

First-Year Ph.D. Survival Guide

(Almost) Everything You Need to Know

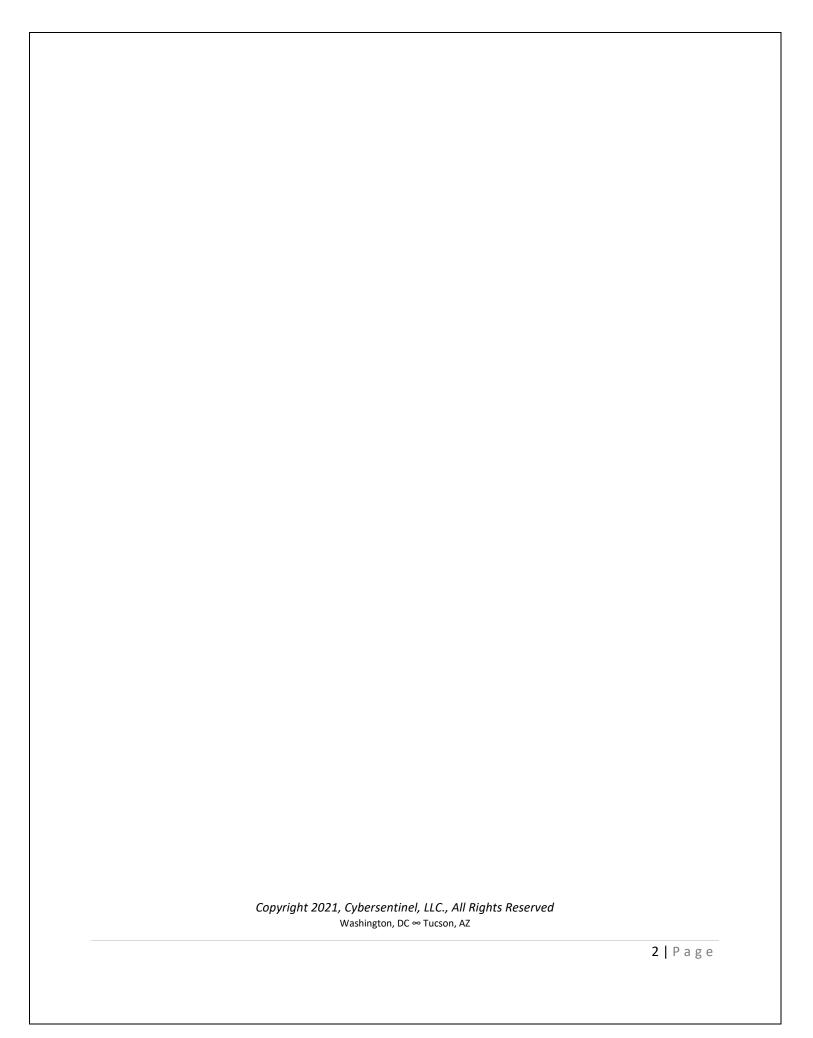
~INCLUDES DISSERTATION DEFENSE TIMING PLANNING GUIDE



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Washington, DC ∞ Tucson, AZ



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Forward

In 2018, I began my journey as a future Ph.D. The program was distance education-based, and for the most part, I had little difficulty with the classwork. In 2019, I attended my first residency that was mandatory for my future degree. I discovered there that I was ill-prepared for that long weekend session. I had no idea what to expect or what was expected. My frustration was that the instructors assume we knew everything they knew about writing a dissertation both in form and mechanics. Instead of complaining about my fumbling that weekend, I decided to write this book to help those of you who want to do what I did—become a future Ph.D. graduate. Here, I have attempted to provide everything from my notes and classes of what I wish I had been more thoroughly aware of before that first residency. I hope this book helps you "survive" Year-One as you begin to write Chapters 1 and 2 of your dissertations; these suggestions are ideas and best practices captured to create the two main chapters of the doctoral dissertation. If these chapters are not done well upfront, it will make the entire process far more difficult. Best of Luck!



Scholarly Writing for the
Scholarly Writing for the Graduate Student

Seven Steps to Effective Research and Writing

Success in Year 1 begins with a good grasp of effective research and writing practices for a master's paper or a doctoral dissertation. It should follow the seven planning steps as outlined below. At the core of meeting the requirements is to create a compelling topic and problem statement that is fundamental to a robust planning effort in creating a persuasive dissertation.

Not discussed here in-depth, is a thorough understanding and execution of a college or university's writing style guide and direction. Whether it is the **American Psychological Association (APA)** or **Modern Language Association (MLA)**, make especially sure citations, tables, and figures are constructed following the respective style guides. It will ensure the complete appearance of a well-prepared research effort; it adds to the planning of an effective final paper for submission.

Every paragraph written should have a thesis statement—usually, it is typically the first sentence and every paragraph should be AT LEAST three sentences long.

The 7 Steps of Effective Research and Writing:

- **1. Identify your professional expertise and interests.** What is your passion? Where are your strengths as a professional? What topics draw you to reading and understanding?
- **2. Determine an initial scope.** How big of a problem do you want to study? Should it, for example, be the entire world or just explicitly focused on Japan? As the process progresses, narrow or broaden the scope based upon assistance from professors and, more importantly, your assigned Chairperson.
- **3.** Take notes, create databases, assemble binders, use software applications to capture information and ideas. Capturing notes are especially important when you are ready to defend. Where did you get the source? Is it peer-reviewed?
- **4. Create references and citations.** Follow the school's style guides standards, such as APA or MLA.

- **5.** Synthesize the literature into what supports the identified problem (or refutes it). Be aware of your biases, and do not ignore opposite points of view—you will still need them for Chapters 1 and 2.
- **6.** Construct an overall thesis based upon an initial understanding of the current and past researchers associated with your topic. This is your work-in-progress topic. Be prepared to adjust it and be ready to choose a time when you are prepared to solidify it as final.
- **7.** Create an initial outline and update it as facts change or are replaced. Also, start creating a project plan (an example below built with Microsoft Excel®).

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3	Chapter 1 - Introduction							
4	Initial Edits and corrections from Chair completed				2/24/2020			
5	Final edits for ARB consideration				4/5/2020			
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9	Chapter 2 - Literature Review			_				
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13	Final edits for ARB submission				4/5/2020			
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	Tasks to finish up the Proposal:							
29	Turnitin	1	#REF!	0				
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31	Proposal URR Edits	1	#REF!	0				
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34	Proposal URR Edits	1	#REF!	0				
35	Oral Conference	1	#REF!	0				
36	Date of finished proposal and total days:	74	#REF!	0				
37								
38	Tasks starting after Proposal is approved:							
39		14	#REF!	0				
40		1	#REF!	0				
41	Data Collection	14	#REF!	0				
42		7	#REF!	0				
43	Finish writing Chapter 4 and 5	14	#REF!	0				
44	Process Turnitin.com report	1	#REF!	0				
45		14	#REF!	0				
46	Edits	1	#REF!	0				
47		7	#REF!	0				
48	Edits	1	#REF!	0				
49		14	#REF!	0				
50	Edits	1	#REF!	0				
51	Submission to URR	14	#REF!	0				
52	URR Edits	1	#REF!	0				
53	Submission to Form and Style review	14	#REF!	0				

Step 1: Recognize your Expertise

- a. Make a list of everything you know about the topic of interest. Create a Personal Proficiencies Document (PPD) that addresses the following questions:
 - What areas do you have significant expertise and interest?
 - What do you know about theses topic areas?
 - What do you know is going well or <u>poorly</u> that could become a research focus?
 - What more information do you need to know to conduct a research direction?
- b. Use the list to help narrow the research: What information is missing from the list?
- c. **Analyze the literature.** Start conducting *mini-literature reviews* of scholarly works, books, and periodicals. Mini-literature analyses would also be described as an academic critique of the authors and their works. These will help create a foundation; the more you create, the easier to create a good Chapter 2. (See the section on the *Literature Review*).

Mini-Literature Review Example (See Appendix C for more examples)

This format is suggested to help build the Literature Review chapter; this is just one suggestion to begin a database of critical sources. Typically, a dissertation should have approximately 150 sources. There are four main headings. The *synopsis* is a description of the article that will provide enough information to determine whether it will or will not apply to the paper. The *audience* (optional) is who the article was written. *Relevance* should relate to your topic or problem statement. Use this paragraph to remind you of why this article was essential to your study. *Weaknesses* are your opportunity to critique the author(s) work based on your knowledge or experience and other academic authors that were reviewed during the *research phase*¹.

Wilner, A. S. (2018). Cybersecurity and its discontents: Artificial intelligence, the Internet of Things, and digital misinformation. *International Journal*, *73*(2), 308–316. https://doi.org/10.1177/0020702018782496

¹ You will probably continue to update and modify Chapters 1 and 2 as you find new and supportive information. Make appropriate updates; however, prior to Chapter 3, the author recommends not adding based on new academic findings.

(SYNOPSIS:) Wilner (2018) advises the nature of cybersecurity is unsurprisingly fluctuating due to such ongoing challenges within Artificial Intelligence (AI), the Internet of Things (IoT), and digital misinformation. He suggests a contentious nature of the term cybersecurity and further prefers the term information security as being more accurate. He continues to recommend that cybersecurity is a broader and evolutionary term, while information security is a sub-component. He continues an exploration of the three major topics, and specific to neural networks, AI affords the most likely ability to analyze large volumes of data and identify critical insights. He concludes with the most significant problem is the inability of humans who create such AI-based decisions may be too difficult for human understanding. His concern rests with the AI algorithms, and how they actually developed outputs remain unclear even to the experts.

(AUDIENCE:) The target audience includes the novice to the expert attempting to understand strategic issues facing cybersecurity overall.

(RELEVANCE:) The relevance to the topic is the further concerns within the cybersecurity community specific to AI and neural networks. *Can we resolve the issue of understanding the base AI algorithms with the final outputs?*

(WEAKNESSES:) There are several observed weaknesses. One example includes that the author suggests that the new problem with digital misinformation campaigns is just the prevalence of the data itself. The real issue is the ability of nation-state actors, etc., able to make the information appear realistic. This would include the use of Photoshop, forging letterhead, or signatures.

d. Preparing for Objectivity:

- Consider all sides without bias. As a scholarly writer, you need to be able to look at your prejudices about the topic early.
- Let the research and characteristics of the specific situation (not opinion) guide conclusions.



SELECTING A DISSERTATION TOPIC:

- 1) Chose an area that you have a passion. It will make the overall research and presentation of your work more meaningful and enjoyable.
- 2) Have an idea about a shortfall/misperception/failure that you are aware of that needs research and focus.
 - 3) Adjusting is never a bad issue—it may actually create a better topic to explore.

Step 2: Narrow or Broaden the Scope

- a. Understand how much information that may contribute to the paper's length.
 - The researcher cannot discuss a complete history of "a War on Global Pandemics" in 1,000 words or less.
 - A 12-page paper on how to properly peel a banana would be uninteresting.



How to approach a prospective topic?

- Brainstorm
 - Consider what must be reviewed about a topic.

 Develop a pre-organizational plan or project plan of what and how much time will be devoted to topic development.

Methods:

- Freewriting: 15 minutes of anything thought of related to a topic.
- Mind mapping (automated): Use a program that will help create topic and subtopic associations.



Step 2.5: Conduct preliminary research (the mini-literature review effort)

- a. The amount of information that is available about the topic portrays whether there is a need to broaden or narrow the scope of the work.
 - Fifty sources for a 5-page paper would likely be too broad.

• If there are only five sources for a 20-page paper, then it may have begun too narrowly for the chosen topic.

b. Use the librarians to help through these steps.

- Consider links to online academic databases such as EBSCO ® or Proquest ®.
- Google Scholar offers many free sources to start the process.
- Consider information on how to obtain and evaluate resources to include valuable and reputable websites.



Numbers are only suggestions in this book but ensure sourcing any assertions of fact are appropriately referenced.

Step 3: Take Notes on What is Read

- a. While reading, maintain notes, so you can find or recreate the information, details, or sources in the future. Identify in a spreadsheet, for example, locations and websites that provide initial information about the topic.
- b. Include evaluating the works read. The critiquing of the work is an instrumental part of the study. At the Ph.D. level, it is expected and will help to identify critical gaps and unique substance for the final paper.

CRITICAL-THINKING IS REQUIRED

The Five Evaluation Criteria for Scholarly Works

- 1. Accuracy: Is the information error-free?
- 2. Authority: Who is supplying the information, and are they qualified to do so?
- 3. Objectivity: Is the information bias-free?
- 4. Currency: Is the currency of the information appropriate for the field of study or topic?
- 5. Coverage: Are all aspects and details of the subject covered?

c. Considerations during Reading

- Books (Are they unbiased?).
- Primary sources (theorists or conceptual leaders in the area of the study).
- Peer-reviewed and refereed journal articles.²
- Questions on other sources available—ask faculty or librarians.
- Pay attention to bias. Always be aware that sources have been subjected to objective reviews and are accurate.

d. Article Types: Differentiate between the three kinds of articles read

- Articles that report research.
- Articles that synthesize research.
- Articles that present commentary.

Peer-reviewed does NOT mean the work is without bias.

e. Determine What to Use

• Books—Read descriptions, sources for ideas, and talk to mentor or Chairperson.

² Even peer-reviewed work may be prejudicial, so ensure that critiques are used to address any disconnects or disparities with the authors statements or assertions.

- Articles—Read the abstracts in the databases or journals. (What do they say about the materials?)
 - o How might they relate to the selected topic?
 - O What might they describe different but related topics?
 - o How do they help complete an understanding of the topic?
 - O How do they suggest a grouping of any subtopics?

f. Examining Sources

- Books—Are they unbiased?
 - Significant points about the topic.
 - o The rationale for the information presented (framework).
 - o Sources of other ideas shared.
- Articles—unbiased
 - Research questions.
 - Research methods.
 - Sample sizes and types.
 - o Purpose.
 - Types of results.
 - Implications and conclusions.

g. General Examination: The Differences

- a. The Problem versus Problem Statement.
- b. The Topic versus Purpose.
- c. The Theoretical versus the Conceptual Framework.

Studies may just look at the associated theories; however, the researcher may go further by applying or even designing a conceptual solution/framework.

You cannot have a conceptual without a base theoretical framework.

h. The Problem Statement

- Problem—is founded by global, societal, organizational, or psychological issues.
- Problem statement— is a specific identification of a dimension of the problem that has not yet been examined or researched.
- The difference is essential—It will help to understand what is reviewed; it aids in the overall writing effort for the final dissertation.

i. Topic versus Purpose

- Topic—The topic is the issue being discussed. This will be similar to the problem statement, in general, and maybe explained as a "problem" to be resolved by current or future studies.
- Purpose—A purpose fills in a gap in the research that has been identified by the researcher. It is essential because it helps to focus the available literature search and direction.

j. The Theoretical Perspective

- Why the author took a particular perspective in developing a topic?
- It allows for an understanding and comparison of other authors and their related articles.
- It provides background.

Step 4: Track References and Provide Citations

- a. Create a reference list during the overall research effort.
- b. Sources can be reviewed during the lifecycle of the dissertation's development.
- c. Provide citations (i.e., author, year, page number) for every note based on the academic institution's writing style guide.

Consider reference software such as:

- EndNote
- StyleEase
- Perla

Step 5: Synthesize the Research

a. Initial actions:

- Group notes by the main topic.
- What does each cluster suggest?
- Write down a sentence for each.
- What is the collective suggestion from the information once all sentences are clustered?

b. Analysis:

- Analysis of strengths and weaknesses of articles.
- This review determines which articles will be used.
- Questions to ask for analysis:

The Analyst's Checklist

☐ Is the article objective?	
\square Is the article logical, or does it have gaps in logic?	
□ Is the information used to draw the current conclusions?	

c. Using Comparing and Contrasting Analysis:

- Discussion of information or ideas in the articles that are common, similar, or agree with the developing topic.
- Review information or ideas in the materials that are different, dissimilar, or disagree.
- Consider the kinds of studies accomplished?
- Who comprised the sample?

- How large is the sample?
- Is it large enough? (Sample size considerations).
- Framework differences, for example, quantitative versus qualitative.
- Conclusion differences.
- Questions to ask when comparing and contrasting:
 - Is the similarity or dissimilarity significant to the discussion?
 - What do the similarities of the articles' information suggest about the topic?
 - What do the differences in the articles' information suggest about the topic?
 - Are they essential to telling a "story" of the selected research?
- d. **Evaluation:** Comparison of the information in the article with the situation or circumstance being examined.
- e. **Synthesis**: Combines analysis, comparisons, contrasts, and evaluations into a cohesive, holistic picture of the selected topic.

Sample Size: When Five MAY be enough?

Rule of Five states that there: "is a 93.75% chance that the median of a population is between the smallest and largest values in any random sample of five from that population" (Hubbard & Seiersen, 2016, p. 33).

A major *delimitation* to a study may include sample size. Historically, the consideration for good sampling has been the more significant the sample size, the better its ability to support data-based predictions (Adams & Lawrence, 2019). However, modern works have recognized smaller samples can be just as predictive (Aase, 2014; Hubbard, 2020). Aase (2014) highlights that the *Rule of Five* affords a "significantly improved confidence interval." In contrast, the use of five samples of a population is statistically significant, and the error rate is known (para. 2).

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The Literature Review Matrix

- f. Continue synthesizing the information:
 - Continue to be sensitive to bias.
 - Cite all ideas—those of the author, critiques, and your own.
 - Derive conclusions:
 - o Comparing and contrasting is a common theme.
 - It is identifying strengths and weaknesses among the articles.



PLAGIARISM: Look at your work critically at all times. If you make a <u>claim</u> or <u>assertion</u>, identify sources to support them.

In the beginning, over-cite ideas or claims to avoid the danger of being identified for plagiarism.

You may assume your ideas are new and unique and require no sourcing; however, do not do this until at least the completion of the Literature Review chapter.

Step 6: Create a Thesis

Once there is a good idea of what the literature states begin to create an overall thesis. This should have been *discovered* during the **synthesis phase** of the work, as Chapters 1 and 2 are being completed. The researcher should be able to construct a coherent thesis based upon this portion of the initial analysis of the topic area and its associated problems. This results in an argument that is firmly grounded in the reviewed literature.

The Thesis Statement:

Thesis: "a position or proposition which a person advances and offers to maintain, or which is maintained by argument" (Webster's Revised Unabridged Dictionary, 1998).

Ensuring the thesis can be advanced during the study's development.

- a. There is a need to argue for or against an idea.
- b. For example, can the researcher argue "that Trump is currently the president of the United States."
- c. Ideas must be capable of advancement, i.e., each point is dependent on the previous point and establishes the foundation for the next point.
- d. **The role of scope.** Stating that, "Trump's presidency will be the best the country has ever seen" is an <u>argument</u>. There is no room for advancement because there are too many places to begin.
- e. If the reader does not have a clear idea of where the argument begins, then the reader will not be convinced that the student has nowhere to go with the available evidence.
- f. The argument must be grounded in research, and never in opinion.

Step 7: Getting Started.

- a. Create an Outline.
- b. Preparing to write.
 - Know the components of the paper ahead of time. Identify from the college or university their standard templates for preparing masters or doctoral dissertations.
 This will help avoid missing critical steps to their respective formats. These will include the required headings and subheadings formats.
 - Do not wait until the last minute to create a reference or title page. These usually require defined formatting requirements. Consult with your school's standards.
 Where needed, YouTube ® offers many excellent instructional videos to get the researcher started.
 - Do not constrain the writing chronologically. It may be written in any order as refinements are discovered or are necessary.

In the case of the doctoral dissertation, it may be better to begin with Chapter 2, the *Literature Review*, to better create a solidly referenced Chapter 1.

- Complete the abstract of the paper last. The Introduction should be fine-tuned before formal submission.
- c. **Begin writing.** Start with the outline to guide the writing.

Common Issues

 Parallelism – Write each heading and subheading in a parallel manner (i.e., if the first heading begins with a verb, all headings should start with a verb).

Example sentence:

```
Land correctly,

control the stick

avoid injury

**Land, Control, and Avoid are all verbs***
```

- **Coordination** The information contained in the main heading should have the same significance as the information contained in all the other main headings, and the same applies to the subheadings (which should be less significant than the titles).
 - The main headings will be Level 1 headings.
 - The subheadings will be Level 2, 3, and 4 headings.
 - Subordination The information in the main headings should be more general than the information in the subheadings; subheadings identify the specifics of the supporting argument.
 - Division Use a subheading only if you have more than one subdivision under your main heading.
 - Technically, there are no limits to the number of subdivisions for headings if there is more than one. However, if there are a lot, it may be useful to consider narrowing the scope.
- Read to Understand the selected topic and problem.
 - Avoid repeating words and exact phrases, especially in the same paragraph or even page. Use appropriate synonyms from a Thesaurus, for example, or use automated tools in word processing to assist.
 - Utilize pronouns discretely.
 - Use third-person such as researcher, student, etc.
 - Do not use first-person, 'l.'

- Employ transitional words and phrases to move from one idea, paragraph, or chapter to signal to the reader what will occur in the next section. (See Appendix B on *Transitional Synonyms*).
- Noun-verb tense agreement.
 - Man runs
 - Men run.
- Avoid clichés and colloquialisms; these are not considered scholarly. Use very sparingly only for a specified emphasis and setoff with italics, for example, badguys.
- Avoid adverbs (very, really) and unnecessary adjectives (descriptive language such as pretty, great, wonderful). This prevents the problem of vague absolutes, e.g., such as "very big" or "greater than usual."
- Do not embellish but do be specific. Use the facts effectively. Build from the data or information to create intelligence, and if possible, wisdom and knowledge to support the development of the overall study objectives.



Data → Information → Intelligence → Knowledge → Wisdom

The Active Voice

- APA, the 7th Edition (2020), use the "active rather than the passive voice" (p. 73).
- The passive voice is when the subject of the sentence receives the action of the verb. In other words, it becomes the object of the sentence of the subject. The passive voice emphasizes the topic, which is beneficial at times, but too much use of the passive voice can weaken your scholarly voice.

Less than 30% of the overall writing style should be passive voice. While passive voice is relatively common in scholarly writing, use it sparingly.

- Use active sentences where the subject initiates an action that affects the direct object.
 Place the subject of the sentence at the beginning, and immediately follow it with as an action verb.
- Avoid using linking verbs ("to be" verbs)
- Examples:
 - Passive Voice: The apple was despised by William Tell.
 - Active Voice: William Tell despised the apple.
 - Passive Voice: The survey was conducted after school.
 - Active Voice: The researchers surveyed school.

Revision Considerations. There is no set number of times the student should review their work; however, here are several generalized rules of thumb:

- 1. Set the work aside for at least 48-hours or more to have a fresher perspective of the writing.
- 2. Identify known weak areas of the writer, for example, excessive use of passive voice, or common spelling errors such as 'there' or 'their.'
- 3. Have someone else read and comment on the writing.
- 4. Use automaton such as Word ® or Grammarly® to capture spelling or grammar issues.

PASSIVE VOICE is NOT EVIL

While most writing experts suggest the sole use of Active Voice, the utilization of Passive Voice is not necessarily wrong, especially in academic writing. It does provide reading variety.

Prepare to Write

First Steps:

- Prepare mentally for the long-road in the overall writing effort; this is something all writers must do.
- Edit in small sections; often, working from the end to the beginning will help focus on technical errors.
- Prioritize time with a plan of action and stay with it. (See the chapter on Time Management).

Revise the Content

- a. Identify the main points.
- b. Make sure the thesis matches the paper (and vice versa).
- **c.** Scrutinize arguments.

Revise for Writing

- a. Paragraph organization
 - Read the first and last sentences of each paragraph. If they do not relate, there is a problem.
 - Check paragraph topics. Do they follow a logical organizational pattern? Is there repetition? (See Appendix B for suggested synonyms to help avoid undue repetition and reuse of the same word or term.)



REPETITION IS NOT NECESSARILY BAD ...BUT BE CAREFUL

Be cautious about back-to-back repetition in the same paragraph or even the same section. Redundancy should be used to reinforce the thesis and any supporting arguments to the thesis.

The caution is to use repetition sparingly but recognize it can be an effective means to reinforce concepts for the reader.

b. Sentence structure

 Read your paper out loud and backward, sentence by sentence, to identify disconnects in thoughts or just information that provides no additional value to the reader.

- Know weak points in writing style, common spelling mistakes, and overuse of particular words or phrases.
- Look at the randomness of writing that expresses the same idea, but do not overly reiterate if seemingly excessive.

Create a personal editing checklist.
☐ Use of <i>there</i> versus <i>their</i> .
☐ Use of 'I.'
$\ \square$ Ending a sentence with a preposition.
 Ensuring the same verb tense; past, present, or future.
 Using the longer m-dash vice n-dash in the reference section for pages. (This –, and not this -).
\square Use of a word contraction.
A non-parallel listing of items; does it start with a consistent verb tense?
☐ Sentence fragment. Is a verb missing?
 Run-on sentence that is too long; consider splitting it into two or three sentences, as needed.
 Spelling errors that the word processor will not be able to differentiate; read your paper out loud.
☐ Use of jargon or non-academic language.

About the Author

Mr. Russo is a former Senior Information Security Engineer with the Department of Defense's (DOD) F-35 Joint Strike Fighter program. He has an extensive background in cybersecurity and is an expert in the Risk Management Framework (RMF) and DOD Instruction 8510, which implements RMF throughout the DOD and the federal government. He holds both a Certified Information Systems Security Professional (CISSP) certification and a CISSP in information security architecture (ISSAP). He holds a 2017 certification as a Chief Information Security Officer (CISO) from the National Defense University, Washington, DC. He retired from the US Army Reserves in 2012 as the Senior Intelligence Officer.

He is the former CISO at the Department of Education. During his tenure, he led an aggressive effort to close over 95% of the outstanding US Congressional and Inspector General cybersecurity shortfall weaknesses spanning as far back as five years. He regularly speaks within the federal government and Intelligence Community on advanced topics regarding the evolution of cybersecurity in the 21st Century.

From 2009 through 2011, Mr. Russo was the Chief Technology Officer at the Small Business Administration (SBA). He led a team of over 100 IT professionals in supporting an intercontinental Enterprise IT infrastructure and security operations spanning 12-time zones; he deployed cutting-edge technologies to enhance SBA's business and information sharing operations supporting the small business community. Mr. Russo was the first-ever Program Executive Officer (PEO)/Senior Program Manager in the Office of Intelligence & Analysis at Headquarters, Department of Homeland Security (DHS), Washington, DC. Mr. Russo was responsible for the development and deployment of secure Information and Intelligence support systems for OI&A to include software applications and systems to enhance the DHS mission. He was responsible for the program management development lifecycle during his tenure at DHS.

He holds a Master of Science from the National Defense University in Government Information Leadership with a concentration in cybersecurity and a Bachelor of Arts in Political Science with a minor in Russian Studies from Lehigh University. He holds Level III Defense Acquisition certification in Program Management, Information Technology, and Systems Engineering. He has been a member of the DOD Acquisition Corps since 2001.