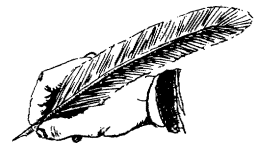


The Indispensable Outline

Years ago, when I first started writing research reports for scientific journals, my thoughts were, "I know exactly what I want to say, I don't need an outline. An outline is not published, so why waste time writing something that will be discarded? I'll start right out writing the important thing, the paper". What a mistake! I remember the wasted time as I spun my wheels trying to fit my ideas and thoughts into a coherent paper without first having a detailed plan in the form of an outline. Not only did I have trouble putting my thoughts together, I didn't even have all my thoughts gathered.



Every manuscript my colleagues and I wrote was submitted to our supervisor for review and approval. Evidently he recognized the problems we writers were having because of not preparing a good outline. To correct this, he simply made a rule that he would not consider any paper submitted to him without a comprehensive outline. I grumbled then, but soon appreciated that I had been forced to learn the importance and value of preparing a good outline as an essential step in writing a paper.

Each idea in a technical paper must be expressed clearly and concisely. Although clarity and conciseness are vitally important, they alone are not enough. Each idea must also be coordinated with other pieces of information if the final paper is to be logically meaningful and easy to read. A comprehensive outline is the tool by which a paper can be organized effectively.

Outlines can be made in various ways, depending on the nature of the material to be written, the type of publication, and the desires of the writer. No one approach is necessarily the best. Whatever structure the outline takes, the process of outlining usually begins by documenting each idea that is to go into the paper. A concise statement of each subject is written in a manner that allows convenient juggling, sorting, and arranging. Filing cards, with one subject per card, are very useful. In recent years, word processing computers do the job equally well.

Two processes govern the sorting and organizing of the subject into an outline. These are COORDINATION and SUBORDINATION. By subordination, sub-topics are arranged within major topics. By coordination, sub-topics are logically related to each other within major topics, and major topics are logically related to each other within the total paper.

For reports of original research that are to be published in scientific journals such as WEED TECHNOLOGY, starting the outline is easy, because the first order subjects are commonly prescribed, such as:

- Introduction
- Materials and Methods
- Results
- Discussion
- Literature Cited

All the individual subjects of the paper can be subordinated and coordinated within this framework to create the skeleton of the paper. Then as the parts are added in their places, the skeleton is fleshed out to form the completed manuscript.

Fortunately, an outline is easy to change, and the author should always be ready to adjust it, even after the first form of the outline has been prepared and he is writing the paper. New thoughts and new relationships of the material often come to mind as the author is writing. With a good outline to start with, it is easy to make it even better during the writing process. The end result should be a manuscript that presents the information to the reader in a way that is clear and that proceeds logically.

Remember:

- Arrangement of the story's parts,
- Logical must be.
- To organize the pieces,
- An outline is the key.

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