

# Enhancing Aspiring Cybersecurity Professionals Writing Skills: An Evaluation of Student and Work Force Needs for Program Improvement

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Data Collection Instrument: Semi-structured Interview Protocol –Researcher’s Copy

## ***General warm up questions/comments.***

- a. Thank you for agreeing to participate in this interview.
- b. I want to reassure you that your name and/or place of work will not be associated with this interview. If you accidentally use an identifiable name it will be replaced with a pseudonym when the interview is transcribed. What pseudonym would you like me to use during the interview?
- c. I need to review the purpose of the study and get your oral consent to participate on record. May I turn on the recorder?

(Recorder is turned on and interview begins)

Pseudonym, thank you for agreeing to participate in this interview. The purpose of this study is to identify writing and communication challenges that you may have faced as a beginning professional in the field of cybersecurity. This interview will also help me to develop my data collection and analysis skills, and complete a course requirement.

- a. Please indicate if you have read the informed consent letter.
- b. Please indicate if you are willing to participate in this interview

## ***Semi-Structured Interview Questions***

Note: The sequence of the sections may change, and the probes too – but the main questions will remain the same across all interviews.

### ***Written Communication***

1. Please describe the nature of your job.
  - What is your job?
  - Describe a typical day at work?
  - Describe the people/clients with whom you work?
  - Describe the kind of cybersecurity issues that you deal with generally as part of your job?
  - What proportion of your day is spent communicating through writing? Oral communication?

2. Please describe the kinds of writing you do most often.

- For example, you may list memos, e-mail, reports, formal letters, manuals, evaluations, proposals, analyses, etc.
- Do you use social media? How?
- How do you go about writing \_\_\_\_\_? Explain your process. (based on their responses, probe with follow-up questions)

3. How would you describe yourself as a writer? What is your confidence level?

- Tell me why you feel this way.

4. Which academic or technical writing skills are more challenging than others, for you?

- Probe for examples related to articulating ideas clearly, responding to questions, using non-technical language, etc.
- If challenges are NOT identified:
  - What challenges do you think your colleagues experience with academic and technical writing? (ask for examples)
  - What support and/or tools should your institution provide to help them overcome these challenges? (ask for examples)
  - What steps, if any, should they take to overcome these writing challenges? (ask for examples)
- If challenges ARE identified:
  - Why do you find these skills challenging?
  - What support and/or tools do you expect your institution to offer? Have they met your expectation and provided these (ask for examples)?
  - What steps, if any, have you taken to overcome the writing challenges you have identified? (ask for examples)

5. Can you describe a time when you produced something in writing that did not meet with the satisfaction of your colleagues? What was wrong with the writing?

6. Can you describe a time when you were not satisfied with something you wrote? What was wrong with the writing?

### ***Oral Communication***

7. Please describe the kinds of oral presentations you do most often.

- Probe for examples related to communicating by telephone, audio/video presentations, presentations at conferences, etc.
- Who is your audience?

8. How would you describe yourself as a presenter? What is your confidence level?

- Tell me why you feel this way

9. Which oral skills do you find to be most challenging?

- If challenges are NOT identified:

- What challenges do you think your colleagues, who are engaged in cybersecurity work, have you observed? (ask for examples)
- What support and/or tools should your institution provide to help them overcome these challenges? (ask for examples)
- What steps, if any, should they take to overcome these challenges? (ask for examples)
- If challenges are ARE identified:
  - Why do you find these skills are challenging?
  - What support and/or tools do you expect your institution to offer? Have they met your expectation and provided these (ask for examples)?
  - What steps, if any, have you taken to overcome the challenges you have identified? (ask for examples)

### ***Recommendations for Computer Science Professors***

10. Please describe three or more important skills (either technical, or not) that you would look for in a colleague.

11. Which courses do you wish you had as an undergraduate student?

12. What learning experiences should computer science professors offer to enhance undergraduate students' (aspiring cybersecurity professionals) writing and communication skills?

- Should these be embedded in course work? If so, which courses? What types of activities?
- Should these be offered through the Writing Center? If so, what type of programming should be offered?

13. Did you take advantage of the Writing Center when you were an undergraduate student?

- Why? Why not?
- What should professors do to make the Writing Center more accessible to Computer Science majors?
- What additional services can Writing Centers provide to meet the workforce needs of aspiring cybersecurity professionals

### ***Demographics***

14. What is your age?

15. What is your gender?

16. Do you live in a rural or urban setting?

17. Would you be willing to review a transcript to verify that I have accurately captured your thoughts? I will send this to you by email. It would include your pseudonym only, not your real name.