

Brainstorming

I. CHOOSING A SUBJECT

Selecting a subject seems like an easy task, but it is entirely possible to make critical mistakes at this early stage, sabotaging the ultimate outcome. Many students make bad choices at the outset—choices that, in the case of a dissertation, can literally waste years of effort. A good choice will not only be better from a scholarly point of view, but it will also provide a more do-able, fun, and satisfying creative activity for the writer. A good subject has five attributes:

1. *A good subject is important.* The subject must be important in terms of substantive policy, theory construction/validation, or both. Beware, for example, of case studies that have no clear implications for public policy and no particular relation to theories in the field. Even in historical studies, it is best to pick a topic that transcends mere description. For instance, although a history of Wyatt Earp's life might be acceptable, it might be more interesting to write on theories about the role of the American frontier in forming the political culture of the country using Wyatt Earp's life to illustrate.

2. *A good subject is focused.* The subject must be limited in scope. It is tempting to state that the purpose of the researcher's essay or dissertation "is to describe . . .," "is to explore . . .," "is to inventory . . .," "is to set forth the dimensions of . . .," or "is to discuss . . ." Such starts may lead into perfectly fine theses, but more often, they are a sign the writer has not focused his or her research question, which results in a "look at this, look at that" tour guide of the subject rather than a clear story line.

3. *A good subject is organized.* The subject must be organized to tell a clear story, and the reader should be given a road map that tells where the story will be going. In general, if there is no story to tell or if it is told in a disorganized way, readers will not give the writer the "benefit of the doubt." Many will put the piece of writing down well before the end or skip to the concluding section for a summary. Writers know that to hold the reader's attention, there must be a beginning, a middle, and an end to any story. The beginning must grab the reader's attention by showing there is a point to what has been written, it discusses something that at least in principle could be viewed in different ways, and it shows what difference the author's way makes. The middle builds the evidence, drawing the reader into the plot, whether the subject is scientific, sociopolitical, psychological, or something else. The ending brings the story to a climax.

4. *A good subject is informative.* There must be new information, qualitative or quantitative, that is credible and convincing. Even in a review essay, the review must forge a new sort of synthesis, providing new insights. Having original data is the typical method of satisfying this requirement, but other strategies could include new ways of categorizing data, new ways of comparing data across types of settings, or new ways of relating data to theories in the field.

5. *Finally, a good subject is readable.* Writing style should be professional but not jargon-laden, lively but not emotional, and committed but not biased. Sometimes professional editors are even brought in to improve writing style, but most writers are on their own. At a minimum, the author must think explicitly about writing style and obtain feedback from readers who have experience with a diversity of styles and have a basis for providing feedback to the author.

Choosing a subject can sometimes be a real obstacle for writers, particularly beginning authors. The conventional advice, apart from asking one's advisor for ideas, is to write about something that is of interest to you personally. If you are in a position to conduct personal interviews related to a topic, this, too, will help you understand your topic better and may generate ideas to refine your topic. Other common prewriting activities include outlining, talking with others, reading, field trips, doodling, creating lists, writing journals, and creating story boards. The prewriting book by McKay (1989) contains no fewer than 70 types of prewriting exercises!

Searching the world wide web can be a useful way of generating a topic. At least one web site, "Filamentality" at <http://www.kn.pacbell.com/wired/fil/>, is designed as a fill-in-the-blank interactive web site that guides novice users through using the web to pick a writing topic. There are also web sites such as "Hot Sheets" (<http://www.hotsheet.com>) and "Research Paper Help" (<http://www.researchpaper.com>) that categorize topics and provide Internet links to help prospective writers explore possible topics. The former includes links to dozens of web search engines. The latter includes an "Idea Directory" that generates

research ideas with Internet links based on user input. For instance, inputting “pollution” as an area of interest generated these research topics, each with appropriate web links:

Science-Biology: Plants as indicators of pollution

Science-Oceans and Seas: Current levels of ocean pollution

Society-Government & Law: Recent legislation on air pollution

Science-Geography: American air pollution levels.

Science-Oceans and Seas: Recent proposals to prevent ocean pollution and contamination

Society-Population: Exponential growth’s relationship to resource usage, population, and pollution

Science-Energy: The pros and cons of wood stoves as alternative energy sources

Science-Technology: Stone buildings and monuments all over the world are suffering severe weather and pollution damage. What is being done to control this situation?

Science-Architecture: Can the Acropolis be saved from pollution, decay, and erosion?

Internet research is becoming more important every day and is not to be neglected, though it is now a vast sea of knowledge with both reliable and unreliable sources that must be carefully evaluated by the writer.

A more useful brainstorming approach is to browse scholarly journals or current periodicals in one’s area of writing, being open to finding topics that spark interest. Supporting or contradicting an article can be a good starting point for writing term papers, theses, or even dissertations. For any given article, one can ask such questions as: Does the author of the article seem to have a bias or conflict of interest? Does the writer have experiences that seem to contradict the article? What different conclusion might the article come to if it centered on a different population, location, or time period? What different conclusions might occur if certain other variables were included in the study? Is the article based on some theory and if so are there other implications of that theory not discussed by the article, or if the article is devoid of theory, have the authors failed to consider relevant theories in their field?

In summary, choosing a good topic is a major determinant of your success as a writer. By picking a subject that interests you, you will be able to sustain the energy required for a significant writing effort. Moreover, displaying a certain degree of enthusiasm for your topic will be contagious to your peers, teachers, dissertation committee, and readers. If you cannot make the topic compelling, you may have chosen unwisely. For course-related papers, of course, it is essential to make the paper fit the themes of the course. For all writing efforts, you must pick

a researchable topic, not so broad as to prevent gathering convincing evidence and not so narrow as to limit information and evidence.

A. Brainstorming

Brainstorming is the name for a set of techniques that may help you select an initial subject. It is often used during a meeting to encourage the spontaneous contribution of ideas from all members of the group, but it can also be used by the individual researcher. Some may be tempted to skip brainstorming and go directly to the next chapter, formulating an analytic question, but it is advisable to take the creative brainstorming phase seriously before proceeding. Brainstorming should not be considered an optional exercise. In almost all cases, a serious effort at brainstorming will generate significant improvements in the writer's research concept. Brainstorming is a worthwhile effort.

1. Brainstorming Described

Brainstorming was invented in the late 1930s and early 1940s by Alex F. Osborne, arising in the context of the advertising industry. Starting in the 1930s, Osborne and others brought together groups of decision-makers to address specific problems with as many ideas as possible. Osborne believed that generation of ideas was a skill anyone could acquire through use of various creative thought techniques. The core of his vision was "deferred judgment," that is, by suppressing criticism and evaluation of ideas during the brainstorming process, the capacity to synthesize is increased by releasing the writer's or decision-maker's mind from the analysis mode of thinking.

(a) *Brainstorming as a Group Process.* Usually brainstorming will generate more ideas if it is done on a group rather than individual basis. Consider whether you could get other students, perhaps ones who also need writing topics or who have similar interests (such as class members or fellow doctoral students), to participate in a brainstorming group. You may want to do this at a set of lunches during which each person's topic gets brainstormed by the group.

There is no exact size for a brainstorming group. Some prefer groups of 5 to 7 people as optimal, whereas others recommend up to 10 or 12. However, there is unanimous agreement that the benefits of brainstorming decline when this technique is attempted in large groups. There is also agreement that more ideas are generated if the participants have a few days' advance notice, giving time to let some ideas form beforehand.

How the brainstorming process works. You, as leader, start the brainstorming session by outlining the objective (for example, to generate interesting topics in the area of criminal justice). Keep the atmosphere relaxed and emphasize that the purpose is to generate as many ideas as possible, not to evaluate the ideas.

Encourage active participation of all members of the group, trying to develop an enthusiastic atmosphere.

As group leader, you should try to discourage any evaluation or even discussion during the brainstorming process, including any criticisms or compliments. It is often helpful to start with a warm-up practice on an unrelated topic, such as, "How can we attract more squirrels to the campus?" With any luck, participants will have fun, understand the brainstorming process better, and be impressed with how it stimulates creativity.

Go on to the main topic and encourage everyone to participate. Set a time limit, perhaps 25 minutes. One method is to go around the room, having every member suggest an idea off the top of their head. Emphasize that every idea is welcome, because even "crazy" ones may lead to good ideas later in the process. Also let people know that it is okay to build on one another's ideas. One may use a blackboard, flip chart, or sticky notes to write down and post every idea as it is generated. Having another person volunteer for this task will be helpful, perhaps even using two volunteer recorders to speed things up. Also, tolerate periods of silence as people think about the topic.

After a long list of ideas is generated, a second step in the group process is to cluster the ideas in categories. This can be done by rearranging the sticky notes, if that method was used. Another method is drawing conceptual maps on the blackboard or flip chart. In such conceptual charts, circles are used to represent variables of concepts or ideas and arrows are used to depict causal effects or relationships. One may generate such maps on a blackboard based on group consensus, or it may be valuable to have group members individually create such maps, then discuss differences among them and hold a group discussion about reconciling and synthesizing differences in models.

Ask someone to identify the most important central idea, then write it on the board and circle it. Add other ideas as additional circles one at a time. As each circle is added, get group discussion on its relation to circled concepts already on the board and draw appropriate connecting arrows. Or, you may wish to attach a verb to each arrow, clarifying the meaning of the connection (for example, causes, must precede, must accompany, etc.). Getting clarification of the meaning of each suggested item is appropriate in this stage.

A final step is evaluation. Often this is best done after a break, though that timing is not essential. In the evaluative discussion, remove ideas that the group feels would not be workable. Discuss various criteria for prioritizing the remaining ideas: importance, interest, and feasibility.

(b) Brainstorming as an Individual Process. It is possible to brainstorm on your own (see the "Example" subsection below). Before doing so, consider some of the approaches in the "Checklist" subsection later in this chapter. Individual-level brainstorming is not a one-shot process. You may find it useful to keep an

idea notebook or its index card or database equivalent, in which you jot down ideas, inspirations, tangents, and other bits and pieces that may one day become parts of your study.

Freewriting is a well-established approach to individual brainstorming. Freewriting is allowing yourself to write freely, without restrictions, without worrying about grammar or writing style, even without worrying if what you write is coherent. You may find this easier to do as stream-of-consciousness dictation into a tape recorder. Regardless, the concept of freewriting is to encourage free association of ideas, not stopping for at least 15 minutes. Later on, at the end of the freewriting process, the writer sifts through the ideas that he or she has written, editing some, deleting others, highlighting sentences or phrases that seem particularly evocative, then organizing the sifted version of one's writing into an outline for a paper.

(c) *The Delphi Technique.* Delphi is an approach to brainstorming that can be conducted without the need for face-to-face meetings. Frequently it is implemented through mail. Now that e-mail is common, vastly speeding things up, the Delphi technique promises to become much more popular. Delphi is sometimes used to generate ideas among a group of experts but it could be used to generate topic ideas for writing. There are many variations, but in general Delphi is a five-step process.

How Delphi works. A group of experts or other respondents is approached, and the general nature of Delphi is explained to them. Their willingness to participate is secured. In the case of dissertation writing, the group of experts might be fellow students who agree to participate by e-mail.

A questionnaire is developed that calls on respondents to list topic ideas related to a subject, such as that on which the writer has chosen to focus. The instrument is mailed or faxed to appropriate respondents who complete and return it.

The researcher summarizes results from the first wave of returns and sends back a second questionnaire that asks the respondents to prioritize items previously submitted according to one or more criteria, such as substantive importance, theoretical importance, and feasibility. The authorship of items remains anonymous.

The process is repeated until there is convergence and the researcher concludes additional iterations would not change results.

All participants get a final summary of the group's consensus. Final feedback is solicited from respondents, who may further change their opinions in view of the collective group opinion.

(d) *The Nominal Group Process.* The nominal group process is an alternative face-to-face technique very similar to brainstorming, except that an attempt is made to reach consensus in the end. This is done by having each person assign priorities by silent ballot, tallying the ballots, and discussing the group priorities that have received the highest votes.

2. Brainstorming Checklist

Here are some specific activities and concepts to consider when doing brainstorming:

Develop a "quick and dirty" reading list (not your literature review, which is a later topic of this book) and read a wide variety of perspectives.

Consider whether your brainstorming benefited from your prior research of the literature.

Many political think tanks have their working papers online on the Internet, often providing good background. Ask your advisor for names of think tanks and research institutes in your area of specialization.

It can be a good idea to look at some of the debate in the Congressional Record. Although not research material, it helps develop the issues pertaining to your topic. For a keyword search of the Congressional Record as well as bills before Congress, go to the "Thomas" web site of the Library of Congress at <http://thomas.loc.gov/home/thomas2.html>.

Do a search of the Library of Congress by going to <http://lcweb2.loc.gov/ammem/booksquery.html>. You won't be able to read text online, but after you have entered your keywords and gotten some hits, click the "Browse Shelves" button to see titles related to the ones you found. Browsing the electronic shelves can generate more subject ideas.

Of course, do a search of the web with a good search engine, such as Altavista (<http://www.altavista.com>) or All the Web (<http://www.alltheweb.com>).

For doctoral research, have you consulted with experts for their ideas on suitable topics or feasibility of topics already identified?

Keep a notebook of ideas as you seek to select your subject.

Consider putting a twist on an existing concept or investigating hypotheses contrary to conventional wisdom.

Avoid topics in which you have a personal stake, emotional involvement, or other conflict of interest.

Write out a formal definition of your key subject terms.

Consider if your subject can be divided into different types, and create a typology.

Create an inventory of the alleged causes of your subject.

List the alleged consequences of your subject.

List several subjects similar to your subject, ones that would be interesting to compare, and then make lists of similarities and differences in these analogies.

Write each key element in your thesis and supporting hypotheses out as exact opposites. Consider whether these negations also contain interesting ideas you should explore.

Create a time line that shows the historical development of your subject.

List types of actors affected by your subject and write a paragraph giving the typical views of each type.

List public policy controversies and issues related to your subject.

If you have a dissertation or thesis committee of faculty members, write out a preliminary paper with some leading bibliography to describe general orienting questions for your area of interest and obtain feedback on these questions for your dissertation, thesis, or paper.

Don't let brainstorming be a one-time thing at the beginning of your writing project. Instead, look for opportunities over the entire course of your writing to exchange and develop ideas with others.

3. Brainstorming Examples

Suppose you are considering writing about something in the area of environmental regulation. Compose a list of everything you can think of related to this topic, freely associating and omitting nothing, continuing until you run out of ideas. Don't stop to evaluate your ideas, edit them, or even be grammatical. An example of such a list might be this:

Subject: Environmental Regulation

Air pollution.

Noise pollution.

Water pollution.

Chemical pollution/hazardous waste.

Endangered species.

Is it effective?

Cost/benefit analysis.

EPA agency.

EPA regulations versus property rights.

Conservatives versus liberals on environmental regulation.

Al Gore.

Politician's platforms on environment.

Federal funding for environment.

State funding.

Private costs/funding.

Private sector ads on environmental issues.

Public opinion on environment, causes of.

Smokey the Bear.

Conservation.

Conservation/environment in 1900s versus 1990s.

Once you have generated a list, reconsider your topic. Drop ideas that do not seem as important, interesting, or feasible to investigate. The next step is to

look at this list with a view toward forming an analytic topic. One needs to find testable propositions, usually ones positing a causal relationship. Such relationships often take such forms as these:

The more the one, the less the other (or vice versa): the better organized the conservation/environmental movements in a given decade, the more the conservation/environmental legislation in that decade.

First one, then the other: chemical pollution led to more species being endangered.

Two (or more) things operating jointly create a third thing. There is an interaction effect whereby joint federal and state funding of environmental objectives can achieve results that can accomplish neither operating alone.

Such relationships, of course, are not known to be true beforehand. Indeed, if they are self-evident or commonly accepted by all, motivation for research is undermined. The best testable propositions are plausible but not indisputable, leaving the researcher room to compare the posited relationships with other plausible alternatives.

4. Brainstorming software

A variety of software exists to assist the writer with brainstorming. An example is *IdeaFisher* and its "light" version, *Writer's Edge* (<http://www.ideafisher.com/>), described by Fisher (1995). This software functions like a superthesaurus. When the writer enters a keyword from his or her theme, *IdeaFisher* or *Writer's Edge* will generate hundreds of words and concepts related to the topic, not only synonyms, but all kinds of associated concepts and words in a variety of categories: people, things, places, processes, verbs, descriptors, abstractions, and other categories of words and phrases associated with the keyword. *IdeaFisher* also has specialized sets of dialogues that lead a writer through his or her topic, exploring ramifications. Although somewhat weighted toward business applications, this software has add-on modules for such topics as strategic planning, evaluation, general problem solving, or conflict resolution, to name a few specialty areas. The dialogues in conflict resolution, for instance, contain questions for the author such as "List five ways in which conflict can be described positively (e.g; challenging, enlightening, constructive, barrier-breaking, fostering innovation), or list five ways that describe conflict negatively (e.g., disruptive, unsettling, fragmenting, self-perpetuating, stressful)."

Brainstorming Toolbox and *Innovation Toolbox* are also examples of brainstorming software (<http://www.infiniteinnovations.co.uk/>). The *Innovations Toolbox* creates interactive exercises implementing a variety of brainstorming techniques, including:

1. *Random word.* A random word generator electronically implements the brainstorming technique of free association. A random picture variant is also supported, based on the thought that visuals generate group brainstorming discussion.
2. *Innovation.* A list of innovation-related questions is posed to the user, encouraging the writer to examine his or her concepts from a variety of perspectives.
3. *Problem identification.* Questions force the writer to spell out the exact problem being addressed and related assumptions.
4. *False rules.* Rules from other fields of knowledge are presented so the author can consider the extent to which they do or do not apply to the writer's subject.
5. *Thesaurus.* A synonym technique to consider variants on one's key ideas.
6. *Random phrases.* A word and phrase manipulator creates ad lib-type variations on one's original statements.
7. *Analogies.* A technique that prompts the writer to consider other processes and relationships to spell out similarities and differences between one's subject and the analogy.

Drawn from the field of creative writing, these software tools are available in a free 30-day trial version from the Infinite Innovations, Ltd. web site above.

ParaMind (<http://www.paramind.net/>) is another type of brainstorming software. It works by generating new text from your writing, thereby expanding on any idea based on one of hundreds of built-in related word chains, to which the writer can add. As such, it goes beyond common "writer's helper" software that may ask the writer questions related to his or her subject, flow charting the writer's concepts or generating random word combinations that provide idea variations typed in by the author. In *ParaMind*, a single sentence or paragraph can be expanded and permuted into up to 100 pages of related statements. In simple "merge" mode, *ParaMind* operates as a sort of thesaurus, suggesting substitutes for words the writer highlights in the text. However, in "large merge" mode, many pages of new, reworded relationships are generated, providing feedback on hundreds of new relationships and associations relevant to the concepts contained in the author's original text.

Yet another example of brainstorming software is *Solutions*, which grows out of process brainstorming in business decision-making. *Solutions* provides a structured model for project definition, identification of potential areas for improvement, analysis of causes, development and selection of solutions, action plan development, and evaluation of results. *Solutions* is built around the four steps of definition, analysis, action, and evaluation. Built-in group tools consist of brainstorming with optional group voting and force field analysis for selection

of ideas; diagramming techniques for root cause identification and analysis; and flow charting and process mapping. These tools are integrated. Brainstorming session ideas can be dragged and dropped into the module for diagramming causes. The root causes or identified steps in the flow charting module can be dragged and dropped to another brainstorming session. The software can be used on an individual or group basis to generate ideas. A free demo version is available at <http://www.dssinfotech.com/Solutions.shtml>.

Other software includes *Brainstorming 101*, available for free downloading in demo format at <http://www.brainstorming.org/>. Likewise, a 30-day evaluation copy of the software *Brainstormer* is available for free at <http://www.jpb.com/creative/brainstormer.html>.

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