

What is an argument?

Although every piece of academic writing is unique, they all aim to persuade the reader of one main idea or of the integrity of a central finding. This central claim is often referred to as the argument. The academic argument begins with a statement (thesis) that is debatable: that is, an idea you believe in, but with which other people might disagree. The remainder of your text provides evidence for your thesis statements and against opposing arguments. Your aim is to convince your readers of the correctness of your thesis by providing evidence that they will find convincing and by defeating alternative arguments that they might have believed.

Steps in argument Formation:

1. Identifying a thesis statement: A thesis is a statement about which people can take different points of view - it is debatable.
2. Identifying different kinds of evidence: Having established a thesis statement, the academic writer's next step must be to determine what kind of academic evidence is needed to support the thesis. Academic evidence usually consists of data that is acceptable (as evidence) by the academic community.
3. Identifying an argument: A written argument is a text that:
 - ❖ lays out a position, a recognised set of views in the discipline
 - ❖ attempts to show why it is wrong or incomplete.

The language of argument

Academics often write arguments because they are writing about subjects that are controversial. In 1600, relativity was unknown; in 1800, it was still a controversial theory. In 1100, everyone believed that the Earth was flat; when some people tried to revive the flat earth theory in the 20th century, they were ridiculed. Knowledge changes and it changes because of research. New thinking becomes known and accepted because of effective argument. And language is vital to effective argument. Certain verbs and adverbs, as well as formulaic phrases, are frequently used in writing arguments.

- ❖ Argumentative verbs
 - Pro: believe, think, prove
 - con: doubt, question
- ❖ Emotionally-charged boosters
 - particularly, definitely, certainly, surprising
- ❖ Personalisation (when arguing your own position) I/we/our; this group includes most of the argumentative verbs (e.g. we believe that ...)
- ❖ Formulaic phrases
 - In my opinion, beyond a doubt, a serious flaw
- ❖ De-personalisations (when criticising others) such as 'the findings may be criticised ...' (Note: the findings are criticised - not the researchers), 'it is unjustified to ...'

The key elements of an argument include:

1. statement of the problem
2. literature review
3. The precise focus of the research stated in the form of an hypothesis, question, aim, or objective
4. method and methodology
5. results/evidence
6. discussion and conclusion

The amount of writing used to accomplish each step will differ widely among academic papers. The first three or four elements are often, but not always, provided in the introduction, leaving the bulk of the paper free to describe and discuss the results or to present evidence to support the argument.

1. The 'problem'

Academic writings open with an unresolved problem or paradox, or an explanation of something important that we need to know. This is done in order to get the reader's attention, establish the significance of the research, and signal the literature/s that the research will contribute to. In some papers, this is accomplished in a few sentences or paragraphs. In others it may take several pages.

Common introductory strategies that establish a relationship with the reader:

♣ a quotation (appropriate to the main focus of the paper and explained in text); ♣ a concession (recognise an opinion/approach different to your own); ♣ a paradox; ♣ a short anecdote or narrative; ♣ an interesting fact or statistic; ♣ a question or several questions (that you will proceed to answer); ♣ relevant background material; ♣ an analogy; ♣ an important definition (examine its complexities).

Whichever approach is adopted, the problem should be explained in a way that relates to the concerns of the people writing in the field, and or to issues of broader importance.

2. The 'gap' in the literature'

The statement of the problem is followed by a statement of the 'gap' in the field/s of literature that the research aims to address. The 'gap' could refer to an unresolved question, a paradox, a missing piece of information, a theoretical inconsistency or to some other weakness within existing understandings of the phenomenon under study. Writing about the gap in the literature is often referred to as the 'literature review' although 'literature review' is also used to refer more generally to writing that critically engages with the ideas of others.

The statement of the gap is important because it:

- ♣ introduces and explains findings and theories that support the research;
- ♣ draws together the main conclusions of literature relevant to the topic;
- ♣ highlights unresolved issues or questions within the literature;

♣ establishes the originality or 'significance' of the research.

3. Hypothesis, question, aim, objective

Classically, the literature review is followed by a statement of the precise focus of the research. This can take many forms including an hypothesis, a question or, more commonly, a statement of the aims or objectives of the research. In order to avoid repetition and to keep the focus precise, it is important to use only one of these forms. Since research aims to produce knowledge, as opposed to directly changing the world in some material way (with the possible exception of action research), the statement of the research objectives should use the language of knowledge production. For instance, research can provide insights, information, and knowledge, it can investigate, compare, examine and explore. It cannot, in itself, change policy, improve people's lives, or produce any other physical outcome in the world. For this reason, research objectives are usually confined to claims about the kind of knowledge that will be produced. Claims about outcomes that cannot be promised are avoided.

In some journal articles, particularly in the humanities, there is not statement of aims or objective. Instead the paper directly states the argument in the introduction, usually following the statement about the gap in the literature. The sentence opener 'I argue ...' or 'it will be argued' is often used to signal that the statement that follows is the main point of the paper. For this reason, using the phrase 'I argue ...' to introduce ideas that are not central to the article should be avoided because they can mislead the reader as to the main point of the paper.

4. Method and methodology

The method and methodology explains how you will answer the question, or how you arrived at your conclusions. A concise statement of the method and methodology is usually provided in the introduction, and/or the abstract. This statement should explain what you did to achieve the research aims, or reach your conclusions, and why this approach was appropriate for your research. You are aiming for a statement that carries the critical information with as few words as possible.

The first step in summarising the research design, whether in the introduction or within a research design section, is to say why you did what you did. This is accomplished by reminding the reader of the objective of the research and then following with a description of the methods. This description should include the method (survey, experiment, textual analysis), where the research was conducted (geographical or institutional context), with whom (sample population), how many research participants were involved (number), and any other information the reader needs to understand the core elements of the research design.

Once you have described the method, the next task is to explain what you expect your data will show or reveal. What kind of knowledge do you expect your research design to produce? This is often referred to as the research methodology or the 'theoretical framework' of the thesis.

The methodology explains the assumptions that underpin the study design. These assumptions can range from highly philosophical or theoretical to more practical elements of the design. You are effectively telling your reader how you wish them to read your findings. Within what methodological or theoretical frame or set of limits you wish your findings to be read.

5. Results/evidence

The next step in the story line is the provision of the results or discussion of the evidence to answer the question or support the argument stated in the introduction. Here you are telling the reader what you found. Evidence might be organised around elements of the method, central themes, theories, ideas, case studies, historical periods, policies, fields of literature, context, geographical area or other grouping. The important thing is that the discussion is clearly tied to the question or argument of the thesis.

Once you have determined how you will divide up the evidence, some general principles apply to the results writing process.

- ❖ Report only results or evidence pertinent to the research question or argument.
- ❖ Provide a statement of the main result/s or argument in the introduction to the results section, then follow with the data.
- ❖ Name the themes or topics covered within the results section in the introduction.
- ❖ Report results or evidence in order of importance or persuasiveness (most important first), or chronologically (for staged experiments), or in order of question asked (for survey research).
- ❖ Report all results or evidence pertinent to the question or argument (not just those that support the hypothesis).
- ❖ Present complex data within figures or tables. If it can be explained just as well in the text, do not provide a figure or table.
- ❖ Provide precise measurements

Writing Results:

- ❖ Write the result or main point first and then follow with the data

One way to ensure you are summarising, synthesising and interpreting data, rather than simply reporting it, is to provide the result first followed with a description of the data that supports it. This will avoid a results section that reads like a long list of figures and tables, quotes from research subjects or descriptions of statistical outcomes with little story line to explain the data or draw out its significance for the central research question.

- ❖ Explain how a result is significant

Instead of stating that a result is significant, explain the significance of the result. For example: instead of saying 'Results for the distance travelled were highly significant', try 'While the average distance travelled is five kilometres, the sample population travelled on average 10 kilometres further. This can be explained by ..

- ❖ ' Figures, tables and graphs:

♣ are necessary only when they provide information that expands upon, or cannot be explained in the text; ♣ should contain sufficient information to enable them to stand alone; ♣ are always discussed in the text; ♣ use titles to describe core content, (name of variables, type of analysis); ♣ are clearly and consistently labelled and numbered; ♣ list one column of data per heading; ♣ are uncluttered.

- ❖ Refer to figures and tables in the flow of the discussion

Avoid using a figure or table title as a topic sentence. Instead, cite tables and figures in brackets after relevant results statements. For example instead of saying 'A summary of grocery retail transaction data is presented in Fig. 2', try 'Grocery retail transaction data showed that ...(refer Figure 2)'.

6. Discussion and conclusion

The final step in the story line is to provide the answer to the question, or to summarise the argument and the main evidence used to support it. This is followed by a discussion of the significance of the research and the implications that arise from the research.

The goal of the conclusion is to highlight the importance of the argument, to draw together the discussion into a final point, and to leave a lasting impression on the reader. In the same way that the paper opens with a statement of a problem that is of broad concern, it should close with commentary that highlights the take home message. The aim in the conclusion is to make this message as clear and accessible as possible.

Some papers have separate discussion and conclusion sections. The difference between the discussion and conclusion is one of inference. The discussion section discusses actual results. Conclusions are more speculative in tone, exploring the possible implications of the results. In many qualitative papers, results or findings are difficult to disentangle from the discussion and are combined within the main body of the article.

An Example

Education

Paton, M. 'Is critical analysis foreign to Chinese students?' In Communication skills in university education, Emmanuel Manalo and Glenis Wong-Toi (eds), pp. 1-10.

- ❖ Statement of the problem (introduction)

In a workshop presented at the 7th Pacific Rim First Year in Higher Education Conference, Kutieleh and Egege (2003) argued that critical thinking is specifically a Western approach to knowledge claims and that the challenge for transition programmes for international Asian students is the incorporation of critical thinking into first-year programmes without taking either an assimilationist or a deficit approach. This follows the arguments of those such as Atkinson (1997) and Fox (1994) that critical thinking is incompatible with Asian cultural attitudes.

- ❖ Statement of the argument (introduction)

I argue, in contrast, from the perspective of history of science in China, that critical thinking is not the preserve of Western culture and that the comparative lack of "critical" quality in the academic work of East Asian international students in English is due to the difficulties of study in the context of edge-of-knowledge discourse in a second, third or fourth language. Regardless of their cultural background, the majority of typical first-year students need to be inculcated into critical thinking because from the perspective of developmental psychology, even though such students are

generally near their peak of fluid intelligence, other cognitive abilities related to critical thinking, such as integrative thinking and reflective judgment are less evident at their stage of development.

❖ Method and methodology (introduction)

The paper draws on critical literature to demonstrate the critical tradition of China and Chinese learners, and outlines various teaching and learning strategies developed to assist the development of critical analysis for students new to academic writing.

❖ Results/evidence (introduction main body)

A cursory glance at the various volumes that make up Needham's Science and civilisation in China (1959, 1962) would indicate that elements of scientific thinking have been a major source of the success of Chinese culture over the millennia (developed in the first part of main body).

Lifespan developmental psychology suggests that it is not only Chinese students but all undergraduate students in their early years of academic study who need to be inculcated into critical thinking and the discourse that this involves in English (developed in the second part of the main body).

If students understand that critical analysis is the basis of academic argument, they then understand through this exercise the macro-structural form that their writing should take if it is not to fall into a mere summary of others' ideas. Exercises that prove useful in examining the structure and nature of academic argument include ... (final part of the main body)

❖ Discussion/Conclusion (last paragraph)

To conclude, if one considers the history of science in China, it would be almost culturally chauvinistic to suggest that critical thinking is specific to Western culture. I argue that critical thinking is evident in all cultures in that it is through such thinking that humanity survives. However, critical thinking as the basis of knowledge as seen in the university context is not necessarily easily come by, especially with young adult students who have a tendency to see knowledge as a fixed commodity to be ingested and then spat out in examinations. This, of course, is exacerbated by the plethora of examples of the lack of critical thinking exhibited by those in power in society outside (and sometimes inside) the academy. This lack of critical thinking reinforces any reticence on the student's part to be critical, whether it be because of second language difficulties or stage of cognitive development. Thus, if we as academics are to keep the academy as an institution for adding to the knowledge of society through critical thinking, we should not only model the discourse of critical thinking but also inform students as to the reasons for such a discourse.