

Testing ChatGPT's Creativity to Write Haiku in English

David McMurray

Abstract

In this paper, I share ideas for testing the ability of artificial intelligence (AI) tools to compose haiku poems. Chatbots are conversational agents that use a known knowledge base to answer open or close-ended questions (Kerly et al., 2007). Chatbots are intelligent, but not creative in the sense of an avant-garde poet. Students today, the Generation Z population cohort born between the late 1990s and early 2010s, are looking for content that is short, authentic, and can be enjoyed immediately. I suggest that human creativity will continue to lead the development of haiku. Chatbots neither provide the sense of authenticity nor the in-the-moment feelings craved by younger readers. Machines can search and retrieve information that humans can analyze or review to make decisions, however, so this can help to expand the scope and pace of the generation of creative new literature. Such advances can also assist students of English as an international language (EIL) to more clearly voice their ideas and imagination. This paper concludes with several examples of neoclassical, vanguard, and avant-garde haiku poems that far outmatch anything that large language models such as ChatGPT, or conversational generative artificial intelligence chatbots such as Bard currently compose.

Creativity

Rothenberg (1994) investigated how opposite conditions—outstanding creativity and psychosis—coexist in the same individual. According to Kaufman (2011) poets are more susceptible to mental illness than other creative writers. Larsen-Freeman (1997) suggested that a certain amount of chaos/complexity science could mix well with second language acquisition to promote creativity among second language learners in the classrooms of America. It seems that high-level creativity transcends the usual modes of logical thought—and may even superficially resemble psychosis. Disturbed poets and absent-minded professors do make great characters in fiction, but I would like to suggest that all human beings possess a virtually infinite creative potential. In this paper on poetic creativity and teaching students how to compose haiku creatively, I assume that creative thinking generally occurs in a rational and conscious frame of mind, not in a mystically altered or transformed state.

Defining Creativity for Japan

Creativity is a term defined by culture. Differences in culture help to determine how a society values creativity. According to Sternberg and Lubart (1995), American psychologists define creativity as the capacity

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to produce ideas that are both original and functional. This suggests that creativity is a desirable individual trait. Creativity can enable a person to adjust to novel circumstances and to solve problems that unexpectedly arise. Csikszentmihalyi and Sawyer (1995) cautioned against viewing creativity as solely an individual behavior. Creativity often takes place in a social context, such as the classroom or work environment. In addition, creativity will often not be individualistic at all, but rather it will originate in small-groups. Claxton, Pannells, and Rhoads (2005) assert that the average child is not creative, but all children possess the potential for considerable creativity, which diminishes as they grow older.

White (1987) contends that, according to western educators, rigid education and the imposition of adult standards too early are culprits in a child's loss in creativity. The opinion that Japanese education could never allow the flowering of creativity may be the result of ethnocentric assumptions about the source and meaning of creativity. In traditional Japanese haiku organizations, the student is directed to follow the steps of the master. Routine is important. Each repetition is thought to contain something of value. The result is a high degree of analytic thinking. And that probably helps quality control and leads to perfection and improvements in the arts and technology that others have developed.

White (1987) also suggested that the criticism of Japanese education focuses on the suppression of genius. It seems insupportable to say that the current Japanese education system has too many barriers to allow their student's individuality and to encourage the geniuses who make scientific breakthroughs. But it can be safely said that there is little provision for tracking the super bright to their best advantage before they reach the graduate school level. The bright are not expected to break records early in life. Accelerated learning, the skipping of grades, and the recognition of super-intelligent students hasn't been possible until recently. The 1998 curriculum allowed only a handful of bright and hard-working science students to enter university at 17 years of age, one year earlier than their peers. Those students were still required to finish all the required high school credits.

Japan seems eager to shed its reputation as a non-creative adopter of other people's ideas. It now intends to do more basic science itself and more of it in a university setting in addition to research centers and corporate Japan. Japan's objectives for higher education also want to promote research and development (R&D). Japan's venture business boom started when central and local governments started to promote R&D concomitantly with entrepreneurship.

Creating new businesses oriented toward R&D is an important way to recover from the economic slump caused by COVID-19. America effectively rode the waves of biotechnological, financial, information, and communication revolutions by focusing on starting over and entrepreneurship. I think that is because in America, academia and big business are closely linked, but there is also a well-established system for providing funds to entrepreneurs and start-ups. Creative business adventurers can take advantage of government-offered funding. R&D funding was traditionally awarded to business. The original drive for this came from industry efforts to shift emphasis from product development to research on new technologies such as AI and chatbots. That shift took place at the turn of the century, allowing for OpenAI's ChatGPT to burst onto the scene in November, 2022 followed closely by Google's Bard in early 2023.

Initial attempts to introduce AI in Japan's education system, including university research were stymied,

even though the government considers academia to be insufficiently creative. The University Council advisory committee to the Education Ministry regularly recommends that teachers evaluate students more strictly and review their research roles. The Council thinks that American higher education provides rich opportunities for creative talent to bloom and therefore suggested that Japan's universities expand their graduate schools to make themselves more like those in the U.S. In doing so, the use of AI and chatbots in higher learning will come under close review. Let's now consider the use of chatbots in creating haiku, literature that is regularly taught in my university classrooms and in Japan's junior high school curriculum.

Chatbots

Chatbots, in creating text, have only other texts to draw on. AI learning emulates traditional Confucianism in the sense that the learner follows in the steps of the master. Each repetition is thought to contain something new to learn. And that pattern analysis probably helps quality control and leads to perfection in the generation of speech and improvements in the chatbot technology.

Creative artists, in contrast, draw on the totality of their experience. Artists tend to be influenced—shaped, made—by everything they'd seen and heard and smelled and touched, everything they'd thought and felt and done. Lived experience, is not just the source of art but also its very substance—what it's made from, what it refers to, what it is tested against. Art is good insofar as we recognize it as true, as corresponding to our experience of the world, both inner and outer. But for AIs, there is neither experience nor world. No sights or sounds, no joys or pains, no awareness—no idea whether what they make is true, and therefore whether it is good.

Larsson (2023) tested the AI's ability to compose creative haiku, but concluded that many of the compositions were dull and uninspired. He claimed that one of the biggest issues with ChatGPT's haiku composition abilities is that it tends to rely on cliches and predictable patterns. For example, this haiku generated by ChatGPT on the topic of nature is pleasant enough, but it doesn't offer anything new or unexpected. The language is generic and lacks the vivid imagery and sensory details that are often associated with great haiku poetry.

Nature in full bloom,
Flowers dance in the soft breeze,
Peaceful, calming scene.

Creative English in Japan

Will English teachers in Japan encourage AI to change the education system and in so doing help to encourage creativity? In the past the Revised Standards for Colleges and Universities led EIL teachers to fear for their jobs (Oda, 1995). More recently, Dunleavy (2023) suggested that the adoption of online tools during the pandemic was intimidating to some teachers. University management seems intent to continue to replace teachers or offer short term university contracts to those who can't keep up with the new technology or who no longer have "freshness."

I consider the adoption of on-line tools as a form of motivation that can improve foreign language teaching. Criticism and stringent reviews of K-12 education and universities coincided with the release of the chatbot and the Ministry of Education response to its use in schools. In light of AI, universities will likely be expected to reevaluate their curricula, professors will be required to refresh syllabi in addition to updated research lists, and tenure will depend upon proficiency in teaching as well as research. On-line teaching turned out to not be an exceptional or temporary phenomenon. The technologies implemented during the pandemic truly were the beginning of a long-term integration of technology into teaching which will require constant adaptation, re-appraisal and generation of solutions.

The International University of Japan (IUJ), in Niigata Prefecture, encourages their Master of Business Administration (MBA) students to gain on-site experience in companies. Much of the work is done in English. Teams of IUJ students study the operations of small industries by observing and interviewing employees in the finance, manufacturing and sales departments. Then they apply the concepts learned from textbooks and case studies to their findings. Students discuss the strong and weak points of the companies and how improvements can be made. The course integrates knowledge from different disciplines. McGill University, a Canadian higher education institution, launched an MBA program in Tokyo designed for students with varying backgrounds and work experience. Their courses often ask students to form study groups to encourage creativity. Diversity is synergistic if there is a common vision and common purpose agreed upon by the group. Then it is possible for diversity among the group members to unleash talent, potential, and creativity. David (1997) suggested that creativity does not necessarily correspond to one's level of university education.

When I observed teacher-training practicums at several junior high schools in Kagoshima Prefecture, my classroom observations were recorded as notes taken as a non-participant observer of another teacher's classroom. I discovered that there was little room for students to express their creativity during English lessons. I felt students had little chance to work on their own ideas, instead they were instructed to repeat new words and sentence patterns until they had memorized them. I noticed that students seemed to lack analytical and reasoning skills because they only knew how to absorb knowledge through memorization. English ability varied among students. I suggested to the teachers-in-training that the most important thing was to encourage students to do their best. Now that masks are no longer required in classrooms, I suggested teachers encourage students to speak in a loud clear voice. Some students are not good at paper tests of their written English ability, but they can speak in a lively active voice. In my university classes of oral communication, active students receive higher evaluation than quiet students.

I therefore suggested the supervisors allow teachers-in-training to implement group learning and team presentations, although some teachers are very nervous to allow this activity. The teachers-in-training have experience in these kinds of active learning methods. I also recommended junior high school teachers try to introduce the concept of creativity and haiku in the English classroom. Tokyo Shoseki's widely-used (40 percent of schools in Japan) *New Horizon* textbook contains a 12-page chapter on the topic of haiku in English.

Methodology

For this study, I used ChatGPT to compose 100 haiku poems. I aimed at setting prompts for the chatbot to

respond in avant-garde, neoclassical, or vanguard styles. I conversed with ChatGPT for 43 hours over a five-month period in 2023. I contrasted the chatbot's haiku with haiku made by a human on the same haiku topic.

As a control measure, I compared the haiku that I was able to generate with a chatbot to human-made haiku selected by the editor of the World Haiku Review, a publication that attracted 1,000 contributions from poets in over 60 countries. A human moderator, Susumu Takiguchi is a master of poetry based in London, England. He checked each post, categorized and organized poems, erasing any entries that were poorly written or misconstrued.

Vanguard haiku poetry

According to Takiguchi (2021), *shintai* haiku, or vanguard haiku are new and radical. The most freestyle haiku is classified as the vanguard. These haiku do not draw from tradition.

Avant-garde haiku poetry

Avant-garde poetry is a type of experimental poetry that challenges traditional conventions and forms of poetry. Avant-gardists seek to break away from the established norms of language, style, and structure, and often incorporate unconventional techniques, such as the use of new-found language and fragmented imagery. In his day, Masaoka Shiki was an avant-garde haiku poet. In 1899, Shiki claimed that since haiku is a part of literature, and literature is a part of art, that the standard of literature be the standard of haiku. Thus, if Japanese language haiku is literature, we can consider English language haiku as literature.

Neo-classical haiku poetry

The most traditional type of haiku is grouped together under the neoclassical with stringent *kigo* or 5-7-5 rules. Neo-classical haiku emulates the style of haiku that emerged in the 17th and 18th centuries in Japan. Neo-classical haiku poets tend to anchor their poems in the traditional rules of haiku, but focus on clarity, precision, and simplicity of language, and use regular meters and season word schemes to create a sense of balance and harmony in their poems. There is a lack of a Western aesthetic foundation to situate and conceptualize haiku in English. Proponents of neoclassical haiku poetry suggest composers need to be acquainted with haiku history from its starting verse (referred to as *hokku* in Japanese) and linked verse beginnings. Students need to be exposed to the controversial idea of the haiku moment. Neo-classical poets situate English language haiku in the Western philosophical traditions of ontology and phenomenology, adding a degree of eclecticism to their compositions.

Takiguchi (2023) categorized this haiku of mine worthy of mention as an example of the neoclassical form.

unrelenting spring
war poetry in the streets...
nineteen sixty-eight

Findings

Brigadier General Valentin Busuioc is a creative writer of haiku, a Romanian poet, novelist, playwright, and journalist who has won several awards in poetry contests. Note the unexpected twist in his following haiku about a bird escaping its barred cage, only to find itself confined within a house looking at freedom through a glass pane.

The door squeaks--
bird's cage moves
to the window

When prompted to write a haiku on a similar theme, this is the best the AI ChatbotGPT could muster in the confines of its understanding of haiku as a 5-7-5 syllable literary form.

Rusted latch gives way
Feathers stretch, wings find the sky
Freedom's sweet release

Avant-garde haikuists push the boundaries of what is considered current poetry and explore new and innovative forms of expression. Avant-gardists are often associated with movements such as surrealism, and futurism, and will impact the development of modern and contemporary poetry.

Ivan Georgiev, who is an avant-garde haikuist, introduced this new and experimental idea in his literature:

missile strikes
non-existent addresses
in a postman's bag

Vanguard selections of haiku were grouped by Takiguchi (2023) to identify people leading the way in new developments and ideas for the writing of haiku.

When prompted to compose a vanguard haiku on the theme of war, ChatGPT responded with the following 5-7-5 syllable form:

Smoke and screams of pain
Ravages of conflict spread
Peaceful dreams in vain

When prompted to compose an avant-garde haiku on the theme of war, ChatGPT responded with the following 5-7-5 syllable form:

Metal birds take flight,
Echoes of destruction reign,
Humanity weeps.

Neo-classical haiku, including mine below, were grouped by Takiguchi (2023) to identify people among a Western cultural movement in the decorative and visual arts, literature that draw inspiration from the art and culture of Japanese classical haiku.

wild cherry blossoms
love for war poetry fades
in the morning sun

The best haiku that ChatGPT could compose when prompted to write about cherry blossoms was the following 5-7-5 syllable form:

Soft pink petals bloom
Fluttering in the spring breeze
Nature's sweet delight

Thinking that ChatGPT could perform best by learning from neoclassical forms of haiku it was prompted to write a haiku based on a classic Matsuo Basho haiku penned in 1689: *Natsukusa ya/ Tsuwamono domo ga/ Yume no ato.*

the summer grass
the splendid dreams
of Samurai warriors

On the topic of war, the ChatGPT response struggled with the syllable count, resulting in a haiku that felt forced and awkward.

Swords clash, cannons boom,
Battlefields wrought with despair,
Reason weeps in pain.

Pedagogical Implications

Apart from its novel attraction, the number of students using AI exclusively to do school work will likely decrease. I pitch the viewpoint that students can write about themselves more creatively than a machine can so that hopefully they will see writing in English as fun rather than as a dull or strenuous experience, which I

assume is why students would consider cheating in the first place.

Chatbots suffer from a real lack of theoretical frameworks to compose and engage with English language haiku on the level of lived experience, by way of the materialities of the text. Haikuists can capture certain moments of intensity that can manifest through a compositional and formalistic ideal that derives from the lived experience produced by the text of the haiku itself. This ideal, as well as these moments of intensity, are associated with the concept of presence (Gumbrecht, 2004). Haikuists can also expose atmospheres, which can be produced by the seasonal components of a haiku (referred to as *kigo* in Japanese), as well as the emotional overtones (referred to as *yosei* in Japanese) linked to the use of certain aesthetics (Gumbrecht, 2012).

Students majoring in literature or creative writing can benefit from reflecting on how to become creative. I ask my students to view writing in English as an opportunity to express their own creativity. Haiku is a unique form of literature, one that's been part of Japanese culture for over three centuries, that continues to share personal experiences, real lived-experiences, as well as opinions and viewpoints. Writing haiku in modern times can be rewarding and allow students to express themselves. Students can be encouraged to take risks to become accustomed to the feeling so they won't be afraid to go out and try again. I ask students to take photos of creativity in action, make photo-haiku, and think of new haiku topics to write about every day.

In an English language classroom conducted by Sullivan (2023), students in Kaohsiung, Taiwan, participated in a group activity that required them to determine the seasonality of a poem based on the use of a season word (referred to as *kigo* in Japanese). This discovery was then used to discuss atmospheres, and how the emotional and physical components of atmospheres (as a felt thing akin to weather) can affect one's interpretation of a haiku. As such, if a haiku in English did not reach the level of critical engagement students may come to expect and even demand from it, it was not a problem of the student, but rather a problem of the haiku, putting the entirety of the burden, as well as the future of the genre, on those who compose it. I also recommend familiarizing students with these concepts of presence and atmospheres and connecting to what Rauh (2019) states as being of aesthetic importance in the world today, "namely the quality of the impression that emanates from things" (p. 149). In this way, students can choose from various critical tools to analyze English language haiku, while at the same time retaining all the other means of engaging with texts that one would find in the academic environment of literary studies.

Conclusion

AI has so far not shown that it can lead a new haiku movement, nor can it significantly impact the development of modern and contemporary poetry. It cannot compose avant-garde haiku. Even if it is trained on a large corpus of poetry, including examples of avant-garde poetry in 2023, the field is, by definition, constantly changing. It is important to note that AI-generated poetry is a relatively new field and the quality of the output can vary widely depending on the specific model and the quality of the training data. AI language models such as GPT-3 can generate creative and innovative language. Here is my haiku sharing a personal reflection on the current use of chatbots to generate reams of haiku poetry that are unpublishable, do not win contests, and are boring at best.

unbearably loud
 the wordless poem
 we never wrote

Nonetheless, ChatGPT's benefits as an educational tool outweigh its weaknesses. I will continue to encourage my students to use chatbots as a first step in composing beautiful haiku. Humans can challenge traditional forms of haiku and push the boundaries of what is considered modern poetry.

I believe there is an opportunity for foreign language teachers who have technological and pedagogical skills as well as an understanding of how to encourage student creativity to take the lead in the adoption of the teaching methods currently sought by the Ministry of Education. Change in higher education depends on the political and business support of new AI technologies. Finding ways to foster creativity will benefit students, corporations, and Japan as a nation.

Future Study

In a previous research study (McMurray, 2023), it was claimed that chatbot was neither able to judge haiku nor to critically evaluate haiku. I plan to conduct an experiment comparing the use of ChatGPT, Bard, and university students to make haiku. The purpose will be to further my preliminary discoveries on whether using AI supports students to compose more beautiful haiku. For this future study, EIL majors in a teacher education course will be invited to be participants. Approximately 30 students will be divided into three groups to conduct the experiment. One group will be asked to use ChatGPT and Bard to create haiku by inputting a seasonal topic as a prompt. Another group will be asked to write a haiku on the same seasonal topic, but without resorting to the use of any kind of technology. The final group of students will be directed to follow a learning strategy of blending their access to technology with their own skills by first using AI to make a haiku and then to improve that haiku using their own creative language skills.

References

- Claxton, A., Pannells, T., & Rhoads, P. (2005). Developmental trends in the creativity of school-age children. *Creativity Research Journal*, 17(4), 327-335. DOI: 10.1207/s15326934crj1704_4
- Csikszentmihalyi, M., & Sawyer, K. (1995). Creative insight: The social dimension of a solitary moment. In R. J. Sternberg & J. E. Davidson (Eds.), *The Nature of Insight*. 329-364. MIT Press.
- David, P. (1997, Oct. 4). Survey universities: Inside the knowledge factory; all must have degrees; the core and the cloud. *The Economist*. <https://www.economist.com/special-report/1997/10/02/inside-the-knowledge-factory>
- Deresoewocz, W. (2023, May 8). Why AI will never rival human creativity. *Persuasion*. <https://www.persuasion.community/p/why-ai-will-never-rival-human-creativity>
- Dunleavy, A. (2023, July 6). ChatGPT and English Teaching: Should we be scared of Artificial Intelligence? *TEFL*. <https://www.tefl.com/blog/>
- Gumbrecht, H. U. (2012). *Atmosphere, mood, stimmung: On a hidden potential of literature*. Stanford University Press.
- Gumbrecht, H. U. (2004). *Production of presence: What meaning cannot convey* (1st ed.). Stanford University Press.
- Kaufman, J.C. (2011). The sylvia plath effect: Mental illness in eminent creative writers. *The Journal of Creative Behavior*, 35 (1), 37-50. doi:10.1002/j.2162-6057.2001.tb01220.x
- Kerly, A., Hall, P., & Bull, S. (2007). Bringing chatbots into education: Towards natural language negotiation of open

- learner models. *Knowledge-Based Systems*, 20(2), 177-185.
- Larsen-Freeman, D. (1997). Chaos/complexity science and second language acquisition. *Applied Linguistics*, 18, 141-165.
- Larsson, E. (2023, April 2). Testing ChatGPT's creativity: the art of composing a haiku. *Linked in*. <https://www.linkedin.com/pulse/testing-chatgpts-creativity-art-composing-haiku-erik-larsson>
- Masaoka, S. (1899). *Haikai taiyo* (The essentials of haiku). *Nippon*.
- McMurray, D. (2023). Using a chatbot to critically evaluate and compose more beautiful haiku. *The IUK Journal of Intercultural Studies*, 23(4), 227-236.
- Oda, M. (1995). The 1991 revised standards and the EFL profession in Japanese universities. *The Language Teacher*, 19(11), 47-49.
- Rauh, A. (2019). The atmospheric whereby: Reflections on subject and object. *Open Philosophy* 2(1), 147-59. <https://doi.org/10.1515/opphil-2019-0017>.
- Rothenburg, A. (1994). *Creativity and madness*. John Hopkins University Press.
- Singleton, T. (2023, July 29). Google what our chatbot tells you. *BBC News*. www.bbc.com/news/technology-66303877
- Sternberg, R. J., & Lubart, T. I. (1995). *Defying the crowd: Cultivating creativity in a culture of conformity*. Free Press.
- Sullivan, K.T. (2023). Integrating English language haiku into literature teaching. *The Language Teacher*, 47(4), 56-59.
- Takiguchi, S. (2023). Vanguard haiku. *World Haiku Review*. <https://worldhaikureview.wordpress.com/>
- White, M. (1988). *The Japanese educational challenge: A commitment to children*. Kodansha.