**Principles of the use of the word "research" in the title of scientific and technical papers**

As the title of the dissertation usually does not use the verb-object structure, but usually adopts the noun or noun phrase as the center of the paratactic phrase, the word "research" in the title of the dissertation is also mainly used as a noun.

What is "research"? 1) to search for the truth, nature and law of a thing; 2) to consider or discuss (an opinion, a problem) (see the Modern Chinese Dictionary). The Dictionary defines "research" as: the search for the nature and laws of things by scientific methods. In a broad sense, any paper can be called "...... research"; but from a narrow or strictly limited perspective of high standards, only those who have adopted a certain scientific method of the objective existence of facts or materials for in-depth and detailed, comprehensive and systematic organization, Analysis, so that it rises from perceptual to rational understanding of the nature of things and the development of the law of change to explore, and create new scientific knowledge of the activities, can be called scientific research. The basic principles for determining how to appropriately use the word "research" in the title of scientific and technical papers are as follows:

1) The word "research" in the title of the paper does not express the substantive content and can be used or not used, it is appropriate not to use, so as to make the title more concise and avoid repetition. For example, "...... Finite Element Methods" can be modified to "...... Finite Element Methods".

(2) The word "research" and its preceding determinative form a paraphrase to express the type of thesis research (such as theoretical research, applied research, etc.), the nature of the research (such as quantitative research, qualitative research, feasibility studies, etc.) and the method or means (such as experimental research, simulation research, statistical research, comparative research, etc.) and other substantive content, then "Research" has a definite substantive meaning, and the content of the paper is indeed a more comprehensive and systematic research results, it is necessary to use. For example, in the titles of "...... Experimental Research", "...... Applied Research" and "...... Dynamics Research", the definite article in front of the word "research" is "research". In these titles, the word "research" is preceded by qualifiers such as "experimental", "applied" and "kinetic", which indicate the method and means of research, the type of research and the nature of the research respectively. If the word "research" after the definite article is deleted, its meaning will be imprecise and incomplete, because test ≠ experimental research and application ≠ applied research.

The main reasons for the misuse of the word "research" are as follows.

(1) The term "research" is not clear as the conceptual connotation of "scientific research", and it is considered that general discussion, reflection or analysis, insights and summaries of experience are "research", which is disproportionate to the content of the dissertation. The term "research" is used disproportionately to the content of the dissertation.

(2) Subjective belief that the use of the word "research" in the title can mark the quality level of the thesis and make it more "attractive", and the use of the word is intentionally elevated.

(3) The use of the word "research" in the title is customary or arbitrary.