Choosing a Research Topic

If your instructor has given you a list of topics to choose from, then you can use the topic you’ve chosen to complete the rest of the workbook. If, however, you are choosing your own research topic, here are some tips for getting started and choosing a feasible topic.

A. Tips for finding a topic
The first step in finding a topic is to spend time brainstorming and making notes about potential topics:
- Think about what interests you—in your courses, the world around you, and your personal life.
- Think about what you have read, seen, or heard recently which you might want to know more about.
- Think about your studies in other courses. Are there topics which you have encountered in readings or class discussions which you might want to explore in your ENGR 110 research assignment?

B. What makes a good topic
As you consider each potential topic, use these questions to help pick a feasible topic:
- Is the topic interesting to you? The easiest topics to work with are ones which you find interesting. Look for a topic which will help you learn something that will be useful to you in another course or in the future.
- Does the topic suit the purpose of the research assignment? Read your assignment closely and look for directions that might help you decide which topic is most suitable.
- Is the information I need to research this topic likely to be available to me? You will learn more about the resources available through the UVic Libraries in this workbook, but keep in mind that some local or personal topics may require primary research rather than library research.
- Is the topic likely to seem interesting and worthwhile to others? Look for topics which others will find interesting and engaging; you will find it easier to keep your reader’s interest if the topic itself is interesting.

If you feel stuck and can’t decide on a topic, try just choosing one of your possible topics and sticking with it. Deciding can be the hardest part, but once you’ve decided on a topic, it may turn out to be better than you thought.

Your Turn

Whether your instructor gave you your topic or you created your own topic, write it in the box below.

My topic is _________________________________________________
________________________________________________________________
Developing a Research Question

Once you have a topic, your next step is to identify the question or questions that your research will try to answer. One of the best ways to identify potential research questions is to brainstorm your topic to try to identify all the ideas you can about your topic.

A. Concept Mapping

A concept map is a brainstorming tool used to help you generate ideas and think about the relationships among these ideas. Below is an example of a concept map for the topic, remotely operated vehicles (ROVs). Note how research questions can emerge from your concept map.

B. Research Questions Arising From the Concept Map

I want to find out:

- How has robotic technology enhanced ROV designs?
- What are the applications of autonomous ROVs?
- Which ROV design has the best maneuverability?

Most interesting to me
Your Turn

- Create a concept map to show aspects of your topic that you are aware of right now. You can add to this concept map as you learn more about your topic.

Your Concept Map

- Using your concept map, identify one research question that is particularly interesting to you. You will use this research question throughout this workbook, and it will guide much of the research for your final paper.

- Write your research question here:

  I want information on ____________________________________________
  ________________________________________________________________
C. Identifying your Keywords

You are now ready to use your research question to develop keywords for easy searching. As you conduct your research, you will notice that more than one word can often be used to express a concept. For example, “teenager,” “adolescent,” and “youth” all express essentially the same concept. If you are having trouble finding information about your topic, try using a related word or synonym. For example, for the research question “Which ROV design has the best maneuverability?” the term “ROV” would have the following synonyms: “unmanned vehicles” and “remotely operated vehicles”.

Instructions

Which ROV design has the best maneuverability?

Concept 1 synonyms:
- remotely operated vehicles
- unmanned vehicles
- autonomous vehicles

Concept 2 synonyms:
- steering
- robotics
- motion control

Research Tip – Shorten Your Keyword

Shortening, or truncating, a keyword is an excellent way to improve your search results. Start with the stem of your keyword, without any suffixes (e.g., “maneuver” is the stem for “maneuvers,” “maneuvering,” and “maneuverability”) Then add the designated keyboard character, often an asterisk (*) or a question mark (?), to stand for any letters that could follow. For example, tether* will retrieve results for the words tether, tethered, and tetherlines, and robot* will retrieve results for the words robots, robotics. Truncating means you don’t have to search for these words separately by typing each one out. Also, by bridging your truncated keywords with the capitalized search words known as Boolean operators “AND” and “OR” you can search for multiple concepts effectively.

Using the following form can help organize your keywords. It is not necessary to fill in every box:

Concept 1

(\text{ROV} \text{ OR } \text{remotely operated vehicles} \text{ OR } \text{unmanned vehicles})

Concept 2

\text{AND}\ (\text{maneuverability} \text{ OR } \text{steering} \text{ OR } \text{robotics})

Concept 3

\text{AND}\ (\text{OR} \text{ OR})
Your Turn

- Complete the box below with your research question. Then draw a circle around each word or phrase that expresses an important concept in your research question. There are likely two or three important concepts.

I want to find information on __________________________________________________________

- Use the form below to organize your concepts into keywords that can be truncated and bridged with the capitalized searching words (AND and OR)

  Concept 1 ( )
  Concept 2 AND ( )
  Concept 3 AND ( )