

原力英语全能提升训练营

B2 学术写作训练

写作的基本逻辑

学术写作要求

我们在之前的写作课曾经讨论过，结合大部分的写作考试要求和评分标准，可以总结出一篇好的英文作文应该具备以下三个特点：

- 1.词汇和语法上要准确到位，有力支撑内容，句式多样化。
 - 2.结构上要行文流畅，逻辑连贯且自洽。
 - 3.内容上要言之有物，观点明确清晰，论证充分。
-
- 这三点标准的难度是递增的，而越到高级别的写作考试，它的重要性也是递增的。
 - 我们可以概括以下几个标准来衡量一篇文章的优劣：**词汇的丰富与准确性，语法的准确性，文章逻辑的连贯与流畅度，观点是否清晰扣题，论证是否严谨有力。**

学术写作要求

- 这就说明，如果我们想要使一篇文章要做到连贯流畅，观点清晰，论证有力，仅仅靠单词的使用和语法是不够的，因为它还涉及到一个更深层次的问题：
- 逻辑思维能力
- 可以这样说，写作活动是一种**严密而有序**的逻辑思维过程。
- 这里讨论的逻辑是一种**思维的规律性或规则**，如无论说话或写文章都要符合逻辑。我们思考需要有一个公认的模式，这种模式，就是逻辑了。如果写作中的逻辑不清晰或者很跳跃就会给阅读造成一定障碍，让读者抓不住写作的要点，摸不着头脑。也就不能称之为好的写作。

学术写作要求

- 我经常在学生的写作中发现思维跳跃和条件不足的问题。假设从A原因到D结果中间有B和C两个步骤，但在写作中很多同学习惯于将A说成D出现的直接原因。这也就是我们所说的跳跃性因果思维了。
- 与此同时，条件不足通常也是伴随着跳跃性思维存在的。假设在A导致B的过程中，B1充当了必要条件。而在表达因果的时候，我们却忽略了B1这个必要条件，直接得出A导致B，就叫做条件不足。
- 举个最容易理解的例子：比如你从老家搬到深圳生活，有人问你“为什么来深圳呢？”。你可能会回答“我要追求更快的发展，所以我就来了”。在日常对话的逻辑里，这样的因果是OK的。但在严谨的因果推理中就犯了条件缺失和跳跃性的错。因为，难道追求更快的发展就一定会来深圳么？而追求发展和来深圳之间就一定存在因果联系的么？
- A我追求更快的发展，B深圳适合追求高速发展，(C1我喜欢适合追求发展的城市)，C我愿意去追求适合发展的城市，D我来到深圳。
- 当然在写作中的逻辑一般比这样的论述会更加复杂。

USING LOGIC IN WRITING

- **Don't assume that an audience will easily follow the logic that seems clear to you.**
- Logic is a formal system of analysis that helps writers invent, demonstrate, and prove arguments. It works by testing propositions against one another to determine their accuracy. People often think they are using logic when they avoid emotion or make arguments based on their common sense, such as "Everyone should look out for their own self-interests" or "People have the right to be free." However, unemotional or common sense statements are not always equivalent to logical statements.
- **To be logical, a proposition must be tested within a logical sequence.**

SYLLOGISM

- The most famous logical sequence, called **the syllogism** (三段论/*sɪlədʒɪzəm*/由两个前提得出结论的推理方法), was developed by the Greek philosopher Aristotle.

His most famous syllogism is:

- **Premise 1:** All men are mortal. 凡人必有一死。
Premise 2: Socrates is a man. 苏格拉底是人。
Conclusion: Therefore, Socrates is mortal. 所以苏格拉底必有一死。
- In this sequence, premise 2 is tested against premise 1 to reach the logical conclusion. Within this system, if both premises are considered valid, there is no other logical conclusion than determining that Socrates is a mortal.

LOGICAL VOCABULARY

Before using logic to reach conclusions, it is helpful to know some important vocabulary related to logic.

- **Premise(前提):** Proposition used as evidence in an argument.
- **Conclusion(结论):** Logical result of the relationship between the premises. Conclusions serve as the thesis of the argument.
- **Argument(论据, 观点):** The assertion of a conclusion based on logical premises.
- **Enthymeme(省略推理法):** A shortened syllogism which omits the first premise, allowing the audience to fill it in. For example, "Socrates is mortal because he is a human" is an enthymeme which leaves out the premise "All humans are mortal."
- **Induction(归纳法):** A process through which the premises provide some basis for the conclusion.
- **Deduction(演绎, 推论):** A process through which the premises provide conclusive proof for the conclusion.

REACHING LOGICAL CONCLUSIONS

Reaching logical conclusions depends on the proper analysis of premises. The goal of a syllogism is to arrange premises so that only one true conclusion is possible.

- Example A: Consider the following premises:
- Premise 1: Non-renewable resources do not exist in infinite supply.
- Premise 2: Coal is a non-renewable resource.

- From these two premises, only one logical conclusion is available:
- Conclusion: Coal does not exist in infinite supply.

REACHING LOGICAL CONCLUSIONS

- Example B:
- Often logic requires several premises to reach a conclusion.
- Premise 1: All monkeys are primates.
- Premise 2: All primates are mammals.
- Premise 3: All mammals are vertebrate animals.
- Conclusions: Monkeys are vertebrate animals.

REACHING LOGICAL CONCLUSIONS

- Example C:
- Logic allows specific conclusions to be drawn from general premises. Consider the following premises:
- Premise 1: All squares are rectangles.
- Premise 2: Figure 1 is a square.
- Conclusion: Figure 1 is also a rectangle.

SYLLOGISTIC FALLACIES

- The syllogism is a helpful tool for organizing persuasive logical arguments. However, if used carelessly, syllogisms can instill a false sense of confidence in unfounded conclusions. The examples in this section demonstrate how this can happen.
- Example D:

Logic requires decisive statements in order to work. Therefore, this syllogism is false:

- Premise 1: Some quadrilaterals are squares.
- Premise 2: Figure 1 is a quadrilateral.
- Conclusion: Figure 1 is a square.
- This syllogism is false because not enough information is provided to allow a verifiable conclusion. Figure 1 could just as likely be a rectangle, which is also a quadrilateral.

SYLLOGISTIC FALLACIES

- Example E:

Logic can also mislead when it is based on premises that an audience does not accept.

- For instance:
 - Premise 1: People with red hair are not good at checkers.
 - Premise 2: Bill has red hair.
 - Conclusion: Bill is not good at checkers.
- Within the syllogism, the conclusion is logically valid. However, the syllogism itself is only true if an audience accepts Premise 1, which is very unlikely. This is an example of how logical statements can appear accurate while being completely false.

SYLLOGISTIC FALLACIES

- Example F:

Logical conclusions also depend on which factors are recognized and ignored by the premises. Therefore, premises that are correct but that ignore other pertinent information can lead to incorrect conclusions.

- Premise 1: All birds lay eggs.
- Premise 2: Platypuses(鸭嘴兽 /'plætɪpəs/) lay eggs.
- Conclusion: Platypuses are birds.

- It is true that all birds lay eggs. However, it is also true that some animals that are not birds lay eggs. These include fish, amphibians, reptiles, and a small number of mammals (like the platypus and echidna). To put this another way: laying eggs is not a defining characteristic of birds. Thus, the syllogism, which assumes that because all birds lay eggs, only birds lay eggs, produces an incorrect conclusion.

SYLLOGISTIC FALLACIES

- A better syllogism might look like this:
 - Premise 1: All mammals have fur.
 - Premise 2: Platypuses have fur.
 - Conclusion: Platypuses are mammals.
- Fur is indeed one of the defining characteristics of mammals—in other words, there are not non-mammal animals who also have fur. Thus, the conclusion here is more firmly-supported.
- In sum, though logic is a very powerful argumentative tool and is far preferable to a disorganized argument, logic does have limitations. It must also be effectively developed from a syllogism into a written piece.

USING LOGIC IN WRITING

- Crafting a logical sequence into a written argument can be a very difficult task. Don't assume that an audience will easily follow the logic that seems clear to you. When converting logical syllogisms into written arguments, remember to:
 - **lay out each premise clearly**
 - **provide evidence for each premise**
 - **draw a clear connection to the conclusion**

写作中的逻辑——实例分析

USING LOGIC IN WRITING

- Say a writer was crafting an editorial to argue against using taxpayer dollars for the construction of a new stadium in the town of Mill Creek. The author's logic may look like this:
- Premise 1: Projects funded by taxpayer dollars should benefit a majority of the public.
- Premise 2: The proposed stadium construction benefits very few members of the public.
- Conclusion: Therefore, the stadium construction should not be funded by taxpayer dollars.
- This is a logical conclusion, but without elaboration it may not persuade the writer's opposition, or even people on the fence. Therefore, the writer will want to expand her argument.

- **Historically, Mill Creek has only funded public projects that benefit the population as a whole. Recent initiatives to build a light rail system and a new courthouse were approved because of their importance to the city. Last election, Mayor West reaffirmed this commitment in his inauguration speech by promising "I am determined to return public funds to the public." This is a sound commitment and a worthy pledge.**
- **However, the new initiative to construct a stadium for the local baseball team, the Bears, does not follow this commitment. While baseball is an enjoyable pastime, it does not receive enough public support to justify spending \$210 million in public funds for an improved stadium. Attendance in the past five years has been declining, and last year only an average of 400 people attended each home game, meaning that less than 1% of the population attends the stadium. The Bears have a dismal record at 0-43 which generates little public interest in the team.**
- **The population of Mill Creek is plagued by many problems that affect the majority of the public, including its decrepit high school and decaying water filtration system. Based on declining attendance and interest, a new Bears stadium is not one of those needs, so the project should not be publicly funded. Funding this project would violate the mayor's commitment to use public money for the public.**

USING LOGIC IN WRITING

- Notice that the piece uses each paragraph to focus on one premise of the syllogism (this is not a hard and fast rule, especially since complex arguments require far more than three premises and paragraphs to develop). Concrete evidence for both premises is provided. The conclusion is specifically stated as following from those premises.

USING LOGIC IN WRITING

Consider this example, where a writer wants to argue that the state minimum wage should be increased. The writer does not follow the guidelines above when making his argument.

- **It is obvious to anyone thinking logically that minimum wage should be increased. The current minimum wage is an insult and is unfair to the people who receive it. The fact that the last proposed minimum wage increase was denied is proof that the government of this state is crooked and corrupt. The only way for them to prove otherwise is to raise minimum wage immediately.**

The paragraph does not build a logical argument for several reasons. First, it assumes that anyone thinking logically will already agree with the author, which is clearly untrue. If that were the case, the minimum wage increase would have already occurred. Secondly, the argument does not follow a logical structure. There is no development of premises which lead to a conclusion. Thirdly, the author provides no evidence for the claims made.

USING LOGIC IN WRITING

- In order to develop a logical argument, the author first needs to determine the logic behind his own argument. It is likely that the writer did not consider this before writing, which demonstrates that arguments which could be logical are not automatically logical. They must be made logical by careful arrangement.

USING LOGIC IN WRITING

- The writer could choose several different logical approaches to defend this point, such as a syllogism like this:
- Premise 1: Minimum wage should match the cost of living in society.
- Premise 2: The current minimum wage does not match the cost of living in society.
- Conclusion: Therefore, minimum wage should be increased.

- Once the syllogism has been determined, the author needs to elaborate each step in writing that provides evidence for the premises.

- **The purpose of minimum wage is to ensure that workers can provide basic amenities to themselves and their families. A report in the Journal of Economic Studies indicated that workers cannot live above the poverty line when minimum wage is not proportionate with the cost of living. It is beneficial to society and individuals for a minimum wage to match living costs.**
- **Unfortunately, our state's minimum wage no longer reflects an increasing cost of living. When the minimum wage was last set at \$5.85, the yearly salary of \$12,168 guaranteed by this wage was already below the poverty line. Years later, after inflation has consistently raised the cost of living, workers earning minimum wage must struggle to support a family, often taking 2 or 3 jobs just to make ends meet. 35% of our state's poor population is made up of people with full time minimum wage jobs.**
- **In order to remedy this problem and support the workers of this state, minimum wage must be increased. A modest increase could help alleviate the burden placed on the many residents who work too hard for too little just to make ends meet.**

USING LOGIC IN WRITING

- This piece explicitly states each logical premise in order, allowing them to build to their conclusion. Evidence is provided for each premise, and the conclusion is closely related to the premises and evidence. Notice, however, that even though this argument is logical, it is not irrefutable. An opponent with a different perspective and logical premises could challenge this argument.

DOES LOGIC ALWAYS WORK?

DOES LOGIC ALWAYS WORK?

- Logic is a very effective tool for persuading an audience about the accuracy of an argument. However, people are not always persuaded by logic. Sometimes audiences are not persuaded because they have used values or emotions instead of logic to reach conclusions. But just as often, audiences have reached a different logical conclusion by using different premises. Therefore, arguments must often spend as much time convincing audiences of the legitimacy of the premises as the legitimacy of the conclusions.

DOES LOGIC ALWAYS WORK?

For instance, assume a writer was using the following logic to convince an audience to adopt a smaller government:

- Premise 1: The government that governs least, governs best.
- Premise 2: The government I am proposing does very little governing.
- Conclusion: Therefore, the government I am proposing is best.

Some members of the audience may be persuaded by this logic. However, other members of the audience may follow this logic instead:

- Premise 1: The government that governs best, governs most.
- Premise 2: The government proposed by the speaker does very little governing.
- Conclusion: Therefore, the government proposed by the speaker is bad.

Because they adhere to a different logical sequence, these members of the audience will not be persuaded to change their minds logically until they are persuaded to different values through other means besides logic.