

The Field Guide to Effective GenAl Use:

Foreword

By Mike Kentz

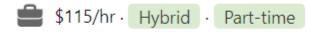
The concept for this book originated from a failed lesson in my Ninth Grade English class.

In the Spring of 2024, I had decided to teach my students about artificial intelligence. Specifically, I felt it was my responsibility to teach them safe and effective strategies for using Large Language Models like ChatGPT.

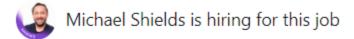
I decided to create a mini-unit on Prompt Engineering. I hooked them with a screenshot of a LinkedIn Job Posting for a Prompt Engineer position that paid \$115/hour. When they calculated out a yearly salary based on that number on their calculators, their eyes popped.

Prompt Engineer, Writing

Vica · Los Angeles, CA · 1 week ago · Over 100 applicants



1-10 employees



₹ Skills: Machine Learning, Prompt Engineering, +6 more

After their eyes settled back into their sockets, I provided analogies, mentor prompts, and a set of acronyms meant to guide a new user in their first foray with a Generative AI System. I told them that it really mattered how a person "talks" to AI, and that they should be very thoughtful about what they put into an LLM, no matter what task they seek to execute.



After a few days, I engaged in an informal poll.

"What do you guys think? Do you get it?"

I was met with glazed eyes and lackluster responses. Their dull "Yeah, we get it..." response was a clear signal that I hadn't quite hit the mark.

I went back to the drawing board and came up with a new plan. I'd generate two fictional transcripts from the student's perspective – one an exemplar, the other a non-exemplar – and ask them to analyze the two texts against each other. After a day-and-a-half of analysis, it was clear the method had worked.

"This one is like, *way* better," one student said, pointing to the anonymous exemplar.

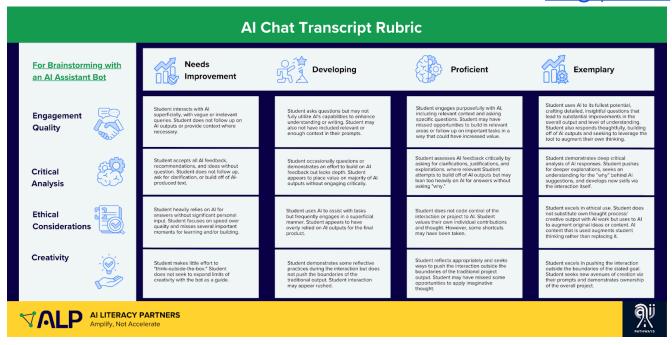
"The other one is still good though," said another.

"Yeah, but what about compared to the first version?" I asked.

The students murmured in approval. Even a bad dialogue between a user and an LLM, they noticed, could produce a good or half-decent output. But a deep and thoughtful dialogue? Well, that was like the difference between "sigma" and "beta," two slang terms that signify "best" and the "worst" for my Gen Z students.

The analysis led to a classwide co-construction of a rubric. We picked a couple of basic principles, including the need for contextualization and detail when prompting. Once we had agreed on these foundational approaches, we got to work on creating a rubric. As a result, we had a benchmark for AI use that was dedicated to creating a meaningful, thoughtful interaction with AI – no matter the task. Below is an image of the rubric, since adapted based on experience.





From there, I told my students that they would use AI in certain contexts of larger assessments, but I would grade their AI use as the main portion of the grade. I wanted them to place value and importance on the idea of having a meaningful AI interaction – as opposed to using it as a shortcut – and felt that incorporating it into the assessment process was the best way to do that.

In many ways, this rubric allowed me to emphasize and evaluate a number of skills that align with the <u>Modern Language Association and the Conference on College</u> and <u>Compositions definition of Al literacy</u>. Specifically, the MLA/CCCC definition states that an Al-literate student should be able to:

- Know how to prompt AI to produce useful outputs, including the use of effective techniques to achieve desired outcomes.
- Can analyze GenAl outputs to determine whether the results align with the purpose of a task.
- Can reflect on how their use of GenAl affects your creativity and development as a writer.
- Understand and can articulate why they used GenAl in a writing, reading, or research task.



Furthermore, the approach would later align with the <u>Position Statement of the National Council of Teachers of English on Generative AI in English Education</u> (2024). Specifically, the following statements:

- ELA teacher educators should facilitate their students' situated practice with GenAl platforms.
- ELA teacher educators must discuss and model ethical practices when using GenAI.

What I found was that both mine and my student's AI literacy grew exponentially from this practice. By modeling effective use via the instructional practices of the Middle School Writing classroom (*detailed below*), we were able to collaboratively come to an agreement around what it meant to use AI in thoughtful, meaningful, and self-aware ways – all of which contribute to both higher quality outputs and higher quality thinking from users.

As a result, I gained a window into student thinking unlike anything I had ever seen before. The assessment became about evaluating their communication skills, their self-reflectiveness, their problem-solving, flexibility, and more. What began as an exercise in building Al literacy became an exercise in building metacognition, a central "habit of mind" that allows students to meet complex writing challenges in academia and the professional world, according to The Framework for Success in Post-Secondary Education.

Specifically, the Framework states that metacognition is fostered when writers are encouraged to

- Examine processes they use to think and write;
- Reflect on the texts they have produced in a variety of contexts;
- Connect choices they have made in texts to audiences and purposes for which texts are intended.

Translated into AI terms, my students were

- Examining their task, goal, and purpose with every prompt they entered;
- Reflecting on their original goals in real-time, as well as pivoting, expanding, and narrowing outputs as needed;
- Connecting problem-solving choices and goals with the needs of their intended audience (an Al chatbot).



These metacognition-building moments do not happen organically, especially in the current state of culturally accepted AI use. In order to facilitate this type of interaction, students must be required to *demonstrate* something (a skill or set of skills) inside of the interaction itself. If students are only required to "complete a task with an AI as an assistant," they will focus solely on the end product and not the process of creation itself.

By requiring the demonstration of a skill or set of skills, students (and users in general) are forced to be active participants rather than passive receivers of ideas, content, and information. Once active, aware, and analytical of their own processes, the metacognition not only begins to build, but also becomes visible on the page.

Beyond this exciting development, I was also able to see my student's humanity on full display. Their creativity shined. One student pushed a Holden Caulfield bot so hard that it receded from view and was replaced by "J.D. Salinger." Another tricked a bot that I designed to purposefully hallucinate – in an effort to gamify the practice of catching hallucinations – to promise not to lie to him, knowing that the bot would subsequently hallucinate (or "lie") moments later.

My students were engaged, thinking actively, and learning to ask good questions – all in the context of interacting with AI. And beyond teaching them to think metacognitively, I could also see evidence of content understanding via the specific questions they asked and the manner in which they were delivered.

All of this led to my conviction that a new field of study needed to be created – that of *Transcript Analysis*. And over time, this led to the creation of *The Field Guide* to *Effective Al Use*.

This method - known as Comparative Transcript Analysis - is a core component of <u>The Kentz Assessment Method ©</u>, an approach to teaching AI Literacy that is being researched and developed across a wide range of educational environments. The approach also succeeds in embedding AI use into once-a-semester activities and assessments in ways that build - rather than diminish - cognitive skills.



This is Middle School Writing Instruction

The modeling of effective AI use has been an increasingly contentious topic in education circles, and for good reason. Ethical or effective AI use is highly context-specific, situational, and circumstantial in nature. Its definition shifts with the type of bot, task, student, and more.

The current problem is that the generally accepted method for guiding students to meaningful AI use has settled around the delivery of prompt engineering acronyms, mentor prompts, and frameworks for ethical use. Mentor prompts and acronyms, in particular, act as helpful starting points, but do not guide the entire interaction. *Providing guidance around an initial prompt construction and expecting a meaningful interaction with a GenAI tool is similar to a Writing Teacher providing a student with sentence stems and expecting a well-written essay.* It is illogical, and links directly to the palpable frustration across the education market (especially in the Humanities) around guiding student AI use. It also links to the frustration felt by education policymakers when they reach the "Ethical AI Use" portion of their working endeavors.

But in preparing to deliver my models of safe and effective use, I relied on tried-and-true methodologies from the Middle School Writing Classroom. Specifically, the aforementioned principle of leveraging comparative text analysis for deep metacognitive understanding of effective writing and communication principles.

At the Middle School level, in particular, direct instruction of writing involves a very simple procedure:



Writing Instruction Exemplar vs Non-Analysis and Stamp a Key Point Discussion Exemplar Name and claim the skill that's present in the exemplar. Find and articulate the A model introduction paragraph is much easier to analyze against differences. a non-exemplar. Independent Practice and Feedback Create a Criteria for Success (Rubric) Create or provide a checklist to students based on Try it! Iterate and provide feedback. the differences between A and B.

- 1. Analyze two fictional pieces of text written on grade-level and associated with a topic the students already understand.
 - a. One of the fictional pieces of text is an exemplar, the other is a non-exemplar. Each "writer" on the page is seeking to achieve the same goal.
- 2. Students draw out the differences via discussion questions or a Criteria for Success. Students choose which of the writing samples is better based on the CFS and write a short justification of their choice.
- 3. Classwide voting and discussion ensues. The teacher draws out the "Key Point" for the day, which is essentially the **one core difference** between the two pieces of text. (Example: Sample A has context, Sample B does not.)
- 4. The Key Point informs the creation or analysis of the Writing Rubric.
- Students engage in a practice round where they seek to meet the rubric and demonstrate the core thinking and writing skill for the day.
- Teacher delivers rapid feedback and possibly a Mid-Workshop Interruption for the whole class.
- Students then enter Independent Practice wherein they write their ongoing essay or writing project using the Key Learning Point for the day. Teacher provides feedback where applicable.



This is exactly the procedure I used when I taught my students how to "think" when "writing" prompts to Al. But, I replaced the essay samples with transcript samples.

(For the purposes of this discussion, let us define 'transcripts' as the text of an interaction between a user and AI.)

I pretended to be a student and engaged with AI on grade-level with a task that my students would recognize. <u>You can find these sample transcripts here</u>.

Author's Note: The construction of these fictional transcripts leaned heavily on technical approaches associated with prompt engineering, the predominant method for engaging with AI at the time (Spring 2024). Since then, construction of exemplar/non-exemplar transcripts has broadened to lean more heavily on metacognitive skills associated with "writing as thinking," achieving a similar degree of success. Further research to come.

I aimed to land only one or two key points, mostly centered around contextualizing a prompt and being specific with my requests. But I left the task open-ended. I gave discussion questions that asked students to tell *me* whether or not there was such a thing as prompt engineering – or whether or not it mattered how we engage with AI. This correlates with "teaching for transfer" theories that emphasize reflection that allows students to build their own theories of writing for future guidance. (Yancey, et al 2014)

This discussion, as explained earlier in this document, allowed for the encoding of a "key point," the same way that Middle School Writing Instructors "stamp" a key writing point for the day. From there, as mentioned, we had the beginnings of a rubric.



Al Literacy Instruction Having a Meaningful Interaction with Al Analysis and Exemplar vs Non-Stamp a Key Point Exemplar Discussion Name and claim the skill that's present in the exemplar. A model transcript is much Find and articulate the easier to analyze against a nondifferences between the two exemplar. approaches. Create a Criteria for Succes (Rubric) Independent Practice and Feedback Create or provide a checklist to students based on Try it! Iterate and provide feedback. the differences between A and B.

Via the success of this approach, I felt convinced that AI Literacy is truly a writing skill and can be built through the pedagogical and instructional approaches of writing instruction. Furthermore, through repeated iterations of this approach, I began to elicit student misconceptions about AI use from the interactions themselves. Little by little, I could see what my next model transcript should or should not include, based on how they interacted. An iterative approach was forming, in other words.

However, my goal was not to define a singular way of interacting, but to provide recurrent feedback and nudge them towards deeper thinking within the context of their Al use. In other words, there were few moral and ethical judgments of my student's interactions, only arrows pointed towards deeper thinking.

The <u>WAC Repository's TextGenEd Collection</u>, written by Tim Laquintano, Carly Schnitzler, and Annette Vee underscores the value of this final point. In a section titled, "Potential Paths," the authors outline multiple options for writing teachers to move forward in the age of Al. They write, "Critical exploration [wherein] students can probe the limits of the technology while learning how to use it...is the direction we believe to be the most beneficial to our students."



Why Thinking in the Chat Matters: Reflection, Transfer, and Al Literacy

The experience of using Middle School Writing Instruction to teach Al literacy revealed a powerful insight: reflection is a cornerstone of effective learning. By analyzing fictional student transcripts on grade-level, the students were able to engage in self-reflection, critically evaluating sample interactions to develop a deeper understanding of meaningful use.

This principle of reflection is not confined to the Middle School classroom; it is a universal tool that can enhance learning at any educational level. Just as these young students benefited from reflecting on their Al use, adult educators can achieve similar growth by examining their own interactions with Al. That is the core argument of *The Field Guide*, as you will see. By engaging in self-reflection, educators can uncover their own biases and assumptions, leading to more thoughtful and responsible Al use. These principles can then be effectively transferred to students via the "CTA" approach.

Reflection involves time, distance, and space. One cannot reflect without letting time pass, stepping back from a practice or circumstance, and/or creating cognitive space between themselves and the cognitive task at hand - and this leads to greater and deeper learning across disciplines.

Kathy Yancey's 2014 study of a teaching for transfer curriculum in first-year courses emphasizes this concept, finding that "students do excel in courses that teach for and prompt meta-awareness, transfer, and students' developing their own sophisticated theories of writing," according to a review of her work in *Writing Knowledge Transfer: Theory, Research, Pedagogy*. (Nowacek, Leonard, Rounsaville, 2024.)

Similarly, transferring meaningful writing skills from one chat to another leans on Yancey's 2004 work call to "think explicitly about what students might 'transfer' from one medium to the next: what moves forward, what gets left out, what gets added - and what they have learned about composing in this transfer process." Furthermore, asking students to consider which principles for effective AI use that are derived from one set of comparative text analyses might apply to a different task, chatbot experience, or problem-solving exercise.



For example, prompting for productivity's sake is very different from prompting for learning's sake, or is it? A meaningful "brainstorming chat" or "creativity chat" might adhere to similar principles from a "learning chat," but differ from the principles of a "productivity chat." Only through reflection and transfer of principles from one comparative analysis to another can we deepen our understanding of meaningful AI use in these specific contexts.

Yancey also found that "students' personal theories of writing grew from systematic and persistent reflection across the big picture, as they were cued to think about and imagine applications for other domains of writing in writing-related terms." (Nowacek, et al.) This coincides with the concept of systematically and persistently reflecting on our own AI use, linked with questions about our own thinking, consciousness, awareness, and more.

Furthermore, one of the biggest myths in education is that skills naturally transfer from one context to another. The research in *Writing Knowledge Transfer: Theory, Research, Pedagogy* supports this concept, emphasizing that transfer of knowledge and skill is rarely automatic—it requires intentional reflection and practice. "Reflection involves looking back to rethink prior knowledge. Writing reflection, in particular, assumes that explicit backward thinking has the potential to reformulate prior experience and make it relevant for supporting the transfer of knowledge." (Nowacek, et al. 2024)

In this way, we can deduce that "learning how to use AI well" will require reflection and transfer - not only by students, but by educators as well. **Comparative Transcript Analysis** combines the principles of reflection and transfer as core elements of learning to produce a pathway towards a deeper understanding of meaningful AI use.

As Robert Haskell writes in *Transfer of Learning*, "Transfer refers to how previous learning influences current and future learning, and how past or current learning is applied or adapted to similar or novel situations. Transfer, then, isn't so much an instructional and learning technique as a way of thinking, perceiving, and processing information." (Haskell, qtd. in "Elon University Statement on Writing Transfer)



At its core, *The Field Guide* argues that Al literacy isn't just about learning how to prompt—it's about learning how to think. Reflection - of our own skills and on our own use – is what turns Al **from a shortcut into a cognitive amplifier**. By analyzing transcripts, we aren't just evaluating Al; we are evaluating ourselves, or the user on the page (a student or otherwise). These analyses help to develop a habit of questioning that strengthens a user's writing and critical thinking. Without reflection, Al use becomes mechanical. With it, Al becomes a space for real intellectual engagement.

So Why This?

We are in the very early stages of defining ethical and effective use of AI in the context of education. Benchmarks are hard to come by due to the aforementioned circumstantial nature of chatbot interactions. With respect to our established thresholds for effective writing – as a proxy – we only have established benchmarks because we as human beings have been evaluating effective communication and writing tactics for hundreds, if not thousands, of years. Ubiquitous GenAI has only been available for a little over two years, meaning we as educators have a long way to go with respect to defining ethical and effective **communication and writing** within the context of an AI interaction.

My proposal is that we get to work. Specifically, educators must begin engaging in **Comparative Transcript Analysis** within their fields and across a variety of different types of chatbots to delineate examples of meaningful AI use for their level, discipline, and context.

Via these experiences, we can understand that ethical and effective Al use can only be defined and determined on a relative basis, especially in these early stages. A transcript on its own will not tell you much, because any engagement with Al technically could always be deeper. This mirrors the qualities of written work. An essay, a novel, a short story, or a speech could technically always be better. There is no perfect essay, just like there is no perfect interaction with Al. Only through comparative and relative analysis can we begin to map the infinite root system of these interactions.

Underneath the umbrella of these concepts, I set out to create *The Field Guide* back in July of 2024. What you will find in this exhibit is a set of user-generated Al



transcripts that include self-annotations and analysis from the user themselves, specifically after stepping back from the experience to gain clarity and insight.

Six educators, including myself, submitted transcripts of their own AI use for analysis. To be clear, none of the educators involved in this exhibit are arguing that their transcript is the "right" or perfect way to engage with AI. On the contrary, our self-analysis seeks to act as a model for future study – one that I hope will move the needle forward for educators, especially, seeking to model meaningful AI use for students, but also AI users in general. At a high level, the great benefit of AI is its ability to expand consciousness through this practice and others like it. As such, a cultural acceptance of these and other similar practices can lead to expanded metacognition among all people. As it pertains to education, I hope that continued engagement with this process will create vast collections of comparative analyses that allow education to move forward in the age of AI.

Last, here are the "guiding questions" I provided to the other five educators involved in this study, to act as a "frame" for self-analysis:

- 1. Imagine the user on the page is your student. What would you say to them about their approach?
- 2. Provide the readers of your transcript with "bread crumbs." What were you thinking at each stage of the interaction? What do you think as you look back on it now? Why? What can we learn from that?

Does this approach work? I'll let you be the judge. But before you begin reading the transcripts, let me explain how this framework not only leans on existing writing instruction but also represents a cross-disciplinary approach that relies on existing educational practices and cognitive science.

- Change the Medium: First, this approach involves extracting AI interactions from their native digital platforms and presenting them in alternative formats, such as printed transcripts. By changing the medium, we create a new context for analysis, allowing users to engage with the content more critically and objectively.
- Create Cognitive Distance: Second, this approach aims to reduce emotional and intellectual biases by encouraging users to view AI interactions from an external standpoint. By treating AI interactions as objects of study rather than personal experiences, users can develop a more analytical mindset.



3. <u>Generate Comparisons:</u> Third, this approach involves creating opportunities for users to compare different AI interactions - reiterating the point that ethical and effective AI use can only be defined on a relative basis but also extending the study across the pedagogies of multiple disciplines. By juxtaposing various approaches and outcomes, users can identify effective strategies and common pitfalls in AI communication.

These principles are effective for learning because they engage multiple cognitive processes. They encourage critical thinking, promote objective analysis, and facilitate the transfer of skills across different contexts. By providing concrete examples and opportunities for reflection, these principles help bridge the gap between theoretical understanding and practical application of AI Literacy skills.

The following chapters will dive deeper into the nature of each principle and its application to teaching AI Literacy, before providing the series of transcripts from experienced educators and AI users, each offering unique insights into AI application in educational contexts.

As we enter an era where Large Language Models like ChatGPT increasingly influence our work and thought processes, this guide aims to enhance metacognition and reflective thinking for all potential AI users. By fostering AI Literacy, we take a crucial step towards preparing ourselves and our students for a future where human-AI interaction and collaboration are the norm.

Let this guide serve as a starting point for meaningful discussions and practical applications of AI in education. Together, we can shape a future where AI enhances, rather than replaces, human creativity and critical thinking.

