

Discussion on Improving Literature Review Ability of Engineering Graduate Students

Yufeng Su¹, Dan Guo², Fengxia Zhao¹, Zhigang Jia¹, Zheng Tao¹, Jiangming Zhao¹

1.School of Mechanical and Power Engineering, Zhengzhou University, Zhengzhou 450001, China

2.Graduate School of Zhengzhou University, Zhengzhou 450001, China

Abstract: Literature review is a key link in the process of graduate training. To fully carry out literature review is particularly important for the selection of research topics and research directions. It is also a part of postgraduate comprehensive ability and determines the quality of postgraduate dissertation. Combined with the experience of guiding graduate students for many years, this paper analyzes each link of literature review for engineering graduate students, and discusses the important link in depth to provide help for graduate students to carry out literature review research. Through the research of the paper, the author analyzes the literature review research work is a gradual process with no end point, and researchers follow up the research progress in the work, which helps to accurately grasp the research direction.

Keywords: Literature review; Graduate engineering dissertation

Fund Project:

[Graduate Education Research Project of Zhengzhou University (YJSJY202112), First-class Undergraduate Course Project of Zhengzhou University (2021ZZUKCLX012)]

1. Introduction

The report of the 20th National Congress of the Communist Party of China proposed to build a “powerful country in education, science and technology, and talent”. Higher education plays an irreplaceable strategic role in the realization of Chinese-style modernization^[1]. In 2022, the enrollment of graduate students in China will reach 1.24 million^[2], and the expansion of graduate education will help train more high-level talents and make important contributions to building China into a modern country. In recent years, in order to improve the quality of postgraduate education, we have adopted the measures of submitting papers for examination before defense and spot checking after defense, but there are still some problematic papers, the main problem is that the copy ratio of papers exceeds the standard, and one of the main reasons is that the research status is not sufficient, leading to duplication of work. Strengthening the process training of graduate students is the key link to ensure the quality of graduate students’ training, and literature review is the primary link to carry out research work in the graduate stage. Sebastisan^[3] discussed the literature review work graphically. Xiao and Waston^[4] conducted research and analysis on literature review in the planning field. Wang Qi^[5] discussed the meaningful steps and common problems in writing literature reviews. Wang Jingxiu^[6] analyzed the influence of literature review courses on the ability cultivation of liberal arts graduate students.

In the postgraduate stage, academic research and applied research are carried out, and innovation ability is improved through the training of various research links. Graduate students who have just come into contact with the research topic are usually not clear about their own topic. In the process of literature review (reading or writing), they will gradually deepen their understanding of the relevant research content through in-depth understanding of the topic, and then determine the main work direction of their master’s degree thesis on this basis. In the process of determining the research topic, it is necessary to consider its own ability, energy and conditions, to ensure appropriate workload and innovation, but not too broad or too inclusive. It can be said that determining the research topic is a process of gradually narrowing the scope and refining the research work. In the early stage of graduate school (the