

Man Vs Machine: Battle of Wits in Writing

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ABSTRACT

This study intended to compare the short stories written by students and those generated by AI. The use of AI in the current educational context seems inevitable without opposition in the creative writing field. Administering creative writing scoring rubrics, a comparative study employing analysis was carried out. The four aspects of short story writing: 1) Image, 2) Voice, 3) Characterization, and 4) Narrative, were examined. The scoring rubric aspects were instigated as the comparison value. Through the study, the following results were described: 1) There were similar and different qualities performed by students written short stories and AI-generated short stories, 2) There were dominances and lowliness aspects performed by students written short stories and AI-generated short stories, 3) The dominance of students written short stories were pertained to the characterization and voice, while the AI-generated short stories were dominant in Image application. For the narrative aspects of the short stories, it was found a tie. This study implied that language learners to use AI carefully particularly in the field of creative writing..

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1. INTRODUCTION

A major transformation prompted by artificial intelligence (AI) is happening in the field of creative writing (Mannarsamy, 2023). The generative artificial intelligence is defined as those sets of AI technology that can produce original content by learning from data and using complex algorithms and neural networks to create human-like text, images, and music (Fang et al., 2023; Pellas, 2023). The use of AI in various writings has created a precarious situation about whether or not these writings are considered authentic. In this field of creative writing, creativity and authenticity are two essential issues when it comes to writing works of art such as poems, short stories, plays, etc. The use of AI in this context has risen significantly (Clifton, 2022; Ippolito et al., 2022; Taucharunroj, 2023). This is also due to the claim that creative writing is an exclusive field for human and their creativity (Mannarsamy, 2023).

It is important to note, that generative artificial intelligence, designed to mimic human intelligence is both a blessing and a challenge for writers. Hitherto, writing was a lonely path where only paper and pen were present at the table (Nazari et al., 2021). Writers were those people who wrote and printed books. These were the people who did research, devoted their time to their writing, and performed their writing as a main job. Nowadays, many will find computers and AI besides paper and pen on the table. Writers are not only those people who write and print books but also those people who write on blogs or social media (Özcan et al., 2022). Social media connects writers with readers and other writers, creating online communities for sharing ideas and getting feedback (Jose, 2021). Through these feasibilities and changes, the field of creative writing could rather be inclusive.

The presence of generative AI is also significant for students in creative writing classrooms. A lot of stuff can be done efficiently thanks to the assistance of the AI. This includes generating ideas, organizing ideas, doing a figurative language, grammar correction, and etc. (Biermann et al., 2022; Marzuki et al., 2023). It is understood that writing productivity is influenced by AI in classrooms. As mentioned using generative AI improve writing productivity as it lowered the number of errors and shortened the time taken (Bhimavarapu, 2023). Yet, this issue presents a duality to the opposing issue of how would the students do it without the help of AI. The creative writing classrooms facilitate students to learn about writing ethics, rules, methods, etc. Students are expected to learn about short stories, poems, and other types of creative writing and to be able to produce them independently with each of students perform a unique writing styles (Kangasharju et al., 2022).

Creative writing encompasses those writing which are meant as expressive writing (Gardiner & Anderson, 2018; Harper, 2013). In a sense, creative writing highlights the narrative of short stories. It includes poems, short stories, or drama. However, can we ensure how qualified are these AI-generated short stories compared to human-written short stories? There have been numerous studies on the use of AI in the field of creative writing. Nevertheless, no study directly compared the student-written short stories to the AI-generated short stories. There are two questions formulated in the study: how are the comparison of scores on student-written short stories and those generated by AI short stories, and how are the evaluations on both types of short stories based on the quality? Therefore, this study aims to figure out the score comparison and the evaluation of short stories written by AI to those written by students. This study will contribute to the field of creative writing and its intervention prompted by artificial intelligence.

2. METHOD

Research Design

This is a comparative study aims to compare the short stories written by students and those generated by AI. To compare, we collected quantitative and qualitative data in the current research. For the quantitative data, a scoring rubric for creative writing was employed. The scoring rubric adapted from Mozaffari (2013) will be presented below:

Table 1

Scoring Rubric (Adapted from Mozaffari, 2013)

Aspect of Evaluation	Grade			
	4	3	2	1
Story	The use of narrative to convey purpose is excellent. It is well-written, well-delivered, and engaging.	The use of narrative to convey purpose is good. It is written properly, and delivered properly, yet less engaging.	The use of narrative to convey purpose is just fair. It is written in combination with the formal statement and is less engaging.	No use of narrative to convey purpose. It is mostly dominated by formal statements and is not engaging.
Image	Maximal use of significant details (there is no or minimal abstraction, generalization, or judgment)	Several uses of significant details (they are significantly more than abstractions, generalizations, or judgments)	Minimal use of significant details (they are significantly less than abstraction, generalization, and judgment)	No use of significant details (sole use of abstraction, generalization, or judgment)
Voice	Maximal use of images to make the voice appealing.	Several uses of images to make the voice appealing.	Minimal use of images to make the voice appealing.	No use of images to make the voice appealing.
Characterization	Maximal use of characters' physical appearance, actions, thoughts, symbols, etc. to reveal the characters.	Several uses of characters' physical appearance, actions, thoughts, symbols, etc. to reveal the characters.	Minimal use of characters' physical appearance, actions, thoughts, symbols, etc. to reveal the characters.	No use of characters' physical appearance, action, thought, symbol, etc. to reveal the characters.

Participants and sample

The participants of the study were thirteen English Education Department students of Universitas Tidar. Further, the lecturers of creative writing classes at the same university also participated in the research. While the sample of the study was ten short stories collected from the creative writing classes through a random sampling technique. Information regarding the participants and samples in this study is confidential.

Data collection instrument

For the data collection instrument, an open-ended questionnaire was distributed to gain a comprehensive idea from the participants. The open-ended questionnaire comprises the participants' identity, instructions, scoring rubric, samples, and open questions at last.

Data analysis technique

Since there were quantitative and qualitative obtained, descriptive statistics were employed for the first research question, and content analysis following Miles et al., (2014) was established for the qualitative data analysis.

3. RESULTS AND DISCUSSION

1.1 Results

In this section, the scoring results of the sample based on the rubric's category respectively will be presented. The table also covers the participants' scores for each evaluation aspect. Further supporting statements from the qualitative data will be included after each category.

Table 2

Scoring Result of Story Aspect

Aspect of scoring	Sample Code									
	P*					S**				
	P1	P2	P3	P4	P5	S1	S2	S3	S4	S5
Score	42	40	38	40	38	36	38	38	38	34
Maximum score	52									
Total score	198					184				
Percentage	80%	76%	73%	76%	73%	69%	73%	73%	73%	65%
Σ^{***} score	39.6					36.8				

Information:

P* is code indicating human-written short stories

S** is code indicating AI-generated short stories

Σ^{***} indicates the mean score of the category

The result of the scoring from the story aspect shows a total score of 39.6 points for student-written short stories. While the AI-generated short stories reach 36.8 points. In this category, student-written short stories are superior compared to those generated by AI. This result is in support with the statement from the respondent:

(P8) I think the story from the AI is good but I notice some weaknesses in its story because the premise of AI stories sounds simpler and literal. It has to be enhanced creatively.

Table 3

Scoring Result of Image Aspect

Aspect of scoring	Sample Code									
	P*					S**				
	P1	P2	P3	P4	P5	S1	S2	S3	S4	S5
Image	36	38	40	34	38	28	30	30	28	30
Maximum score	52									
Total score	186					146				
Percentage	69%	73%	76%	65%	73%	53%	57%	57%	53%	57%
Σ^{***} score	37.2					29.2				

The result of the scoring from the image aspect shows a total score of 37.2 for student-written short stories. While the AI-generated short stories reach 29.2 points. In this category, student-written short stories are superior compared to those generated by AI. This result is in supported by the statement from the respondents:

(R3) The short story "The Ripple Effect" uses vivid imagery to enhance the characterization and themes, creating a rich, immersive experience.

(R13) No visual elements are involved but the writer is successfully painting the mental picture of the valley and the living. More detailed and sensory descriptions could enhance the imagery much better.

Table 4
Scoring Result of Voice Aspect

Aspect of scoring	Sample Code									
	P*					S**				
	P1	P2	P3	P4	P5	S1	S2	S3	S4	S5
Voice	38	44	34	32	40	36	34	34	32	34
Maximum score	52									
Total score	188					170				
Percentage	73%	84%	65%	61%	76%	69%	65%	65%	61%	65%
Σ^{***} score	37.6					34				

For the voice aspect, the points for student-written short stories is 37.6 and the AI-generated short stories are 34 points. This shows the superiority by 3.6 points. In this category, student-written short stories are superior compared to those generated by AI. This result is in line with the statement from the respondent

(R5) The writer seems to use a lot of ways to provide realistic nuance for every scene. As a reader, I can clearly feel the nuance being brought, but for me, it feels flowery.

The inferiority of AI-generated short stories was highlighted by a respondent:

(R10) The voice is consistent, warm, reflective, and optimistic. The voice captures the innocence and which suits the narrative's portrayal of positivity. Each character's voice is distinct enough to convey their individuality. However, the variation of sentence structure is expected to give the stylistic.

Table 5
Scoring Result of Characterization Aspect

Aspect of scoring	Sample Code									
	P*					S**				
	P1	P2	P3	P4	P5	S1	S2	S3	S4	S5
Characterization	45	42	38	38	42	38	36	32	32	36
Maximum score	52									
Total score	200					174				
Percentage	86%	80%	73%	73%	80%	73%	69%	61%	61%	69%
Σ^{***} score	40					34.8				

Concerning the aspect of characterization, the superior points are claimed to be owed by the student-written short stories. For the characterization, the score for student-written short stories is 40 and the AI-generated short stories is 34.8. In this category, student-written short stories are superior compared to those generated by AI. This result is in line with the statement from the respondent

(R5) The use of descriptions and direct conversation really helps the reader to capture the environment being depicted in the scenes.

1.2 Discussion

This part of the discussion will present the interpretation of the findings above. First, the comparison of student-written short stories vs AI-generated story stories based on the scoring aspect of voice.

In terms of narrative, Human writers can draw on real-world experiences and cultural references to create compelling story arcs. They can weave themes, foreshadowing, and plot twists that surprise and engage readers. Human writers also have a better grasp of pacing and suspense. AI excels at generating consistent plot lines and adhering to specific genres (Taecharunroj, 2023). However, crafting truly original and emotionally impactful stories remains a challenge. AI-written stories might lack the depth and unexpected turns that come from human creativity. Overall, AI offers exciting possibilities for generating creative content. AI platforms in the context of story creation tasks can substantially enhance narrative intelligence scores (Pellas, 2023).

For the aspect of image, human authors have the advantage of lived experiences and imagination. They can create vivid and evocative descriptions that transport readers to different worlds and settings. Figurative language and sensory details come naturally to human writers. AI can access vast databases of information and descriptions, allowing it to create detailed settings. However, the descriptions might lack the originality and emotional resonance of human-crafted prose. The results shows that AI is lacking in the use of image when it is compared to students-written short stories. Furthermore, the language style of AI as one factor in imagery seems to lack an evocative energy, instead, it sounds unflattering and plain. This finding is in line with the prior study conducted that AI has some limitations including in imagery language style (Yudono, 2023).

Voice is defined as the way how the story is told, the nuances built, or the impression it leaves to the readers. Voice can also be construed as the 'voice' or the 'personal perspective' of the writers to the world outside themselves. In the short story, voice is determined on the way an author delivers their stories through word choice, sentence structure, tone, etc. Voice in short stories can be formal, humorous, whimsical, or mysterious.. although the generative AI can calculate and formulate a voice in a story based on the data. They are able to obey instructions in which writers wanted them to be. Yet, due to it becomes a mimesis, it lacks of authenticity and nuance of a human writer. Stories might sound generic or derivative, lacking the subtle complexities that make a voice truly compelling. Students have a natural advantage when it comes to crafting a unique voice. Personal experiences, emotions, and cultural background all contribute to a distinct narrative style. Human authors can infuse humor, irony, or a specific tone that resonates with readers on a deeper level.

Next, is the characterization. Human authors excel at creating believable and relatable characters. They can draw on their understanding of human psychology, motivations, and flaws to breathe life into characters that readers can connect with and care about. AI can generate characters with consistent personalities and backstories, but capturing the full spectrum of human emotions and experiences remains a challenge. AI-written characters might feel predictable or lack the depth and complexity that human writers can achieve. This issue is in line with the statement from Biermann et al., (2022) that writers minimize the use of AI when it comes to challenging tasks such as creating characters or dialogues. It is because characters and dialogues extremely represent the idea of the writer in their writing, one of the reasons which is not as authentic as it is written by the writer themselves.

While the generative AI are impressive, human writers still hold the edge in creating stories that evoke deep emotions and express a unique voice. The future might involve a powerful partnership, where AI helps with tasks like world-building and idea generation, freeing human creativity to focus on crafting voice, character, and impactful storytelling. This finding supports the prior study which also states the similar (Fiialka et al., 2024). Creativity is a complex view in the age of AI. Humans excel at weaving deep meaning and personal experiences into their creations, making them financially more valuable (Bellaiche et al., 2023). However, AI can still generate aesthetically pleasing works, even if they lack emotional depth. This opens doors for future research that explores creativity as a spectrum, with humans and AI potentially occupying different but valuable positions.

2

4. CONCLUSIONS AND SUGGESTIONS

Although the use of generative AI is significant in short story writing, there is a spark in truly creative writing that AI currently lacks. This spark comes from the depths of human experience about emotions, memories, and unique perspectives on the world. AI can analyze vast amounts of data and generate text that follows patterns and formulas. Nevertheless, it cannot capture the nuances of human connection personal and interpersonally. Since the field of creative writing is more than just stringing words together; connection and relevance about each person' emotions and experiences resonate with readers. AI may become a valuable tool for writers, but it won't replace the human heart that beats at the core of every truly great story.

This research suggests that AI writing assistants like ChatGPT, while not without limitations, can be powerful tools to support human creativity in the writing process. However, their role should be as a source of inspiration, not a replacement for the unique spark of human ingenuity. This underscores the importance of continued research on AI's role in fostering creativity, particularly regarding ethical considerations and maintaining a healthy balance between human and machine contributions to the artistic process. Further studies are recommended to mind their prompting technique for generative AI. The proper prompting results in a more contextual and comprehensive product.

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