Technical Writing and Resume Tips

Presented by Kevin A. McGrail

About the Speaker

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Technical Writing: One

Technical Writing Fundamentals for Engineers
Materials courtesy of Google:
https://developers.google.com/tech-writing/

Making the world a clearer place.

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A Quick Note: Partner? Class?

Exercises at
https://developers.google.com/tech-writing/onel

Exercise 1

Instructions for Exercise 1

The next slide shows a table containing six terms and three target audiences. For each cell, select one of the following:

- **Know**: Nearly everyone in this target audience already knows what this term means.
- **Explain**: Plenty of people in this target audience do not know what this term means.

Exercise 1

Select **Know** or **Explain** for each cell.

Terms	Target Audiences		
	Professional software engineers	**Computer science majors starting their second year of undergraduate**	**People who use apps on their smartphones**
C++			
prime numbers			
machine learning			
app			
release branch			
REST			

Talk to your partner / the class

- Evaluate your partner's answers.
- If there are differences, convince your partner that your answer is better.
- After trading arguments, revise your answer (or not).

The professional audience you tend to write for
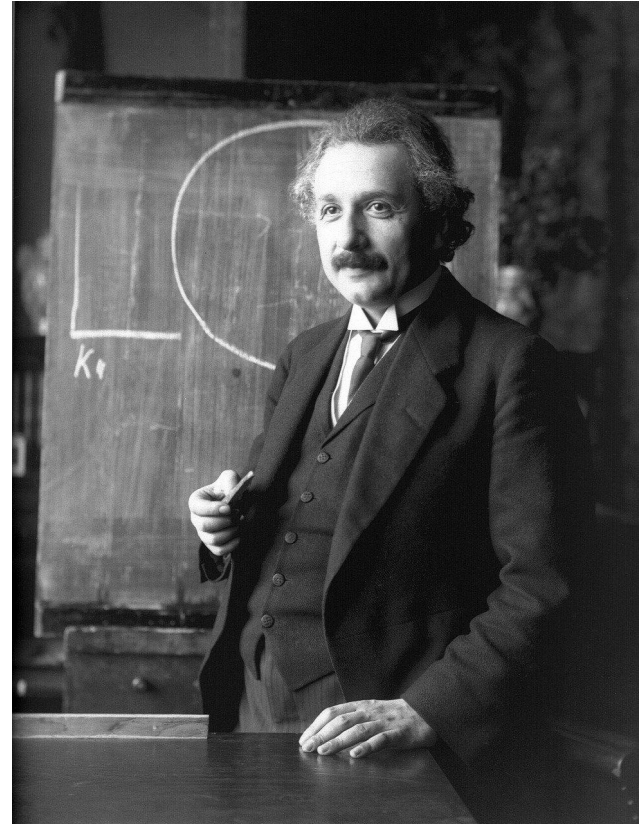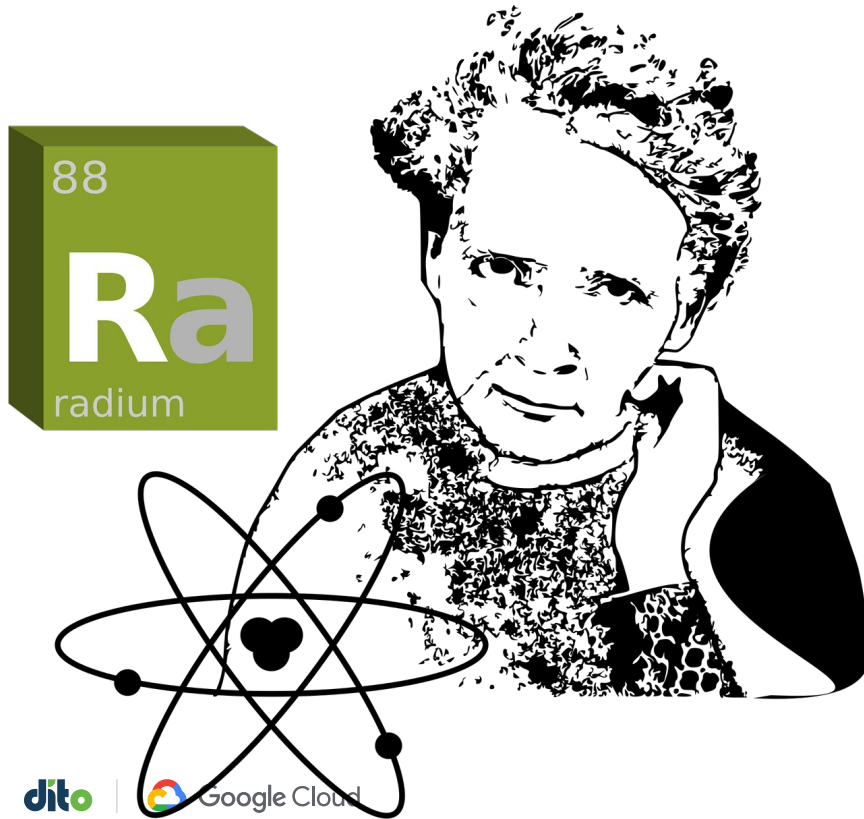
Your actual professional audience

Audience: class discussion

- What is the curse of knowledge?
- Is the curse of knowledge the opposite of impostor syndrome?
- Name one real-life example in which the curse of knowledge defeated you or someone you know.

A Few Tips from KAM

Be aware of the threat of "Pride of Authorship"

There are times for both Consistency & Inconsistency

Writing != Math. "There is a Universe of Possible Answers," Barry Rosenberg

Exercise **2**

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Exercise 2

Improve the following sentences:

1. The moth was removed by Grace Hopper.
2. Performance optimization is overridden by the --noperf flag.
3. The measurements were taken by the static Timer() method until it was discovered by the QA team that bugs were present in the Timer() method.

Return to your partner / the class

1. Compare answers.
2. If there are significant differences, convince your partner that your answer is better.
3. After trading arguments, revise your answer (or not).

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Smart Writers bet on Active Voice

Active Voice vs. Passive Voice video

Exercise 2: possible answer to question #1

Original sentence: The moth was removed by Grace Hopper.

Grace Hopper removed the moth.

Exercise 2: possible answers to question #2

Original sentence: Performance optimization is overridden by the --noperf flag.

The following three sentences are possible answers:

- Specify the `--noperf` flag to turn off performance optimization.
- To turn off performance optimization, specify the `--noperf flag`.
- The `--noperf flag` turns off performance optimization.

Exercise 2: possible answer to question #3

Original sentence: The measurements were taken by the static Timer() method until it was discovered by the QA team that bugs were present in the Timer() method.

Our team took measurements with the static Timer() method until the QA team found bugs in the Timer() method itself.

Active voice: class discussion

1. Why is active voice generally better than passive voice?
2. Tell me an instance when passive voice might be better.
3. Can you think of an engineering analog to active voice vs. passive voice?

# Exercise **3**

Audience for Exercise 3

Jane and David are similar to you. They are about the same age as you and have about the same educational level and work experience as you. However, Jane and David differ from you in one very important way:

Jane and David have never seen toothbrushes or toothpaste.

In fact, Jane and David have never seen brushes or tubes of any kind.

Exercise 3

Write instructions telling Jane or David how to get toothpaste on a toothbrush.
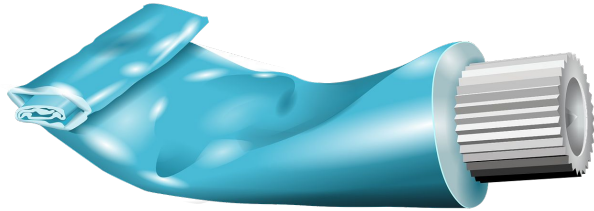
Don't explain how to brush teeth.

Keep the same partner

1. Trade answers with your partner.
2. Take a few minutes and convince your partner that your answer is better.
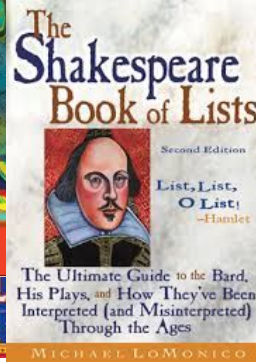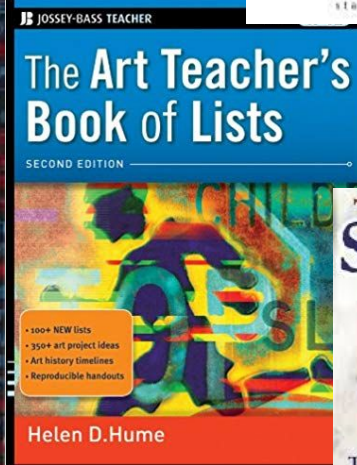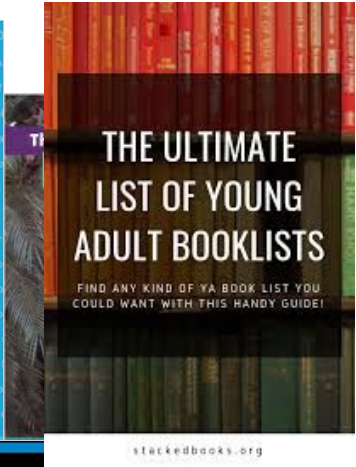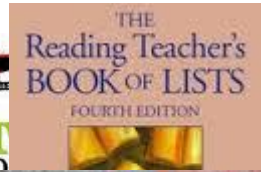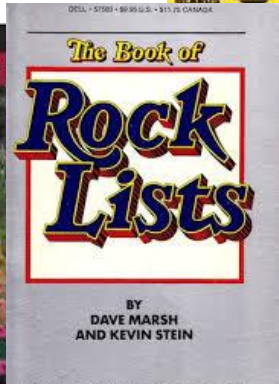3. After trading arguments, revise your answers (or not).

Lists

Here is a numbered list for bomb defusal:

1. Ignore the ticking.
2. Find the block labeled **disarm**.
3. Cut the crimson wire, not the ruby wire.

Here is a bulleted list of movie quotes:

- "Always be closing."
- "As you wish."
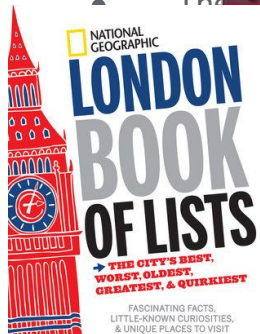
Exercise 3: Part 1 of a possible answer

Notice the following items:

- **toothbrush**: The item with thousands of short, firm, hair-like structures called **bristles**.

- **toothpaste tube**: The item labeled *For Teeth*. Though not currently visible, a gel called **toothpaste** is inside the toothpaste tube. A ridged, cylindrical structure called a **cap** attaches to one end of the toothpaste tube.

Exercise 3: Part 2 of a possible answer

Take the following steps to place toothpaste on the toothbrush:

1. With your weak hand, grasp the toothpaste tube, being careful not to cover the cap.

2. With your dominant hand, remove the cap from the toothpaste tube by turning the cap counterclockwise.

3. With your dominant hand, place the cap somewhere close by.

4. With your dominant hand, pick up the toothbrush and position the top of the bristles slightly underneath the part of the toothpaste tube where the cap used to be.

5. With your weak hand, squeeze the toothpaste tube gently until a pea-sized layer of toothpaste deposits on top of the bristles.

6. With your weak hand, place the toothpaste down somewhere close by.

Exercise 3 Tip From KAM

Take the following steps to place toothpaste on the toothbrush:

- ❏ With your weak hand, grasp the toothpaste tube, being careful not to cover the cap.

- ❏ With your dominant hand, remove the cap from the toothpaste tube by turning the cap counterclockwise.

- ❏ With your dominant hand, place the cap somewhere close by.

- ❏ With your dominant hand, pick up the toothbrush and position the top of the bristles slightly underneath the part of the toothpaste tube where the cap used to be.

- ❏ With your weak hand, squeeze the toothpaste tube gently until a pea-sized layer of toothpaste deposits on top of the bristles.

- ❏ With your weak hand, place the toothpaste down somewhere close by.

Lists: class discussion

- Why are readers attracted to lists?
- Why do we insist on writing paragraphs when readers would sometimes prefer lists?

Resume Tips

KAM's Resume Tips

- Not what you know, it's who you know.

- Use LinkedIn and remember LinkedIn != Snapchat / Instagram / Texting / Facebook…

- Ask for advice NOT for help.

KAM's Resume Tips

- Leverage employee referrals. Significantly more likely to succeed and win-win for the employee & employer.

- Assume People who aren't familiar with your skills / job will be first to read your resume.

- Don't lie on your resume.

KAM's Resume Tips

- Be wary of what you post on social media. Potential employers will search your public information.

- Consider Open Source Software and leverage tools that monitor your contributions.

- Resumes are very old school. Update LI consistently!

KAM's Resume Tips

- Regurgitate terms from the job opening.
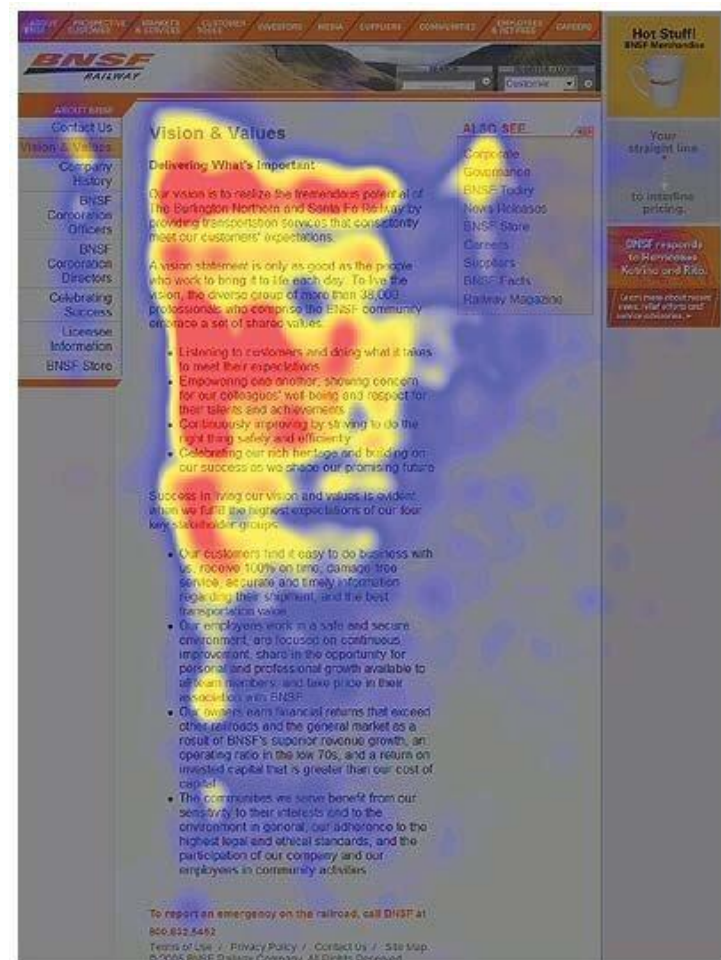
- Research the firm to show you have researched the job, the company, AND it's competitive landscape.

- Certs are rarely a magic bullet.

KAM's Resume Tips

- Turning requirements / paragraphs into lists / tasks is a great skill! (People love lists)

- Final Tip: Be aware of privacy concerns with resumes.

KAM's Final Resume & Technical Writing Tip

- F-Shaped Reading

Amy Horton's Resume Tips

1. Use an appropriate email address that is based on your name. Avoid using numbers as part of the email and use a relevant email provider.

2. Ensure that the email you use is your resume is the same that you use when applying for jobs and what is listed on LinkedIn.

3. Be sure to include data such as address and graduation dates. This is going away but many of the larger ATS systems still require it.

4. Be truthful this includes titles. Use your official title but it is ok to note unofficial titles.

5. Use bullet points but keep them concise. 6 bullet points per role MAX. 4-5 is the ideal #.

6. Have someone proofread every time you make a change.

Not so much a resume writing tip but a general job search tip: Don't apply to roles that are not applicable to your background thinking that they may not consider me for this role but others. Those often just get rejected by the filters; especially at large companies. Use networking when there is not a role posted that fits your background instead.

Amanda Kopp's Resume Tips

1. Research the company and the role you are applying for. Tailor your resume with wording, experience, and accomplishments you have that meet the requirements of that role. Sometimes, an applicant has experience that fits the role at hand but the way they worded their resume, that experience is not listed or not written in a way that shows what they did in that role aligns to the expectations and requirements of the role they are applying for.

2. Piggybacking off of that, think about how a recruiter would read the resume. Scanning for key terms, experience, descriptors that align to the job posting. Tweak your resume to include where applicable.

3. Including bulleted accomplishments from the previous roles you were in, sizes of engagements/ teams you managed can sometimes provide a clearer picture of what you did in the role than a descriptive paragraph.

4. SPELLCHECK & PROOFREAD. Have someone else review your resume for that feedback.

5. Keep your resume 1 page, 2 pages max. Most relevant, recent experience is needed. (this one is a little controversial but it's rare that someone will read all 8 pages of a resume). Keep it brief, keep it relevant. I've seen a few folks but a note in that more comprehensive work history available on linked in or a site they have and include that in the resume.

Back to Technical Writing

Minimum viable documentation set

- Teams should aim to provide the **minimum** viable documentation set.
  - Why?

Exercise **4**
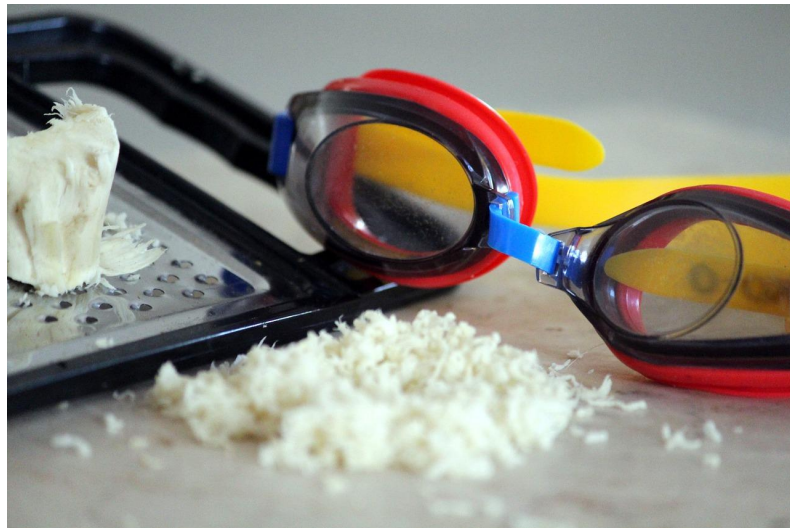
Audience for Exercise 4:

Your target audience consists of *experienced professional software engineers* who are just being introduced to an unfamiliar technology.

Exercise 4

Improve the following sentences:

1. JavaScript, despite the similarity in name to Java, has nothing to do with Java and has more to do with marketing, meaning that the inventors of JavaScript wanted to capitalize on the popularity of the earlier language.

2. It is important to keep in mind that the career of Katherine Johnson was able to span both the manual calculation era and the time of computer-based computations.

3. Python, which was invented by Guido van Rossum from the Netherlands in 1991, is a language whose primary data type is the list (like Lisp) and that emphasizes readability based on indentation (like FORTRAN).

Discuss Exercise 4 with your partner / class

1.   Trade answers with your partner.

2.   Persuade your partner that your answer is better.

3.   After trading arguments, revise your answers (or, maybe not).

Sentence Leng *th*

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Exercise 4: possible answers to question #1

Original sentence: JavaScript, despite the similarity in name to Java, has nothing to do with Java and has more to do with marketing, meaning that the inventors of JavaScript wanted to capitalize on the popularity of the earlier language.

- JavaScript and Java are unrelated.

- Despite the similar-sounding names, JavaScript and Java are unrelated.

- JavaScript and Java are unrelated. JavaScript's creators chose the name to capitalize on Java's popularity.

- JavaScript is to Java what allegation is to alligator.

- JavaScript is to Java what horseradish is to horse.

Exercise 4: possible answer to question #2

Original sentence: It is important to keep in mind that the career of Katherine Johnson was able to span both the manual calculation era and the time of computer-based computations.

- Katherine Johnson's career spanned the eras of manual and computer-based calculations.

Exercise 4: possible answer to question #3

Original sentence: Python, which was invented by Guido van Rossum from the Netherlands in 1991, is a language whose primary data type is the list (like Lisp) and that emphasizes readability based on indentation (like FORTRAN).

Guido van Rossum first published Python in 1991. Python features the following attributes:

- The primary data type is the list (like in Lisp).

- Indentation drives readability (like in FORTRAN).

Sentence length: class discussion

1. What's Occam's Razor?

2. How is Occam's Razor relevant to this exercise?

3. What techniques can you use to shorten sentences?

KAM's Tip for Bullets and Lists

1. If all your items are one line, a separator isn't as necessary.
2. If any of your items are multi-line, use a separator!

Versus

- When you have very long lists, use negative space to help the reader comprehend and scan quicker.

- Like this!

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Exercise **5**

Audience for Exercise 5

In Exercise 5, you are writing for Li and Arash, recent engineering school graduates who have just joined your engineering team. Previous experience suggests the following about new engineers on your team:

- They typically don't write sufficient internal tests.
- They typically don't know what the term **dogfooding** means. Dogfooding means that a company uses its own products. Dogfooding not only demonstrates confidence in the product, but also forces the company to experience what their customers experience and to improve the product in practical ways.

Exercise 5

Improve the following paragraph:

There are several intended primary goals for dogfooding a new project. At the current time, it is suggested by Engineering that all projects be in dogfood for a period of no less than one month. One is to find bugs under heavy, high-cycle usage. When disastrous bugs occurred in 153 out of 157 of the previous project releases, Engineering's analysis of bugs in the aftermath concluded that prevention of the bugs could have happened by more thorough testing.

Who's there? Your partner!

1. Show your answers to your partner.
2. Show your reasoning to your partner.
3. After trading arguments, revise your answers (or not).

Clarifying paragraphs

Think about rearranging the paragraph to start with a sentence you feel more confident about.

Do more research to determine the answers rather than just admitting you don't know.

I love you without knowing how, or when, or from

This feels more like your thesis sentence.

where. I love you simply, without problems or

This colon implies a forthcoming list.

pride: I love you in this way because I do not

Ambiguous pronoun?

Consider converting this section into a bulleted list?

know any other way of loving but this, in which

there is no I or you, so intimate that your hand

upon my chest is my hand, so intimate that when I

Overly dramatic. Just say what you mean.

fall asleep your eyes close.

Pablo Neruda, excerpt from *100 Love Sonnets*

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Exercise 5: possible answer

Dogfooding means having our engineering team use our new products before we release those products to our customers. Engineering strongly recommends dogfooding all new products for at least one month. According to Engineering's research, dogfooding could have detected potentially disastrous bugs in 153 of 157 projects.

Self-editing: class discussion

- What are your techniques for refactoring code
  - Can you apply these same techniques towards revising text?

- What self-editing practices have you found effective?

Exercise **6**

Audience for Exercise 6

Your partner! (or the class)

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Exercise 6: Part 1

- Interview your partner, determining what your partner knows about the following topics:
  - **Your project.** For example, "What do you know about Project Lilac?"
  - **Related projects.** For example, "What do you know about Project Hawkweed?"
  - **Underlying technologies.** For example, "How much experience do you have coding in C++?"

Do not explain your project—just determine what your partner knows and doesn't know.

Exercise 6, Part 2

Write a paragraph describing your project for your partner. A few suggestions:

- Be mindful of what your partner knows and does not know.
- If possible, provide examples.
- Compare and contrast your project with other projects that your partner might be more familiar with.

Discuss the paragraph with your partner

1. Trade descriptions.
2. Tell your partner:
   ○ What you understand.
   ○ What you don't understand.

This exercise provides a rare opportunity to have your target audience provide instant feedback.

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Take "Technical Writing Two"

- Some sequels are better than the original.
- Topics include:
  - Organizing large documents.
  - Creating illustrations.
  - Writing tutorials and sample code.
  - Describing products and concepts.

Keep it Going

- Interested in learning more?
    - Form a local writing group with your classmates. Use this writing group to conduct peer reviews.

    - Hold periodic live review meetings in which each student presents a section of a document.

    - Start up a "Write the Docs" group in your community.

A Final Word

Practice.

Thank You

https://www.linkedin.com/in/kmcgrail

With many thanks to Barry Rosenberg,
https://developers.google.com/tech-writing/announcements

Additional Thanks To:
   Amy Horton, Amanda Kopp, and Greg Pickering