引言

1 引言的内容与结构布局

引言的主要任务是向读者勾勒出全文的基本内容和轮廓。它可以包括以下五项内容中的全部或其中几项：

1）介绍某研究领域的背景、意义、发展状况、目前的水平等；

2）对相关领域的文献进行回顾和综述，包括前人的研究成果，已经解决的问题，并适当加以评价或比较；

3）指出前人尚未解决的问题，留下的技术空白，也可以提出新问题、解决这些新问题的新方法、新思路，从而引出自己研究课题的动机与意义；

4）说明自己研究课题的目的；

5）概括论文的主要内容，或勾勒其大体轮廓。

2 如何写引言的开头

引言开头(即第一层)最主要目的是告诉读者论文所涉及的研究领域及其意义是什么，研究要解决什么问题，目前状况或水平如何。也就是说，开头要回答如下问题：

1. What is the subject of the research?
2. What is the importance of this subject?
3. How is the research going at present?
4. In what way is it important, interesting, and worth studying?
5. What problem does the research solve?

下面列举几段例子，以说明引言开头如何开门见山点明研究主题，回答以上问题。

例Purple loosestrife (紫千曲菜) is a wetland plant which invaded North America in the early 1800s. It is well established in the United States and Canada with serious infestations in the Great Lakes and St. Lawrence regions.

研究主题是purple loosestrife。这种植物之所以值得研究，是因为它严重侵扰了五大湖区及圣劳伦斯地区。

例Forecast of the tracks of hurricanes (飓风)have improved steadily over the past three decades, owing to a combination of better observations and much improved numerical models. These improvements, along with advances in warning systems and preparedness for emergencies, have brought about a significant decline in loss of life.

研究主题是 forecast of the tracks of hurricanes(对飓风轨道的预测)。这一领域取得了进步，意义是大大减少人员伤亡损失。

通过分析这些例子，还可以发现如下特点。

首先，关键词往往出现在第一句话，回答What is the research area? 这个问题，迅速将主题告诉读者，避免转弯抹角，影响信息传递。然后简单介绍该研究领域的意义。

第二，引言开头句子的谓语动词或者是一般现在时态，或者是现在完成时态。这是因为这些动词所描述的是某研究领域的现状，而不是过去的情况。

**引言的开头常用句型有：**

**句型1：研究主题+谓语动词be…** ．例

a．Fuel cell(燃料电池)is a technology for the clean and efficient conversion from chemical energy in fossil fuels to electricity．

**句型2: 研究主题+ has become …**

a. Semiconductor based industry (基于半导体的工业)has be come the largest industry for the USA and it has influenced every other industry and every aspect of human life.

b. The battery technology has become increasingly popular in automotive industry.

c. Forest decline has become a favorite topic for environmental studies.

**句型3：研究主题 + be 过去分词（被动语态）**

a. Synthetic polymers (聚合物) are widely used in contact with biological systems in applications such as medicine, biotechnology, food processing and natural water environment.

b. Air pollution has been extensively studied in recent years.

c. The causes of glaucoma have been widely investigated recently.

d. The importance of safe driving is now well established.

**句型4: Recently, there has been growing interest in / concern about + 研究主题**

a. Recently, there has been growing concern about waste-water biosolid, the residual organic matter produced during waste water treatment.

b. In the 1990s there has been growing interest in the development of electric vehicles in response to the public demand for cleaner air.

**句型5: Recently there have / has been extensive / increasing /numerous publications / literature / reporting on + 研究领域**

a. There have been numerous publications over the last ten years on the need for nursing education to keep pace with the increase in knowledge of biological science.

b. There has been increasing reporting about forest decline in North America.

**句型6: Researchers have become increasingly interested in +研究领域 或:Researchers have recently focused their attention on +研究领域；Researchers are recently paying more attention to + 研究领域**

a. Researchers have become more interested in environmental indicators.

b. Researchers are paying more attention to high pressure injection (高压喷射).

Here are some further expressions of opening statements.

1) … has become a favorite topic for…

2) … is the most widely used method in …

3) … has been extensively studied in recent years.

4) … has become a favorite topic for analysis…

5) A central issue in… is …

6) Many investigators have recently turned to…

7) Recently, there has been growing interest in…

8) The development of … is a classic problem in…

9) The possibility of… has generated wide interest in…

10) The relationship between… has been investigated…

3 如何写文献综述

文献综述是学术论文的重要组成部分，是作者对他人在某研究领域所做的工作和研究成果的总结与评述，包括他人有代表性的观点或理论、发明发现、解决问题的方法等。在援引他人的研究成果时，必须标注出处，即这一研究成果由何人在何时何地公开发表。

3.1文献出处的标注

引用文献时，不同的学科或领域可能采用各自约定俗成的体系或格式。在写论文时，应该了解自己学科采用的固定格式。目前最常见的体系有两种，一种是作者+出版年体系，另一种是顺序编码体系。下面对这两种体系分别加以介绍。

第一种体系的主要框架模式如下：

模式1：作者(年代)十谓语动词主动语态+研究内容／成果

a. Hanson et al. (1976) noted that oak mortality and decline were associated with drought and insects throughout a multi-state region of the mid-west.

b. McCarthy (1995) documented 50% hickory mortality, associated with insects, in a ten year study of forest dynamics in two hardwood areas in a southeastern Ohio forest.

c. Also, Fay (1991) found cooperative group projects integrated into science class to be successful experiences for students.

模式2：研究内容／成果+谓语动词被动语态+(作者年代)

a. Success at this Science Day was found to be linked to parental support (Czemiak 1996).

b. Throughout the eastern United States, large scale compositional changes have been observed in forests dominated by oak and hickory (Christensen 1997, Lorimer 1984, McCarthy et al. 1987, Pallardy et al. 1988).

模式3：It has been十谓语动词被动语态+by作者(年代)+that从句 或：It has been+谓语动词被动语态+that从句(作者年代)；研究内容／成果+谓语动词被动语态+by作者(年代)

a. It was found by Czemiak (1996) that success at this Science Day was linked to parental support. 或 It was found that success at this Science Day was linked to parental support (Czemiak 1996).

b. The condition of eastern hardwood species and ecosystems of the United States has been summarized by Weiss and Rizzo (1987) and Millers et al. (1989).

如果引用的文献有两个以上的作者，只标明第一作者，后面用拉丁文et al表示，意思是“等人”、“其他人”。如“Hanson et al．”就是如此。

如果在综述中涉及几个项目或文献时，则将这些文献并列标注，必要时用逗号隔开。如 “…Christensen 1997， Lorimerl984，McCarthy et al．1987，Pallardy et al．1988)” 以及 “…Weiss and Rizzo(1987)and Millers et al．(1989)”。

3.2 文献综述中的动词运用技巧

(1)两类动词

我们可以发现，文献综述中常用state， note，observe，discuss，establish，find，present等动词。这些动词有两种特性，一种是描述性动词，客观地向读者介绍他人的工作；另一种是评价性动词，在一定程度上代表了作者对他人的工作的理解、解释或态度。文献综述中常用的描述性动词有：describe，discuss，explain，examine，present，state等。常见的评价性动词有：affirm，allege，argue，assume，claim，imply，maintain，presume，reveal，suggest等。

(2)动词时态

文献综述中最常见的时态是一般现在时、一般过去时和现在完成时三种时态。使用不同的动词时态会给句子的意义带来变化，基本原则如下：

原则1：当作者引用某人过去某个时间所做过的某一项具体的研究时，用一般过去时。如：例

a. Hanson et al. (1976) noted that oak mortality and decline were associated with drought and insects throughout a multi-state region of the mid-west. …McCarthy (1995) documented 50% hickory mortality, associated with insects, in a ten year study of forest dynamics in two hardwood areas in a southeastern Ohio forest.

b. It was found by Czerniak (1996) that success at this Science Day was linked to parental support. 或 It was found that success at this Science Day was linked to parental support (Czemiak 1996)...

原则2：在概括或总结某一研究领域里所做过的一些研究时，用现在完成时，如：例

a. The condition of eastern hardwood species and ecosystems of the United States has been summarized by Weiss and Rizzo (1987) and Millers et al. (1989). … Since then, numerous studies have been completed and many regions have established long-term forest surveys to better monitor changes occurring in the eastern forest (Loucks 1992).

b. The sound attenuation along the length, a significant index in long spaces, has been intensively studied. Based on various assumptions and using various methods, a number of formulae have been given [1-5]. Another important index, reverberation time, has been seen to be different from that of the diffuse field [6].

原则3：在谈及目前的知识水平、技术水平或存在的问题时，用一般现在时态。例

Acoustic problems occur extensively in long spaces. For example, in road or rail tunnels noise pollution is a serious problem, and in underground stations poor speech intelligibility of public address systems can cause loss of important travel information and misunderstanding of vital instructions during an emergency. An outstanding feature of long spaces is that classical room acoustic theory is not applicable since the assumption of a diffuse field does not hold with the extreme dimension condition. Consequently, works required for an understanding of the behavior of sound in long spaces and for an acoustic prediction which takes into account the relevant characteristics.

(3)衔接手段

如果综述中多处需要引用同一个作者或同一篇文章，那么，需要用一些连接手段使上下文衔接，让意思流畅、连贯，并起到提醒读者的作用。例

a. The author goes on to say that…

b. The article further states that…

c. The author also states / argues / believes that …

d. The author concludes that …

4．别人的研究空白点以及自己的研究动机与目的

在介绍了他人在某领域的工作和成果之后，下一步便介绍作者自己的研究动机、目的与内容。介绍研究动机可以从两个角度人手，一是指出前人尚未解决的问题或知识的空白，二是说明解决这一问题，或填补知识空白的重要意义。

主要句型有：

句型1：用表示否定意义的词例little，few，no或none of+名词作主语。如：例

a．Little information／attention／work／research…

b．Few studies／investigations／researchers／attempts…

c．No studies／data／calculations…

d．None　of　these studies／findings／calculations…

注意：

(1)little后面的名词是不可数名词，而few后面是可数名词，而且是复数形式。

(2)no后面直接用名词(可数或不可数名词)，表示泛指，“到目前为止还没有……”的意思，而none of后用指示代词these，those(或定冠词the)+名词，表示“在特定的范围中还没有……”的意思。也就是说，在上文所提到过的那些研究中，还没有解决某一问题，由此来暗示知识的空白部分。

下面举几个表示否定意义的例子。

a. Unfortunately, few educational opportunities exit to teach farmers and rural homeowners effective water supply management.

b. There have been few specific reports in the literature of oak and hickory decline.

c. There is, however, little qualitative information regarding purple loosestrife vegetative reproduction.

d. However, there exists little research on science fair projects.

句型2:里表示对照的句型。如:例

a. The research has tended to focus on…, rather than on…

b. These studies have emphasized…, as opposed to…

c. Although considerable research has been devoted to…, rather less attention has been paid to…

d. Although there is much hope that three-dimensional coupled models will lead to better understanding of the factors that control hurricane intensity and to increased reliability of hurricane intensity forecasts, the present generation of models may not have enough horizontal resolution to capture the full intensity of extreme storms.

句型3：提出问题或假设。如：例

a. However, it remains unclear whether…

b. It would thus be of interest to learn how…

c. If these results could be confirmed, they would provide strong evidence for …

d. These findings suggest that this treatment might not be so effective when applied to…

e. It would seem, therefore, that further investigations are needed in order to…

指出或暗示了知识领域里的空白，或提出了问题或假设之后，下一步理所当然应该告诉读者本研究的目的和内容，要解决哪些问题，以填补上述空白，或者证明所提出的假设。

此部分常见的句型请参见如何写摘要中的目的部分。这里只略举几例。例

a. The aim of the present paper is to give …

b. This paper reports on the results obtained…

c. In this paper we give preliminary results for…

d. The main purpose of the experiment reported here was to…

e. This study was designed to evaluate…

f. The present work extends the use of the last model by…

g. We now report the interaction between…

h. The primary focus of this paper is on…

i．The aim of this investigation was to test…

j．It　is　the purpose　of the present paper to provide…

从暗示知识的空白到本研究的目的与内容一般需要用一些过渡词，以提示一下读者。如上面这些例句中，用了this paper，here，the　present　work，now，this investigation，the present paper等词或词组。为了引起读者的注意，这些词或词组一般放在句首。例

…The fate of these sections is not clear. In this study we asked the questions: Do shoot sections remain viable and, if so, are they capable of further growth? We also examined the effect of habitat history and section length on survivorship.

如果一项研究、一篇论文不止一个目的，应该按目的的主次排列顺序，并用连接词或词组。例

The present work extends the use of the last model to asymmetric, body-vortex cases, thus increasing the range of flow patterns that can be investigated. In addition, an effort is made to improve the numerical procedure to accelerate the convergence of the iterative solution and to get a better rollup of the vortex lines representing the wake.

常见的连接词还有additionally, in addition to this, besides this, also, not only…but also…, further, furthermore, moreover 等

5 如何写引言的结尾

研究目的完全可以作为引言的结尾。也可以简单介绍一下文章的结构及每一部分的主要内容，从而起到画龙点睛的作用，使读者了解文章的轮廓和脉络。

至于研究结果，在引言中完全可以不写。研究结果是结论部分最主要的组成部分。下例是引言的结尾，介绍文章的结构。例

…Before examining in detail the optimum control strategy for the drivetrain（动力传动系统）, Section 2 defines the hybrid arrangement under study. A description of the optimization process using an appropriate cost function is then presented in Section 3 followed by a method of translating the resulting control structure into a sub-optimum algorithm capable of being implemented in real time. Using the optimum control structure the effect of component ratings on the vehicle's performance is evaluated in Section 4, while Section 5 discusses the practical implementation of an overall vehicle control algorithm. Finally, in Section 6, an indication of the vehicle's potential for substituting petroleum fuel by electricity is given.

在介绍全文的结构时，要避免使用同一个句型结构，如，Sections l describes…Section2　analyses…Section3　discusses…Section 4 summarizes…这样，每句话用同样的词开头，句型结构显得单调、枯燥乏味。