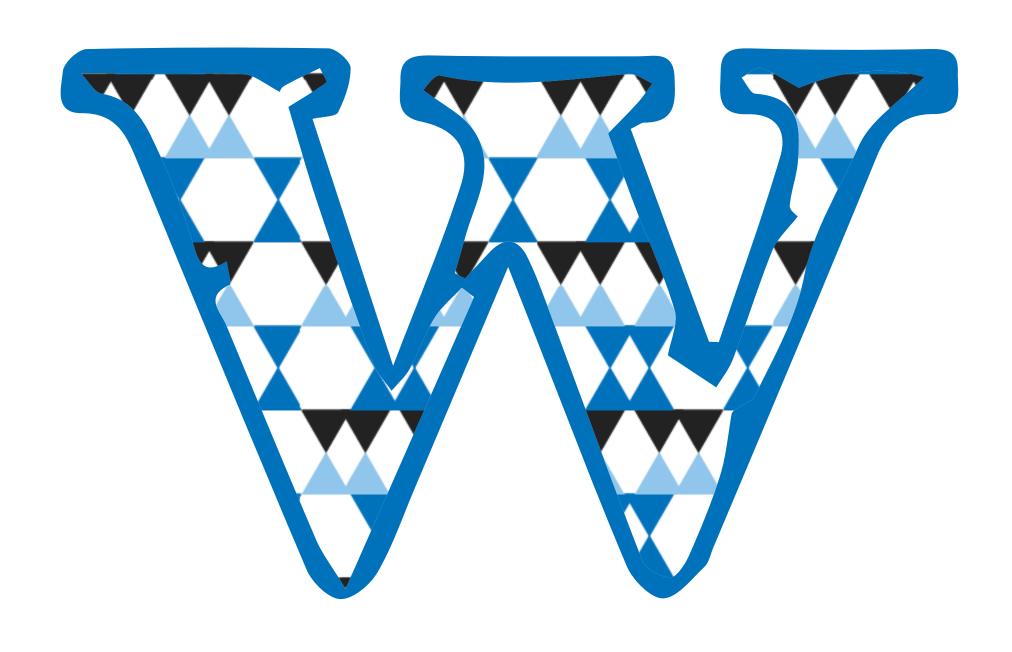
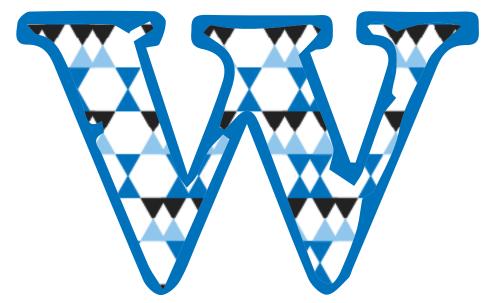


The 5 W's of Academic Writing







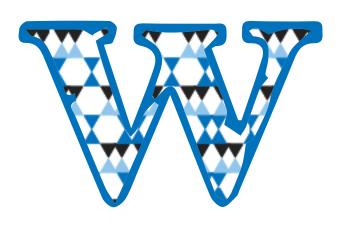
The 5 W's of Academic Writing

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Welcome



The Textbook & Academic Authors Association provides professional development resources, industry news, and networking opportunities for textbook authors and authors of scholarly journal articles and books.

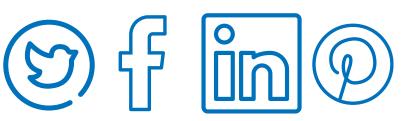
During Academic Writing Month 2018, TAA hosted a series of #AcWriChat TweetChat events focused on the five W's of academic writing. Throughout the series we explored The What: Defining a Research Project; The Where: Constructing an Effective Writing Environment; The When: Setting Realistic Timeframes for Your Research; The Who: Finding Key Sources in the Existing Literature; and The Why: Explaining the Significance of Your Research. This ebook brings together the discussions and resources from those events.

Enjoy!

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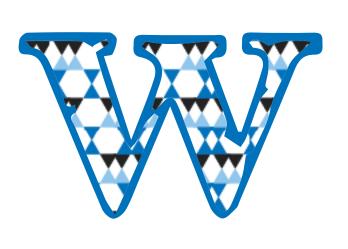












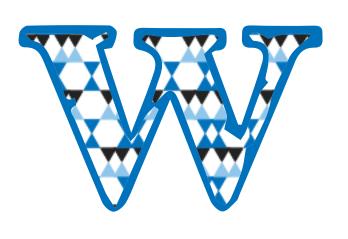
Before moving forward on any academic writing effort, it is important to understand what the research project is intended to understand and document. In order to accomplish this, it's also important to understand what a research project is. This is where we began our discussion of the five W's of academic writing: *The What: Defining a research project*.

Q1: What constitutes a research project?

According to a Rutgers University resource titled, *Definition* of a research project and specifications for fulling the requirement, "A research project is a scientific endeavor to answer a research question." Specifically, projects may take the form of "case series, case control study, cohort study, randomized, controlled trial, survey, or secondar data analysis such as decision analysis, cost effectiveness analysis or meta-analysis".

Hampshire College offers that "Research is a process of systematic inquiry that entails collection of data; documentation of critical information; and analysis and intrepretation of that data/information, in accordance with



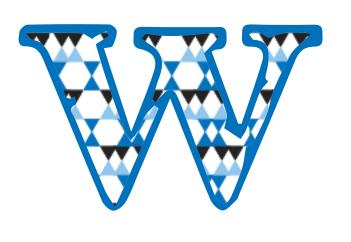


suitable methodologies set by specific professional fields and academic disciplines." in their online resource titled, *What is research?* The resource also states that "Research is conducted to evaluate the validity of a hypothesis or an interpretive framework; to assemble a body of substantive knowledge and findings for sharing them in appropriate manners; and to generate questions for further inquiries."

TweetChat participant @TheInfoSherpa, who is currently "investigating whether publishing in a predatory journal constitutes blatant research misconduct, inappropriate conduct, or questionable conduct," summarized these ideas stating, "At its simplest, a research project is a project which seeks to answer a well-defined question or set of related questions about a specific topic." TAA staff member, Eric Schmieder, added to the discussion that a research project is a process by which answers to a significant question are attempted to be answered through exploration or experimentation."

In a learning module focused on research and the application of the Scientific Method, the Office of Research Integrity within the U.S. Department of Health and Human Services





states that "Research is a process to discover new knowledge... No matter what topic is being studied, the value of the research depends on how well it is designed and done."

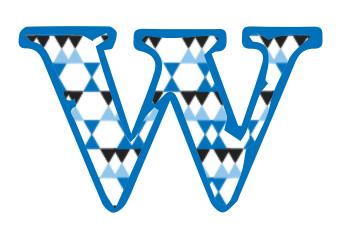
Wenyi Ho of Penn State University states that "Research is a systematic inquiry to describe, explain, predict and control the observed phenomenon." in an online resource which further shares four types of knowledge that research contributes to education, four types of research based on different purposes, and five stages of conducting a research study. Further understanding of research in definition, purpose, and typical research practices can be found in this Study.com video resource.

Now that we have a foundational understanding of what constitutes a research project, we shift the discussion to several questions about defining specific research topics.

Q2: When considering topics for a new research project, where do you start?

A guide from the University of Michigan-Flint on





selecting a topic states, "Be aware that selecting a good topic may not be easy. It must be narrow and focused enough to be interesting, yet broad enough to find adequate information."

Schmieder responded to the chat question with his approach. "I often start with an idea or question of interest to me and then begin searching for existing research on the topic to determine what has been done already."

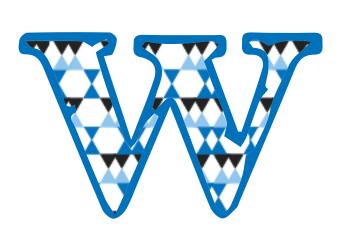
@TheInfoSherpa added, "Start with the research. Ask a librarian for help. The last thing you want to do is design a study thst someone's already done."

The Utah State University Libraries shared a video that "helps you find a research topic that is relevant and interesting to you!"

Q2a: What strategies do you use to stay current on research in your discipline?

The California State University Chancellor's Doctoral





Incentive Program Community Commons resource offers four suggestions for staying current in your field:

- Become an effective consumer of research
- Read key publications
- Attend key gatherings
- Develop a network of colleagues

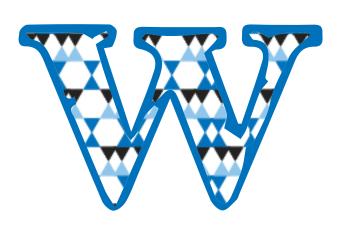
Schmieder and @TheInfoSherpa discussed ways to use databases for this purpose. Schmieder identified using "journal database searches for publications in the past few months on topics of interest" as a way to stay current as a consumer of research.

@TheInfoSherpa added, "It's so easy to set up an alert in your favorite database. I do this for specific topics, and all the latest research gets delivered right to my inbox.

Again, your academic or public #librarian can help you with this." To which Schmieder replied, "Alerts are such useful advancements in technology for sorting through the myriad of material available online. Great advice!"

In an open access article, "Keeping Up to Date: An Academic Researcher's Information Journey",





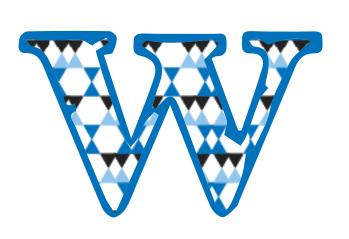
researchers Pontis, et. al. "examined how researchers stay up to date, using the information journey model as a framework for analysis and investigating which dimensions influence information behaviors." As a result of their study, "Five key dimensions that influence information behaviors were identified: level of seniority, information sources, state of the project, level of familiarity, and how well defined the relevant community is."

Q3: When defining a research topic, do you tend to start with a broad idea or a specific research question?

In a collection of notes on where to start by Don Davis at Columbia University, Davis tells us "First, there is no 'Right Topic.'", adding that "Much more important is to find something that is important and genuinely interests you."

Schmieder shared in the chat event, "I tend to get lost in the details while trying to save the world -- not sure really where I start though. :0)" @TheInfoSherpa added, "Depends on the project. The important thing is being able to realize when your topic is too broad or too narrow and may need tweaking. I use the five Ws or PICO(T) to adjust my topic if it's too





broad or too narrow."

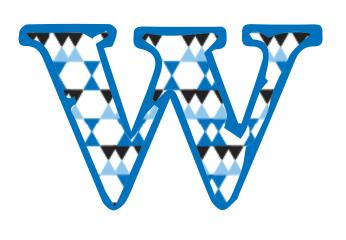
In an online resource, The Writing Center at George Mason University identifies the following six steps to developing a research question, noting significance in that "the specificity of a well-developed research question helps writers avoid the 'all-about' paper and work toward supporting a specific, arguable thesis."

- Choose an interesting general topic
- Do some preliminary research on your general topic
- Consider your audience
- Start asking questions
- Evaluate your question
- Begin your research

USC Libraries' research guides offer eight strategies for narrowing the research topic: Aspect, Components, Methodology, Place, Relationship, Time, Type, or a Combination of the above.

Q4: What factors help to determine the realistic scope a research topic?



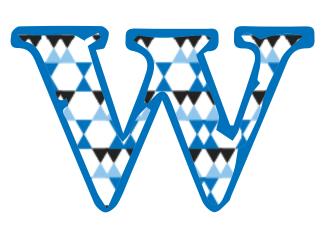


The scope of a research topic refers to the actual amount of research conducted as part of the study. Often the search strategies used in understanding previous research and knowledge on a topic will impact the scope of the current study. A resource from Indiana University offers both an activity for narrowing the search strategy when finding too much information on a topic and an activity for broadening the search strategy when too little information is found.

The Mayfield Handbook of Technical & Scientific Writing identifies scope as an element to be included in the problem statement. Further when discussing problem statements, this resource states, "If you are focusing on a problem, be sure to define and state it specifically enough that you can write about it. Avoid trying to investigate or write about multiple problems or about broad or overly ambitious problems. Vague problem definition leads to unsuccessful proposals and vague, unmanageable documents. Naming a topic is not the same as defining a problem."

Schmieder identified in the chat several considerations when determining the scope of a research topic, namely "Time, money, interest and commitment, impact to self and others."





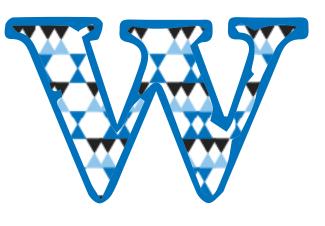
@TheInfoSherpa reiterated their use of PICO(T) stating, "PICO(T) is used in the health sciences, but it can be used to identify a manageable scope" and sharing a link to a Georgia Gwinnett College Research Guide on PICOT Questions.

By managing the scope of your research topic, you also define the limitations of your study. According to a USC Libraries' Research Guide, "The limitations of the study are those characteristics of design or methodology that impacted or influenced the interpretation of the findings from your research." Accepting limitations help maintain a manageable scope moving forward with the project.

Q5/5a: Do you generally conduct research alone or with collaborative authors? What benefits/challenges do collaborators add to the research project?

Despite noting that the majority of his research efforts have been solo, Schmieder did identify benefits to collaboration including "brainstorming, division of labor, speed of execution" and challenges of developing a shared vision, defining roles and responsibilities for the collaborators, and





and accepting a level of dependence on the others in the group.

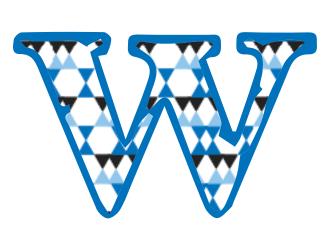
In a resource on group writing from The Writing Center at the University of North Carolina at Chapel Hill, both advantages and pitfalls are discussed. Looking to the positive, this resource notes that "Writing in a group can have many benefits: multiple brains are better than one, both for generating ideas and for getting a job done."

Yale University's Office of the Provost has established, as part of its Academic Integrity policies, Guidance on Authorship in Scholarly or Scientific Publications to assist researchers in understanding authorship standards as well as attribution expectations.

In times when authorship turns sour, the University of California, San Francisco offers the following advice to reach a resolution among collaborative authors:

- Address emotional issues directly
- Elicit the problem author's emotions
- Acknowledge the problem author's emotions
- Express your own emotions as "I feel ..."





Q6: What other advice can you share about defining a research project?

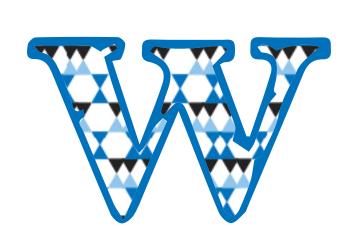
Schmieder answered with question with personal advice to "Choose a topic of interest. If you aren't interested in the topic, you will either not stay motivated to complete it or you will be miserable in the process and not produce the best results from your efforts."

For further guidance and advice, the following resources may prove useful:

- 15 Steps to Good Research (Georgetown University Library)
- Advice for Researchers and Students (Tao Xie and University of Illinois)
- Develop a research statement for yourself (University of Pennsylvania)

Whatever your next research project, hopefully these tips and resources help you to define it in a way that leads to greater success and better writing. •





Once you know what you need to work on, establishing an environment with the right atmosphere, tools, and resources necessary for completing the project is equally important. In the previous article, we explored the first W – "The What: Defining a Research Project."

In this article, we will focus on "The Where: Constructing an Effective Writing Environment." This discussion began with a self-reporting of participant writing environments and continued with discussion of ways to improve them.

Q1: How would you describe your current writing environment?

"When we write, we need periodically to rethink where, how and with whom we do so, suggests Nate Kreuter" in an article for *Inside Higher Ed* where he addresses the importance of not only the physical environment in which we write, but also the social environment. The participants in our TweetChat event, however, focused their responses on the physical environment.



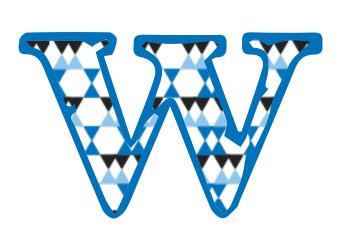


Eric Schmieder shared his current writing environment as "A nice large desk with plenty of workspace, multiple computers, good lighting, natural light from a window, and access to music when desired."

Janet Salmons described her writing environment as being "By a window! At our Rocky Mountain cabin, or at home, next to a park." She added, "My writing space is comfortable because I have my books, pens, computer, and I can get up and walk around if needed (See bit.ly/2z0GSfN). As George said, show me that I'm everywhere, but get me home for tea."

Lindsey McNellis shared, "I have a nice study with a good size table. I use a laptop. I am surrounded by the books I need. It's great. I still don't write much." In response, the chat moderator asked, "What holds you back from writing more, if not the great environment you have set up?" McNellis offered the following, "Reading some of the articles you've posted, it might be the clutter - I have unfinished filing and shredding projects all over the office, mocking me.", re-emphasizing that our writing environment is more





than the physical space where we write.

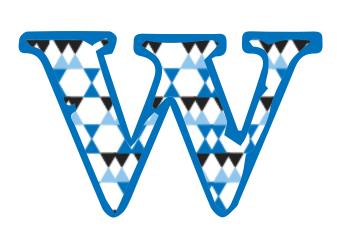
Ali Luke, blogger for Aliventures, published the following tips in her article, "Six Simple Ways to Improve Your Writing Environment (and Get More Done)":

- Turn off your internet connection during writing sessions
- Play music (or ambient noise) through noise-cancelling headphones
- Tidy up...but don't procrastinate
- Get physically comfortable
- Remove things that distract you
- Consider using scents or aromas

Q1a: What makes this environment a place you feel comfortable writing?

Schmieder shared that his environment is comfortable because "I can have multiple applications running simultaneously. I can keep notes and resources spread out while actually working on the manuscript, and I can remain focused on a task without distractions."





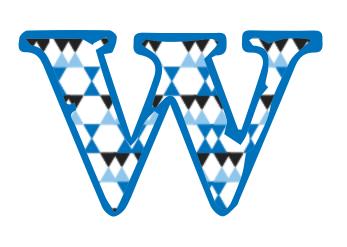
Gaelen Foley offers a number of suggestions for "Creating An Environment Conducive To Writing," with three key principles: get organized, avoid clutter, and develop healthy habits. Some specific suggestions for making the environment comfortable noted in the article are:

- Lighting
- Positioning
- Tools at your desk
- Methods for dealing with noise
- Using smells to help trigger your creative state

The Author Unlimited editorial team proposes that "If you ask 100 different writers where they prefer to write, you would get 100 different answers — or more." As a result, they focused their energy on environmental elements best suited for different types of writing activities in an article titled, "The 3 best writing environments for productivity, analysis, and creativity". In this article, they make the following three writing activity-related generalizations:

 When your aim of the day is to produce results, i.e., when you want to get words on a page as efficiently as possible, then comfort should be the top priority when





arranging your writing environment.

- An analytical environment is what you need when you're focusing on editing, doing challenging research, analysing data, or working on your marketing. And, the number one rule of an analytical environment is no distractions.
- Planning your outline, creating plot lines for chapters, case studies and stories, brainstorming ideas, and working on your writing flair is creative work, and creative work needs its own specific space.
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As a final source of consideration for developing a comfortable writing environment, Janet Miller, a blogger





for writehacked, claims that the 10 elements of the perfect writing environment are:

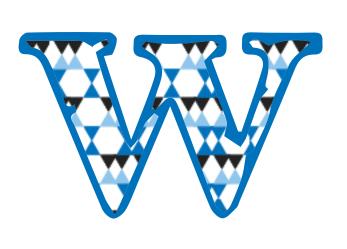
- A place where you can wear comfortable attire,
- a clutter-free space,
- a space where you can make it personal, Zen-like,
- a focused space with minimal distractions,
- comfortable,
- plugged in with access to the resources and accessories you need to write,
- equipped with a focused plan for your writing session,
- in a location conducive to your mental processes, and
- with suitable background noise for your preferences and productivity.

Q2: What physical characteristics are necessary in an effective writing environment?

We shifted the conversation with the next question slightly to identify essential physical characteristics of an effective writing environment.

Schmieder said the things he needs to write effectively are





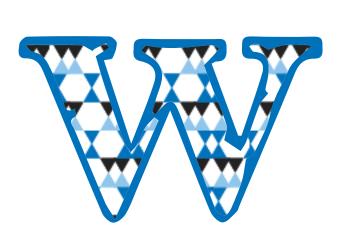
"space, paper, pen, laptop (most of the time for me), and minimal distractions."

According to Chanel Vargas in their article, "Set Up The Perfect Writing Environment For NaNoWriMo With These 7 Tips", "having everything you need nearby will keep you from having to get up and grab a charger or a pen every 15 minutes — which could totally throw off your writing flow. Keeping laptop chargers, phone chargers, headphones, a bottle of water, snacks, pens, paper, reference books, and anything else you need within arm's reach is a huge time saver that will make your writing nest feel more complete."

In her article, "How to Create a Productive Writing Environment", Anne Lyken-Garner, suggests two categories of characteristics necessary in an effective writing environment: stimulation and tools.

Discussing a stimulating writing environment, Lyken-Garner states, "You'll find that you're more productive if your working area is surrounded by things you like, enjoy or find relaxing." Some specific examples provided are:





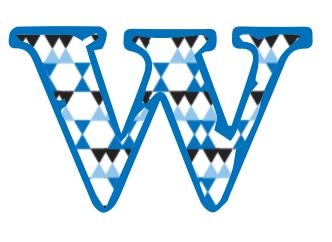
- If you have a window with a view, make sure you can see it from your chair so that you can take breaks and look out to nature regularly throughout your working day.
- If scents inspire you, have scented candles burning nearby.
- Collect your favourite inspiring or relaxing music on an album and keep them specifically for playing while you're writing.
- Even herbal teas or the occasional wine can inspire you.

Regarding the need for proper tools, Lyken-Garner says, "Nothing will sap your confidence and productivity quicker than frustration. If you can't connect to do your research, you can't complete your work." Tools she suggests having on hand for writing are: library of books needed for your work, memory sticks to back up your files, and a comfortable chair.

Q2a: What things should be removed from your environment to encourage writing?

While some things are essential to include in an effective environment, some are equally important to ensure aren't part of the environment. While decluttering your physical



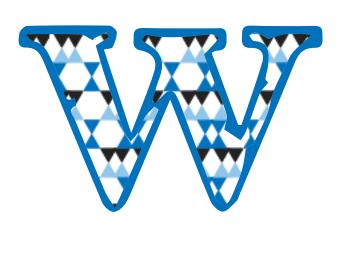


environment is certainly an essential element in encouraging writing, it's only the first of "Ten Ways to Declutter Your Mind and Free up Mental Space" presented by blogger Marelisa Fabrega. The other nine are:

- Write it down
- Keep a journal
- Let go of the past
- Stop multi-tasking
- Limit the amount of information coming in
- Be decisive
- Put routine decisions on auto-pilot
- Prioritize
- Learn to meditate

Jeff Goins also acknowleges the physcial space as an important place to declutter, but challenges that our writing itself needs to be decluttered as well in his article, "It's Time to Declutter Your Writing". In speaking of the actual writing, he says, "Erase all the lazy words and phrases, which fluff up your writing but add nothing to the content." Further, "Cut your writing down to its purest essence. Turn a 500-word article into 250 words. If you're brave, convert 1,000 words





into 300. Take away everything but exactly what you want to say."

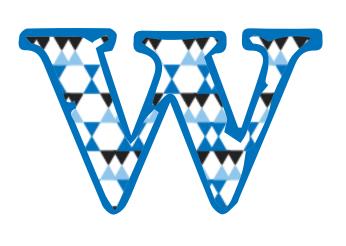
Q3: What tools and resources do you need to have on hand in an effective writing environment?

As mentioned earlier, having the proper tools and resources are necessary to complete our writing projects. For Schmieder, the necessary tools include "relevant research materials, notes, to do list, scratch pad for other ideas, and a laptop."

Salmons has different tools for different environments. "I use a desktop, because I like my big monitor, when traveling, a laptop. Also make notes by hand, to complement typing." In an article for SAGE MethodSpace, Salmons highlights tools for academic writers including word processing software, a bibliographic manager, flexible ways to get words on the page, a tool for capturing wild ideas on the fly, and a backup system for their work.

Joanna Penn, owner of The Cretive Penn shared a list of tools





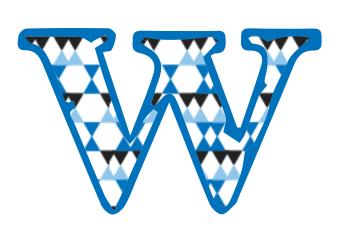
and resources for authors and writers categorized for writing, editing, and publishing purposes. Noting the overwhelming number of options available online, Sarah Darden compiled a list of 21 online tools and resources for academic essay writing from LifeHack that may also be useful.

Q4: In what ways do you personalize your writing environment?

According to a study conducted by psychological scientists Gregory A. Laurence, Yitzhak Fried, and Linda H. Slowik, "Individuals may consciously or subconsciously take comfort from the items with which they surround themselves at work, and these items may help employees to maintain emotional energy in the face of the stresses that come from their work and the distractions and difficulties inherent in working in a low privacy environment."

While some factors of our work environment may not be subject to our control, personalizing your writing environment can help you better connect with your work. In her article, "18 Ways to Improve Your Work Environment Continued on page 26





and Optimize Productivity," Amara Pope says, "If you feel alienated from what you are doing or simply want to improve the comfort of your work environment, bring a picture frame, change your screensaver, and make your work environment feel more like your own."

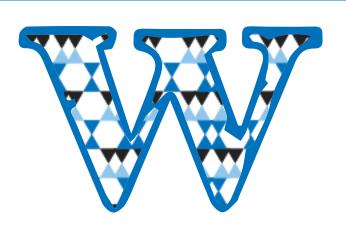
For those who write from home, Robin Petrik suggests that you "Make a few simple changes and add a handful of items to create your ideal writing environment at home." in her article, "How to Create an Ideal Writing Environment at Home." Specifically, she suggests the following:

- Create a dedicated workspace
- Have the right tools nearby
- Decorate your walls
- Invest in some plants
- Follow your own suggestions

Q5/5a: How does ambient noise impact your writing effectiveness? What type of noise do you prefer in an ideal writing environment?

Noise, both type and amount, can impact the effectiveness of a writing environment. As with the other suggestions for





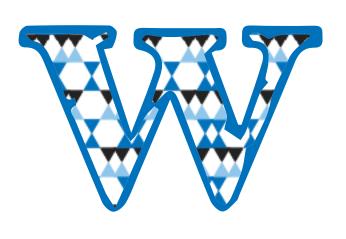
constructing an effective writing environment, the type and amount will vary based on the individual.

During the TweetChat, Salmons expressed a desire for silence in her writing environment. "While I love music, I am rarely able to listen and write. I need quiet. What a luxury silence is, in our busy world!" Nasima Riazat agreed, "Love this...I'm much more productive when it's quiet and there is silence in my work space. Music gives me a break...but it slows down my productivity."

According to Stephen Altrogge in an article titled, "The Science of Background Noise and the Best Sound Apps for Work, Sleep, and Relaxation," "In certain situations, ambient background noise has been scientifically proven to improve concentration and creativity." He also shares ten great apps for background noise.

Schmieder shared that "Ambient noise generally improves my productivity, but it needs to be distant from my work area. If I play music or sounds on the laptop I am working on, no matter how soft, it becomes a distraction." McNellis agreed stating, "I'm the same – it can't be on my laptop."



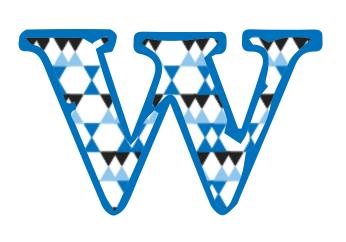


So, how much noise is enough? According to Scott Myers in his article, "Writing and the Creative Life: The Magic of Ambient Noise", "50 decibels or less isn't enough to heighten creativity. 85 decibels or more actually can inhibit creativity. 70 decibels is the magic number."

For most people, the noise can't be something they will focus on, such as music. It simply needs to be an atmosphere conducive to creative efforts. This is why so many writers get more done in coffee shops or similar locations.

McNellis echoes that idea stating that music is not the type of noise she needs to be productive. "I know that if I want focus on my writing or reading, I need some ambient sounds, but I can't do music. And I can't work in silence. Was directed to some great vids on YouTube." She also noted, "Strangely enough, I've discovered the sounds of a fireplace, papers rustling, and writing work really well for my concentration." For some additional background noise resources, check out "Increase Your Word Count with Ambient Noise: 5 Tools to Get More Done with Sound" and "5 Wonderful Background Noise Resources That Will Boost Your Productivity".





Q6: When traveling, how can you adapt an unfamiliar environment for writing effectiveness?

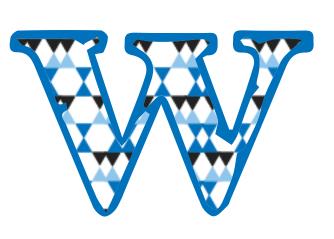
As academic writers, we often find ourselves traveling for conferences or other professional events and that travel can place us in writing environments that are less than ideal. The good news is there are ways to adapt to maintain our writing practice on the road.

Sarah Rhea Werner offered seven suggestions in a podcast episode titled *Tips for Writing While Traveling*, as follows:

- Make a list of writing supplies
- Make downtime productive
- Set realistic boundaries with travel companions
- Be as wide-eyed and open as a child
- Do a little research
- Journal
- Be okay with not writing

Schmieder says, "I try to identify a comfort zone in the hotel room. I adjust the chair or make myself comfortable on the bed to give myself room to work and be productive."

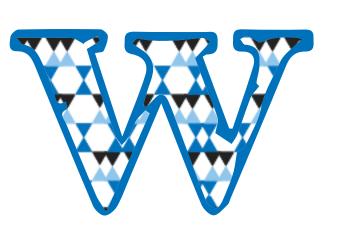




Finally, in her article "How to Improve Your Travel Writing While on the Road", "Travel writer Annapurna Mellor shares 3 simple exercises you can do on the road to help you get started and let the creativity flow."

Wherever you find yourself writing, hopefully these tips and resources help you to make it a place of comfort and productivity. •





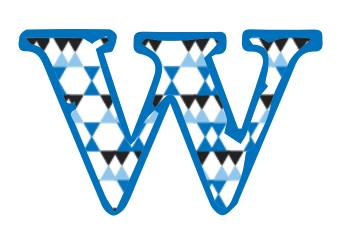
In this article, we are focused on *The When: Setting realistic Timeframes for Your Research.* Discussion from this TweetChat event focused on accurately estimating the amount of time necessary for completing writing projects and strategies to better manage the time commitments during the writing project.

Q1/1a: Do you regularly track the time spent on research efforts? When planning a research project, do you tend to accurately predict, overestimate, or underestimate the time required?

If you aren't tracking the amount of time you spend on research efforts, it is difficult to accurately predict the amount of time a new project will require. Even if you aren't tracking your time yet, you can still assess how accurately you are estimating the time requirements of your writing projects.

Eric Schmieder admitted during the TweetChat that failing to track time on projects results in a tendency to underestimate time requirements for other projects. "I tend to





to underestimate the time requirements – probably because I do not track the time on projects very well."

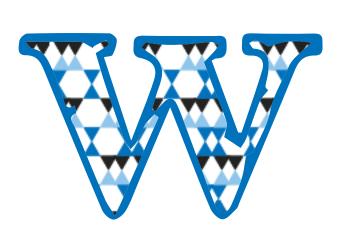
Chase Reeves shares "5 Tips to Help you Estimate how Much Time a Project Will Take" as follows:

- Double your estimation
- Plan with an accountability partner
- Reverse engineer a truly minimum viable product
- Keep a daily productivity journal
- Rediscover why you are doing this project

According to a paper titled "Five keys to estimating", presented at PMI® Global Congress 2008, John Stenbeck claims, "In the realm of project management, nothing is more valuable than estimates that accurately reflect reality, motivate their fulfillment, and facilitate rigorous accountability." He further explains that estimating is both a science and an art.

If you find that your to-do list is forcing you to make unrealistic estimates or is otherwise overly ambitious in your commitment to academic writing projects, Jane Jones offers five principles for making a better to-do list as follows:





- Be honest with yourself
- Set boundaries
- Say no
- Decide on a pace
- Schedule according to the peaks and valleys in your semester

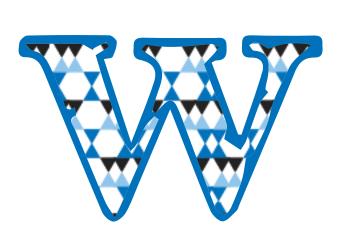
Q2/2a: What challenges do you face in scheduling time for research activities and writing? What strategies do you have for overcoming those challenges?

For Schmieder, the challenge is "Balancing those activities [research and writing] with other obligations such as family, work, volunteer efforts, etc." Balance is essential.

According to Cassie Premo Steele who offers "4 ways to work-life balance in 4 minutes", "The thing about balance is that each person has to define it for herself. What works for one person may not work for someone else. What helped you at one point in your life may not be helpful now." But how do we find the balance that works for us now?

Susan Robison says, "Don't manage time, manage goals". In





managing goals, she says there are five things you can do:

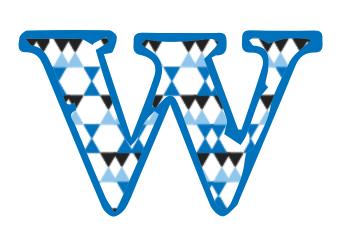
- Anchor your tasks to a sense of meaning and purpose
- Prioritize which tasks are worthy of your resources of time, talent, energy, and attention
- Allocate tasks across units of time
- Account for the results of the allocation
- Build and broaden your resilience and happiness while you do the above things

Meg Keeley of Bucks County Community College echoes this mindset, saying "As you look at how you spend your time, ask yourself if this matches you're priorities." in an online resource titled, "Managing Your Time and

Study Environment." She then offers seven tips to using your time wisely:

- Clear your schedule. Don't overextend yourself.
- Get motivated.
- Prioritize.
- Make sure you understand the task.
- Break down the task into chunks.
- It doesn't have to be perfect.
- When you really hate it, try to make it as enjoyable as possible.
 Continued on page 35





Q3: What tools or resources do you use to improve your time management?

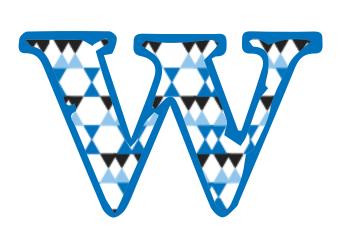
Kirstin O'Donovan states in a Lifehack article, "If you're not taking advantage of one of the hundreds of time management apps and tools out there, you're definitely missing a trick." In the same article she shares 18 of the best available.

MindTools has a curated list of 62 time management tools in their list, but regardless of the tool, the purpose remains the same – track your time and know where it is being spent and what is available for the projects you're working on.

Schmieder relies on a shared calendar approach to balance projects with family life. "I maintain a shared calendar with my wife through Google where all events are shared so I can find time between the planned activities for the research and writing efforts", he said.

Q4: How can working with others impact your ability to maintain a realistic schedule?





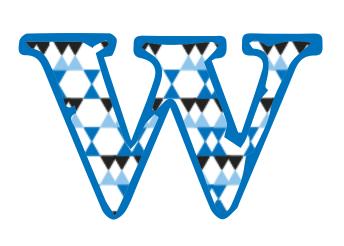
Schmieder commented that "being dependent on the schedules of others and coordinating time for review and discussion can add to the challenges of predicting and maintaining a project schedule." That dependency and additional scheduling elements introduce complexities beyond individual control.

Another interesting factor worth considering is the way each collaborator views deadlines. In a study conducted by Meng Zhu, an associate professor of marketing at the Johns Hopkins Carey Business School, she found that "people tend to choose impractical and ineffective approaches to tasks and deadlines" and "misperceptions of deadlines [and] urgency influence time management and performance."

Q5/5a: How does the size of the project impact your ability to set realistic schedules? How do you manage large projects to better manage the time necessary for smaller pieces?

As projects increase in size and scope, it is naturally more challenging to estimate the total amount of time necessary





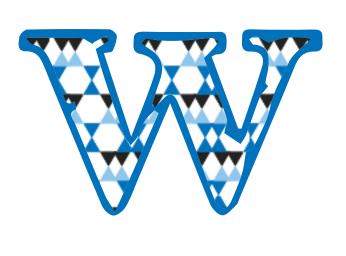
for smaller pieces?

As projects increase in size and scope, it is naturally more challenging to estimate the total amount of time necessary for completion. After all, there are more places for schedules to change – for better or worse.

According to Meggin McIntosh, "academics have between 20 and 50+ writing projects at any given time, but 'people don't do projects.' Projects can be broken into hunks, but you don't do hunks. Hunks can be broken into chunks, but you don't do chunks. Chunks can be broken into bites. You do bites!" For more about breaking a project into bites that can get done, read the TAA article, "How to actually complete your writing projects: One bite at a time".

In addition to simply breaking down a project into smaller pieces, Schmieder stated, "Larger projects are easier to manage when the smaller pieces are considered in relation to one another. Items that are dependent on earlier steps must account for the time to complete the other steps as well." Project management software and principles can help determine the interdepondency of smaller pieces of a large





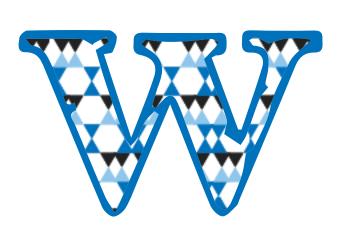
project and ensure that things are completed in an optimal order.

Q6: How can you best balance your time when working on multiple research projects at the same time?

Schmieder shared that "often multiple research projects have some overlap due to discipline and research interests. Finding that overlap and focusing time where you can collect or review literature for multiple projects at once can help overall." Dr. Janet Salmons agreed, suggesting "look for efficiencies and overlaps, so use time to accomplish more than one goal."

Cited in a TAA article, "Time management strategies: Take a time inventory", William Weare shared "one of the strategies he has used to become more productive is taking a time inventory to visually see where his time goes." In conducting the time inventory, the focus is on granularity, so he suggests tracking everything you do in a day. "And he means everything: I get to work; I logged on; I put my milk in the refrigerator; I unpacked my stuff; I checked the weather; I checked in with my staff; I went to the restroom."

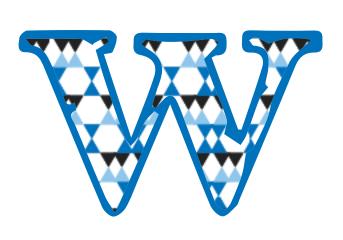




Noelle Sterne suggests that meditation and mindfulness may be helpful in accomplishing your academic projects. Before ruling this idea out, consider the responses to "five big excuses for not practicing meditation or mindfulness and suggests how to overcome them" presented by corporate training consultant Karen Exkorn and summarized by Sterne.

- "No time" means you haven't made the time. Even three minutes works (your timer again).
- "Too busy" means you don't have to add special time for the practice. Use mindfulness doing what you're doing, only more consciously (dishes, diapering, grading papers).
- "Too stressed"? Focus on doing one thing with full consciousness. Exkorn uses eating Hershey Kisses. You can use anything—a banana, driving, listening to a student pleading for an extension.
- "Tried it"? For how long? Give it a fair chance, like any new habit.
- "Too New Agey"? As Exkorn points out, mindfulness was featured on a January 23, 2014, *Time* magazine cover and in a *New York Times* article, Mindfulness has



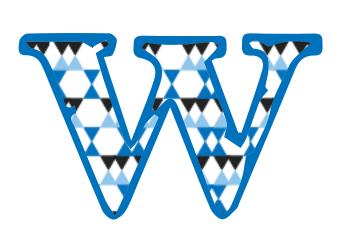


been praised and regularly practiced by actors, professional athletes, sports teams, and business leaders. And mindfulness and meditation are used by staff at Google, General Mills, Twitter, and many corporations. Recently, a PBS special aired titled "Mindfulness Goes Mainstream."

Salmons added, "I am not a clock-watcher, and setting time limits/goals doesn't work for me. We each need to find own strategy!"

Whatever your individual strategy, we hope that these resources help you to better manage your writing projects and set realistic timeframes for completing them. •





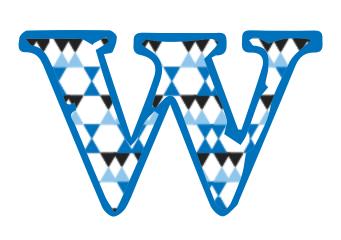
So far in this series we have examined how to define a research project – *The What, The Where, and The When.* In this article, we will explore *The Who: Finding Key Sources in the Existing Literature.*

Q1: What methods do you use to identify key sources in existing literature?

According to an online guide of *Literature Review Basics* from the Wilson Library at the University of La Verne, focus should be on both primary and secondary sources for the research topic. Specifically, the guide states, "When reviewing the literature, be sure to include major works as well as studies that respond to major works."

Eric Schmieder echoed this thought in his response during the TweetChat event, stating, "When reading existing literature, items in the works cited list that appear multiple times in the article itself or are directly quoted often become key to that article and may be key to my research (assuming the main article is)". In this way, the sources found during the research efforts may lead you to additional sources



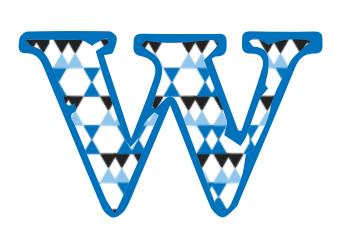


the research efforts may lead you to additional sources relevant to your research.

Research Methodology, an educational portal developed by John Dudovskiy, divides literature review sources into three categories as shown below.

Sources of literature	Characteristics	Examples
Primary sources for the literature	High level of detail Little time needed to publish	Reports Theses Emails Conference proceedings Company reports Unpublished manuscript sources Some government publications
Secondary sources for the literature	Medium level of detail Medium time needed to publish	Journals Books Newspapers Some government publications
Tertiary sources for the literature	Low level of detail Considereable amount of time needed to publish	Indexes Databases Catalogues Encyclopaedias Dictionaries Bibliographies Citation indexes





Q1a: How do you determine a source to be "key" to your research?

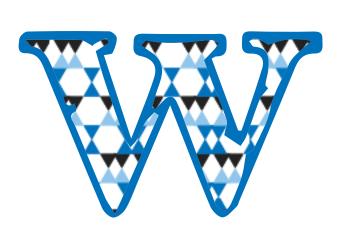
An online guide from the UC Santa Cruz University Library reminds us "Just being in print or available via the Internet doesn't guarantee that something is accurate or good research. When searching the Web, it's important to critically evaluate your search results." To do so they offer three ways to evaluate your results, as follows:

- Look for articles published in scholarly journals
- Look for materials at Web sites that focus on scholarly resources
- Compare several opinions

Schmieder stated, "If the source adds historical knowledge, methodology guidance, or justification for future research that pertains to my current study, it is 'key' to my research".

According to the UNC Health Services Library's Research Steps, "You don't have to agree with a source for it to be a key source." They further suggest using a variety of key sources in your research like:





- 1 one source that provides a good overview
- 2 two sources with sharply contrasting views
- 3 one source for technical information
- 4 one source that concentrates on social implications

As you examine the sources encountered through your research efforts, the University of Minnesota's Strategies for Gathering Reliable Information resource advises "To weed through your stack of books and articles, skim their contents. Read quickly with your research questions and subtopics in mind."

They further provide the helpful tips for skimming books and articles shown below.

Tips for Skimming Books

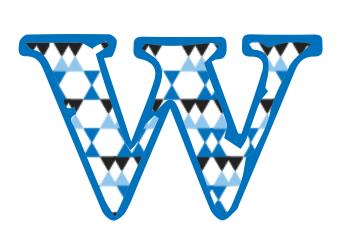
Read the dust jacket and table of contents for a broad overview of the topics covered.

- Use the index to locate more specific topics and see how thoroughly they are covered.
- Flip through the book and look for subtitles or key terms that correspond to your research.

Tips for Skimming Articles

- Skim the introduction and conclusion for summary material.
- Skim through subheadings and text features such as sidebars.
- Look for keywords related to your topic.
- Journal articles often begin with an abstract or summary of the contents. Read it to determine the article's relevance to your research.





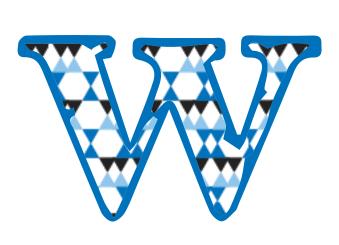
Q2: How can you use the bibliographies from the articles you reference to identify key sources?

Schmieder noted during the TweetChat event that "If the current article is relevant, those items listed in its bibliography are potentially relevant as sources for the one I have found and am reading."

The Hunter College Libraries expand upon this topic in their online resource titled *Using Good Sources to Find More Good Sources*. They state, "We don't just read sources to find material for our papers. Good sources also lead us to new questions and new sources." To accomplish that, they suggest ways to use the current source's keywords, questions, and bibliography for further exploration of a subject.

In an Oxford University Press blog article, Alice Northover offers "Ten ways to use a bibliography", including:





- 1- Make research more efficient
- 2 Separate reliable, peer-reviewed sources from unreliable or out-of-date
- 3 Establish classic, foundational works in a field

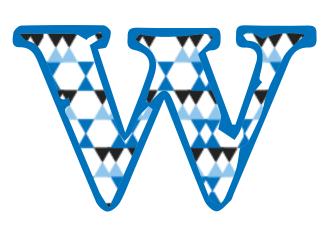
Q2a: Does the frequency of occurrence in other bibliographies identify a source as key to your research?

Schmieder says, "Not necessarily, but if multiple relevant sources cite the same article, it's likely a key connection and worth reading to consider as a key source for my current research."

The *Searching Cited References* guide from CSU Northridge Oviatt Library says that "locating cited references is useful for finding current articles on a topic, identifying the top researchers in a field, and for tenure decisions." They also share search tips for specific databases including EbscoHost, Google Scholar, ScienceDirect, and JSTOR.

Q3: What is citation analysis and how can it help identify key sources?





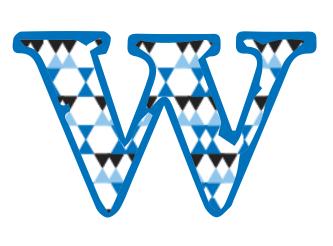
According to the University of Illinois Chicago (UIC)
University Library resource, *Measuring Your Impact: Impact Factor, Citation Analysis, and other Metrics: Citation Analysis,*"Citation analysis involves counting the number of times an article is cited by other works to measure the impact of a publication or author. The caveat however, there is no single citation analysis tools that collects all publications and their cited references."

Nevertheless, citation analysis is useful and the University of Michigan Library's *Research Impact Metrics: Citation Analysis* resource guide offers three reasons for using it. To find out how much impact a particular article has had by showing which authors based some work upon it or cited it as an example within their own papers.

To find out more about a field or topic; i.e. by reading the papers that cite a seminal work in that area.

To determine how much impact a particular author has had





by looking at the number of times his/her work has been cited by others.

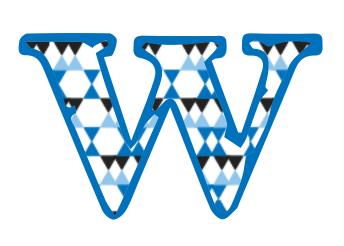
During the TweetChat event, Schmieder shared, "Although it provides a general "popularity" aspect that can be interpreted as a relevance score, I evaluate the source independently for my own use and relevance/value."

The University of Cincinnati provides a resource on *Citation*Analysis Tools & Instructions to introduce "the sources available to the UC community for creating citation counts and conducting citation analysis and explain their coverage and method of searching." This resource includes details on Web of Science, Scopus, Google Scholar, and Altmetrics.

Q4: What is journal impact factor and what role does it play in identifying key sources?

The UIC University Library guide on Journal Impact Factor (IF) states, "The impact factor (IF) is a measure of the frequency with which the average article in a journal has been cited in a particular year. It is used to measure the importance or rank of a journal by calculating the times it's





articles are cited."

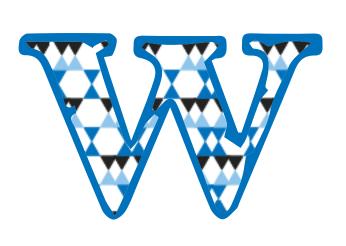
Schmieder said, "JIF identifies the practical use and citation of articles published within a journal. This again can imply relevance and value, but is less substantial IMO to the value the source has on my research. The benefit to using articles with high JIF is later association."

Clarivate Analytics notes, "Though not a strict mathematical average, the Journal Impact Factor provides a functional approximation of the mean citation rate per citable item." Further, "The Journal Impact Factor is a publication-level metric. It does not apply to individual papers or subgroups of papers that appeared in the publication. Additionally, it doenot apply to authors of papers, research groups, institutions, or universities."

Q5: In what ways do key sources impact your research efforts or results?

According to the Study.com lesson titled Evaluating Sources for Reliability, Credibility, and Worth, "Before you evaluate your source, you need to first evaluate the purpose of your





research. If you are researching for an academic paper, then you need to have very credible, reliable, and worthwhile sources because your teacher or professor will be judging the authenticity of the sources. However, if you are perusing the Internet for general interest, then you are left to your own judgment of the information."

The CRAAP Test is discussed in the online guide from the UC Santa Cruz University (referenced earlier) is an effective method for evaluating the quality of research sources:

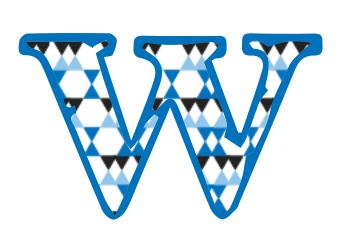
- Currency the timeliness of the information
- Reliability the importance of the information
- Authority the source of the information
- Accuracy the reliability, truthfulness, and correctness of the information
- Purpose the reason the information exists

Q5a: How can key sources be used to focus your research project?

Sandra Jamieson at Drew University published an online resource for writers titled "Drafting & refocusing your paper"

Continued on page 51





in which she addresses this topic directly. She says, "You've chosen a topic, asked questions about it, and located, read, and annotated pertinent sources. Now you need to refocus your topic. What changes do you need to make in order to account for the available sources?"

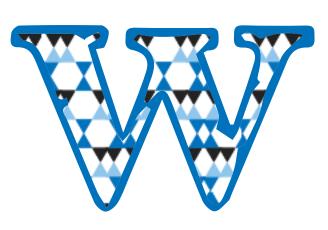
Continuing on, Jamieson notes that "Once the topic has been refined sufficiently for the research to begin, the student gradually formed an opinion on the subject, answered the research questions, and refined the topic into a thesis". It is through the research process that the specific research topic and related questions become clear.

- Accuracy the reliability, truthfulness, and correctness of the information
- Purpose the reason the information exists

Q6: How can you improve your potential of writing articles that become key sources for future research by others?

By focusing effort on increasing one's h-index, a researcher can improve their potential of becoming a key source for the





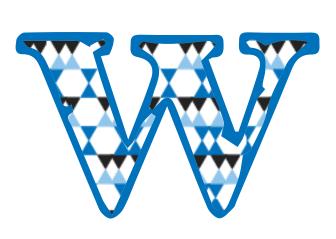
research of others. According to the UIC University Library Citation Analysis guide referenced earlier, "The h-index is an index to quantify an individual's scientific research output [and] attempts to measure both the scientific productivity and the apparent scientific impact of a scientist."

Interested in increasing your h-index? A paper by Gola Dem titled "How to Increase Your Papers Citation and H Index" shares the following five steps used by Nelson Tansu, the youngest professor in Indonesia, to increase your citation index.

- Self citation and more self citation
- Double publicationRapid self citation
- Go to SPIE Conference
- Quote more references and cover up your act, the important is the number of self citation

Obviously the final suggestions proposed by the last referenced article are a bit tongue-in-cheek as we finish out the discussion of key sources in the literature and reliable sources. The point, however, is to be careful what you use for references to ensure that the quality of your work does not come under unwarranted scrutiny. •





In the first four articles of this series, we examined *The What: Defining a research project, The Where: Constructing an Effective Writing Environment, The When: Setting Realistic Timeframes for Your Research,* and *The Who: Finding Key Sources in the Existing Literature.* In this article, we will explore the fifth, and final, W of academic writing, *The Why: Explaining the Squificance of Your Research.*

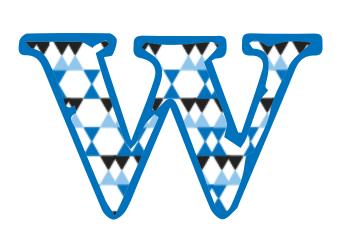
Q1: When considering the significance of your research, what is the general contribution you make?

According to the Unite for Sight online module titled "The Importance of Research":

"The purpose of research is to inform action. Thus, your study should seek to contextualize its findings within the larger body of research. Research must always be of high quality in order to produce knowledge that is applicable outside of the research setting. Furthermore, the results of your study may have implications for policy and future project implementation."

In response to this TweetChat question, Twitter user





eaemidr shared that the "dissemination of the research outcomes" is their contribution. Petra Boynton expressed a contribution of "easy to follow resources other people can use to help improve their health/wellbeing".

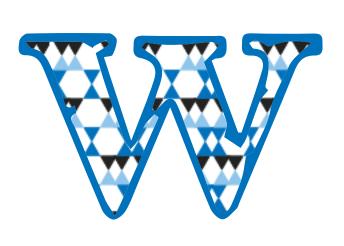
Eric Schmieder said, "In general, I try to expand the application of technology to improve the efficiency of business processes through my research and personal use and development of technology solutions." While Janet Salmons offered the response, "I am a metaresearcher, that is, I research emerging qualitative methods & write about them. I hope contribution helps student & experienced researchers try new approaches."

Despite the different contributions each of these participants noted as the significance of their individual research efforts, there is a significance to each. In addition to the importance stated through the above examples, Leann Zarah offered 7 Reasons Why Research Is Important, as follows:

- A Tool for Building Knowledge and for Facilitating Learning
- Means to Understand Various Issues and Increase Public Awareness

Continued on page 55





- An Aid to Business Success
- A Way to Prove Lies and to Support Truths
- Means to Find, Gauge, and Seize Opportunities
- A Seed to Love Reading, Writing, Analyzing, and Sharing Valuable Information
- Nourishment and Exercise for the Mind

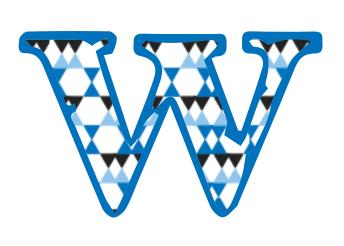
Q1a: What is the specific significance of your research to yourself or other individuals?

The first of "3 Important Things to Consider When Selecting Your Research Topic", as written by Stephen Fiedler is to "choose something that interests you". By doing so, you are more likely to stay motivated and persevere through inevitable challenges.

As mentioned earlier, for Salmons her interests lie in emerging methods and new approaches to research. As Salmons pointed out in the TweetChat, "Conventional methods may not be adequate in a globally-connected world – using online methods expands potential participation."

For @aemidr, "specific significance of my research is on





health and safety from the environment and lifestyle". In contrast, Schmieder said "my ongoing research allows me to be a better educator, to be more efficient in my own business practices, and to feel comfortable engaging with new technology".

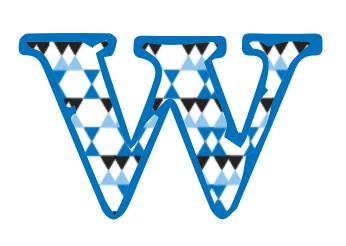
Regardless of discipline, a personal statement can help identify for yourself and others your suitability for specific research. Some things to include in the statement are:

- Your reasons for choosing your topic of research
- The aspects of your topic of research that interest you most
- Any work experience, placement or voluntary work you have undertaken, particularly if it is relevant to your subject. Include the skills and abilities you have gained from these activities
- How your choice of research fits in with your future career plans

Q2: Why is it important to communicate the value of your research?

According to Salmons, "If you research and no one knows

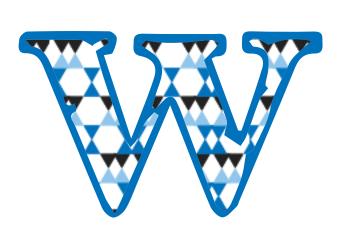




about it or can use what you discover, it is just an intellectual exercise. If we want the public to support & fund research, we must show why it's important!" She has written for the SAGE MethodSpace blog on the subject Write with Purpose, Publish for Impact building a collection of articles from both the MethodSpace blog and TAA's blog, Abstract.

Peter J. Stogios shares with us benefits to both the scientist and the public in his article, "Why Sharing Your Research with the Public is as Necessary as Doing the Research Itself". Unsure where to start? Stogios states, "There are many ways scientists can communicate more directly with the public. These include writing a personal blog, updating their lab's or personal website to be less technical and more accessible to non-scientists, popular science forums and message boards, and engaging with your institution's research communication office. Most organizations publish newsletters or create websites showcasing the work being done, and act as intermediaries between the researchers and the media. Scientists can and should interact more with these communicators."





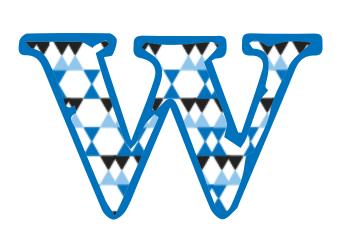
Schmieder stated during the TweetChat that the importance of communicating the value of your research is "primarily to help others understand why you do what you do, but also for funding purposes, application of your results by others, and increased personal value and validation".

In her article, "Explaining Your Research to the Public: Why It Matters, How to Do It!", Sharon Page-Medrich conveys the importance, stating "UC Berkeley's 30,000+ undergraduate and 11,000+ graduate students generate or contribute to diverse research in the natural and physical sciences, social sciences and humanities, and many professional fields. Such research and its applications are fundamental to saving lives, restoring healthy environments, making art and preserving culture, and raising standards of living. Yet the average person-in-the-street may not see the connection between students' investigations and these larger outcomes."

Q2a: To whom is it most difficult to explain that value?

Although important, it's not always easy to share our research efforts with others. Erin Bedford sets the scene as





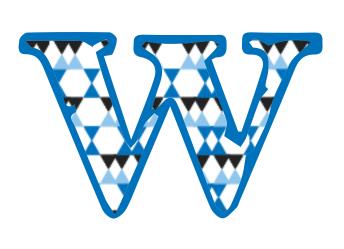
she tells us "How to (Not) Talk about Your Research". "It's happened to the best of us. First, the question: 'so, what is your research on?' Then, the blank stare as you try to explain. And finally, the uninterested but polite nod and smile." Schmieder acknowledges that these polite people who care enough to ask, but often are the hardest to explain things to are "family and friends who don't share the same interests or understanding of the subject matter." It's not that they don't care about the efforts, it's that the level to which a researcher's investment and understanding is different from those asking about their work.

When faced with less-than-supportive reactions from friends, Noelle Sterne shares some ways to retain your perspective and friendship in her TAA blog article, "Friends – How to deal with their negative responses to your academic projects".

Q3: What methods have you used to explain your research to others (both inside and outside of your discipline)?

Schmieder stated, "I have done webinars, professional Continued on page 60





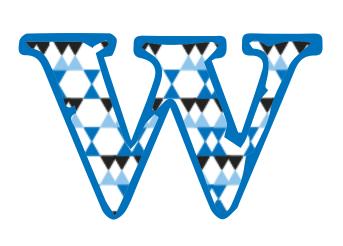
development seminars, blog articles, and online courses" in an effort to communicate research to others. The Edinburg Napier University LibGuides guide to Sharing Your Research includes some of these in their list of resources as well adding considerations of online presence, saving time / online efficiency, copyright, and compliance to the discussion.

Michaela Panter states in her article, "Sharing Your Findings with a General Audience", that "tips and guidelines for conveying your research to a general audience are increasingly widespread, yet scientists remain wary of doing so." She notes, however, that "effectively sharing your research with a general audience can positively affect funding for your work" and "engaging the general public can further the impact of your research".

If these are affects you desire, consider CES's "Six ways to share your research findings", as follows:

- Know your audience and define your goal
- Collaborate with others
- Make a plan





- Embrace plain language writing
- Layer and link, and
- Evaluate your work

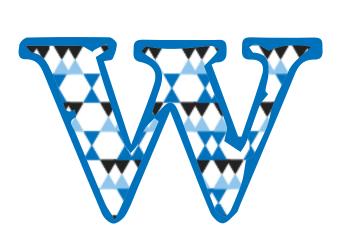
Q4: What are some places you can share your research and its significance beyond your writing?

Beyond traditional journal article publication efforts, there are many opportunities to share your research with a larger community. Schmieder listed several options during the TweetChat event, specifically, "conference presentations, social media, blogs, professional networks and organizations, podcasts, and online courses".

Elsevier's resource, "Sharing and promoting your article" provides advice on sharing your article in the following ten places:

- At a conference
- For classroom teaching purposes
- For grant applications
- With my colleagues
- On a preprint server
- On my personal blog or website





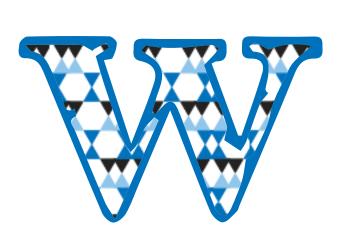
- On my institutional repository
- On a subject repository (or other non-commercial repository)
- On Scholarly Communication Network (SCN), such as Mendeley or Scholar Universe
- Social Media, such as Facebook, LinkedIn, Twitter

Nature Publishing Group's "tips for promoting your research" include nine ways to get started:

- Share your work with your social networks
- Update your professional profile
- Utilize research-sharing platforms
- Create a Google Scholar profile or review and enhance your existing one
- Highlight key and topical points in a blog post
- YouTube
- Make your research outputs shareable and discoverable
- Register for a unique ORCID author identifier
- Encourage readership within your institution

Finally, Sheffield Solutions produced a top ten list of actions to help share and disseminate your work more widely online, as follows:





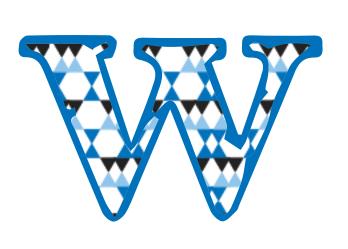
- Create an ORCID ID
- Upload to Sheffield's MyPublications system
- Make your work Open Access
- Get a DOI
- Create a Google Scholar profile
- Join an academic social network
- Connect through Twitter
- Blog about your research
- Upload to Slideshare or ORDA
- Track your research

Q5: How is the significance of your study conveyed in your writing efforts?

Schmieder stated, "Significance is conveyed through the introduction, the structure of the study, and the implications for further research sections of articles". According to The Writing Center at University of North Carolina at Chapel Hill, "A thesis statement tells the reader how you will interpret the significance of the subject matter under discussion".

In their online "Tips & Tools resource on Thesis Statements", they share the following six questions to ask to help determine if your thesis is strong:





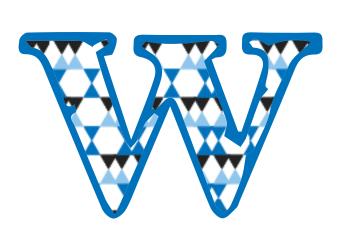
- Do I answer the question?
- Have I taken a position that others might challenge or oppose?
- Is my thesis statement specific enough?
- Does my thesis pass the "So what?" test?
- Does my essay support my thesis specifically and without wandering?
- Does my thesis pass the "how and why?" test?

Some journals, such as Elsevier's Acta Biomaterialia, now require a statement of significance with manuscript submissions. According to the announcement linked above, "these statements will address the novelty aspect and the significance of the work with respect to the existing literature and more generally to the society." and "by highlighting the scientific merit of your research, these statements will help make your work more visible to our readership."

Q5a: How does the significance influence the structure of your writing?

According to Jeff Hume-Pratuch in the Academic Coaching &





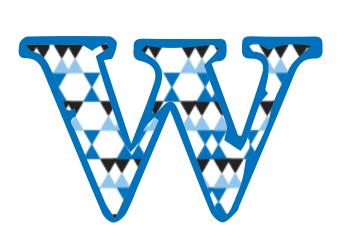
Writing (ACW) article, "Using APA Style in Academic Writing: Precision and Clarity", "The need for precision and clarity of expression is one of the distinguishing marks of academic writing." As a result, Hume-Pratuch advises that you "choose your words wisely so that they do not come between your idea and the audience." To do so, he suggests avoiding ambiguous expressions, approximate language, and euphemisms and jargon in your writing.

Schmieder shared in the TweetChat that "the impact of the writing is affected by the target audience for the research and can influence word choice, organization of ideas, and elements included in the narrative".

Discussing the organization of ideas, Patrick A. Regoniel offers "Two Tips in Writing the Significance of the Study" claiming that by referring to the statement of the problem and writing from general to specific contribution, you can "prevent your mind from wandering wildly or aimlessly as you explore the significance of your study".

Q6: What are some ways you can improve your ability to explain your research to others?





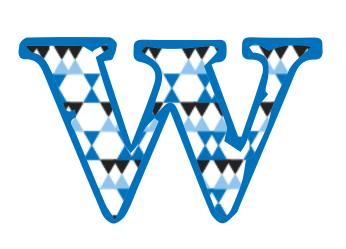
For both Schmieder and Salmons, practice is key. Schmieder suggested, "Practice simplifying the concepts. Focus on why rather than what. Share research in areas where they are active and comfortable".

Salmons added, "answer 'so what' and 'who cares' questions. Practice creating a sentence. For my study of the collaborative process: 'Learning to collaborate is important for team success in professional life' works better than 'a phenomenological study of instructors' perceptions'".

In a guest blog post for *Scientific American* titled "Effective Communication, Better Science", Mónica I. Feliú-Mójer claimed "to be a successful scientist, you must be an effective communicator." In support of the goal of being an effective communicator, a list of training opportunities and other resources are included in the article.

Along the same lines, The University of Melbourne shared the following list of resources, workshops, and programs in their online resource on academic writing and communication skills:





- Speaking and Presenting: Resources for presenting your research, using PowerPoint to your advantage, presenting at conferences and helpful videos on presenting effectively
- Research Impact Library Advisory Service (RILAS): Helps you to determine the impact of your publications and other research outputs for academic promotions and grant applications
- Three Minute Thesis Competition (3MT): Research communication competition that requires you to deliver a compelling oration on your thesis topic and its significance in just three minutes or less.
- Visualise your Thesis Competition: A dynamic and engaging audio-visual "elevator pitch" (e-Poster) to communicate your research to a broad non-specialist audience in 60 seconds.

As we complete this series exploration of the 5W's of academic writing, we hope that you are adequately prepared to apply them to your own research efforts. •





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