

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 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.

Hook

I miss the days when I could choose my favorite fonts for writing assignments. They're so **fun** ✨

Body

But now everyone defaults to Arial, and if you're feeling fancy, maybe Times New Roman. Why EXACTLY is that? Did we all get... boring? 1/

It's actually because different fonts have different meanings. Wouldn't you feel differently about an essay written in Arial versus one in Times? Let's explore the details and put it into facts: 2/

The reason WHY lies in typography, aka the display and arrangement of letters. Clearly, it has a HUGE impact on us as readers. That's why it's an art form! 3/

Starting with the basics, fonts are categorized into groups based on their general characteristics. The most popular ones are serif and sans-serif. Serifs look like Times New Roman, and sans-serifs resemble Arial. 4/

Serif

Besides the clear visual differences, serif and sans-serif also have different implications. Don't you feel like they convey different meanings? 5/

Sans serif

Most people probably DO feel differently about them. That's because we have cultural connotations associated with fonts. Generally, we think this: serif = intellectual, elite sans-serif = modern, simple 6/

This explains why old-fashioned businesses often use serif fonts, and new businesses opt for sans-serif fonts. Serif signals "fancy", and sans-serif signals "modern." Like the New York Times, which was founded in 1851, versus Vice News, which was founded in 2013. 7/

Microbes Point the Way to Shipwrecks

Scientists Found Breathable C Another Galaxy for the First Ti

Methodology: How The Times Calculates 2024 Polling Averages

An average of surveys may sound straightforward, but even a simple approach faces a series of choices.

And consider Comic Sans—a sans-serif font. This article does NOT depict the Times as a "cutting-edge modern company." I can't even take them seriously! The font is too childish and the news seems untrustworthy. 9/

Methodology: How The Times Calculates 2024 Polling Averages

An average of surveys may sound straightforward, but even a simple approach faces a series of choices.

Comic Sans and Papyrus are two of the MOST HATED fonts, so it's important to ALWAYS consider cultural contexts. Just remember: your font should NOT detract from your message. Your choice greatly affects people's emotions and judgments. 10/

Though I envy my blissfully unaware childhood self for having the freedom to write papers in Comic Sans, I'm glad the laws of typography tell us this isn't the best choice... I would NOT be able to take anything seriously 😂 11/

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:

Color Key:

- Perspective
- Feelings & Imagery
- Question
- Casual Tone
- Phrasing & Transitions

Tweetorial Lab @tweetorial_Lab

I'm not gonna lie, I show off when I play piano in front of my friends. Sometimes I actually play way better with them than I would practicing alone. But it all goes to shit the moment I step up in front of piano competition judges. 1/

3:06 PM · Jun 28, 2024 · 36 Views

First person admitting something to reader.

Use of casual and dramatic language.

Narrating moment like a story with strong visual imagery.

List format builds tension and anxious feeling.

Questions: Two Forms

Rhetorical questions to push reader to wonder.

Confirmation questions: checks in with audience for an emotional confirmation

Use of second person, directly involves reader.

Use of an em dash and interjection to provide a better understanding of the definition.

Continues involving the reader with second person and narrating a moment.

Casual tone with all capital letters adds emphasis.

Summative transition words help to recap previous points.

Predicts what the audience is inferring from narrative.

Narrating specific feelings and imagery.

Questionative transitions for interest and to expand further.

The addition of humor in graph connects to the narrative and stresses the stakes.

Casual tone is consistently maintained.

Stress on expressing feelings continues narrating the moment.

Tweetorial Lab @tweetorial_Lab · Jun 28

My hands get cold and shaky, I start sweating profusely, and I forget what comes next in the piece. Ultimately, I mess up a lot even though I aced it so many times in front of my friends. Were those all just a fluke? Turns out there's a real psychological reason behind this. 2/

Tweetorial Lab @tweetorial_Lab · Jun 28

The presence of other people can affect the way we perform tasks. When doing something in front of other people, you become more alert and attentive—or as psychologists say, your arousal increases. This is because you're aware that you're being evaluated to some extent. 3/

Tweetorial Lab @tweetorial_Lab · Jun 28

So when I'm playing piano with anyone in the vicinity, no matter who they are, I'm naturally more alert than when I'm playing piano by myself. We all care about looking a little better in front of others, right? 4/

Tweetorial Lab @tweetorial_Lab · Jun 28

But what really matters here is how much you care about people evaluating you in each situation: For example, are the people watching you perform friends who know you well? Maybe you don't really care about how much they judge you, so the pressure lessens. 5/

Tweetorial Lab @tweetorial_Lab · Jun 28

Or are they people you want to impress for something super crucial? In that case, the pressure increases by a LOT. You can probably guess by now that when you're really concerned about how others evaluate you, your arousal is much higher than when you don't care as much. 6/

Tweetorial Lab @tweetorial_Lab · Jun 28

And this is especially true when I'm playing in front of those competition judges, terrified about tripping up. I feel hyperactive and overly aware of everything I do because I know my current audience is there to criticize me and decide if I win or not! 7/

Tweetorial Lab @tweetorial_Lab · Jun 28

The concern you have with being evaluated and the resulting amount of alertness, or arousal, is part of the evaluation apprehension theory. Basically, if you're not as worried, arousal doesn't spike, but if you're REALLY worried, arousal spikes. 8/

Tweetorial Lab @tweetorial_Lab · Jun 28

But how does alertness then affect your performance? This is explained by something in psychology known as the Yerkes-Dodson Law. As your arousal increases, you start to perform better doing a task. 9/

Tweetorial Lab @tweetorial_Lab · Jun 28

There's a point of alertness where your performance becomes the best it can be—the optimal point. But there's a catch: if your arousal increases past that point, then it actually hurts your performance because of how anxious you are. 10/

Tweetorial Lab @tweetorial_Lab · Jun 28

So when I play piano in front of my friends, I know they're not world class pianists judging me for every little mistake I make—they're here to just chill and enjoy the music. I'm definitely more attentive than when I'm playing alone—so my performance improves. 11/

Tweetorial Lab @tweetorial_Lab · Jun 28

Conversely, when I'm playing with those judges watching me, I feel the pressure to an extreme. Because of that, my alertness increases way too much, I become super stressed out, and that's why I mess up so much. 12/

Transition with a turn of events and an unexpected outcome introduces a main point.

Tweetorial Lab @tweetorial_Lab

I hate when presentations have slides filled to the brim with text. Like a whole essay pasted in tiny font on a tiny rectangle. Absolutely unacceptable.

As a designer, I can say with utmost certainty that good design is easy. Here's how: 1/

2:34 PM · Jun 12, 2024 · 92 Views

Tweetorial Lab @tweetorial_Lab

For a long time, I was a PC person. But once I switched to Mac, I never looked back. They use so many tricks to make things easier, even the small stuff like clicking buttons. How the hell is that even possible?!? 1/

3:34 PM · Jun 14, 2024 · 58 Views

Tweetorial Lab @tweetorial_Lab

Have you ever wondered how companies like Squarespace ALWAYS have such flawless designs? The question crossed my mind the other week, and I soon found myself in a rabbit hole on the history of design layout. So let me tell you why: 1/

2:56 PM · Jul 10, 2024 · 37 Views

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:

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