The Research Guide

Part 1: Getting Started

A GUIDE FOR STUDENTS WHO WANT TO LEARN MORE ABOUT RESEARCH AND HOW THEY CAN GET INVOLVED AT UCSD.

UC San Diego

About Me & This Guide

Hello there! My name is Anahi Ibarra and I am a UCSD Alumna from South Central, Los Angeles. I decided to create this research flip book guide, specifically for first generation college students, to help with learning about research and how to get involved on campus. First gen or not, I hope this guide can be a helpful resource to you if you find yourself feeling a little stuck on maybe what research is, what research looks like and what steps you can take to get yourself started. Throughout this booklet, you'll find resources, tips & tricks, and a lot of valuable information about programs you should consider applying to. I'll also talk a bit on my experience to help give you an idea about the different things you can do in research. This guide is for students just getting started however, if you have already been accepted into a research program and are wondering what happens next, stay tuned for part 2 of The Research Guide. In part 2, I'll go more into detail about research terms you might find helpful, methodologies, survey software, data programs, deliverables (research papers, presentations, projects, etc.), and the overall research process. Now, let's go ahead and get started!!

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So what is research and how do I know its for me?

Institutional logistics aside, research is simply the gathering or investigation of factual information used to arrive at some form of conclusion or finding. When most people think of research and who a researcher is, they often think of people in lab coats working on sciency things such as the pictures on the right (seriously, there is research on this topic too- and all I did was google "researcher.")
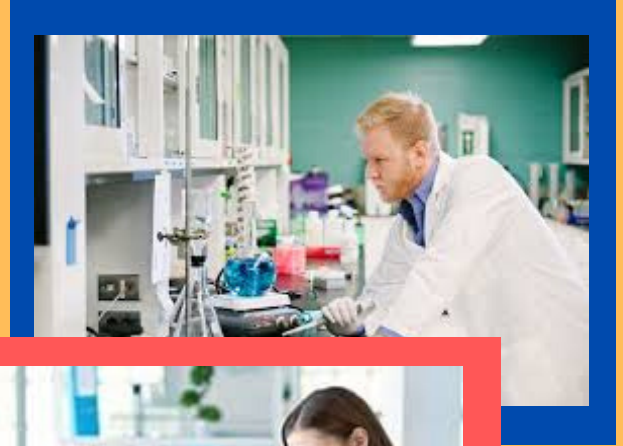
Although that is certainly an example of what research can look like, there are also many other forms of research. & if at this point, you are struggling to picture yourself as a researcher because maybe you don't quite know what a researcher does, I am here to tell you that,
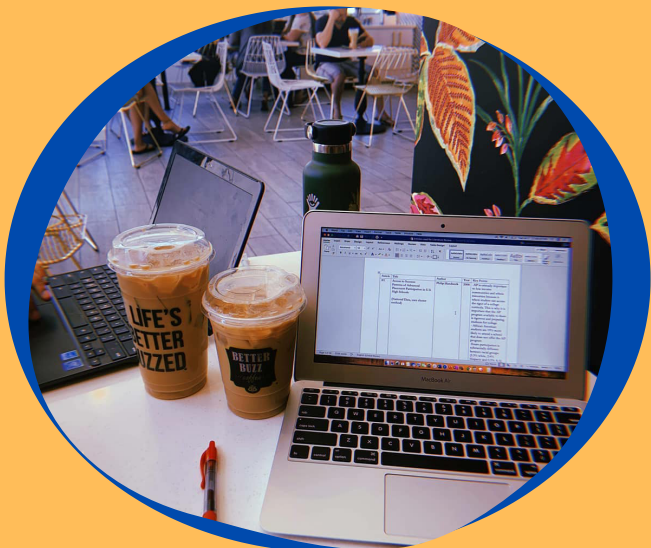
YOU are a researcher

In fact, what you are doing now is... research. You're taking the time to search for information, which i'm sure you'll use to inform your decisions on whether or not you'll want to apply to a research program. You also conducted research when you decided to apply to this school and gather information on different things like major depts, financial aid, campus location, rankings, etc.

So, in thinking about whether or not research is the "right" thing for you, make sure your reason isn't simply because you "don't know" how to do research. You are a researcher in every sense of the word!

Moving away from the dominant perspective of research, here are a couple of other examples of what research can look like.

(Pictured on the right): Meeting up with your faculty mentor to ask questions, gain insight, review information, and overall build a meaningful relationship.

(Pictured above): reading articles on your topic & enjoying some iced coffee right down the street from the beach.

(Pictured on the left): research can also be collaborative. It can look like meeting up with other students in class, friends, grad students, staff or any other person you think has some valuable information and insight to offer about your research topic or interest.

(Pictured above): And of course, research can involve working in a lab setting. This is a reminder to my POC students, and Black students in particular, that you deserve to take up space too!

(Pictured on the left): research can be qualitative and that may involve conducting interviews with people about their experiences, thoughts and feelings.

What are the benefits of doing research?

There are so many benefits of doing research. Here, I have outlined a couple just to give you an idea of what you can gain & how it can aid in your personal and professional development.

Transferable skills

The process of doing research allows you to develop and enhance many skills that can be applied to other aspects of your life such as classes, work spaces, projects, etc. Some of these skills include, learning how to interview people, how to analyze data and work with softwares/programs like Excel and Qualtrics, how to read more closely, how to make graphics, how to write a research paper and so much more!

Grad School Prep

The great thing about these transferable skills is that it is very similar to what you'll be expected to do in Grad School (If you decide to go that route, of course). Additionally, many research programs, such as McNair, offer a variety of Grad Prep workshops that include studying for the GRE, how to write a personal statement, and hosting grad school panels with grad students. They also provide grad prep materials & fee waivers for grad school applications and exams (though this may differ by program).

Financial Compensation

For those of you who may be wondering about how you'll be able to spend so much time doing research without worrying about paying for housing and other expenses, I am here to tell you that fortunately, many research programs offer stipends that can range anywhere from $1,000-$5,000 (this varies by program). Some also offer free housing, although typically housing opportunities are only for Summer. You can find more information on the amount of money each program offers in the "Programs" section of this guide.

Social/Networking

Aside from all the valuable skills and preparation you'll gain, doing research also provides excellent opportunities to meet other undergraduate students, grad students and staff members. Research programs typically incorporate social events where you'll be able to talk with other folks and learn about their research too! Sometimes it may even connect you with opportunities you weren't aware of before!

Career Development

One of the most crucial things I believe people gain from doing research is career development. For many, research gives students a better idea of the career path they want to take in the future. Whether it is helping them figure out what they want to do or what they *don't* want to do- the experience is valuable nonetheless. Research also gives you the opportunity to present at conferences in different locations and publish your findings in a journal!

So... where do I begin?

Although there is no official time and place to start, it is helpful to keep some things in mind as you begin to look into research programs. Here are some things to consider:

Faculty mentors & Letters of Recommendation

Most research programs will require either a letter of rec as part of your application or contact info for who you choose as a faculty mentor. It is helpful to begin fostering connections with your professors so that you have an idea about who you want your mentor to be. Transfer students can get letters of rec from their community colleges .

Research topic/ Interest

The cool thing about research is that you can choose to create your own research project or join an existing project under a faculty mentor. Either way, when applying, you'll want to make sure you have some idea about what it is you want to research. It's okay if your research topic or question changes along the way!

Timeline

Different research programs have different timelines. Some are only a quarter long, some are a year long, and some only occur during summer. Be sure to look into which timeline fits best with your schedule.

GPA

Finally, research programs also differ on the minimum GPA requirement. Whatever your GPA, I encourage you to apply anyways- your GPA does not define you.

Programs you should consider applying to

Click on each circle to learn more information!

McNair Scholars Program

$2,800 stipend + free housing, grad school prep, & fee waivers

TRELS Program

$1,000 for quarter awards and $5,000 for summer awards

UC Scholars Program

$2,800 stipend + free housing, & grad school prep

URS Program

$5,000 stipend, grad school workshops and prep

CAMP Fellowship

$3,500 stipend + free housing during summer

Faculty Mentor Program

8 units of independent study, grad school prep

Part 2: Stay Tuned!

I hope that after reading this guide you were able to learn a little more about what research is and what it can look like. Remember, the possibilities are endless! Research can be art, music, dance-- in fact, creating this little guide was a part of my research project. With that being said, I wish the absolute best for those of you who decide to apply to research programs. When you get accepted, feel free to read part 2 of The Research Guide to help you with the research process. Personally, I know I had to learn a lot of things on my own and as a 1st generation college student it was challenging to navigate that. You can stay tuned and find the second part of this research guide at this link below:

https://drive.google.com/drive/folders/1cMMj3rMTj6_6CzZkT5rH2mbSlLQnTgMB?usp=sharing

The Research Guide

Part 2: *The Research Process*

A GUIDE FOR STUDENTS WHO WANT TO LEARN MORE ABOUT THE RESEARCH PROCESS. HELPFUL TIPS, LINKS, AND TEMPLATES INCLUDED!

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In This Guide…

The Research Process

Templates and Resources

Helpful things to know

Research in the time of COVID

Publications & Conferences

The Research Process

I want to start off by saying that there is no "official" step by step guide on how to do research. Your research process may differ depending on your field, prior experiences/knowledge and what your research question/project is. Nonetheless, it is helpful to have a general outline of what the process may look like to give you an idea of how to get started. Below you will find a brief overview of the research process which also aligns with the components that go into a research paper. In some components, I have provided links to websites and videos to serve as resources while you read along!

Research topic/interest

The first step to any research project is finding out what you are interested in researching. This can be based on your own personal experiences, observations or career interests. Having a general idea is a great starting point to build off of since your research topic will get more specific later on in the process. If you are unsure about a research topic, you can start by thinking about what field or department you want to do your research in (Education, Biology, Psychology, Literature, Art, etc.) and then google searching what projects people have worked on in that area to see what might catch your interest. Another helpful strategy you can try is looking at what research current faculty and grad students are conducting and then reaching out to them to see if you can meet to ask questions. This will give you more insight about what you might be interested in.

In some cases, you might be joining a pre-existing research project under a grad student or faculty mentor. In this situation, you would reach out to them and ask if they have any opportunities available for you to join their team and contribute to the data collection. It is also okay if your initial research interest or topic changes- this is somewhat common as you work to finalize your research question.

Literature Review

After deciding what you want to research, you'll need to search for articles and journals in databases to gain more information about your topic and what relevant research has already been done out there- this process is known as a literature review. Essentially, this is the part of the process that really helps you gain a better understanding about your topic. By reading other studies you'll familiarize yourself with common methods, terminology, frameworks, challenges and may even discover gaps in the research. This can be used to help you create a research question that is more specific and concrete. Think of the literature review as the academic conversation where your project is aiming to contribute something new and insightful.

Another great place to start is by asking your faculty mentor to send you any articles or links that relate to your study. Most often than not, your faculty mentor will know all types of articles, books and studies they can send you to get you started. Additionally, once you have found an article, you can always jump to the "reference/citations" section in order to find similar articles relating to your topic. This is a great way of navigating the readings and getting access to other publications.

It is highly encouraged to take notes as you read through these articles since you'll need to reference them later in your research paper. If you have your own personal methods for note taking- that is great! If you'd like some guidance on maybe how to keep track of your readings and what you should be keeping track of, you can check out the **Literature Review Note Tracker** in the "Templates" section of this guide to get access to your own copy.

Below are some common databases people have found helpful (click each circle to access the link). It may be helpful to first log in to your library's website/database as this will give you access to the databases that require a university login or subscription: https://library.ucsd.edu/

- Note: In order to log in, you'll need to use the campus Wi-Fi or have VPN access. Here is a link you can use to get UCSD's VPN (log in with your single sign on):
- https://vpn-2.ucsd.edu/+CSCOE+/logon.html

Google Scholar   PubMed   JSTOR   APA PsycINFO

Methodologies/Frameworks

Now that you've done the literature review and have a better understanding of your topic, you'll want to use this information to narrow down your research question. This is where you'll consider how you'll contribute to the conversation in addition to thinking about the ways that your project differs from the studies that have already been done. It is okay if your question changes over time!

Once you have narrowed down your question, it is time to start thinking about *how* you will approach your project. This will look differently depending on your field but here are a couple of examples down below. I highly encourage you to ask your mentor about different methods and frameworks and to think about which method might be best for you're specific project. If you are joining a pre-existing project, the methods may already be established for you. In this case, it is helpful to inform and familiarize yourself with the method/framework that has been chosen and understand why it was chosen for the project. (Click below to access the link)

Example of Methods:
- Experimental Research
- Observational Research
- Interviews (In person, phone, via video chat)
- Surveys + Questionnaires
- Focus Groups
- Bibliographical and Archival Research
- Case studies
- *Platicas* (or discussions)
- Mixed Methods

Example of Theories and Frameworks:
- Critical Race Theory
- Validation Theory- Rendon
- Transformational Resistance- Solorzano
- Community Cultural Wealth Model- Yosso
- Social- Cognitive Theory
- Structural Functionalism

After choosing your method/framework, start thinking about what you'll need in order to begin your project. For example, if doing a survey which survey software will you use? (Qualtrics, Survey Monkey, Google forms, etc.) If you plan on interviewing people, how long do you want the interview to be and what questions will you ask? If working in a lab, do you need to complete lab training or fill out some documents/forms before beginning? These are all questions you'll want to consider to get your project going! (: Definitely don't be afraid to reach out to your mentor/femtor about which softwares they know of or if they can review your survey questions, etc.

Data Analysis

Next, you'll want to think about how you plan to portray your findings, organize your results and analyze what the data means. This may look like creating graphs or calculations on Google Sheets or Excel. Perhaps it is transcribing and coding your interviews or maybe even comparing numbers to other sources. This aspect is primarily so that you can make meaning of your findings in a way that is digestible for people to understand.

Do not worry if you are not too familiar with any of these programs. Personally, I found it really helpful to look up YouTube videos on how to use some of these programs. Here are a couple of introduction videos for you to get started! Choose the one you think would work best for you and your project.

Google sheets

Excel

Qualtrics

SPSS

MatLab

Conclusion/Delivarable

This final aspect of the research process is really tying everything together. Here, you conclude your findings, state what meaning we can draw from your results and perhaps even consider what implications this has for future research and directions (depending on who your targeted audience is). It is important to acknowledge some barriers that are present with your methodology or interpretation of the results.

This is also most often the part where you'll think about putting together your deliverable. How will you deliver all the information you have gathered? This can be in the form of a research paper, poster presentation, video, PowerPoint presentation, etc.

That concludes the research process section! Again, this may not be exactly what your research experience will be like but it is helpful to have a general outline. In the next section, you'll find a bunch of links to templates that I have created to help you organize your notes as you go along!

Templates & Resources

Click on each box below to get access to your own copy of each template!

Weekly Goal Setting Template	Writing a Research Abstract
Literature Review Note Tracker	Writing a Research Paper

Here are some resources to help you with your research process. Click on each title to access the link.

- UCSD: Using the library catalog
- UCSD: Accessing Scholarly Articles from home
- What is an IRB? (YouTube Video)
- UCSD: IRB Website + Forms
- UCSD: Laboratory Safety Training
- Definitions of basic statistical terms
- Introduction to Qualitative Research
- Introduction to Quantitative Research

Helpful Things to Know

In this section, I have provided a list of helpful things to know about the research process. I created this list with the help of student researchers from a variety of different fields to provide you with the most insight! Here is what they said:

- "The difference between a strengths based perspective and a deficit point of view (aka seeing things through an empowering vs disempowering lens)"
- "When doing searches for articles, have a thesaurus! This can help you change up your language to find new articles."
- "Don't always look up your exact research topic. You find inspiration from related topics and can improve your own by doing this."
- "For organizations sake, it was helpful to organize readings using 3 folders- Unread, annotated, and skimmed. By this you can digest your articles in a way that is helpful to you and then discard the ones you end up not using."
- "It is helpful to know how to get cited sources in order."
- "I wish I had known and internalized that in research, not everything works, and sometimes you will have to change course or even change projects. You're trying to do something that is new in some way, and there are risks to that- it's possible that certain techniques won't work in your experiments or data. Also, negative results (results that do not support your hypothesis) are common and an important but undervalued part of research."
- "I wish I would've known that I didn't have to know everything before starting research- after all, that's the point of it."

Research in the time of COVID

With the transition of most things being online now, you are probably wondering what research looks like under the time of COVID. This might depend on your field and what your research project requires of you. I took some time to reach out to a couple fo student researchers to ask about their experiences and here is what I found:

- Researching under COVID-19 has required some researchers to change their methodological approaches, which proved to have benefits and challenges. For example, many that originally planned to do in-person interviews switched to having interviews via phone calls and zoom. Although it was sometimes challenging figuring out schedules, they were able to reach more people across various locations (sometimes expanding their sample)
- Sometimes, researchers had to change their approach completely. Ex: instead of in person interviews, one researcher decided to conduct an extensive literature and data search.
- People who do research in lab settings stayed mostly at home during the strictest portion of COVID where they spent most of their time reading articles. Now, they are able to return to the lab setting with strict protocols to follow and with a limited number of people that can enter at a time. (like most stores)
- Some felt that because they weren't spending as much time traveling from place to place; they had more time to dedicate to their research.

Publications & Conferences

The last thing I wanted to spend some time talking about is publishing your research and presenting at conferences! This is a great way to share what you have learned with the broader community. There are so many journals and conferences you can apply for and so many resources that will help you with your applications! Additionally, some research programs offer travel funds to get you to present at conferences in different locations. Here is a list of some conferences you should consider applying to. (Click each box to access the links)

UCSD Summer Research Conference	Medical Education for Diverse Students Conference
Conference for Research in the Arts, Social Science and Humanities	UCSD: Faculty Mentor Symposium
Society for Advancement of Chicanos/Hispanics and Native Americans in science	Annual Biomedical Research Conference for Minority Students
Society for Hispanic Professional Engineers	American Association of Hispanics in Higher Education

Acknowledgements

Thank you so much for taking the time to read through. I hope you learned a little bit more about what the research process can look like and what tips and tricks you can use to guide you through your own research journey. A huge thank-you to the following researchers and scholars for providing their insight and knowledge.

Celesté Martinez De Luna

Psychology/Education

Candice Montenegro

Psychology- Sleep Centered

Noah Humphrey

Religious Studies

Shivani Bhakta

Electrical and Computer Engineering

Steve Maravillo

Global Health

Donna Yerat-Rodriguez

Education

Mariana Carrola

Education

Lucy Carrillo

Medicine- Rheumotology

Antonia Bock

Ecology & Marine Biology

THANK YOU!