

# Creating Cybersecurity Discussions: The Good, the Bad, and the Engaging!

Catherine Seaver, PhD

June 8, 2023



The background features decorative curved lines in shades of green and blue, positioned in the top-left and bottom-right corners. The text is centered in a dark blue, sans-serif font.

# Asynchronous discussions about Cybersecurity

# The Bad...

- Discussion prompt

*Please discuss three strategies that are used in the design of antimalware software, and the advantages and disadvantages of each.*

- Response prompt

*Respond to at least three of your classmates' posts.*

# The Good...

- Discussion prompt

*Provide an example of antimalware software and discuss the strategy this software uses including the advantages and disadvantages of the strategy over other possible antimalware strategies. Please also share any experience you have using antimalware software.*

- Response prompt

*Respond to at least three of your classmates' posts.*

# The Engaging...

- Discussion prompt

*Provide an example of antimalware software and discuss the strategy this software uses including the advantages and disadvantages of the strategy over other possible antimalware strategies. Please also share any experience you have using antimalware software.*

- Response prompt

*Respond to at least three of your classmates' posts and provide an example of a situation where their selected antimalware software should be used and explain why.*

# DEI, Accessibility and Cybersecurity

- Reinforce DEI in the context of cybersecurity
- Example - Challenge students to identify ways that security technologies make assumptions about the user, their environment, and their abilities
- Example - Ask students thoughts about why the cybersecurity workforce has such a large gap and how the hiring pool can be diversified
  - What do they think can be done to increase the cybersecurity workforce and to attract a more diverse population?

# The Bad...

- Discussion prompt

*Identify four technologies that are used to verify a user's identity. Explain the advantages and disadvantages of each, and how you would select one to use for your organization.*

- Response prompt

*Respond to at least three of your classmates' posts.*

# The Good...

- Discussion prompt

*Consider current technologies used to verify identity. Discuss how they present barriers to some members of the population and how these challenges can be managed. Think about the organization you work for or would like to work for – what identity verification technology would you recommend that aligns with the organization's DEI and/or accessibility policies and why?*

- Response prompt

*Respond to at least three of your classmates' posts.*



# The Engaging...

- Discussion prompt

*Consider current technologies used to verify identity. Discuss how they present barriers to some members of the population and how these challenges can be managed. Think about the organization you work for or would like to work for – what identity verification technology would you recommend that aligns with the organization's DEI and/or accessibility policies and why?*

- Response prompt

*Respond to at least three of your classmates' posts and address these points:*

- *How could the technology they presented be modified to reduce barriers to members of the population?*
- *How could the need for this technology be explained to users to overcome resistance?*
- *Are there any alternative technologies that you would recommend for the organization, and why?*

# Best Practices in Asynchronous Discussion Design

- Good discussions ...
  - Allow students to be active in their learning
  - Improve communication skills
  - Provide an equitable and inclusive space
  - Can promote meaningful reflection on the topic
- Faculty – be present but strategic
  - Guide the learning
  - Ask questions to prompt more conversation on a topic
  - Be ‘visible’ in the discussion but don’t monopolize
  - Track responses and make sure each student gets a response throughout course

# The Engaging...

- Discussion prompt

*This discussion will utilize role playing to apply what we have learned about identifying and analyzing risks.*

*For your initial post, you are a mid-level manager at a large manufacturing company and have been asked to recommend a technique for identifying and analyzing risks. Which technique would you recommend and why? Prepare and include a short PowerPoint presentation that describes the manufacturer (make stuff up!), explains the technique you are recommending, and why it is appropriate for the organization.*

- Reply prompt

*Respond to at least three of your classmates' posts.*

- *In the first post, you are the CIO of the organization. What would you be looking for in the presentation? What are your priorities in decision making?*
- *In the second post, you are the CFO of the organization. What are you mainly concerned about and what questions would you be asking about the recommended technique for identifying and analyzing risks?*
- *In the third post, you are the security engineer. What are you going to be concerned about regarding the recommended technique? What additional information would you need from the mid-level manager to feel comfortable with implementing the recommendation?*

# Final thoughts on engaging discussions

- Let students share more about themselves and their experiences
- Encourage students to see and share examples of what they are learning in current events
- Use discussion prompts to make connections between what the students are learning in all their courses, and to reinforce general education outcomes
- Build critical thinking skills – encourage them to ask questions and challenge each other
  - Leading and modeling this can be an important role of the faculty
- Make the replies to initial posts as important as the initial post
- Goal is to have students post more than the minimum requirements because they are enjoying the conversation and feel it is valuable!

The image features a white background with decorative curved lines in shades of green and blue. One large, multi-layered curve starts from the top left and curves downwards towards the center. Another similar curve is visible in the bottom right corner. The text "Thank you!" is centered in a blue font.

Thank you!

# Resources

- <https://www.itprotoday.com/security/cybersecurity-skills-shortage-how-focus-dei-can-help>
- <https://wearetechwomen.com/why-the-future-of-identity-should-lead-with-diversity/>
- <https://www.insightassessment.com/article/cyber-security-starts-with-critical-thinking>
- <https://lsa.umich.edu/technology-services/news-events/all-news/teaching-tip-of-the-week/tips-to-lead-meaningful-asynchronous-class-discussions.html>