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Genetics Writing Assignment #2: Primary vs. Review Articles

Primary articles are fundamentally different from review articles in both a contextual and skeletal sense. Primary articles are created using sections that differ from review articles. These sections begin with the introduction, followed by the methods, results, discussion, and conclude with the references. Articles such as these are then peer reviewed to ensure only quality work enters scientific literature. Another important aspect of primary research is that they are the original report of research results, and more often communicate new knowledge to the scientific community. An example would be a paper involving a clinical trial describing results from testing a new drug.

Review articles are most commonly referred to as secondary sources since they do not report new knowledge. They do, however, analyze the primary sources to make a comprehensive review of the sources. This is important since it can add new perspectives and make newer information easier to understand. Writings like these do not follow the same structure as primary articles but are often interpretations of original research. Most review writings are divided into different types such as meta-analysis and systematic reviews. Systematic reviews use predefined methods to gather and analyze relevant studies. Meta-analysis uses a statistical combination of results from multiple studies. An example would be a paper summarizing known signaling pathways involved in insulin resistance involving multiple case studies. The best way to distinguish between the two is to examine the structure and content of a paper, looking for indicators such as the presence of a methods section or references to other works.

Each scientific paper, whether primary or secondary, goes through a rigorous peer review process. This ensures that only works of the highest quality make it into the scientific community. For a research paper to be published, it must pass an important and rigorous process. If a paper is to be published by a scholarly journal, it must first pass a journal editorial review. Then it is sent to experts where the quality of work is evaluated. The experts consist of peer reviewers in the same research area. The reviewers then suggest to the editor whether to approve or reject the article. Most articles are rejected or approved with the expectation that the author will make revisions. The decision to approve or reject a paper ultimately comes down to the editor's decision. If the editor approves the article, then it will be made available in databases accessible at libraries and universities.