Tweetorial Narratives

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Motivation

Scientists want to explain their work to the public but struggle to make technical topics easy to understand. Teaching concepts while also avoiding jargon and engaging audiences is a delicate balance that requires practice.
Tweetorial: A casual yet engaging form of sharing scientific findings in a series of Tweets.
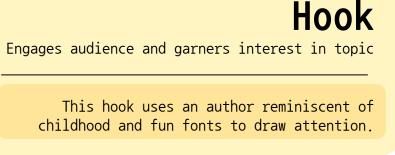**GPT-4:** a tool that is capable of completing text prompts with fluent text, general knowledge and common sense reasoning. We developed natural language generation tools to help experts explain science in this format.

Background:

We began preliminary research by investigating existing tweetorials and science content to inform us on the current trends and effective formats in science communication. Additionally, we reviewed prior research knowledge from the Tweetorial Lab's "What Makes Tweetorials Tick," paper, which delves deeper into the tweetorial writing process.

To better understand this writing process, we started writing new tweetorials. We focused on concepts revolving around user interface design, psychology, and computer science. We first began writing without GPT. This solidified our understanding and evaluations of what made a successful tweetorial and helped us establish the general structure for a tweetorial. Then, we shifted to a GPT system previously built by the Tweetorial Lab.

Tweetorial Structure:

Hook
Engages audience and garners interest in topic

This hook uses an author reminiscent of childhood and fun fonts to draw attention.

Body
Breaks down the topic a with a use case by addressing a "How" question. Connects key components to aspects of the use case.

Topic: Typography

Use Case Narrative:
Uses of Serif vs Sans-serif Font

How Question: How does typography affect people's perception of information?

This body explains on how fonts hold differing meanings through connecting with the audience's feelings.

→ Serif = Intellectual
→ Sans-Serif = Modern

Key Components: Provides easy to understand definitions of important terms and images for visual demonstration.

Expands use case to Papyrus vs Comic Sans to communicate further impacts.

Conclusion
Author summarizes concepts that were presented and explicitly references aspect of the hook

This conclusion recaps the topic and what is important to remember. Then, it discusses childhood nostalgia, connecting to the hook.

Tweetorial Takeaways:

"How?" Questions: Tweetorials are always framed around a "How?" question, this helps ensure topics remain the focal point of each tweet.
Outlining is important prior to writing a complete tweetorial. This outlining process includes two main steps:
  Step 1: List all the technical components to break down a topic
  Step 2: Map the technical components to the use case
Jargon is vocabulary specific to a certain group, often used to communicate more advanced concepts within that group, but it can be confusing to outsiders and the general public. We employed two approaches to avoid using jargon:
  Approach 1: create a "proxy" or synonym for the technical term + spoon feed both to the reader.
  Approach 2: introduce descriptions of the term + don't mention the technical term till the end of the tweetorial

Narrative Balance:

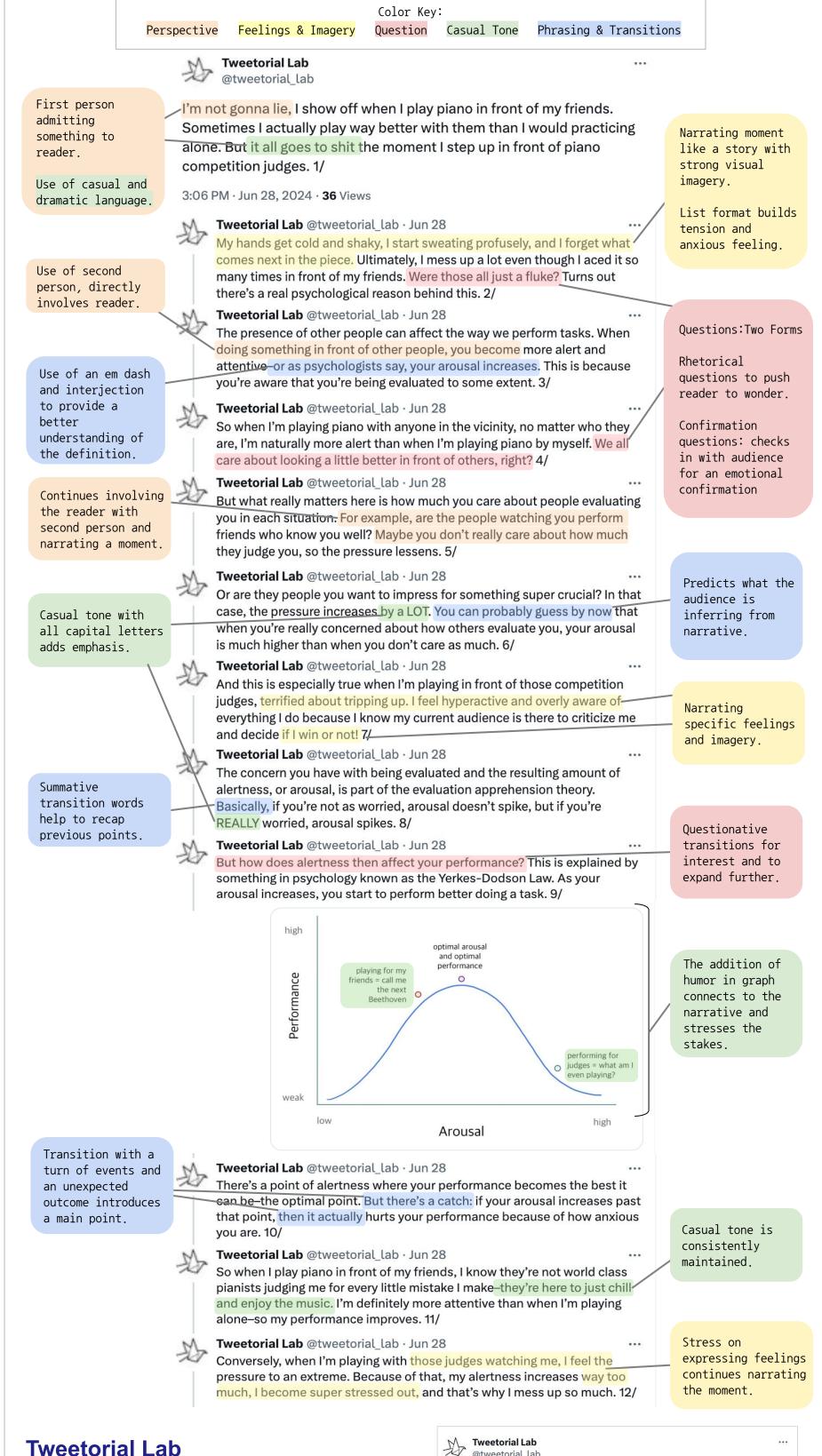**How do personal narratives in tweetorials employ strategies to impact audiences and emotional connection?**

How can GPT tools be used to influence science narrative writing?

Following this foundation, we recognized the importance of balancing narrative and explanatory language. We chose to focus on the narrative aspect of tweetorials to better understand how a successful tweetorial connects to the audience. When writing a tweetorial, creating a strong personal narrative that is consistent throughout each tweet helps to communicate topics better.
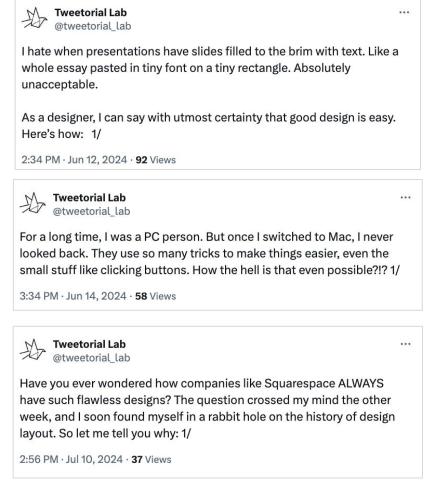
Narrative Annotations:

We reviewed written tweetorials and tested writing more narratives in order to determine narrative tweetorial strategies and patterns. To analyze the effectiveness of the generated tweetorials, we reviewed patterns in the outputs and differing prompts. **Prompt editing** was an important step in refining the effectiveness of the system outputs.

Evaluation Apprehension Theory Findings:

Tweetorial Lab
Additional tweetorials were annotated in this format, to help understand patterns in narrative writing and the strategies authors take that are specific to scientific tweetorial writing. Narrative annotation improved our conclusion on how tweetorials accomplish balancing a story while also explaining a concept. Most notably, we observed the importance of including first-person perspectives to help paint a narrative picture for the reader.

Narrative Conclusions:

Personal Journey & Vulnerability: Overall, we found that successful tweetorials contain emotional inputs that aid in communicating a topic. Sharing personal journeys and vulnerabilities can make the content more relatable, which helps to connect with the audience. Consistently keeping this emotional input is essential for the audience to get a deeper understanding of the *feelings* behind a concept. Through our analysis and iterations with the system testing, we determined the main literary devices that help enforce this:

1. **First person perspective**—a narrative perspective where a story is told from the perspective of a single character using the pronouns "I" or "we: This allows the inclusion of a more personal viewpoint, casual tone, and attitude.

2. **Interjections:** When going further into breaking down a topic in a tweetorial it becomes important to keep the reader engaged with strategic interjections or the inclusion of a casual tone that grounds the reader and reminds them that this is a narrative. The intentionality and minimal use of such interjections keeps credibility and interest in the topic.

3. **Questions:** The use of questions (rhetorical or confirmation) to reinforce conversational tone.

4. **Visual, Auditory, Tactile, Olfactory, Gustatory Imagery:** Inclusion of imagery for specific senses allow the audience to envision the personal experience themselves. Tweetorials primarily use visual imagery.

References

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Gero, K. I., Liu, V., Huang, S., Lee, J., & Chilton, L. B. (2021). What makes tweetorials tick: How experts communicate complex topics on Twitter. Proceedings of the ACM on Human-Computer Interaction, 5(CSCW2), 1–26. https://doi.org/10.1145/3479566