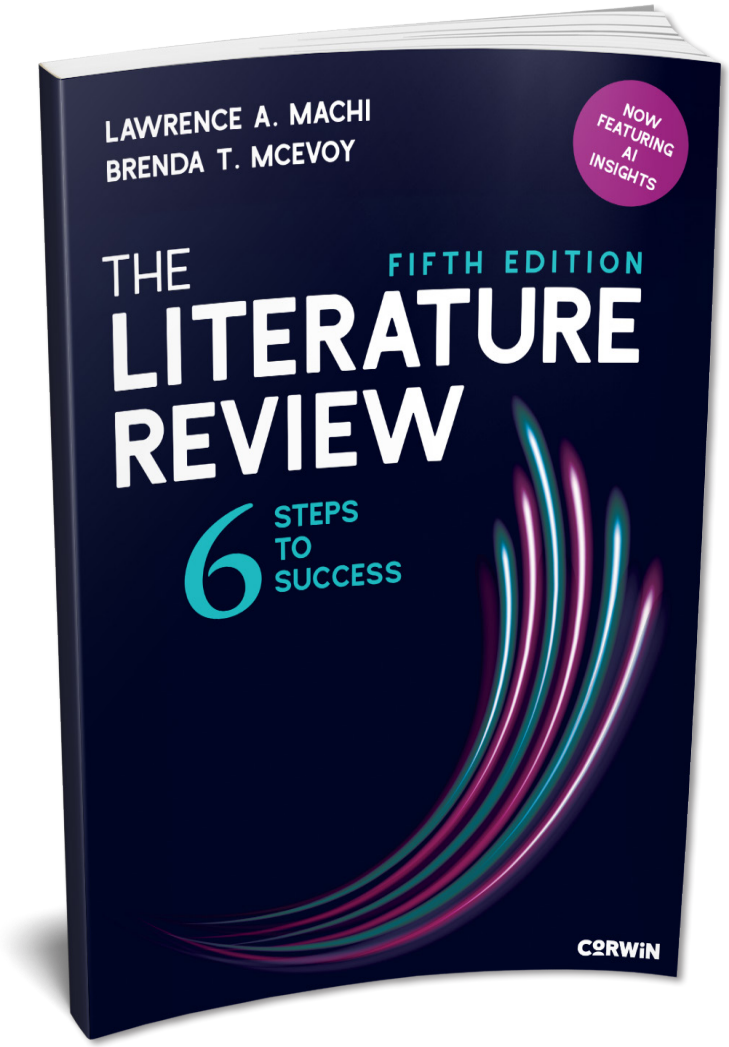

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CORWIN

Introduction

Doing and Producing a Literature Review

An Overview

If I have seen further, it is by standing on the shoulders of Giants.

—Isaac Newton letter to Robert Hooke, 1675

Key Vocabulary

- **artificial intelligence:** A mechanical intelligence that mimics the working of the human brain. It has the ability of a computer to perform tasks fundamentally conducted by human beings. It can reproduce human learning and can recall, comprehend, and problem solve. Evolving and generative in its learning capacity, AI uses neural networks to process and generate.
- **chatbot:** A computer software application designed to simulate human conversation by interacting through voice or text to provide humanlike responses to questions posed to it. Chatbots answer questions, provide information, and do tasks. They use AI to process, understand, and respond to user input.
- **disposition:** The tendency of someone to act in a certain manner under given circumstances; a prevailing tendency or inclination.
- **literature review:** A written document that develops the case that argues a thesis. This case is based on a comprehensive understanding of the current knowledge of the topic. A literature review synthesizes current knowledge pertaining to the research question. This synthesis is the foundation that, through the use of logical argumentation, allows the researcher to build a convincing thesis case.
- **narrative literature review:** A written document that critically reviews the relevant literature on a research topic, presenting a

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logical case that establishes a thesis delineating what is currently known about the subject.

- **problem identification review:** A review that extends the work of the narrative review to identify and define an unanswered question requiring new primary research.
- **rational thinking:** Acting based on logic, as opposed to impulse, not using reason and logic.
- **reflective oversight:** A contemplative thought process that critically regulates, assesses, and corrects the personal knowledge, skills, and tasks used to conduct the literature review.
- **topic:** A research area refined by interest, an academic discipline, and an understanding of relevant key works and core concepts.

A literature review might be a class assignment, a thesis for a master's degree, or the foundation for doctoral research. Whether approaching this task for the first time or as an experienced researcher, doing a literature review should build the research, enhance your knowledge of a subject. and enable you to confidently share what you have learned with others. It should also provide you with the satisfaction of completing a successful project. Most importantly, the literature review presents a unique opportunity to engage in a deep learning experience about a subject. To succeed, avoid the problem mentioned by a colleague of the authors: "Some people do not have the patience and foresight to do it right the first time, but have infinite patience and capacity to do it over, and over, and over again."

The good news is that you do not need to depend on the trial-and-error approach. There are known procedures and skills to make this task easier and more efficient. This book provides a road map to guide you in producing a literature review that will contribute to your field. Conscientiously using this book will help you arrive successfully at your destination. Each chapter offers tips and tools from many sources, including ones from the authors' experience. Using the six-step process offered here will make it possible to plan and complete a successful literature review without wasting time and effort.

To Begin

This overview presents the key concepts to be mastered to produce a quality literature review. They are procedure, disposition, and reflection.

The chapter begins by defining what the basic literature review is, its purpose, and the procedure for doing a basic literature review. However, simply knowing correct procedure will not guarantee success. How you are disposed to engage in this endeavor and how you are able to self-evaluate the quality and accuracy of the work are also necessary to produce success. The personal dispositions necessary to complete a project of this scope are described in the following pages. A self-reflection process used to assist in managing and evaluating the quality and accuracy of the work is outlined. This chapter concludes with a brief discussion of what needs to be done to prepare to do a literature review.

The fundamental concepts and procedures presented provide the framework for successfully conducting a basic review and provide the reader the necessary foundation that serves as a basis for taking part in advanced reviews. A brief introduction to these advanced reviews will be covered in Supplement B.

The Purpose of a Literature Review

Isaac Newton didn't write, *if you have seen further . . .* or, *if it has seen further . . .* ; he wrote: "If *I have seen further, it is by standing on the shoulders of others."* Research is first a personal endeavor.

The major reason for conducting research, particularly a literature review, is for you to *come to know something*, to learn about something. A literature review is a formal inquiry conducted by you to gather and obtain knowledge. Mastering this content brings expertise and the power to converse with others about the **topic**, as well as the power to conduct research to extend or expand the knowledge about the subject.

The first step of an inquiry is learning what we already know about a topic. It is only then that you, the researcher, can present a case about what has already been learned as well as what we yet need to learn.

This *coming to know* is not based on whim or serendipity but guided and curated by the rules previously set forth by experts. These rules are based on good sense. They are based on the use of rational argument and prescribed procedure. They are designed to establish facts, not unfounded opinion; science, not alchemy.

The primary purpose of doing a literature review is for the reviewer to become competently conversant in the subject and competently skilled at doing research about it. These competencies create a subject expert and an individual capable of applying that knowledge in the field.

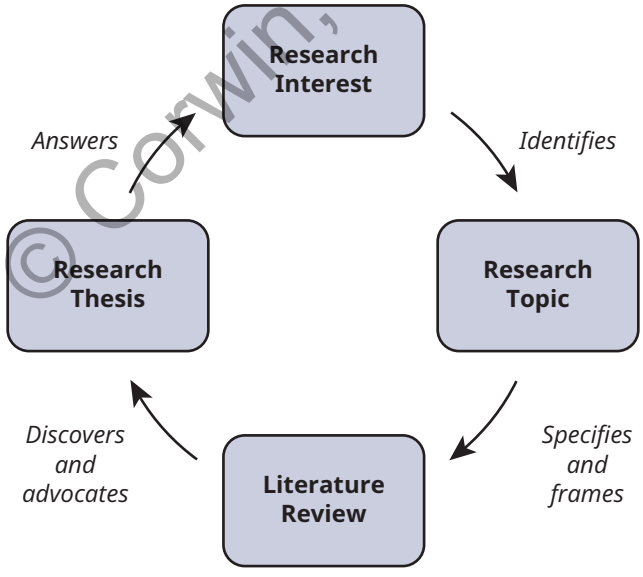
What Is the Endgame?

Before going headlong into the task, it is time to *stop and think*. What do you need from this literature review? What are you trying to find out?

Ask yourself, "Am I trying to present a position, *a thesis,* that defines the current state of knowledge about a topic, or am I using the current knowledge about a topic as the basis for arguing a thesis that defines a research problem for further study?"

Literature reviews have different purposes depending on the nature of the inquiry. If the purpose of the inquiry is to argue a position about the current state of knowledge on a topic, then the inquiry is a basic **narrative literature review**. The narrative review (Figure I.1) documents, analyzes, and draws conclusions about what is known about a particular topic. Its purpose is to produce a position on the state of that knowledge; this is the *thesis statement*. Notice the narrative review process is cyclical. It begins with a research interest, which is developed into the research topic. The **topic** provides the parameters for conducting the literature review. The review discovers and defines what is known about the topic, leading to the formulation of conclusions, the research thesis. The thesis answers the research interest.

Figure I.1 The Basic Narrative Literature Review



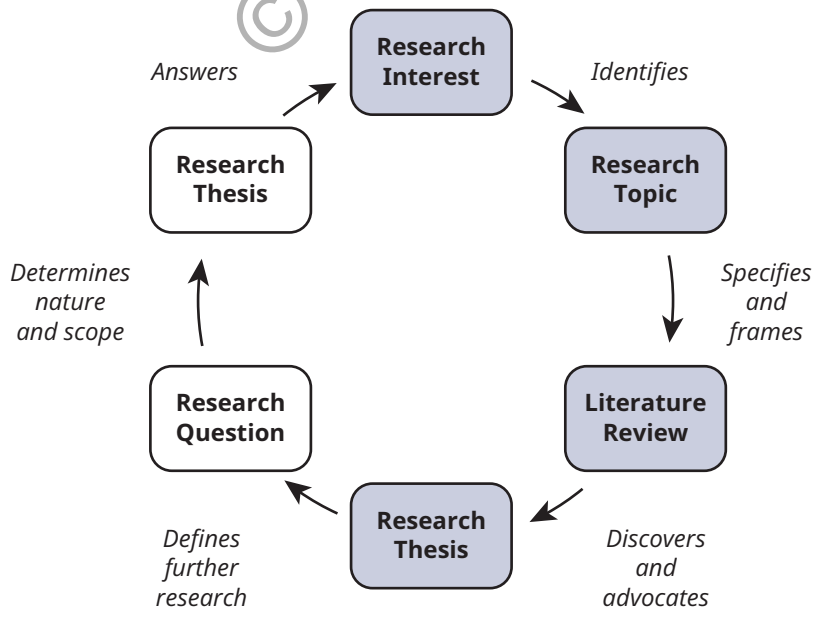
If the purpose of the inquiry is to review the literature to uncover a research problem for further study, then it is a **problem identification review**.

The narrative review begins by selecting and identifying a research interest for inquiry. This is the preliminary study question. As you proceed, you will narrow and refine this interest into a research topic based on an initial

exploration of the literature. The research topic must be a clear and concise statement that defines and describes what will be researched. It identifies and frames the scope of the literature review. The literature review canvasses the literature while documenting and cataloguing pertinent knowledge. From this information, it presents an evidence-based analysis of the present understanding of the topic. The product of the narrative review is a case that argues what is known about the topic. The case's conclusion is a thesis statement that answers the question posed by the research interest. Many class research assignments and master's degree thesis projects require a basic narrative literature review.

The problem identification review (Figure I.2) has a different purpose and additional demands. It not only presents the current state of knowledge about a topic (the darkened four boxes of Figure I.2) but must also argue how this knowledge reasonably leads to a problem or to a question requiring original research. As shown in the figure, the problem adds to the cyclical process presented in Figure I.1. As with the narrative literature review, the review begins with a research intent leading to the research topic, which frames and specifies the work of the literature review. The product of the review is a research thesis that identifies the question for further research and the methodology for the research project. As with any good research, the results of the research include questions for further study, a new research interest.

Figure I.2 The Research Problem Identification Literature Review



In the problem identification review, the researcher first addresses the current state of knowledge about the study question. Then, based on these findings, the researcher proposes a thesis defining an issue for further study. This thesis becomes the problem or question of a new research study. The conclusions drawn not only define the research question but also frame the appropriate methods to be used for conducting the research.

Advanced master's theses and doctoral dissertations use the problem identification review as the basis for providing the background statements and the argument for the research study. The problem identification literature review is used to write Chapter 1 ("Introduction") and Chapter 2 ("Review of the Literature") of the standard five-chapter dissertation document. Not having a quality literature review in hand when developing these chapters will surely result in numerous unsuccessful attempts: "You can't write what you don't know." The problem identification literature review is the starting point for research projects such as dissertations.

While narrative reviews and problem identification reviews seek different outcomes, the manner in which they uncover knowledge and produce a thesis is similar.

The Literature Review Defined

A **literature review** is a written argument that supports a thesis position by building a case from credible evidence obtained from previous research. It provides the context and the background about the current knowledge of the topic and lays out a logical case to defend the conclusions it draws. Here is the definition of a literature review:

> *A literature review is a written document that presents a logically argued case founded on a comprehensive understanding of the current state of knowledge about a topic of study. This case establishes a convincing thesis to answer the study's question.*

The Literature Review Process

Producing a literature review is an exercise in applied critical thinking.

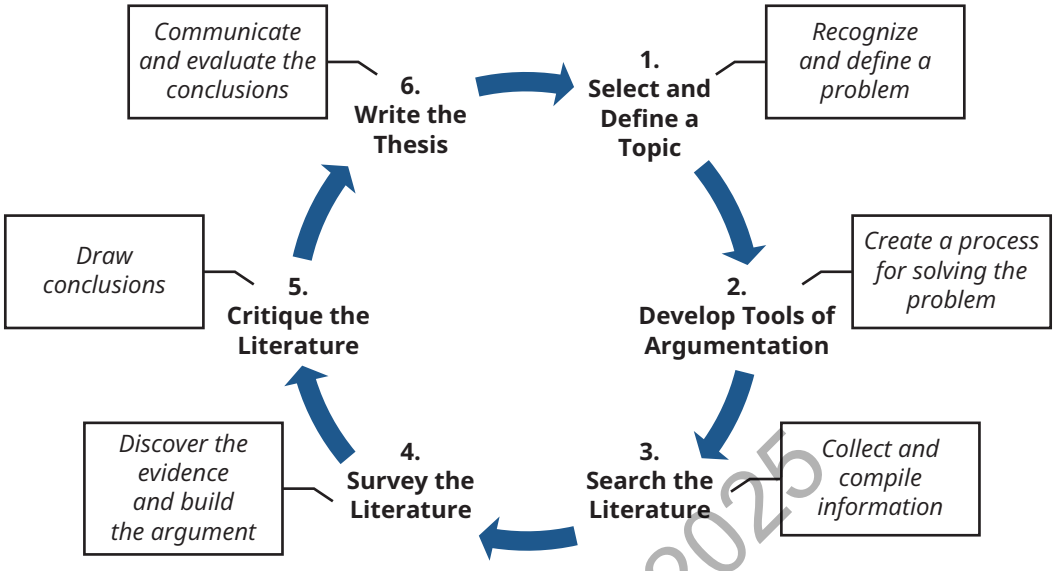
Dewey, in his text *How We Think* (1909), codified the critical-thinking process in five steps: *"(i) a felt difficulty; (ii) its location and definition; (iii) suggestion of possible solution; (iv) development by reasoning of the bearing of the suggestion; (v) further observation and experiment leading to its acceptance or rejection; that is the conclusion of belief or disbelief."* Dewey saw these five distinct steps as the process of reflective thought, what we call critical thinking.

Critically thinking is a deliberate process. Here are a couple of examples. You might recall learning the scientific method in a high school science class. *Collect the facts. Construct the hypotheses. Do an experiment, and test the hypotheses. Analyze the results. Draw a conclusion, and report your results*. Or you might have used a formal problem-solving process as part of a decision-making activity in your workplace. Most likely, the following steps were used: *develop a mindset; define the problem; create solution criteria, consider possible solutions; choose a solution; implement it; and evaluate it*. Notice both the scientific method and problem-solving process align. They follow the same basic steps and sequence. Both processes are applications of Dewey's critical-thinking process. This is also true for the literature review.

A literature review is an organized, systematic way to research a chosen topic. First, the subject of the inquiry must be recognized. It must be clearly defined and described. Once a researcher has a clear definition of the subject in question, information can be collected about the topic. These data are catalogued and organized in such a fashion that some sense can be made of them. The data can then be interpreted and analyzed to build the evidence or reasons to form conclusions. The conclusions formed present the logical case for answering the question first inquired about. Finally, the argument is examined; the researcher looks for holes in the reasoning and weighs the conclusions drawn against competing alternatives. Once this process is completed, the answer can be shared with others.

Figure I.3 shows the steps for conducting a literature review, as matched to the applied critical-thinking process.

Figure I.3 The Literature Review Is an Applied Critical-Thinking Process



As with any critical thinking, doing a literature review is a developmental process in which each step leads to the next (Figure I.3). Following is a brief explanation of the six steps of this process.

Step 1. Select and Define a Topic—*Recognize and Define a Problem*

A topic of the research problem can emanate from a problem occurring in the workplace or a situation in the community, or it can arise in the course of your studies. It is an issue that has grabbed your attention. To capture it, reduce it to writing. Once done, you have created an interest statement. The interest statement is the broad recognition of a potential topic and, when recognized, must be reshaped appropriately. Its concepts must be parsed and defined specifically. Its language must be converted from initial generic wording to specific academic parlance to allow the researcher to successfully identify the appropriate literature in the pertinent academic discipline. Refining the terms used, accurately framing the focus of the interest, and selecting the appropriate academic knowledge base are the tasks to be completed to define a research topic.

Step 2. Develop Tools for Argumentation—*Create a Process for Solving the Problem*

Since a literature review must present a logically argued case founded on a comprehensive understanding of the current state of knowledge, then the rules and tools for building an informal argument must be employed. A credible case is not simply reporting about a collection of information or presenting an opinion about the topic. A credible case produces conclusions resulting from a logical presentation of supporting evidence. The tools for evidence building, argument development, and logical reasoning are the building blocks used to make a credible case.

A literature review uses two types of argument to build its case. The first argument builds the findings of the case. The second argument forms the case's conclusions. The result is a well-argued thesis. Both arguments are based on sound reasoning and logical construction.

Step 3. Search the Literature—*Collect and Compile Information*

A literature search determines the data to be included in the review. It does this by winnowing the research information to only the data that provide the strongest evidence to support the thesis case. A literature search should preview, select, and organize the data for study by using the skills of skimming, scanning, and mapping the data. Next, the researcher catalogs and documents the relevant data.

Step 4. Survey the Literature—*Discover the Evidence and Build the Argument*

The literature survey assembles, organizes, and analyzes the data on the current knowledge about the topic. The data are logically arranged and patterned as evidence to produce a set of logically defensible findings about what is known concerning the topic.

Step 5. Critique the Literature—*Draw Conclusions*

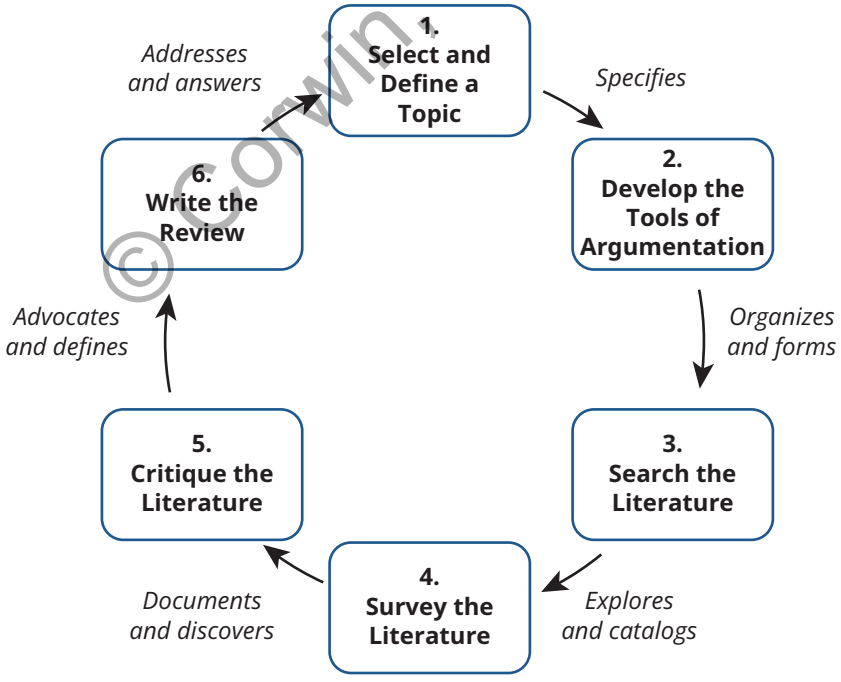
The literature critique analyzes and interprets the findings gained from the survey of literature to produce a response to the research topic. The findings are logically arranged as conclusions to form the argument that justifies the thesis statement. The literature critique analyzes how current knowledge answers the research question.

Step 6. Write the Thesis—*Communicate and Evaluate the Conclusions*

Writing the thesis produces a document that communicates the results of the project. Through a process of composing and refining, the literature review document becomes a work that accurately conveys the results of the research to its intended audience. This composition requires writing, auditing, and editing over the course of multiple drafts to produce a polished final product—one that is accurate, complete, and understandable. Writing done in the first five steps of the literature review is used as the foundation for writing the review.

The preceding discussion, although condensed, relates the procedural steps necessary to complete a literature review. The following chapters will fully describe each step and will provide help in completing each of the tasks necessary for building a strong thesis case and conducting a good review, and is depicted in Figure I.4.

Figure I.4 The Literature Review Model



Next, consider the mental attitude necessary to complete a project. The following two sections of the introduction will discuss the personal dispositions required to take on this task and the reflection process used to manage and evaluate the quality and accuracy of the work.

A monthly design is one choice if time is the measurement for progress. Use the steps of the literature review model if you use task completion as the measure of progress. Put the benchmarks on a timeline and readjust the overall plan as necessary. The benchmark division drives the work. It provides a solid schedule that addresses the tasks. At this point, the work becomes tangible.

3. Build daily plans for action. Each work session must have its goals. If possible, schedule at least a 2-hour block of time for any work session. Early morning works best for many accomplished writers, allowing the reviewer to focus and concentrate more easily. Schedule quiet time with no interruptions. We recommend daily sessions. While 2-hour sessions each day may be impractical, daily work on the project is advantageous. Allowing extended time between work sessions will blur your focus. The literature review is a serious undertaking that builds one day at a time. You cannot succeed by leaving the work for the last minute. Of course, as you use the daily schedule, the benchmarks and the overall plan may need to change.

Harnessing the Power of Artificial Intelligence

As with many other technological innovations, **artificial intelligence** is an irreplaceable aid for the advancement of human learning. Whether or not AI will be used in doing the research is not the question. The question is, "How will the researcher use AI responsibly?" To be appropriately used, guardrails must be set. These rules norm the researcher's behavior when interacting with AI. The rules are based upon this simple question, "Are you doing the learning?"

Sound planning should also address this question. When planning your research, and specifically your literature review, reflect on how AI will assist in producing data and strategy, while allowing you to maintain ownership and authorship of the work:

1. Set the rules for how you will control the synthesis, analysis, and theory making.
2. Determine the procedures you will use to authenticate and validate the product of an AI query. Always be skeptical and verify.
3. Choose the rules for being a wise consumer of AI. Determine the criteria you will use for selecting the **chatbot** and AI databases you will use.
4. Finally, consider the line of questioning you will employ to achieve the most accurate responses. The tenets of the courtroom oath

apply here. You want the truth, the whole truth, and nothing but the truth. In this case, you want the facts, all the facts, and nothing but the facts.

As with the other facets of your plan, do your homework. Outline how you intend to use AI when doing each phase of your literature review. Make yourself familiar with the various chatbots that assist in doing research, and thoroughly vet the applications before using them. Most importantly, have a plan in place that ensures proper use and oversight of the AI you use. Stick to that plan.

Tips

1. Study the literature review model (Figure I.4). Memorize it if possible. Use this figure to keep yourself on track.
2. Select a topic that is important to you. A subject of true concern or curiosity will produce better work than a topic chosen for expediency.
3. Writing starts now. Write out the topic. Include in this earliest writing what you already know or think you know about the topic. This writing will be the beginning of the project journal. Using a computer to keep the project journal will allow for easy additions and changes as they become necessary.
4. Plan each step and write it out. Completing the work diligently and in order takes far less time than going back to pick up missed steps.
5. Try to make blocks of time available. It is much easier to stay in the proper mindset if you don't have to go through the thought process to arrive at your starting place for only a short period of work time.

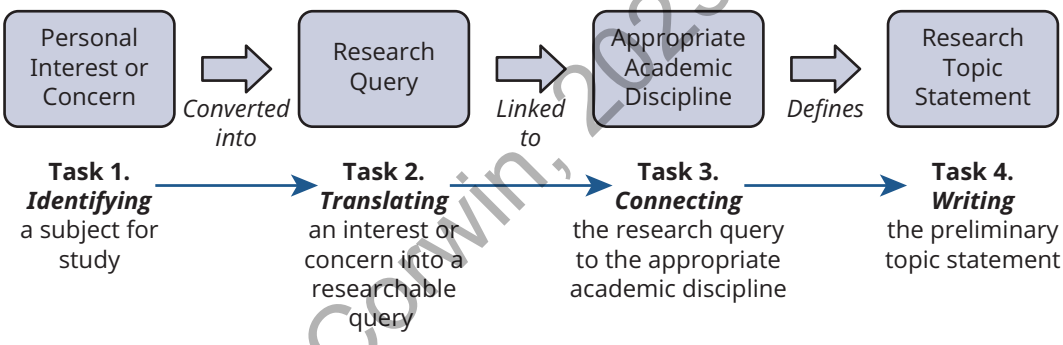
Summary

The purpose of this opening was to provide a general introduction to both the conduct and the product of a literature review. These pages also provide a discussion of the dispositions and reflective oversight required to guarantee the success of the project. The preparation tips will help launch a successful literature review. With a preliminary understanding of the project, a thoughtful mindset, and a plan, you

Intellect identifies the subject, the *what* of the question, and directs the course of action. The *what* is defined as a **personal interest or concern**. When doing a literature review, defining and clarifying the subject, the *what* of the research, is the first order of business. The question that initially provoked curiosity must evolve to become a suitable subject for study.

Four tasks are required to create a research topic statement. They are (1) identifying a subject for study, (2) translating this personal interest or concern into a **research query**, (3) connecting the research query to the appropriate academic discipline, and (4) writing the **preliminary topic** statement. These tasks are the subject of this chapter. Figure 1.1 illustrates this process.

Figure 1.1 The Process of Creating the Research Topic Statement



A Bit About Bots

There are numerous chatbots that deal with field research and, in particular, a literature review. They address a myriad of tasks and cover an inexhaustible range of information. So how does the researcher navigate this ocean of data without being drowned in an ocean of information? Here are some rules to consider.

Go slow to go fast. Do not rush into *ChatGPT* shooting questions from the hip. Random and general questions will provide reams of general responses, which will lead to floundering in a sea of information with no lifeboat in sight. Be methodical when you're choosing your AI options. Take your time; go shopping for your bots. Find the right bot for the task. Be specific when initially planning. Note the tasks and content of your research. A well-developed plan provides the specifics to identify appropriate chatbot types and queries for the task at hand. Having clearly identified tasks makes it easy to search for the chatbot functions that fit your needs.

Be a wise consumer; use what works. Chatbots vary in quality in terms of their ease of use, databases, and reliability. When choosing chatbots, ask others. Take the time to talk to your research advisors and research librarians for their recommendations. Check with other researchers in the field to find out what works for them. Here's a trick: Even ask the all-purpose chatbots like *ChatGPT* or *Copilot* for their recommendations. Gather the information from all of the sources and compare notes. Test drive the chatbots you are interested in. Then make your selection.

Trust but verify. Limiting queries to only include data sources that are vetted, peer reviewed, and empirically verified is always the standard. That, however, is not enough to guarantee authenticity, reliability, or the validity of the data. Some AI datasets cannot distinguish between legitimate and fictitious data. They can include alternative universes where hoaxes abound. Fake research, including citations, can be a part of those datasets. To ensure the data you are retrieving are authentic and contain valid information, use an interrater process to confirm your findings. Your validation rules are simple. You want the real facts, nothing but the facts, and all the facts. The rules for *Data Appraisal,* assessing the quality of data being collected, apply here. (See Supplement B for a full explanation.) Here's how the interrater works. Multiple bots that perform the same task are used. Query them with the same question and compare their responses. Which of their responses are the same? Which differ? Confirm the similarities and check the outliers. If responses seem to be contradictory, use an additional bot to validate. This might seem like an extra step. Given data retrieval is lightning fast and data comparison is an easy task, the comparisons are easily made and well worth the effort.

Check under the hood. Make sure the bot works as advertised. All AI datasets are not equal. Different datasets can leave out important information needed for your research. Make sure the AI dataset you are using contains the information relevant to your research. Chatbots use different algorithms to query AI data. You may have an AI dataset that is robust and addresses your research, but if the chat box algorithm is not designed correctly, it can miss or distort the responses it gives to your query. Here's where a test drive can serve you. Using the chatbots in question, ask a question about your research topic that you know the answer to, and see what responses the chatbot gives. Check the response given against what you know is fact to determine the accuracy of the response. Additionally, engage an expert to check the response's quality and veracity.

Remember GIGO. Garbage in, garbage out. Using AI data of poor quality will set a weak, if not false, foundation for your review and your research. No good can come from that. An old adage applies here: "Hoe in haste, harvest in tears." Rushing through the process of bot selection without proper care and attention will only lead to poor results and setbacks.

One last suggestion. How you question the bot will determine the quality and accuracy of the response given. So the structure of your question is important. Generally, when you are framing your question, consider the 5Ws (who, what, why, where, and when). Don't forget the *H* as well. Many times, your bot query will begin with how. When working with a chatbot, you really are having a conversation with another individual. Also remember that the chatbots you are using are designed to produce iterative responses. They will usually ask you if you want examples of elements of a response, ask if you want more specifics, or ask what question you would have next. You can also ask to clarify, define, or provide examples of an element in the response. Narrowing or expanding the next query based on a response can be helpful. You can also ask the bot to exclude an element in response while expanding others. Since bot responses are iterative, keep the conversation going until you get what you need.

To help you get acquainted with using AI as part of your research arsenal, this text includes an AI Helpful Hints section for the tasks and activities used in the Six-Step Literature Review Process. These tips suggest concrete uses for chatbots and AI to be used when completing that task.

Building bots is a cottage industry. It is growing and changing almost exponentially. We have included the most popular chatbots in the *Helpful Hints* sections of this text. We have taken pains to ensure they are the latest iterations. Probably sooner rather than later, however, they will morph, and some may disappear. Rather than avoiding the problem of obsolescence by generalizing about chatbot uses, we thought it better to refer to actual bots, so you, the reader, can see how a chatbot can assist you in the task you are working on. Where the bot has changed, it is hoped, you will be able to use the identification information provided in this text to identify a similar bot providing the same assistance.

Task 1. Identify a Subject for Study

A typical applied research project in the social sciences begins by selecting an everyday problem, interest, or concern for further study. Selecting a suitable interest for research requires great care and forethought. "Hoe in haste, harvest in tears." A hasty choice of topic can have catastrophic consequences. Since the subject of study determines and directs the

Finally, ask "Dr. Google." Chatbots such as *ChatGPT* can be used to focus and clarify your interest. These AI tools can search the literature to identify specific keywords or phrases relevant to your issue, themes, topics, and gaps in the research to crystallize study interest and develop the topic for research.

The following is a list of possible resources to assist in identifying a subject for study:

- Workplace observation
- Professional experience
- Suggestions from experts
- Academic journals
- Topical debates within your profession
- Examinations of academic theory in your field
- AI queries

Activity 1. Discovering the Subject of Your Interest or Issue of Concern

Think back. Have you ever been confronted by a foreign idea, an unexplained issue, or a lack of knowledge about your studies or an issue in your workplace? This is an incomprehension, a not knowing, and should trigger an **apprehension**, a need to gain an understanding about this unfamiliar reality. Now, being aware that something is awry triggers you to stop and think. Something is off, but you aren't sure what it is. You are vaguely able to point at it, give it a name, depict it, or see that it operates differently than expected. You see something, but it's not clear. What are you seeing? You have consciously uncovered a possible research interest.

AI Helpful Hints

Task 1, Activity 1

AI applications such as *Google Scholar* and *Semantic Scholar* can assist in identifying trends, gaps, and debates about your interest; many are not immediately seen. These analytic search engines can identify both predominant and emerging topics for your interest area.

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The multipurpose bots such as *ChatGPT* are valuable tools that can access and analyze vast amounts of information based on your research parameters and keywords. Here are some of the particular uses where they can assist:

Trend analyses to identify emerging niche and gaps in the present research.

- Summarize publications, such as books, articles, and research studies, to produce key points and major concepts to identify possible research interests.
- Generate keywords, topics, and possible hypotheses by synthesizing existing research to identify possible research interests.
- Engage in interactive brainstorming to develop research interests, topics, and possible research questions.
- Assist in organizing initial resources to help organize thinking.

Exercises

Exercises are found throughout this text to help with the various tasks of developing a literature review. The first four exercises in this chapter will employ free writes. A *free write* is spontaneous writing done without reference to notes or outlines. Its purpose is to explore what you have already internalized about a subject. Free write exercises will lead you through the four tasks; one will appear at the end of each of this chapter's subsections. The subject statement for each exercise is followed by guiding questions to help you free write. Respond to each question by writing ideas as they occur to you.

Use a separate page for each session. Write the topic and the questions for that exercise at the head of the paper. Then, answer each question in descending order. Read the question aloud, and then act quickly, allowing ideas and written responses to flow. As ideas come to mind, write them as simple, independent, declarative statements, one after the other, as quickly as possible. Do not be concerned with spelling, grammar, or composition.

Allow no more than 15 minutes for each session. If you have exhausted your responses to the questions before the end of 15 minutes, wait for a minute, and then push yourself to find three more responses. After the