

# Analysis of Common Mistakes in English Abstract Writing of Scientific and Technological Papers: A Case Study of Automotive Practical Technology

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**Abstract:** Abstract is the epitome of the core idea of a journal paper. Excellent English abstract plays an important role in ensuring the quality of the paper and promoting its academic value in international exchanges. However, there are still many problems in the English abstracts of many papers published in academic journals. This paper analyzes and summarizes the grammatical errors of articles, singular and plural nouns, predicate verbs, conjunctions, Chinglish from other English abstracts of some papers in a vehicle engineering academic journal retrieved from CNCN.cn, and then corrects them. It is expected to provide some guidance for editors, academic workers, and engineering students in writing papers.

**Keywords:** Scientific and technological papers; English abstract; Grammar

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## 1. Introduction

As an important cultural carrier of innovative ideas in vehicle engineering, vehicle engineering journals carry the most advanced achievements in the practice of vehicle engineering, build the main bridge of information exchange and dissemination, and improve the scientific research level of vehicle engineering science and technology researchers to carry out international and domestic exchanges. Accurate and appropriate English abstract is an important part of modern vehicle engineering journal papers, which plays an important role in both the audience impact factor and the citation rate of the journal papers. English abstracts of articles in vehicle engineering journals are based on the content of Chinese abstracts. The language should be concise and clear, and conform to the general rules of English grammar and expression habits, with about 150 English words. This paper analyzes the English abstracts of articles in Automotive Practical Technology, and summarizes some common grammatical problems in English abstract translation, with the hope to attract the author's attention.

## 2. Standards for writing English abstracts of articles in vehicle engineering journals

According to the different content, abstracts are generally divided into three categories, reporting abstracts, indicative abstracts, and reporting-indicative abstracts. Due to the differences in thinking between English and Chinese, and their English proficiency, many academic researchers who have been engaged in the academic research and writing of journal papers have not really understood and mastered the translation format requirements of English abstracts of journal papers. For example, confusing the structure type of the abstract, and missing the four elements of abstract, which are objective, method, result, and conclusion. In terms of language expression, the translation is poor, and there are grammatical problems such as single and plural nouns, tense voice, and article omission.

## 3. Translation of English abstract elements

### 3.1. Objective elements of translation grammar problems

The general purpose of an English abstract is to briefly state the reason, mission, main objective or scope, and significance of the study. For example, “To introduce...,” “In order to build...,” and so on. It is often expressed in an infinitive phrase. When a complete sentence is used to express the purpose, it is usually in the simple present tense and the voice is usually in the active voice. For example, “This paper introduces...” and “Aiming at the problems...” However, some grammatical problems should be paid attention to when expressing some objective elements.

Example 1: This paper introduces..., through a series of design, to drive the polarizer to catch light automatically without manual adjustment.

In example 1, “design” is a countable noun, meaning “design,” and a series of “design” before the sentence. When modifying countable nouns, countable nouns need to use the plural form, hence “designs” is used.

Example 2 <sup>[1]</sup>: Aiming at the problem that the traditional car sun visor blocks the driver’s vision to some extent and needs the driver’s manual adjustment, a solution is provided.

The word “problem” in example 2 is a countable noun, which is closely followed by two parallel appositive clauses. That is to say, that the traditional car sun visor blocks the driver’s vision and that the traditional car sun visor needs the driver’s manual adjustment. Therefore, for two problems, the “problem” in the sentence should be used in the plural form.

Example 3: In order to satisfy requirement of driving cycle building, to amend abnormal data and introduce the method of data amending.

In example 3, “requirement” is a singular countable noun and indicates the specific meaning, thus the definite article “the” should be added before “requirement.” Secondly, the main sentence is missing in the sentence. This sentence should be rephrased as “In order to satisfy the requirement of driving cycle building, the abnormal data is amended and the method of data amended is introduced.” In the sentence, “amended” is the past participle, indicating the relationship between “passive” and “completed,” which is served as the post-attribute.

Example 4: In the reference of result of GPS..., the reason is collection apparatus’s accuracy is low.

In the sentence of example 4, after the verb “is,” there is a predicate clause, which does not lack any component and meaning, thus the clause needs to add the conjunctive “that,” and the “that” here cannot be

omitted. The word “apparatus” in the sentence is in the form of an “s” ending, and an apostrophe is added at the end of the word to create its possessive forms. Thus, the whole sentence can be rephrased as “the reason is that collection apparatus’ accuracy is low.”

Example 5 <sup>[2]</sup>: In order to build driving cycle of..., use on-board GPS collection apparatus to collect real-time data of K36 bus.

In example 5, the phrase “in order to” guides the adverbial of purpose in the sentence, and the main sentence of this sentence lacks a subject, and the verb phrase “use on-board GPS collection apparatus” cannot serve as the subject of the sentence. Therefore, the main sentence should be changed to “the on-board GPS collection apparatus is used to collect real-time data of K36 bus,” and the predicate verb should be in the passive voice of the present simple tense.

### 3.2. Method elements of translation grammar problems

A brief description of the practice or technology used in the article, including methods, materials, objects, and other elements, are called method elements. Method elements involve the introduction of methodological principles or innovative methods, the work flow of the paper, the description of the experimental process, the analysis of the data model, etc., which are usually expressed in the passive voice of the simple present tense or the simple past tense.

Example 6 <sup>[3]</sup>: Moreover, it can..., which can better meet the needs of frequent tire change(s) of off-road vehicles, sand equation and other vehicles, and has a strong universality.

The “frequent tire change” in example 6 is immediately followed by the noun of structure, that is, the noun phrase + of + noun structure. The central part “of” words before and after the structure of nouns are nouns. In addition, “off-road vehicles” and “other vehicles” are used in the plural form, indicating that there are many kinds of transportation, so the “tire change” in this sentence should be changed to the plural form, namely “tire changes.”

### 3.3. Result elements of translation grammar problems

Result elements are a concise presentation of important findings, new discoveries, theoretical results, or relevant data and results collected through research, experiments, and observations, and an analysis of their limitations. When elaborating the elements of the result, it generally has objective truth, so the simple present tense is commonly used.

Example 7 <sup>[4]</sup>: intelligent network connection automobile provides intelligent, green, efficient, and comfortable choice mode for people’s travel.

Example 7 generally refers to “an intelligent, green, efficient, and comfortable choice mode,” the central noun mode is a singular countable noun, which the article “a” or “an” needs to be added and the first letter of the “intelligent” article immediately after the article is a vowel, so the indefinite article “an” should be added.

Example 8 <sup>[5]</sup>: Facing the multiple challenges of energy consumption and climate change, development of fuel cell vehicles have raised to a national strategic height in the main countries of the world.

In example 8, development is the singular countable noun without the definite article the. In addition, the development of fuel cell vehicles “has been elevated to a national strategic level” in many major countries of the world, and the verb needs to be in the present perfect passive voice. There are two main uses of the present perfect. One refers to the “completed” usage, in which an action or process occurred in the past (often the most recent past), is now complete or likely to continue, and has a connection to the present situation. Present perfect and simple past tense are two tenses that are often confused when writing a thesis. The biggest difference

between the two is that the simple past tense means that the action took place at a past point in time and has ended at a past point in time. The present perfect emphasizes that an action took place in the past and continues into the present, having an effect on the present, over a period of time.

### **3.4. Conclusion elements of translation grammar problems**

Conclusion elements describe the subject, the important conclusions, and implications of the research work, including confirmed suggestions, opinions, assessments or applications obtained through experimental analysis, conduct analysis and research, and predict the significance of the research in practical life, and the value of combining theory and practice. Conclusion usually expresses the objective law and truth of things, and uses the simple present tense<sup>[6]</sup>.

Example 9<sup>[7]</sup>: Finally, the design of the S-shaped turn carbon-design key technologies.

Example 9 is a typical Chinglish sentence that lacks a predicate verb, thus it is not a correct English sentence. In English, passive sentences are often used when the subject is unclear, so this sentence uses the passive voice in the simple present tense. According to the context, the subject of the main sentence “the key technologies” should be “summarized,” and the predicate verb here should be in the passive form, that is, the main sentence should be rephrased as “the key technologies are summarized in the study.” “Technologies” is followed by an attributive clause which leads to the relative pronoun referring to technologies as the subject in the attributive clause, and the predicate verb in the clause should be plural, hence, this sentence should be rephrased as “Finally, the key technologies which are used to design the S-shaped turn carbon-design are summarized in the study.”

Example 10<sup>[8]</sup>: We should improve the information security of the Internet of vehicles system by establishing...protecting the key points of the system.

In the sentence of example 10, the content of the abstract of the paper is objective, so the expression of words should use objective words, the use of subjective words should be avoided. For example, “we,” “you,” these types of words should be avoided. This sentence can be rephrased as “The information security of the vehicle network system should be improved by establishing...protecting the key points of the system.”

## **4. Common grammatical problems in English and Chinese abstracts of articles in vehicle engineering journals**

### **4.1. Problems of singular and plural nouns**

English nouns are divided into countable and uncountable nouns, and countable nouns have singular and plural forms. The singular form of countable nouns is generally the original form of the noun, usually preceded by an article or cardinal, ordinal, etc. Plural forms are often divided into regular and irregular plural forms. The plural of regular nouns is usually the end of the singular noun added with “s” or “es.” Irregular plurals are converted by internal vowel changes or other means, such words are limited to a few or are derived from foreign words, and need to be memorized when used. For example, the plural forms of “foot,” “man,” and “child,” which are transformed by internal vowels through singular nouns, are “feet,” “men,” and “children.” There are two types of plural forms of loanwords, namely the foreign plural form and the regular plural form of English. In the words of scientific papers, foreign plurals are used more often. For example, the foreign plural forms of index, formula, and nucleus are indices, formulae, and nuclei, while the English plural forms are indexes, formulas, and nucleuses<sup>[9]</sup>.

In the writing of academic papers on vehicle engineering, the singular form of countable nouns is often not converted to the plural form because of forgetting or not understanding the context of sentences. In example

1, a series of countable nouns are often followed by the plural form. A series of “design” modifies a countable noun, adding “s” to the plural form of “design.” In this type of sentence, attention should be paid to the qualifier before the countable noun, if the countable noun in front of many(a), a lot of, plenty of, lots of, a series of, and other qualifiers modify, the countable noun after the qualifier should be the plural form. Example 2 requires an understanding of sentence structure and the concept of appositive clauses. The example sentence contains two appositive clauses in parallel. An appositive clause is a clause used to explain the abstract noun in front of it, that is, the word explained is equal to the meaning of the appositive clause. Since the “traditional car sun visor” in the second half of the sentence “needs the driver’s manual adjustment” and omits the abstract noun problem and the conjunctive “that,” it is easy to misunderstand that the sentence refers to a problem. However, its real contextual meaning is aimed at the two problems of “traditional car sun visor obstructs the line of sight ‘and’ the driver needs to manually adjust,” so the plural form of problem should be used. “Tire change” in example 5 is a countable noun, referring to the frequent tire change of a variety of vehicles, which also should be in the plural form.

#### **4.2. Missing subjects and confusing use of non-predicate verbs in sentences**

English simple sentences are divided into five categories: subject-predicate, subject-predicate object, subject-predicate list, subject-predicate double object, and subject-predicate object complement. In other words, a complete English sentence must have a subject and a predicate. When the subject is not clear, it can be changed into a passive sentence. Non-predicate verbs are verb forms that act as various components of a sentence other than the predicate, including infinitives, participles, and gerund forms.

#### **4.3. Omission of articles and the confusion of active and passive structures of predicate verbs**

The problem of articles in English abstracts is usually misuse or omission. Misuse or omission is due to the incorrect understanding of the usage of articles and the differences in the expression of Chinese and English nouns. In English, articles are divided into indefinite articles (a/an) and definite articles (the). The indefinite article “a” is often used in front of singular countable nouns with a consonant initial, while the indefinite article “an” is often used in front of singular countable nouns with a vowel initial, and the definite article “the” is often used in front of special nouns or some specific nouns.

#### **4.4. Tense and voice problems**

The tense voice of predicate verbs is often a grammar point with a high error rate in English abstracts of academic papers, including the absence of predicate verbs, incorrect tense voice structure of predicate verbs, and various tenses are mixed and misused. In English, the voice of predicate verbs is divided into active voice and passive voice. The tense voice of predicate verbs is commonly used in a total of sixteen kinds, including simple present tense, simple past tense, simple future tense, and so on. When introducing the research background, purpose, and significance of the paper, the simple present tense is usually used. The simple past tense is used to express some data results or phenomena that have been obtained. For the English abstracts of vehicle engineering papers, it is recommended to use the active voice more often in order to have a clear and concise expression. For the research method used, stating the course of the experiment, emphasizing the acceptor of the action, or the subject of the sentence is not obvious, it is often suggested to choose the passive sentence for expression.

Voice is a grammatical category. English verbs are divided into two voices, active and passive. In many engineering academic papers, there are two reasons for voice problems. On the one hand, researchers do not

have a thorough grasp of the structure of tense voice. On the other hand, the understanding of the use of passive sentences is unclear. For example, in the following situations, passive sentences are generally used. The first situation is when the speaker ignores the agent in order to emphasize the event itself. Another situation is that the agent is not clear, or because of implicit need that the agent is not indicated. Thirdly, passive sentences with by-phrase are often used to emphasize the agent. Fourthly, because of the influence of context, changing the subject in the middle of a sentence is avoided and passive structure is used for expression. For example, this is the case with the sentence in example 8<sup>[10]</sup>.

#### **4.5. Omission of connectives in subject-subordinate sentences and the representation of possessive nouns**

English sentences are divided into three categories: simple sentences, compound sentences, and subject-subordinate compound sentences. Among them, the subject-subordinate compound sentences include adverbial clause, attributive clause, and nominal clause. The main and subordinate sentences in all compound sentences usually need to be connected with connectives. Unless some connectives are omitted, otherwise it is not a correct sentence. The possessive of a noun indicates a possessive relationship, usually by adding apostrophe “s” (’s) to the end of the noun, but only by adding apostrophe to the end of the noun ending in “s” or “es.”

### **5. Suggestions on writing English abstracts of articles in vehicle engineering journals**

The English abstracts of articles in vehicle engineering journals are important factors for the quality and influence of articles. When translating English abstracts, the authors of journal articles should pay attention to the standard format, concise words, smooth language, accurate semantic expression, and correct use of syntactic structure. Scholars should not only master the requirements and format of English abstract writing in form, but should also pay attention to the differences between Chinese and Western cultures in language expression, so as to avoid the interference of mother tongue on English abstract expression.

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