



Types and Sources of Research Articles

1. Experimental Articles
 - a. Experimental testing
 - b. Scientific communication about personal/lab group experiments
 - c. Experimental methodology
2. Meta-Analysis Articles
 - a. Combination of multiple experimental results
 - i. Commonly from different groups/labs
 - b. Secondary data analysis to find trends
3. Review Articles
 - a. Summary of research data from a particular topic
 - i. Scientific communication analyzing others' experiments
 - b. Meant to provide reader general overview of "state-of-the-field"
 - c. Can serve as starting point for exploring literature
 - d. Meant to give big picture of research area, may exclude some details
 - e. Components
 - i. Abstract
 - ii. Introduction including statement of purpose
 - iii. Relevance of particular research area
 - iv. Breakdown of specific research questions
 - v. Figures that are examples of representative work
 - vi. Discussion/future directions of research area
 - vii. References
 - f. Why do we need review articles?
 - i. Reviews help us to avoid having to reinvent the wheel
 - ii. Can be used as a map through many experimental articles that can be found on a subject
 - iii. Help point to "holes" in the literature—areas for improvement



Research Experience and Mentoring

Finding Research Articles Handout 1: Types and Sources of Articles

Sources of Information and Research Articles

Type and Content	Trustworthiness	Freshness	Cost
Handbook – summary of facts		Information > 3-4 years old	Access through library or purchase.
Book - written to explain a new topic			Access through library or purchase.
Standards – commercial, how to do something or what something must do. Example: USB standard so that all USB ports work the same.	Manufacturers or users follow these documents for design or measurement.		Purchase
Journal - highly technical description of a very narrow subject. Main source of research articles.	Peer Reviewed, 4-5 experts attempt to find errors and challenge results.	Information < 2 years old	Access through library or personal subscription.
Thesis and Dissertations			Access through library or request from author
Patents	Review by patent examiner does not ensure that idea is technically correct.		Free online
Technical Magazine -overview of a technology		Information < 2-3 years old	Membership in a professional society
Conference Proceeding - short, highly technical, may be preliminary		Information < 1 year old	
Trade Magazine - technical content, often related to use of a commercial product	Editor, limited peer review. Goal is to sell advertising.		Magazines free to qualified users.
Wikipedia	Peer curated - sometimes reviewed, sometimes not.		Free online
Website	Based on the publisher or content owner		Free online

