

Structure of journal articles

Text Organization and Structure

In dealing with specialism literature, one of the most important issues in approaching a text is to recognize the structure of texts related to genre conventions.

For instance, journal articles may differ in style, but most share a remarkably uniform purpose and structure. The purpose of an article in any field is to advance an argument of fact or policy: (1) an argument of fact that the results reported are valid, that previously reported results are supported (or not), that a given theory is supported (or not), that other observations are necessary to resolve some debates in the field; or (2) an argument of policy that previous results should be questioned or reinterpreted, that a given theory should be abandoned, recast, or extended. These arguments are made in a structure that is quite consistent over many fields and includes the following sections:

1. *Introduction*, which defines the problem and describes its importance
2. *Materials and method*, which describes how the research arrived at the results
3. *Results*, which describes what was discovered
4. *Discussion*, which analyses the importance of the results and their implication(s)
5. *Conclusion*

1.Introductions tend to introduce a problem, then identify a strategy to address the problem and announce the purpose of the text. This is accomplished in rather complex and varied ways.

The following is an example of a possible structure for article introductions:

I. Establishing the field

- Showing centrality
- Stating current knowledge
- Ascribing key characteristics

II. Summarizing previous research

III. Preparing for present research

- Indicating a gap
- Raising questions
- Extending a finding

IV. Introducing present research

- Giving the purpose
- Describing present research

The text below exemplifies the statements mentioned above:

Thermal Conductivity and Specific Heat of Epoxy-Resin from 0.1 - 8.0 K

Establishing the field	The thermal properties of glassy materials at low temperatures are still not completely understood. The thermal conductivity has a plateau which is usually in the range of 5 to 10 K, and below this temperature it has a temperature dependence which varies approximately as T^{-1} . The specific heat below 4K is much larger than that which would be expected from the Debye theory, and it often has an additional term which is proportional to T .
Summarizing the present research	Some progress has been made towards understanding the thermal behaviour by assuming that there is a cutoff in the phonon spectrum at high frequencies and that there is an additional system of low-lying two levels states.
Preparing the present research	Nevertheless, more experimental data are required, and in particular it would seem desirable to make experiments on glassy samples whose properties can be varied slightly from one to the other.
Introducing present research	The present investigation reports attempts to do this by using various samples of the same epoxy-resin which have been subjected to different curing cycles. Measurements of the specific heat (or the diffusivity) and the thermal conductivity have been taken in the temperature range 0.1 to 8.0 K for a set of specimens which covered up to nine different curing cycles.

2. Material and methods is the section that provides the means by which the scholarly community can repeat and verify research. This section must:

- identify precisely the materials used;
- identify any special conditions under which the research was conducted;
- identify any special criteria used to select materials;
- justify method used to conduct research;
- justify, where necessary, choices of criteria, materials, method, or conditions.

The **3. Results** section presents the major findings, including a compact presentation of data (often using charts and graphs), and the major generalisations to be drawn.

4. Discussion is the section that claims implications for the results, including the following kinds of information:

- whether or not the results were expected (if not, why not);

- generalizations or claims made on the basis of results;
- whether the results contradict or support other experimental results;
- whether the results suggest other research to confirm, reject, or extend the current results;
- whether the results support or contradict existing theory;
- whether the results suggest modifications or extensions of existing theory;
- practical applications following from the results.