Research Concepts & Practice
The Language of Research

As you begin to search for answers to your preliminary research questions, you will find yourself typing words into library catalogs and databases, into search engines like Google, and into various Web pages that have internal search mechanisms. Words, as it turns out, are very important to research! Below are some strategies to help with the task of identifying search terms.

I. Break down your focused topic and identify the main concepts involved.
Sample Topic: The positive and negative effects of factory farming.

Concept one	Factory farming
Concept two	Positive effects
Concept three	Negative effects

II. Brainstorm synonyms (related terms), broader terms (more general), and narrower terms (more specific) each concept.
When brainstorming synonyms, think about how other people might describe these concepts. What words would a reporter use? How about a scientist or doctor?

Concept	Synonyms	Broader	Narrower
Factory farming	factory farming; factory farms; large-scale farming; CAFO(Confined Animal Feeding Operations)	farming; farms; agriculture; agricultural industry	Intensive piggeries; hog farms, dairies, dairy industry, swine industry, beef industry, poultry industry
Positive effects	benefits; positive aspects		economic effects; economic benefits; low prices
Negative effects	drawbacks, negative aspects		environmental effects; health effects; animal cruelty;

III. Identify official subject headings and descriptors and add them to your list
Some search tools utilize a **controlled vocabulary** system, while others allow **natural language** queries. Many offer both options. If you use a search engine like Google, you are already an expert on natural language searches, also called keyword searches. But controlled vocabularies are the researcher's friend.

Controlled vocabulary	**Natural language**
Pre-determined subject headings/identifiers Fixed and uniform Synonyms identified and linked Takes time to identify terms Higher precision, less results	Any keywords present in text Variable Finds utilized search terms only "Jump right in" More results, less precision

How can you identify official subject headings and descriptors? You have several options:
1. Talk to a librarian.
2. Browse the subject index of a search tool.
3. Perform a keyword search in the database, identify a relevant title, then examine the "record" of that title to identify the subject headings/descriptors attached to it.

IV. Don't forget to brainstorm terms for your specific research questions (if necessary)
Your individual research questions may have different terms attached to them. For instance, your background questions may have you searching for the **history** of agriculture or agricultural **statistics**.