summarizes the comparative performance of ChatGPT and student essays across concession, steelmanning, and assimilation, categorized by low, middle, and high levels of effectiveness.

TABLE 2  
COMPARISON OF CONCESSION, STEELMANING, AND ASSIMILATION LEVELS OF CHATGPT-GENERATED AND STUDENT ESSAYS

Category	ChatGPT Essays (n=12) Low-Level	Student Essays (n=24) Low-Level	ChatGPT Essays (n=12) Middle-Level	Student Essays (n=24) Middle-Level	ChatGPT Essays (n=12) High-Level	Student Essays (n=24) High-Level
<b>Concession</b>	12 (100%)	11 (45.8%)	0 (0%)	7 (29.2%)	0 (0%)	6 (25.0%)
<b>Steelmanning</b>	11 (91.7%)	11 (45.8%)	0 (0%)	10 (41.7%)	1 (8.3%)	3 (12.5%)
<b>Assimilation</b>	10 (83.3%)	10 (41.7%)	0 (0%)	6 (25.0%)	2 (16.7%)	8 (33.3%)

## V. DISCUSSION

### A. Quantitative Data

The results of this study reveal important differences between student-written Rogerian arguments and those generated by ChatGPT. While both groups demonstrated strengths and weaknesses across different rhetorical categories, students exhibited a greater ability to engage in essential Rogerian techniques such as concession, steelmanning, and assimilation. Conversely, ChatGPT displayed a more consistent yet often superficial execution of these Rogerian elements. Leveling terms, which foster inclusivity, were used effectively by both ChatGPT and students, but ChatGPT displayed more consistency. The mean score for ChatGPT was 126.45 (SD: 9.12), while students averaged 110.67 (SD: 12.74). This indicates that ChatGPT’s use of leveling terms was not only higher but also more stable. However, while 33.3% of ChatGPT’s entries were in the high range, only 12.5% of student entries reached this level. Meanwhile, 50% of ChatGPT’s entries fell within the middle range, compared to 75% of student entries, showing that students’ distribution was more spread out and less concentrated at the higher end. Collective terms were significantly underused across both groups, with ChatGPT averaging 85.33 (SD: 4.21) and students 82.67 (SD: 5.02). Only 8.3% of ChatGPT’s entries and 12.5% of student entries fell within the normal range (6-20), suggesting that collective language was not effectively integrated into either group’s argumentation. No entries from either group reached the high range.

Praise terms were used more effectively by students, with an average score of 15.33 (SD: 3.84) compared to ChatGPT’s 11.25 (SD: 2.45). While 33.3% of student entries fell within the middle range, only 8.3% of ChatGPT’s did, reinforcing that students showed a stronger ability to use complimentary language to build bridges. Additionally, 66.7% of student essays were in the below-range category, whereas 91.7% of ChatGPT’s entries fell below normal levels.

Familiarity terms were well-balanced between both groups, with ChatGPT averaging 25.3 (SD: 4.85) and students 24.1 (SD: 5.32). 83.3% of ChatGPT’s entries and 79.2% of student entries were within the middle range. Students had one entry (4.2%) in the above range, whereas ChatGPT had none. These findings suggest that both groups demonstrated strong abilities in incorporating familiarity terms.

Rapport terms were significantly underused, with ChatGPT averaging 12.4 (SD: 2.05) and students 10.2 (SD: 2.18). While 100% of student entries and 91.7% of ChatGPT’s entries fell in the below range, only one entry (8.3%) from ChatGPT made it into the middle range. The near-total absence of rapport terms suggests that neither group effectively fostered a cooperative tone in their Rogerian arguments.

Cooperation terms were extremely scarce, with ChatGPT averaging 1.10 (SD: 1.46) and students 1.78 (SD: 1.79). Nearly all entries fell in the low range, with 100% of ChatGPT’s and 95.8% of student entries failing to reach the middle range. Only one student entry (4.2%) made it to the middle range, highlighting a critical gap in both groups’ ability to frame their arguments in cooperative terms. Optimism terms were a standout feature for both groups. ChatGPT had an average score of 53.7 (SD: 5.6) and students 55.3 (SD: 8.2). 100% of entries from both groups exceeded the normal range, reinforcing the strong emphasis on conflict resolution and hopefulness in Rogerian arguments. Although ChatGPT’s consistency (lower SD) suggests a structured use of optimism terms, students’ wider variability may reflect more organic, stylistically diverse integrations. Commonality terms also showed strong results. ChatGPT averaged 40.8 (SD: 5.1) and students 42.5 (SD: 7.3), with 100% of entries from both groups exceeding the normal range. ChatGPT demonstrated greater consistency, whereas students’ broader range indicates more individual stylistic differences in their use of commonality terms. This reinforces that both groups understood and applied the principle of finding shared ground in their Rogerian arguments.

### B. Qualitative Data

A key distinction between students and ChatGPT was evident in the analysis of concession, steelmanning, and assimilation. While ChatGPT's responses were polite and formulaic, they lacked rhetorical depth. This aligns with Markey et al. (2024), who noted that AI-generated texts tend to be informationally dense yet lacking in content depth. Students significantly outperformed ChatGPT in concession, with 25% of student essays demonstrating high-level concession, compared to 0% from ChatGPT. While ChatGPT's responses acknowledged counterarguments, they did not explore how these opposing viewpoints influenced its position.

Steelmanning was also more effectively executed by students. 54.2% of student essays reached at least a middle level of steelmanning, while ChatGPT rarely contributed meaningful new insights to opposing views. This suggests that students were better able to engage deeply with counterarguments and enhance their arguments through reinforcement rather than mere acknowledgment.

Assimilation was similarly stronger in student writing. 33.3% of student essays demonstrated high-level assimilation, while ChatGPT frequently wrote contrasting messages. The stronger student performance in this area underscores the unique sensitivity humans have in adjusting their ideas and tone to audience.

#### (a). Implications for Teaching Rogerian Argument

Overall, the comparison between student-written and ChatGPT-generated Rogerian arguments underscores the importance of teaching rhetorical adaptability in writing courses. Students should be encouraged to understand the importance of acknowledging opposing views and blending contrasting perspectives to promote mutual respect and dialogue. This study concluded that ChatGPT is not an ideal tool for aiding students in Rogerian argumentation because it lacks the ability to engage in concessions, steelmanning, and assimilation. The continued use of Rogerian assignments in writing courses is recommended because it emphasizes the indispensable human element in argumentation.

#### (b). Limitations and Future Research

There were notable limitations to this study. The sample size for both student and ChatGPT essays were relatively small, which limited the generalizability of the findings. Additionally, the study focused on specific topics within the Rogerian genre, which might not fully capture the variability of argumentative writing across different contexts. Future research could explore these findings on a larger scale, examining a broader range of topics and including diverse student populations. Longitudinal studies could also investigate how students' Rogerian writing skills develop over time and whether AI tools can effectively support this process. Furthermore, comparative analyses of other AI language models, such as recent updates to GPT and similar tools, could provide a more comprehensive understanding of the capabilities and limitations of AI in rhetorical writing.

## VI. CONCLUSION

This study offers a comparative analysis of student-written and ChatGPT-generated Rogerian arguments, highlighting key distinctions in their rhetorical effectiveness. Through a mixed-methods approach utilizing Diction 7.2 for quantitative analysis and qualitative content analysis, the findings reveal that while ChatGPT demonstrates consistency in rhetorical tone and language use, it falls short in key Rogerian techniques such as concession, steelmanning, and assimilation. In contrast, student writers excel in these areas, showcasing greater rhetorical adaptability, audience awareness, and the ability to engage in genuine dialogue with opposing perspectives. Quantitative analysis shows that both students and ChatGPT effectively employ optimism and commonality, essential features of Rogerian rhetoric that emphasize positive communication and shared values. However, ChatGPT's responses, while technically proficient, tend to be formulaic and lack rhetorical depth. Students, on the other hand, display a more context-sensitive application of Rogerian principles, demonstrating a stronger ability to acknowledge opposing viewpoints and integrate contrasting perspectives smoothly. The qualitative findings further reinforce these conclusions. Students outperform ChatGPT in crafting high-level concessions, with 25% successfully crediting the opposition for intellectual influence compared to none from ChatGPT. Similarly, steelmanning—a critical Rogerian technique—was effectively executed in 54.2% of student essays, while ChatGPT only achieved a moderate level in a single instance. Additionally, students displayed superior assimilation skills, with 33.3% achieving seamless integration of perspectives, whereas ChatGPT often maintained a contrast-heavy stance that hindered rhetorical cohesion.

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**Daniel R. Fredrick** was born in Milwaukee, Wisconsin, USA, on June 14, 1968. He earned his Ph.D. in Rhetoric and Composition from Texas Christian University in Fort Worth in 2003.

He is currently an Associate Professor of English at the American University of Sharjah. His research focuses on AI and the teaching of writing, business communication, and rhetorical issues. His publications include *Welcome to Arkham Asylum: Essays on Psychiatry and Gotham City Institution* (McFarland, 2019), co-authored with Sharon L. Packer, which received the 2021 Honorable Mention for the Browne Best Edited Reference/Primary Source Work in Popular and American Culture. He is also the lead author of "The Role of Faculty Expertise and Intuition in Distinguishing between AI-Generated Text and Student Writing" (*English Scholars Beyond Borders*, 10:2, 2024) and co-author of "Safeguarding Client Relationships: Internal and External Emails" (*Journal of Organizational Behavior Education*, 16, 2023).

Dr. Fredrick's Scopus ID is 58896743000, and his ORCID iD is 0000-0003-0921-0621. He can be reached at [dfredrick@aus.edu](mailto:dfredrick@aus.edu)